

Realising Service Co-creation through Social Media: A Nonprofits' Perspective

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Certificate of Authorship

I, Fatuma Namisango declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Professional Practice and Leadership in the Faculty of Engineering and Information Technology at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Abstract

Central to our inquiry is how nonprofit organisations (nonprofits) realise service co-creation using social media. Extant literature reveals that nonprofits are increasingly adopting and using social media to mobilise and integrate resources through online donations, event invites, volunteering, and attracting informational and social support. The increase in nonprofit-public interaction on social media has become a resourcing practice and functional strategy for supporting nonprofits' funding models through collaborative practices such as service co-creation. Some studies, although still very few, have acknowledged the possibilities for nonprofit service co-creation on social media; but none provides a conceptualisation and operationalisation of service co-creation. In this regard, there is a lack of insight on two issues, which, if addressed, could enhance our understanding of how nonprofits realise service co-creation through social media. The first issue is *what* forms of service co-creation do nonprofits realise through social media; and the second is *how* social media interactions contribute to the observed forms of service co-creation.

Drawing on the adaptive structuration theory (AST) and perspectives on technology affordances and organisation-public relationships, we generate *a priori* propositions on how nonprofits realise service co-creation through social media. First, because co-creation is multidimensional and varies by context, we maintain that nonprofits realise multiple forms of service co-creation through social media defined by the nature of their services. Second, because social media creates a platform for public participation in nonprofit services, we argue that the emergent structures of social media (i.e., possibilities for action, meaning and values conveyed) and the structures of organisation-public interaction (OPI) (i.e., the types of relationships and patterns of interaction) provide the mechanisms for service co-creation. Lastly, the actor's capabilities are critical in understanding these structures; therefore, we conceptualise the emergence of a new capability as organisation generativity. We suggest that organisational generativity, i.e., the ability to rejuvenate, procreate and act in new ways to challenge the status quo, explains the emergent structures in the realisation of service co-creation on social media.

We conducted a convergent mixed-methods study to identify and explain the generative capabilities and mechanisms for service co-creation on social media, based on the perspectives of managers and social media personnel in nonprofits. We integrate findings from 289 survey

responses and 19 semi-structured interviews from multiple case studies. Our findings reveal the forms of service co-creation realised by nonprofits through social media, explain the mechanisms provided by social media and OPI for service co-creation, and the generative capabilities for realising social media opportunities, OPI and service co-creation.

Our findings suggest that nonprofits realise seven (7) forms of service co-creation through social media, including co-resourcing, co-advocating, co-assessing, co-ideating, co-progressing, co-experiencing, and co-diagnosing. This study also found that social media contributes to service co-creation in three ways. First, social media offers action possibilities, conveys meaning and promotes values surrounding its functionality that facilitate OPI and allow nonprofits to realise service co-creation. Second, OPI on social media embodies discernible relationships and patterns of interaction that will allow service co-creation. Third, organisations build generative capabilities, including learning, adaptiveness, digital spanning, and relationability to actualise social media opportunities, facilitate OPI, and realise service co-creation.

This study contributes to academic knowledge by providing mechanism-based explanations (MBEs) for collaborative outcomes on social media. We operationalise service co-creation as a collaborative outcome for nonprofits on social media. First, we derive the measures for service co-creation on social media. Then, we provide a model for realising service co-creation on social media, which identifies the mechanisms provided in the structures of social media and OPI that facilitate service co-creation. Additionally, we conceptualise the emergence of organisational generativity as an organisational capability for social media interaction and explain its role in enabling the structures of social media, OPI, and collaborative outcomes, such as service co-creation.

For nonprofit practitioners, we explain the value of social media by identifying organisational outcomes associated with the use of social media and the facilitating factors that should be recognised. We highlight the variations of service co-creation, which can be useful in evaluating service co-creation practices on social media. Overall, the study guides nonprofits towards identifying and utilising the opportunities offered by social media as well as building capabilities, relationships, and patterns of interaction sufficient for service co-creation.

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Abbreviations

ACAP	Absorptive Capacity
AITs	Advanced Information Technologies
AST	Adaptive Structuration Theory
CR	Critical Realism
ESO	Education Services Organisations
FASM	Functional Affordances of Social Media
GEN	Organisational Generativity
HSO	Health Services Organisations
IS	Information Systems
MBEs	Mechanism-Based Explanations
Nonprofits	Nonprofit Organisations
OPI	Organisation-Public Interaction
OPR	Organisation Public Relationship
POI	Patterns of Interaction
QUAL	Qualitative
QUAN	Quantitative
SCC	Service Co-creation
SESM	Symbolic Expressions of Social Media
SMS	Social Media Structure
SSO	Social Services Organisations
TACT	Technology Affordances and Constraints Theory
TOR	Type of Relationship

Chapter 1. Introduction

Advances in social media have introduced new ways of operating and have enabled collaborative outcomes for nonprofits, particularly service co-creation, which is attributed to the resource integrating capabilities of social media. However, there is a lack of empirical accounts on the varieties of service co-creation realised by nonprofits, and how they are realised. This study provides an empirical and theoretical explanatory account on how nonprofits realise service co-creation through social media grounded in social media affordances and organisation-public interaction. We build our discussion in nine (9) Chapters starting with this one. This Chapter provides a background on the use of social media in nonprofits. We summarise the key insights, concerns and research gaps in the study of social media in these organisations. Then, we discuss some prospective ways that could enhance our understanding of the use and value of social media in the nonprofit sector. Further, we present our research questions, thesis statement, and the theoretical propositions for this study. This Chapter also provides the definitions of the key concepts (or words) used. At the end of the Chapter, we summarise the research process adopted in this study and outline the structure of the other Chapters in this dissertation.

1.1. Nonprofits and Social Media: A Background

With the growing number of social media users, from 2.62 billion users in 2018 to 3.02 billion users in 2021 (Statista, 2019), social media has become popular in organisations as it is among individuals. Like many organisations, nonprofits are adopting and aligning social media to organisational goals. A social media strategy is shaped, predominantly, by the organisation’s business model. While for-profit organisations (for-profits) run a business model, nonprofit organisations (nonprofits) run a funding model (Foster et al., 2009). Therefore, for-profits and nonprofits may adopt different strategies to accomplish social media goals. However, social media strategies will fail if organisations focus on the technology instead of focusing on achieving outcomes associated with collaborative communities that social media makes possible (Bradley & McDonald, 2011). Also, understanding the dynamics of social media and the context in which it is applied is useful in identifying the potential outcomes (Bernardi et al., 2019).

Some studies have reported social media possibilities (functional affordances) for organisations (Mathiesen et al., 2013; Rice et al., 2017; Schlagwein & Hu, 2017) and individuals (Leidner et al., 2018; Sæbø et al., 2020; Shao et al., 2020; Sun et al., 2020). Many researchers have drawn their attention specifically to social media possibilities (functions) for nonprofits as a way to define its potential to nonprofits and recommend social media strategies that are fit for nonprofits. Such functions include mainly, information sharing, community building, calling for action (Anagnostopoulos et al., 2017; Lovejoy & Saxton, 2012; Zhou & Pan, 2016), and building and maintaining organisation–public relationships (Briones et al., 2011; Farrow & Yuan, 2011; Lai et al., 2017; Smitko, 2012). While the above studies have improved our understanding of social media use in nonprofits, they have consistently overlooked the interactive nature of social media towards collaborative outcomes for nonprofits, which could have an innovative, financial, or socio-economic value. Consequently, there is no explanation of the emerging structure¹ of social media beyond its functions. The strategic value (Carim & Warwick, 2013), financial value (Lovejoy et al., 2012), and overall impact (Madden et al., 2016) of social media for nonprofits remain unidentified.

Social media is an interactive space that could enable open innovation and create business value (Bhimani et al., 2019; Dong & Wu, 2015). It often plays an enabling role in knowledge sharing and innovation activities for improved organisational performance (Garcia-Morales et al., 2018). Therefore, the role of social media has progressed from communication to public engagement in innovation and social product development through co-creation practices (Piller et al., 2012). In service firms, such as nonprofits, social media enables service innovation and value creation through an interactively-oriented process of service co-creation (SCC) (Cheung & To, 2016; Jarvenpaa & Tuunainen, 2013). Social media fosters nonprofit-public synergy in the creation of social value, and to appreciate this value and the impact of social media in nonprofits, we may have to look into how nonprofits leverage public interaction to gather and integrate resources² in the provision of services to target communities (Zhou & Pan, 2016).

¹ **Structure** in this study refers to rules and resources offered by the technology and utilised by the user to achieve the user's goals. This definition is adapted from the theoretical perspectives of DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization science*, 5(2), 121-147. and Markus, M. L., & Silver, M. S. (2008). A foundation for the study of IT effects: A new look at DeSanctis and Poole's concepts of structural features and spirit. *Journal of the Association for Information Systems*, 9(10/11), 609. . The structure of a technology as well as structure of social interaction are discussed in Sections 4.1 and 4.2 of Chapter 4.

² **Resources**, here refer to objects (e.g., facilities), social factors (e.g., employment, income, family, friends), individual characteristics (e.g., mastery, courage, social aplomb), or energies (e.g., money, knowledge, favours) that are valued by the organisation and can be drawn on to function effectively Hobfoll, S. E., Freedy, J., Lane, C., & Geller, P. (1990).

Social media is an open and cheap platform for nonprofits to increase public involvement, engagement and participation in resource integrating activities, service processes and service provision. Participation is “the extent to which customers [i.e., supporters, key stakeholders or the public] are involved in service production and delivery by contributing effort, knowledge, information, and other resources” (Dong & Sivakumar, 2017, p. 944). Engagement, on the other hand, refers to “the intensity of an individual’s participation in and connection with an organisation’s offerings and activities, which either the customer or the organisation initiate” (Vivek et al., 2012, p. 127). Consumer involvement and participation produce consumer engagement (Vivek et al., 2012); thus, involving the public in the provision of nonprofit services could enhance public engagement in service processes. In the public and nonprofit sectors, public participation empowers communities, promotes and strengthens service access, outcomes and community behaviours (Baatiema et al., 2013; Strasser et al., 2016). Community participation also supports the creation and delivery of relevant and acceptable services (Preston et al., 2009; Strasser et al., 2016). These practices are evident in health, community development, education, empowerment and welfare nonprofits (Burger et al., 2011). Using social media to share information, build community, and call for action provides the means of involving, engaging and attracting public participation in nonprofit service activities. This participation is not an end in itself, but a means to co-creation of services (Oertzen et al., 2018). Overlooking the interactive nature of social media and its resource integrating role undermines our understanding of the strategic value of social media in nonprofits.

Given its participation and engagement capabilities, social media enables “collaborative communities in which large and diverse groups of people who may have no pre-existing connections pursue a mutual purpose that creates value” (Bradley & McDonald, 2011, p. 9). The potential for collaborative communities has seen an increase in social media use among nonprofits associated with service innovation (Zhang et al., 2016), nonprofit-public resource integration (Zhou & Pan, 2016), service co-creation (Cheung & To, 2016), and ultimately value co-creation (Sorensen et al., 2017). However, the nature and extent of SCC on social media are unknown, and the mechanisms producing this outcome remain unexplained, although social media is visibly a space for exchanging financial and social resources between nonprofits, target communities and the public. Social resources constitute a significant reservoir for outside resources and “a central building block of health and wellbeing” of people, which is critical for nonprofits (Hobfoll et al.,

Conservation of social resources: Social support resource theory. *Journal of Social and Personal Relationships*, 7(4), 465-478. .

1990, p. 465). Such resources include knowledge and ideas, connections to significant others, and social support (i.e., informational, emotional, and instrumental or material), which have become crucial in the creation and provision of nonprofit services (Hobfoll et al., 1990; Wellman & Wortley, 1990).

Despite the increasing use of social media in nonprofits, and the mounting evidence of social media functions for nonprofits, few studies (Cheung & To, 2016; Sorensen et al., 2017) explore social media as a platform for co-creation of (nonprofit) services. Sorensen et al. (2017) argue that social media likes, clicks, shares, comments, and tweets augment community interactions and have become resources for SCC. Cheung and To (2016) add that the extent of interaction shapes actors' attitude, intention and behaviour in co-creation on social media. Moreover, when organisations socialise with service consumers, they engage in the development of new service solutions supported by their socialisation tactics (Jarvenpaa & Tuunainen, 2013). To extend these studies, first, we discuss the key insights and gaps in studies on social media in nonprofits and later provide theoretical propositions on nonprofits' interaction on social media and service co-creation.

1.2. Key Insights and Research Gaps

Undeniably, social media builds a unique form of capital that allows organisations to acquire resources, which they integrated with other forms of capital to derive strategic outcomes (Saxton & Guo, 2020). Social media offers technical and social resources which are becoming useful for service provision and value co-creation in nonprofits (Sorensen et al., 2017; Zhou & Pan, 2016) as well as for-profit organisations (Jarvenpaa & Tuunainen, 2013; Singaraju et al., 2016). For nonprofits, social media enables public involvement, participation and engagement in service activities (Cho et al., 2014; Smitko, 2012; Warner et al., 2014), which are vital for SCC (Oertzen et al., 2018). Thus, nonprofit-public engagement has now metamorphosed into co-production of services and public value due to the increasing resource integrating capabilities offered by social media technologies (Bovaird & Loeffler, 2012).

Arguably, social media offers two key capabilities for co-creation, i.e., the social network and the technology (Kusumaningdyah & Tetsuo, 2017). An emerging issue of strategic importance, yet insufficiently discussed, is how nonprofits use the technology and social networks capabilities for collaborative outcomes like SCC. Social technologies, at large, create a service system of resource integrating actors connected by social structures and engaged in service exchanges for mutual value creation (Vargo & Lusch, 2016). Unfortunately, the role of social structure is continuously

overlooked in the exploration of SCC (Edvardsson et al., 2012; Edvardsson et al., 2011); moreover, there is a limited conceptualisation of digitally enabled structures in resource-based and service-based encounters (Faulkner & Runde, 2019).

Social media provides a means to service co-creation in for-profit (Cheung & To, 2016) and nonprofit organisations (Sorensen et al., 2017) buoyed by its functionalities and social networks (Edvardsson et al., 2012; Edvardsson et al., 2011; Kusumaningdyah & Tetsuo, 2017; Nguyen, 2017). Service co-creation occurs because it not only allows nonprofits to mobilise and integrate resources with the public (Zhou & Pan, 2016) but also supports OPI and relationships (Lai et al., 2017). However, some key issues have not received the attention they are due. For instance, SCC tends to vary in forms or processes depending on the context in which it occurs (Oertzen et al., 2018); however, existing studies have not sufficiently explained the variations in SCC, neither in the social media context nor in the nonprofit setting.

Gradually, studies have explored and reported many opportunities offered by social media to nonprofits, commonly information, community and action (Lovejoy & Saxton, 2012; Zhou & Pan, 2016). Exploring such opportunities alone cannot tell us how social media at large might influence specific outcomes for the organisations (Bernardi et al., 2019). Moreover, a comprehensive look at a given technology as a whole would consider, not only the opportunities afforded, but also the meaning and values surrounding this technology as well as the constraints presented by the technology (Majchrzak & Markus, 2012; Markus & Silver, 2008).

Likewise, researchers (Cho et al., 2014; Duong, 2017) comment explicitly that nonprofits are increasingly building relationships on social media, and have encouraged nonprofits to develop strategies to achieve specific relationships, e.g. symmetrical (dialogic) relationships. However, the influence of relationships remains unclear because the nature of such relationships is unknown. Further still, such studies have made considerable effort to explain organisational practices that could be associated with such relationships, but they have seldom examined the shapers of such relationships.

Lastly, leveraging social media opportunities requires specific capabilities or the capacity to act in certain ways to drive intended outcomes (Orlikowski, 2007; Suchman, 2007). Recognising the resource enabling capabilities of social media calls for more attention to IT-related competencies in the form of knowledge, skills, and processes (Faulkner & Runde, 2019). Moreover, organisational capabilities are critical to deriving the strategic value of social media in open innovation (Dong & Wu, 2015). Regrettably, researchers have hardly introduced organisational capability or resource-based perspectives to explain social media interactions, open innovation,

and co-creation in service contexts (Wilden et al., 2019). Underestimating the dynamic nature of social media and the role of organisational capabilities in managing social media contingencies is a major shortcoming. In other words, the description, exploration and explanation provided by previous research on social media in nonprofits and the potential for SCC are somewhat incomplete.

1.3. A Way Forward on Nonprofits and Social Media

Drawing on the arguments of critical realists, we suggest that the appropriate way to investigate this phenomenon is to explicate the event(s) (i.e., outcome) and mechanism(s) enabling the outcome (Bygstad et al., 2016; Volkoff & Strong, 2013; Wynn Jr & Williams, 2012).

First, social media supports resource mobilisation and acquisition, and the acquired resources may or may not be integrated with the organisation's resources for strategic outcomes (Saxton & Guo, 2020). From a service ecosystems perspective, social media is "a system of resource integrating actors connected by shared institutional arrangements and mutual value creation through shared service exchange" (Vargo & Lusch, 2016, pp. 10-11). We then have to consider the "configuration of people, technologies, and other resources that interact to create mutual value" (Vargo & Lusch, 2016, p. 11). The collaborative and resource integration practices of nonprofits on social media are manifestations of collaborative-contextual outcomes, specifically SCC. SCC can be considered an outcome because it is a distinct collaborative process, and a collaborative process is generally framed as an outcome connected to the opportunities afforded by the technology, i.e., its affordances (Evans et al., 2016). Further still, nonprofits' activities on social media are centred on resource mobilisation for service delivery which makes the underlying processes exist as a means to this end (Evans et al., 2016).

Second, explicating the mechanisms that drive the identified outcome is vital (Bygstad et al., 2016; Volkoff & Strong, 2013; Wynn Jr & Williams, 2012). To illustrate the mechanisms that drive SCC through social media, we need to understand the structure of social media, i.e., the resources provided by social media based on the activities of nonprofits. This structure would include the opportunities for action provided by social media, and the meaning and values that social media conveys to nonprofits (DeSanctis & Poole, 1994; Grgecic et al., 2015; Markus & Silver, 2008). Nonetheless, social media will not only provide opportunities for action but will also present some constraints that could hinder possible opportunities (actions) (Majchrzak & Markus, 2012). Opportunities such as anonymity, visibility, and socialisation are certainly not distinct features of social media, they are not binary but variable, and are associated with multiple outcomes (Evans

et al., 2016). Such opportunities for action provided by social media, i.e., its affordances for nonprofits, exist as the mechanisms producing the identified outcome (Bygstad et al., 2016; Volkoff & Strong, 2013; Wynn Jr & Williams, 2012).

Third, drawing on DeSanctis and Poole (1994), we argue that the opportunities offered, the meaning and values conveyed, and the constraints presented by social media shape OPI, which, if aligned to nonprofits' goals, could promote SCC. Moreover, much as social media as a technology, influences co-creation activities, the social networks that exist along this technology are as much a key influencer of co-creation too (Kusumaningdyah & Tetsuo, 2017). Productive OPI on social media can be traced from the type of relationships cultivated and the embedded patterns of interaction, and that is what could influence potential outcomes (Broom et al., 2000). The types of relationships are explained by the organisations' strategies towards exchanging resources and benefits with the public (i.e., a connectionist or exchange strategy) (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992). In contrast, the patterns of interaction are explained by its strategies to build specific configurations of ties with significant supporters (i.e., a structuralist or network strategy) (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992). Applying both perspectives to OPI, we can clarify the mechanisms in nonprofit-public interaction that produce SCC.

Lastly, human-computer interaction or sociomaterial practices require the organisation, as a social actor, to have the "capacities for action" (Suchman, 2007) or "the capacity to act" knowledgeably to achieve its goals (Orlikowski, 2007). Therefore, discovering and actualising the possibilities offered by social media demands for adequate capacities or capabilities to act intelligently to achieve the intended outcome. Since social media is troubled by technology dynamism, organisations would require capabilities that allow for continuous rejuvenation and renewal of resources, and adjustment of routines to operate in new ways given new trends (Fainshmidt et al., 2016; Sherehiy et al., 2007). Nonetheless, organisations are tasked to develop capabilities for SCC (Singaraju et al., 2016). Organisational generativity is often a rejuvenating capability required in innovative processes, such as co-creation (Sun & Zou, 2018a, 2018b). It refers to "the ability to originate, produce or procreate" (van Osch & Avital, 2010; Van Osch & Mendelson, 2011). Organisational generativity is not only essential for innovation but is also a preferred capability for thriving in dynamic and highly uncertain environments, such as social media (Ambrosini et al., 2009). We thus argue that organisational generativity is a driving force for perceiving, discovering and actualising social media possibilities, interactions, as well as realising SCC.

1.3.1. Research Question(s)

To study how nonprofits realise service co-creation through social media, we formulated our research question as follows;

How do nonprofits' interactions with the public on social media contribute towards service co-creation?

We then posed four sub-questions:

- 1) What forms of service co-creation do nonprofits realise through social media?
- 2) How do nonprofits interact with the public on social media, and how does this interaction contribute to the co-creation of services?
- 3) How does the structure of social media contribute to OPI and service co-creation in nonprofits?
- 4) How does organisational generativity contribute to nonprofits' interactions on social media and service co-creation?

1.3.2. Research Thesis

We examined the thesis that the possibilities for action, plus the meaning and values conveyed as nonprofits use social media for public interaction provide the mechanisms for service co-creation, and that this outcome and the mechanisms producing it are augmented by organisational generativity.

1.3.3. Theoretical Propositions for this Research

Yin (2018) acclaims the use of theoretical propositions to guide case study research. It is also argued that theoretical propositions can be useful in the integration of quantitative and qualitative approaches (Östlund et al., 2011). The use of theoretical propositions guided the development of testable hypotheses for the survey and selection of analytical priorities for the case study. The theoretical propositions for this research situate SCC as a contextual outcome of nonprofits' interaction with the public on social media. Drawing on the theoretical perspectives discussed later in Chapter 5, we proposed that:

Proposition 1. By using social media to engage the public in resource integrating activities, nonprofits realise multiple interrelated forms of service co-creation

Proposition 2. Nonprofit–public interaction on social media involves different types of relationships and embedded patterns of interaction, which provide the mechanisms for SCC

Proposition 3. The structures of social media enacted in the action possibilities offered³, the meaning conveyed and the values promoted provide the mechanisms for co-creation of nonprofit services

Proposition 4. The structures of social media influence nonprofit-public interaction, in such a way that: (a) the meaning conveyed and values promoted will influence the action possibilities afforded to nonprofits. (b) The action possibilities afforded provide the mechanisms for organisation–public relationships. (c) The meaning conveyed and values promoted will influence organisational patterns of interaction on social media. (d) Organisational patterns of interaction on social media influence their relationships with the public

Proposition 5. Organisational generativity enhances social media structure, organisation-public interaction, and service co-creation

After hypothesis development, discussed in Chapter 5, we present the connection between the research questions, theoretical propositions and hypotheses in Table 5-4.

1.4. Key Concepts on Nonprofits, Social Media and Service Co-creation

This study focuses on four realities in the phenomenon studies, i.e., SCC, social media structure, OPI, and organisational generativity – see Figure 1-1. We operationalise social media structure using functional affordances and symbolic expressions. We adopted two views on organisation-public interaction. First, we assume the exchange view favoured by the public relation researchers, which focuses on the type of organisation-public relationships (OPR) including communal, exchange and symbiotic relationships. Second, we adopt the network view expressed by structuralists focusing on the patterns of interaction in social relationships including cohesive, strong, symmetrical and similarity-based interaction. Embracing the dynamic capabilities’

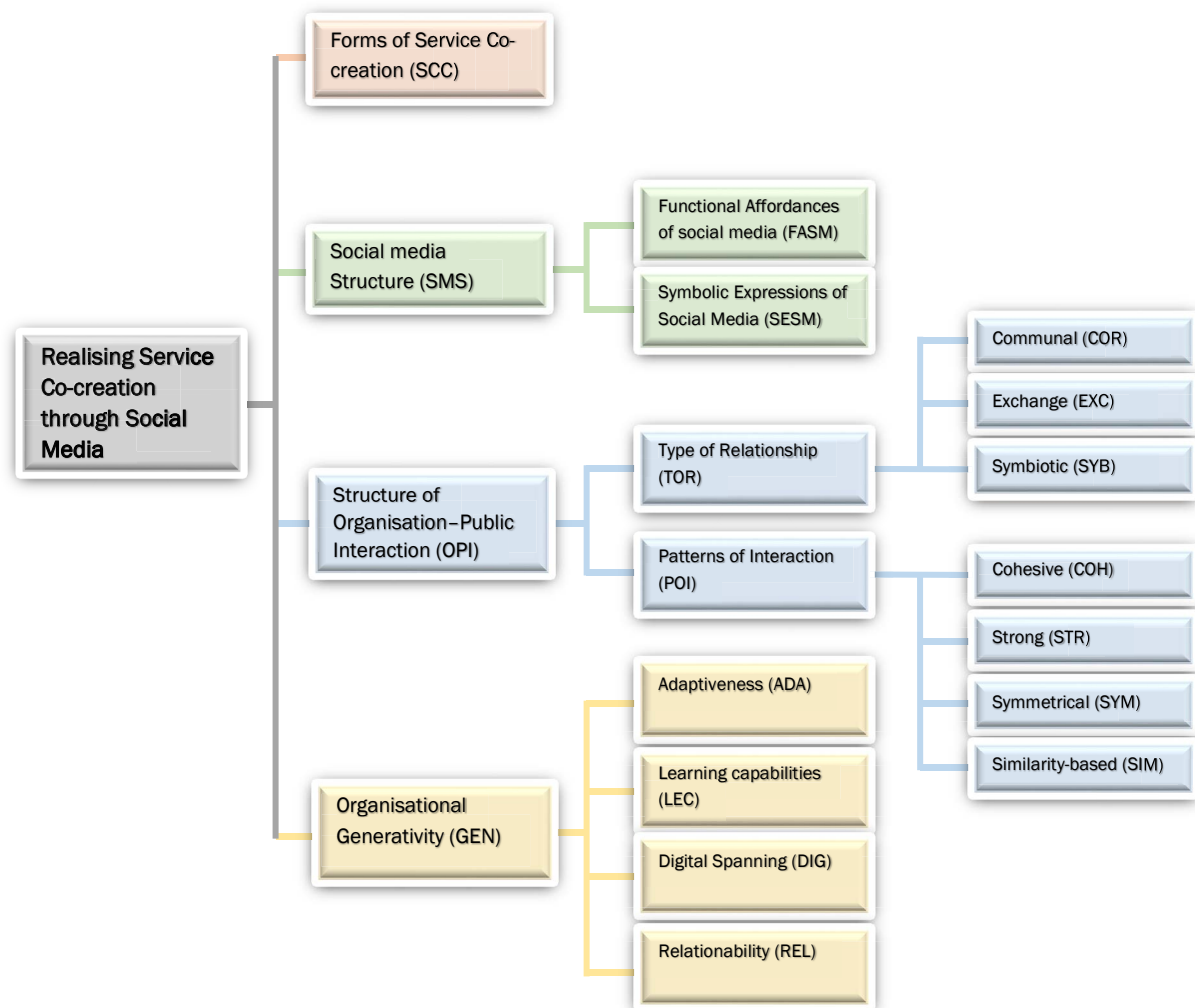
³ Action possibilities are functional affordances, which are discovered and actualised by a specific group of users (nonprofit organisation).

Affordance discoverability is the ability of the object user to figure out what the object does or can do, and how it works Norman, D. (2013). *The Design of Everyday Things* (Revised and Expanded ed.). Basic Books. .

Affordance actualisation refers to ‘the actions taken by actors as they take advantage of one or more affordances through use of technology to achieve immediate concrete outcomes in support of organisational goals’ Strong, D. M., Volkoff, O., Johnson, S. A., Pelletier, L. R., Tulu, B., Bar-On, I., Trudel, J., & Garber, L. (2014). A theory of organization-EHR affordance actualization. *Journal of the Association for Information Systems*, 15(2), 2. . An affordance is actualised by perceiving it and connecting it to the user’s goal Anderson, C., & Robey, D. (2017). Affordance potency: Explaining the actualization of technology affordances. *Information and organization*, 27(2), 100-115. .

perspective, we introduce organisational generativity as a combination of organisational adaptiveness, learning, digital spanning and relationability. The theoretical entities mentioned above are summarised logically in Figure 1-1 below.

Figure 1-1. A Breakdown of Working Concepts and Study Variables



1.4.1. Definition of Keywords

Service – The ‘application of competencies (knowledge, skills and resources) by one entity for the benefit of another entity in a non-coercive (mutually agreed and mutually beneficial) manner’ (Schmidt et al., 2009).

Service Co-creation – Is a resource integrating activity, practice or process between two or more engaging actors that enable them to create services in a specific business context jointly (Hilton et al., 2012; Hughes, 2014; Oertzen et al., 2018).

Social Media Structure – How the organisation (as a specific user group) uses the structural features, rules, and resources provided social media to influence particular outcomes (Markus & Silver, 2008). This structure includes a combination of the action possibilities afforded by social media (functional affordances), meanings and values conveyed by social media to nonprofits (symbolic expressions), and possibly the constraints presented by this technology.

Organisation-Public Interaction – Social and informal interaction between a nonprofit and the public or target community that involves effort “to win the support or cooperation of, or aim to improve relationships with people or organisations in communities in which the organisation has an interest, need, or opportunity” (Bridges & Nelson, 2000, p. 111).

Organisational Generativity – The ability of an organisation to gain new perspectives, rejuvenate and reframe its processes in infinite ways to challenge the status quo and to transform opportunities, reality and action (van Osch & Avital, 2010).

Dynamic Capabilities – “The ability of an organisation to perform a coordinated set of tasks utilising organisational resources to achieve a particular result” (Helfat & Peteraf, 2003, p. 999)

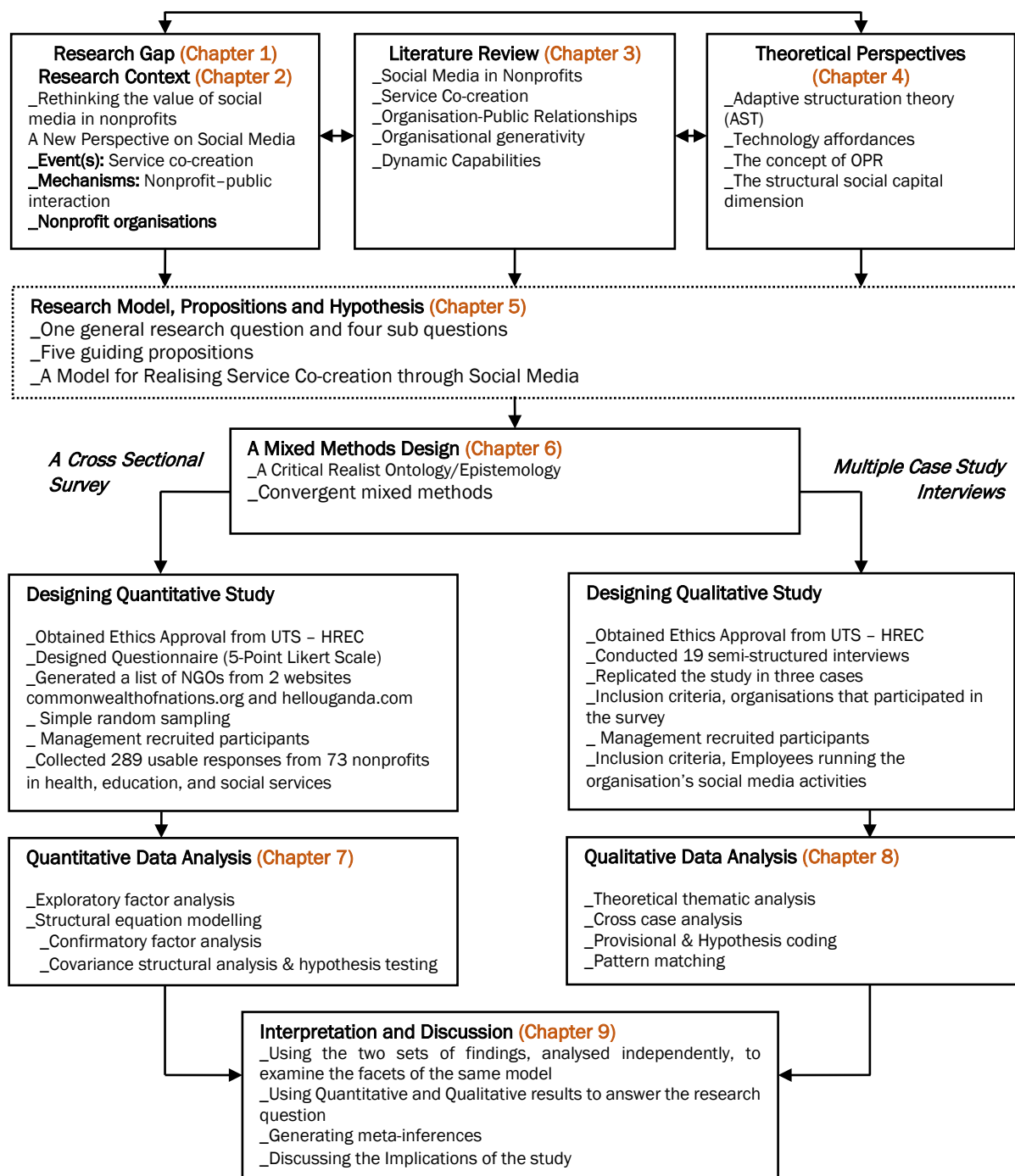
Nonprofits – These are, “organisations that are barred from distributing net earnings, if any, to individuals who exercise control over it, such as members, officers, directors, or trustees” (Hansmann, 1980, p. 838; O'Hagan & Purdy, 1993).

Nonprofit Services – Are deeds, processes, interventions, programs aimed to deliver aid and create social value by meeting community needs rather than organisation profit maximisation.

1.5. Study Process and Organisation of the Thesis

This section summarises the flow of this study indicating problem identification and specification, literature review and theoretical underpinnings, methods of data collection and analysis, and lastly the interpretation and discussion of findings. This thesis has nine (9) Chapters, and Figure 1-2 below provides the flow of the study linked to the Chapters of this dissertation.

Figure 1-2. Study Process Mapped into the Chapters of this Dissertation



As visually expressed in Figure 1-2 above, the remaining chapters of this thesis are as follows.

Chapter 2 – The Research Context. This Chapter indicates the nonprofits involved in this study and discusses the key stakeholders that could benefit from the findings of this study. We discuss the impact and influence of this work on nonprofits.

Chapter 3 – Literature Review. This Chapter reviews existing scholarship on social media use in nonprofits, and social media affordances in different contexts leading to our definition of the potential possibilities offered by social media to nonprofits. We review studies on SCC, both in social media and non-social media platforms leading to our understanding of the possible variation in SCC, given a specific context. We review scholarship on organisation-public relationships leading to our definition of OPI and the potential measures of OPI on social media. We review the literature on dynamic capabilities leading to the identification of generative capabilities and a definition of organisational generativity.

Chapter 4 – Theoretical Perspective. This Chapter presents the reconceptualisation of the AST and how this theory was applied to study how nonprofits' social media interaction enables SCC. We discuss the role of OPR and structural capital in understanding and operationalising OPI.

Chapter 5 – Research Model, Propositions and Hypothesis Development. This Chapter presents the research model visualising SCC as the emerging event in nonprofit use of social media and the structures of social media and OPI as the underlying mechanisms producing this event. We indicate and argue the proposed effects of such mechanisms on SCC. This Chapter presents the hypotheses tested using quantitative data.

Chapter 6 – A Mixed Methods Research Design. We adopt critical realism as our ontological-epistemological stance in this study. We explain how we conducted the quantitative and qualitative studies, indicating how we collected, analysed, and integrated the two sets of data.

Chapter 7 – QUAN Data Analysis: Measurement & Structural Model Analysis. In this Chapter, we present quantitative findings based on covariance structural equation modelling. The Chapter provides the measurement models with the reliability and validity analyses and the structural models indicating the tested hypotheses.

Chapter 8 – QUAL Data Analysis: Theoretical Thematic Analysis & Cross-Case Analysis. In this Chapter, we present qualitative data analysis using theoretical thematic analysis. We provide a cross-case analysis of findings in health, education and social service nonprofits. We explain the emerging relationships between different categories across (theoretically generated) themes.

Chapter 9 – Interpretation, Discussion and Conclusion. This Chapter provides an integrated discussion of findings. In this Chapter, we merge the QUAN and QUAL results using joint display tables to indicate convergent, complementary, or divergent results. We provide a discussion of results and generate meta-inferences. We conclude this Chapter with the implications of the study.

Chapter 2. The Research Context

To explicate service co-creation (SCC), we have to consider the context (Edvardsson et al., 2011; Jones, 2019). This Chapter explains the context of nonprofit services investigated in this study, including the types of services, the key participants, and the potential audience of this study. We explain the nature of participating organisations, the country they serve and indicate the influence of this study among different individuals, groups and organisations in the nonprofit sector. We explain the primary and secondary stakeholders associated with this study and explain how the findings could benefit these stakeholders. This Chapter provides only the overall view of the research context, but the study population, sampling and recruitment of study participants are provided in Chapter 6, which explains our research design.

2.1. Defining Nonprofit Organisations

Unlike for-profit organisations (FPOs), whose business priority is earnings and profitability, nonprofit organisations (nonprofits) are mission-oriented organisations that work towards creating social value for the society (Abu-Saifan, 2012; Lettieri et al., 2004). A ‘nonprofit organisation is, in essence, an organisation that is barred from distributing its net earnings, if any, to individuals who exercise control over it, such as members, officers, directors, or trustees’ (Hansmann, 1980, p. 838; O'Hagan & Purdy, 1993). Nonprofits, from a broader perspective, encompass non-governmental organisations (NGOs) and parastatal bodies, which are not necessarily the core arms of government. Salamon and Anheier (1996) provide a clear distinction between nonprofits and other organisations. They indicate that, nonprofits are,

- 1) “Organised, i.e., institutionalised to some extent
- 2) Private, i.e., institutionally separate from government
- 3) Self-governing, i.e., equipped to control their activities
- 4) Non-profit-distributing, i.e., not returning profits generated to their owners or directors
- 5) Voluntary, i.e., involving some meaningful degree of voluntary participation” (pp. 2-3)

However, the voluntary and nonprofit nature of these organisations does not imply that they do not get earnings; they make earnings and publish financial statements (Hansmann, 1980). Unlike for-profit organisations, nonprofits are barred from distributing earnings as benefits to members but rather invest these earnings into future services of the organisation. In this study, we focus on

nonprofits that operate commonly as NGOs and therefore meet the five characteristics mentioned above.

Table 2-1. Classification of Nonprofits (Salamon & Anheier, 1996)

CULTURE & RECREATION	EDUCATION & RESEARCH	HEALTH
SOCIAL SERVICES	ENVIRONMENT	DEVELOPMENT & HOUSING
LAW, ADVOCACY & POLITICS	PHILANTHROPIC	INTERNATIONAL
RELIGION	ASSOCIATIONS & UNIONS	[NOT ELSEWHERE CLASSIFIED]

Salamon and Anheier (1996) of The Johns Hopkins Comparative Nonprofit Sector Project presented an International Classification of Nonprofit Organisations (ICNPO) report, in which they classify nonprofits into twelve categories depending on the nature of the services they provide, as indicated Table 2-1. The three shaded categories in Table 2-1 provide the context and primary stakeholders of this study. Social services, education, and health have been key focus services for nonprofits operating in developing countries like Uganda (Pacutho, 2018). Defining nonprofits allows us to identify and distinguish between organisations by services offered. This distinction enables us to differentiate if required, the use of social media in different nonprofits.

2.2. Nonprofit Sector in Developing Countries and Emerging Markets

According to Namisango et al. (2019), the majority of studies on nonprofits' use of social media are conducted in the United States, Europe – i.e., UK, Germany, Spain, and Asia, particularly China. This observation indicates that existing findings provide approaches most suitable for the world's largest economies rather than the developing countries and emerging economies. With a clear classification of nonprofits (Table 2-1), we were able to focus on the three major groups, i.e., education, health and social services, which commonly operate in Uganda, where we collected our data. Nonetheless, in general, social media is most commonly used by social services, health, education, law and advocacy, as well as cultural organisations (Namisango et al., 2019).

The research problem covered in this study relates to nonprofits in general, but this study delves into nonprofits in a developing country – Uganda – that has a large concentration of nonprofits. Since nonprofits work in support of or seek amendment of, government policies, we looked at the strategic plans of Government Ministries in Uganda targeting education, health, social services, and ICT implementation.

- Social Development Sector Plan (SDSP) 2015/16 – 2019/20. This document was created and published in June 2016 as a detailed strategic plan for the Ministry of Gender, Labour and Social Development of Uganda. The theme behind this plan is “empowering communities, particularly the vulnerable and marginalised groups for wealth creation and inclusive development”. This plan particularly enables us to generate a comprehensive view of our stakeholders with the social services sector of the Ugandan economy.
- Education and Sports Sector Plan 2017/18 – 2019/20. This document was created and published in September 2017 as a detailed strategic plan for the Ministry of Education and Sports of Uganda. The key strategic objective and priority interventions noted focus mainly on equitable access to quality education and training. The relevance of this document to our study is that it enables us to generate a comprehensive understanding of key stakeholders and entities associated with the provision of education services in Uganda.
- Health Sector Development Plan 2015/16 – 2019/20, which was created and published in September 2015 by the Ministry of Health in Uganda, as a strategic plan and guide to managing healthcare and services in the country. The Health Sector Development Plan provides us with a clear indication of health interventions for the prevention and treatment of communicable/infectious diseases in Uganda and the key stakeholders involved.
- ICT Sector Strategic and Investment Plan (ICT SIP) 2015/16 – 2019/20. This document was created and published by the Ministry of ICT of Uganda. Under the general theme ConnectedUganda@2020, one of the key strategic themes and action areas provided in the ICT SIP is the ability to harness ICT opportunities for improved service delivery.

2.3. Nonprofit Services Considered in this Research

Nonprofit organisations in Uganda operate as the third sector of the economy popularly known as non-government organisations (NGOs). Although NGOs operate as independent bodies, they are regulated by the government and offer several service interventions that are closely related to the key issues highlighted by different government ministry strategic plans. The Uganda National NGO Forum, supported by OXFAM, studied the value of NGOs in the socio-economic development of Uganda. The study uncovered that NGOs offer socio-economic development interventions such as “service delivery, governance, policy formulations, civic education, livelihood, and capacity building for communities and district officials, education, health advocacy, improvement in infrastructure, community empowerment” (Pacutho, 2018). Although nonprofits offer a wide range of community, support services, this study focuses on three key nonprofit services widely offered in Uganda – i.e.

(1) education support services, (2) health advocacy, prevention and treatment of infectious services and, (3) social services.

2.3.1. Nonprofit Education Support Services

One of the overarching strategic objectives of the education sector in Uganda is the provision of efficient and effective educational support services across the country (*Education and Sports Sector Plan 2017/18 - 2019/20*, 2017). The ministry encourages community participation and engagement in the provision of education service. It also encourages organisations involved in the provision of education services to harness the opportunities offered by ICT towards the delivery of education services, research and communication of impact. Nonprofit organisations offering education services shape their services towards achieving the key education objectives of the country. There is thus a commitment towards services mentioned below, and we thus focus on nonprofits that offer services relating to the following.

- Community engagement and sensitisation on education for girls
- Providing support for informal skills-based programs and training
- Encouraging and attracting community support and participation to promote education

2.3.2. Nonprofit Health Services

Within the health sector, health interventions to improve women and children health outcomes are crucial according to (*Health Sector Development Plan 2015/16 - 2019/20*, 2015). Additionally, the sector development plan also indicates the need to treat and control communicable/infectious diseases, particularly, Malaria, TB and HIV/AIDS. Key non-state actors that support the implementation of this plan include some nonprofit organisations, which include NGOs, community service organisations (CSOs), and Village Health Teams (VHTs). NGOs mainly provide complementary health services in underserved areas, CSOs engage in health advocacy programmes by articulating crucial health issues across households. Village health teams engage in mobilisation and linking the community to available health services. These non-state actors engage in health service delivery and reporting as approved by the Ministry of Health (MOH – Uganda). Among the key health issues raised by the MOH, this study investigates nonprofit health service organisations that engage in the following health services.

- Health services on family planning and adolescent health
- Health services for the treatment and prevention of communicable/infectious diseases

2.3.3. Nonprofit Social Services

The Ministry of Gender, Labour and Social Development is the umbrella agency responsible for planning and overseeing the implementation of gender-based and social development interventions in Uganda. According to the (*Social Development Sector Plan 2015/16 - 2019/20*), the issue of social protection is among the top five concerns for the ministry. The ministry provides for social protection through guidelines and standards to state and non-state actors engaging in social protection programmes. These programmes focus on providing income support and financial services to vulnerable groups and the youth, provision of social care and protection services to children, promoting and protection of the rights of vulnerable groups, particularly children, elderly and persons with disabilities (PWDs), and provision of non-formal vocational, entrepreneurial and life skills to the youth. This study engaged with nonprofit organisations offering social protection related services, which particularly include

- Protection of vulnerable groups, e.g. people with disability, elderly, children and women
- Nursing home services for orphaned children
- Income support for the youth and underprivileged groups and individuals

2.4. Potential Stakeholders of this Research

A stakeholder is “any group or individual who can affect or is affected by, the achievement of a corporation purpose” (Freeman, 1984, p. vi). Given the key focus areas of this research project, we can now define the primary and secondary stakeholders that are quite pertinent to this project and could affect or be affected by the findings presented by this work. By listing the stakeholders below, we attempt to articulate the persons and organisations that have an interest in nonprofit services.

2.4.1. Primary stakeholders

Nonprofit organisations in social services, education services and health care. These organisations identify community needs and design service propositions to improve people’s lives in a given community. They directly interact with service consumers/users. Given the focus of this study, Section 2.1, our primary context of study are nonprofits offering three categories of services.

- Education and Training Services Organisations (ESO)
- Social Service Organisations (SSO)
- Health Service Organisations (HSO)

This study could inform and influence how these organisations interact with target communities through social media. These organisations could benefit from this study because it examines and explains how their interaction with the community could shape advanced but informal service processes such as SCC. The study highlights how social media platforms support organisation-community relationship building and SCC. The study explains which organisation-community relationships would support SCC. Moreover, the study introduces the process of SCC for nonprofits by articulating the different processes involved.

Employees in nonprofits. These are key participants who interact directly with the community on behalf of the organisations. Nonprofit employees most relevant to this study include

- Social Media Managers/supervisors (SMM)
- Social Media Administrators/personnel (SMA)
- Nonprofit Managers/Directors (NPD)
- Public Relation Officers (PRO)
- Communication Officers (CO)

SMM, SMA and NPD were key participants in our study who responded to our survey and participated in interviews, which allowed us to analyse and test our hypotheses. This study offers implications for improving social media interactions for SCC. This study offers insights to nonprofit employees, especially, social media administrators and managers; on key social media activities they should undertake to build a relationship with target communities. The study elaborates what relationships support SCC. The study particularly explains what SCC constitutes for their organisations when they seek to engage in this process through social media.

Organised community groups (OCGs). These are usually small self-help groups that comprise members who work together to offer services at a local level. These groups commonly collaborate with nonprofit organisations to access community support (as service consumers) as well as increase access to support amongst members (as service providers). Community-based groups that are popular in Uganda. Those of interest to this study include community groups for people living with HIV, village health teams, community groups for financial support, and community groups that create educational opportunities for the poor and advocate for skills training.

Government agencies. We recognise that ministries stipulate service standards and implementation plans, and therefore regulate service interventions of nonprofit organisations. Ministries also collaborate with NGOs to ensure that services are delivered to all persons that need those services. Generally, nonprofits operate within the set standards and procedures, as defined by the government. Different ministries will oversee the activities of nonprofit organisations

operating within a given field. Given the key areas of focus in this research, we indicate four ministries that may pay attention to the findings of this study. These include, from the Ugandan Government context,

- Ministry of Education and Sports (MOES)
- Ministry of Health (MOH)
- Ministry of ICT (MOICT)
- Ministry of Gender, Labour and Social Development (MOGLS)

2.4.2. Secondary stakeholders

Consumers of nonprofit services (i.e. individuals, families and groups). Consumers of nonprofit services are persons, groups or organisations that need, access and use community support services offered by nonprofit organisations. From a Ugandan perspective, the consumers pertinent to our study include vulnerable individuals, specifically children, women, elderly and persons with disabilities. These are key recipients of social services in the country. On the other hand, the users of health services, unlike social services, are persons living with HIV, TB and malaria patients, especially pregnant women and children. Consumers of nonprofit services are secondary stakeholders to this project because they would benefit from the findings presented here when nonprofit organisations appreciate and implement our ideas for better community relationships and enhanced service delivery.

Volunteers to nonprofit organisations. Volunteers are individuals or groups that actively engage in nonprofit activities on their own accord without being assigned, ordered or paid. Volunteers tend to improve on the operational efficiency of nonprofits organisation by offering free labour, especially during service delivery. Volunteers are secondary stakeholders to this project because they, on many occasions, engage with service consumers on behalf of a nonprofit organisation or they act as part of a nonprofit organisation. This project enlightens volunteering individuals and groups on the recommendable practices and community relationships for SCC through social media environments. The project enables volunteers to reassess their approaches towards using social media to support nonprofit services.

Community leaders/Influencers. These are key individuals in leadership positions who normally advocate for better lives for the individuals living in their constituencies. Such individuals include, e.g. local council leaders and politicians. Among politicians, members of parliament (MPs) particularly initiate community-based organisations that strive to organise and solicit for support to overcome challenges in their communities. Mobilising and sensitising individuals on availability

and access to community support services occasionally involves local council leaders at Local Council 1 and Local Council 2. They work closely with community-based organisation and groups as well as other leaders in the community to get services to the individuals that need them. In other words, community leaders and influencers are relatively close to service consumers.

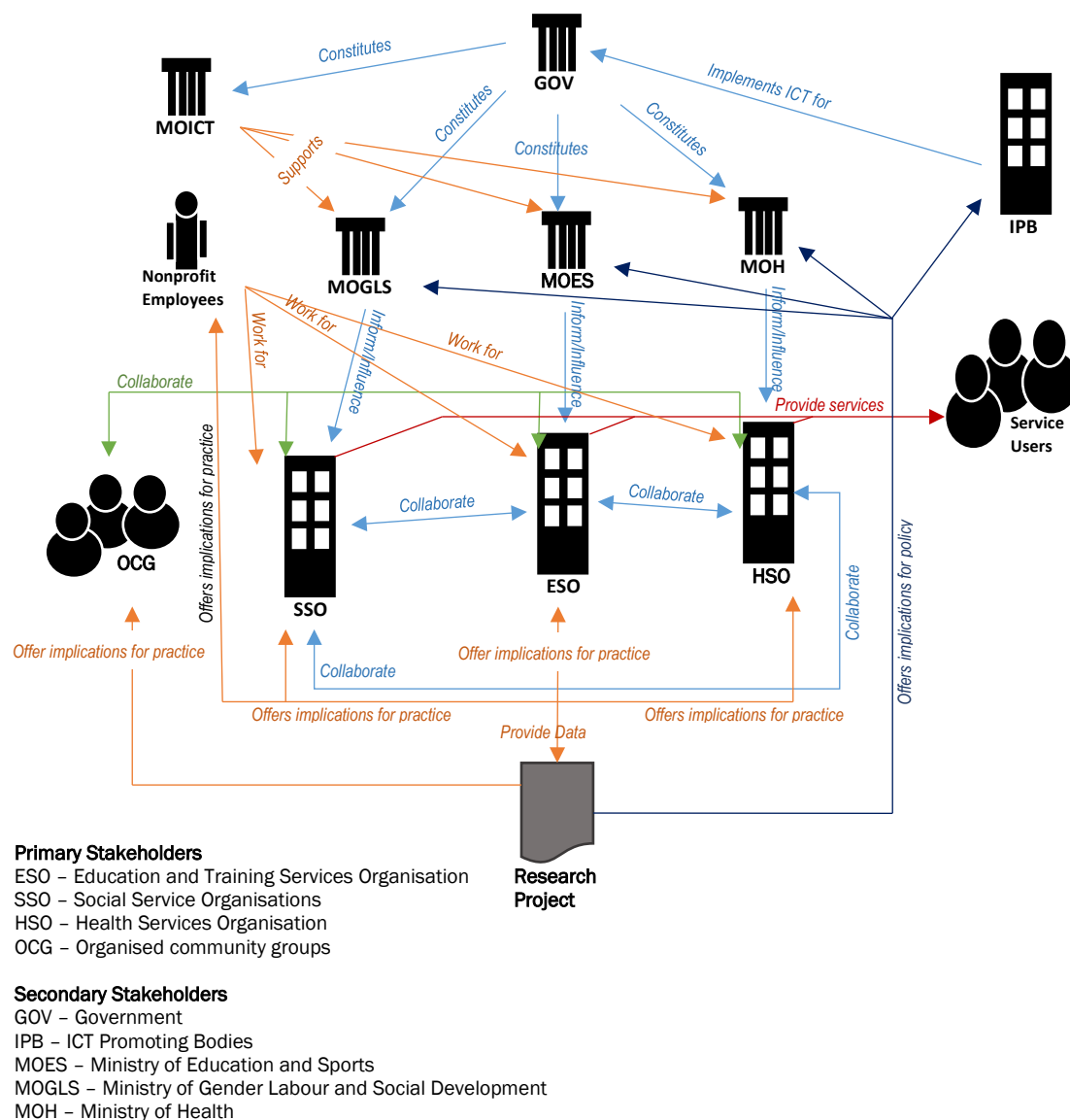
ICT promoting bodies (IPB). The key ICT promoting body in Uganda is the National Information Technology Authority – Uganda (NITA-U). NITA-U operates under the Ministry of ICT (Uganda) to coordinate, promote and monitor ICT development and implementation for the social and economic development of Uganda. NITA-U provides regulatory services and guidelines on e-government, such as certification of IT professionals, use of social media, development and management of government websites. (NITA-U, 2018). NITA-U is a stakeholder to this project because nonprofit organisations work towards achieving social and economic development goals stipulated by the government. Many nonprofits therefore closely operate within the regulations and guidelines provided by the government. The findings of this study could offer rich insight for NITA-U on the applicability of social media for increased community involvement and participation in co-creation of community support services. The findings presented by this research could inform NITA-U's guide on social media use concerning service delivery.

Donors. Donors are key enablers and supporters of the country's policies and processes for improving the lives of disadvantaged individuals and groups. Because many nonprofits operate to improve education, social protection and health care, donors are largely attracted to the work of nonprofit organisations. Donors are key influencers of nonprofits, and these organisations tend to act in response to the expectations of donors. This study offers insights to nonprofits donors into nonprofit practices on social media, social media opportunities for nonprofits and emerging service enhancing processes such as SCC. Such insight would support donor learning to strengthen policy dialogue or capacity to exercise oversight over nonprofit-community interactions.

2.5. Stakeholder Relationships and Salience

In this section, we explain how different stakeholders relate to this research, and with one another using a stakeholder map and rich picture. One can analyse stakeholder relationships through a network approach, and focus on either dyadic relationships, ego-network, multiple interactions or the complete network (Sciarelli & Tani, 2013). We somewhat adapt the ego-network lens to define the link between our project and different stakeholders that are directly or indirectly connected to this work.

Figure 2-1. Stakeholder Interaction in a Rich Picture



2.5.1. Stakeholder's Interest and Involvement in this Study

There two key issues we considered in our review of stakeholders, i.e. (1) why each stakeholder would be *interested* in the findings we present, and (2) how each stakeholder *is involved* in this study or the outcomes of this study. We list our stakeholders in Table 2-2, by their closeness to this study, and how we focused on some stakeholders more than others. We considered the reasons why this study would be of interest to our primary stakeholders. To nonprofit organisations, our study suggests best practices for organisation-community relationships and SCC in social media.

For government ministries and ICT promoting bodies, we mainly offer insights on how social media supports the nonprofit sector. Thus our study may inform future policies on social media use. The key insights particularly point towards the practical implications or the significance of the study to particular stakeholders.

Our primary stakeholders are involved with the study through *participation*, *getting informed* by our findings and *empowering* nonprofits to focus and co-create community support services through social media interactions. Social, health and education service organisations have participated in this study by offering data through survey and interviews. They have enabled us to explore and understand the phenomenon “SCC in social media”. The results of this study inform nonprofits about the capabilities and mechanisms for realising SCC.

Empowering is in the sense of enhancing the capability to undertake “social media” tasks (Spreitzer, 1995; Thomas & Velthouse, 1990), and SCC in particular, from an informed point of view. Learning from (Thomas & Velthouse, 1990), we say that this study would allow primary stakeholders to attribute, evaluate and envision their SCC processes and outcomes to specific factors – i.e. social media factors and relational factors. Empowering constitutes four important dimensions – meaning, competence, choice and impact (Spreitzer, 1995; Thomas & Velthouse, 1990). This study contributes towards; improving the ability of nonprofits to understand the value of social media interaction (meaning). Enhancing their ability to interact on social media (competence). Making informed choices on initiating, interacting and regulating their social media interactions (choice) and improve their ability to influence operative and strategic outcomes of social media interaction (impact).

In Table 2-2, we list the different stakeholder groups matched with their interests and learning aspects in the study as well as how these stakeholders are, to some point, involved in the study.

Table 2-2. Stakeholder’s Interest and Involvement in this Study

Primary Stakeholder	What would interest them about this project	Involvement with this study
Social service organisations (SSO)	✓ Gaining insights on social media use among social service organisations engaged in the provision of support services for vulnerable groups ✓ Recognising processes in co-creation of social services ✓ Understanding the nature of OPR enabling co-creation of social services for organisations working with vulnerable groups such as children, women and persons with disabilities. ✓ Social media practices enabling productive OPI on social media platforms	Participating Informing Empowering

	✓ Organisational dynamic capabilities enabling productive social media interaction for social service organisations	
Education service organisations (ESO)	✓ Gaining insight from education service nonprofits offering education support for orphaned children, girls education, school fees bursaries, and gathering scholastic materials ✓ Recognising processes in co-creation of education support services through social media platforms ✓ Understand social media practices that enable education service organisations to attract resources from the community to co-create educational services for girls or underprivileged children	Participating Informing Empowering
Health service organisations (HSO)	✓ Recognising processes in SCC among health care organisations engaged in treating and prevention of communicable diseases ✓ Understanding the nature of OPR enabling co-creation of health care services among organisations in the treatment and prevention of communicable diseases ✓ Social media practices enabling productive organisation-community interaction on social media platforms ✓ Organisational dynamic capabilities enabling productive social media interaction for social service organisations	Participating Informing Empowering
Employees in nonprofits – i.e. <i>Social Media Managers (SMM)</i> <i>Social Media Admins (SMA)</i> <i>Nonprofit Managers/ Directors (NPD)</i> <i>Public Relations Officer (PRO)</i> <i>Communications Office (CO)</i>	✓ Understanding the forms of SCC achievable through social media ✓ Understanding social media practices that enable SCC ✓ Understanding the characteristics of OPR that support SCC ✓ Understanding the key organisational capabilities that allow their organisations to interact on social media to achieve SCC productively	Participating Informing Empowering
Social media technology analysts (<i>SMTA</i>) and developers (<i>SMTD</i>)	✓ Understanding the action possibilities of social media in a nonprofit context ○ Use as intended by developers ○ Unintended use of social media ✓ Understanding privacy constraints for nonprofits	Informing Guiding on the future appropriation of social media in nonprofits
Organised community groups (OCG)	✓ Learn from the social media practices of nonprofits engaged in similar services ✓ Introduced to the possibility of co-creating services through social media interaction	Informing Empowering
Government agencies (GOV), particularly, the Ministries	✓ Key insights on co-creation of services in the nonprofit sector ✓ Key insights on co-creation of services through social media among social, education and health NGOs	Informing Guiding future policy and support for NGOs

	✓ Comparison of SCC and social media practices among social, education and health NGOs	
ICT Promoting Bodies (IPB), like NITA-U	✓ Understanding how social media supports the nonprofit sector of Uganda	Informing Guiding future policy and support for NGOs

Table 2-3 presents a stakeholder analysis matrix which indicates the extent to which this project would impact on each stakeholder group as well as how much influence these stakeholders have on this project. Table 2-3 also presents four areas in this study that would provide meaningful insight and understanding into the operations of each stakeholder group.

Table 2-3. Stakeholder Analysis Matrix

Stakeholder groups	Impact (how much does the project impact them)	Influence (how much do they influence the project)	Which aspects of the study are important to each stakeholder group			
			Understanding social media use in nonprofits	Understanding the nature of OPI on social media	Understanding enabling capabilities for social media interaction	SCC through social media
SSO	High	High	✓	✓	✓	✓
ESO	High	High	✓	✓	✓	✓
HSO	High	High	✓	✓	✓	✓
SMM	High	High	✓	✓	✓	✓
SMA	High	High	✓	✓	✓	✓
NPD	High	High	✓	✓	✓	✓
PRO	Medium	Low	✓	✓	χ	χ
CO	Medium	Low	✓	✓	χ	χ
OCG	Medium	Medium	✓	✓	✓	✓
GOV	Low	Low	✓	✓	χ	✓
IPB	Medium	Low	✓	χ	χ	χ
SMTA	Medium	Low	✓	✓	✓	✓
SMTD	Medium	Low	✓	✓	χ	χ
✓ – very important to this stakeholder χ – not so important to this stakeholder High – high impact and influence of the study on the stakeholder group Medium – medium impact and influence of the study on the stakeholder group Low – low impact and influence of the study on the stakeholder group						

2.6. Conclusion

Nonprofit can be categorised into twelve, but countries have unique social needs, and therefore, different nonprofits are operated based on those needs. In Uganda, the key challenges and therefore the focus of government and nonprofits relate to improving health and well-being (particularly HIV, Malaria and TB related concerns), social services, promoting education, empowering women and girls, protecting children and persons with a disability, among others. The

key aspects echoed across the strategic plans of the government ministries named in this study, and the second national development plan (NDPII) 2015/2016 – 2019/20, are harnessing the opportunities offered by ICTs, and strengthening mechanisms for quality and effective service delivery. This Chapter explained the context of nonprofits services, which include health, education and social services. The Chapter explained stakeholder salience and explained how this study is informative and useful for each stakeholder.

Chapter 3. Literature Review

This Chapter provides an account of existing empirical evidence on social media use in nonprofits and the instances of service co-creation (SCC) in different contexts. First, we provide a general review of the literature on how nonprofits use social media. Second, we review the literature on organisation-public relationships (OPR), in general, based on public relations and social network scholarships. Third, we discuss the concept of organisation generativity, which we studied from an organisation dynamic capabilities perspective. Lastly, we provide theoretical perspectives on SCC and examples of SCC in the nonprofit and public sectors. We show that SCC as a salient but often ignored the outcome of social media use in nonprofits.

3.1. Nonprofit Organisations and Social Media

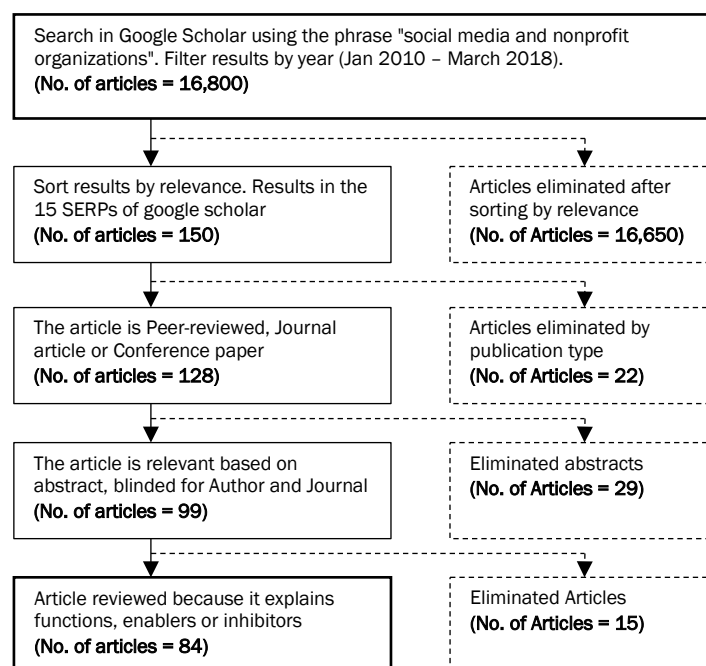
Social media provides a cheap but high impact tool for communication and interaction between nonprofits and their stakeholders, particularly, service consumers, donors, supporters, partners and volunteers (Gálvez-Rodríguez et al., 2016; Rathí et al., 2016). Through organisation-public interaction (OPI) on social media, nonprofits are creating social media communities to support their services (Anagnostopoulos et al., 2017; Lovejoy & Saxton, 2012; Young, 2017). They are adopting social media as a strategy for building relationships with target individuals, groups and community (Cottrill et al., 2017; Lai et al., 2017; Wyllie et al., 2016). Such social media interactions are somewhat similar to organisation-customer relationship management seen in for-profit organisations. However, social media use in nonprofits, as opposed to for-profit organisations, would produce unique outcomes that align with the nonprofits' funding model.

Given the concerns highlighted in Sections 1.1 and 1.2 of Chapter 1, we conducted a literature review on social media use in nonprofits to generate a comprehensive view of social media functions for nonprofits, the enablers and inhibitors of productive social media use in nonprofits. The literature review followed four simple steps – (1) selecting a review topic and stating research questions, (2) searching the literature using a multi-subject database, (3) filtering, reading and analysis articles, and (4) reporting (Cronin et al., 2008). We conducted an electronic keyword search using the phrase – *social media and nonprofit organisations*. We used one multi-subject database, Google Scholar, to search for literature from a variety of disciplines. Google Scholar supports the retrieval of both academic and grey literature (articles that may not be published by

commercial publishers), which can be useful in general or evidence reviews (Haddaway et al., 2015). Google scholar was also sufficient for our search because the majority of literature retrieved from Web of Science can also be retrieved on Google Scholar (Haddaway et al., 2015). The initial search before filtering yielded 57,600 articles. We filtered articles by the year 2010 to 2018 cutting down reviewable articles to 16,800. We then sorted articles by relevance and skimmed through the first 15 pages of google scholar. When one uses Google Scholar to search for grey literature or specific searches, useful articles will be found in the first 200 articles (Haddaway et al., 2015). We read article titles, abstracts and keywords. The article selection process is elaborated in Figure 3-1. We selected articles that met the criteria below.

- An article was published in 2010 and later
- The article is published in English and peer-reviewed
- It is a Journal article or Conference Paper
- The article focuses on nonprofit organisations only

Figure 3-1. Article Selection Process



We read 84 articles to identify *functions* social media, *enablers*, and *inhibitors* of social media use in nonprofits. We applied descriptive and focused coding, which allowed us to dig into the issues discussed in each article and later categorise findings under function, enabler or inhibitor.

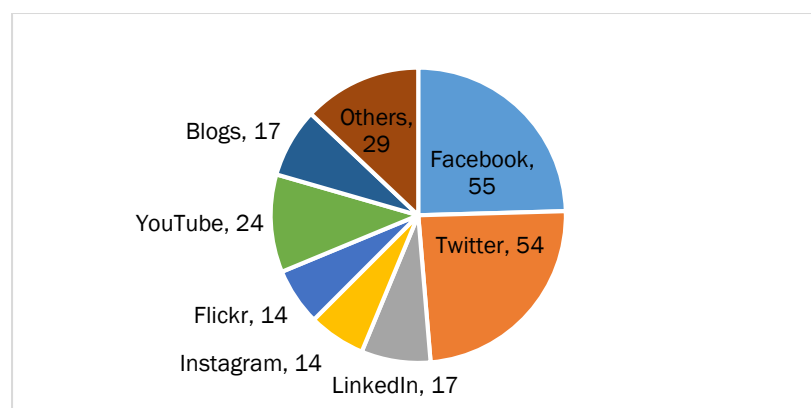
Most articles reviewed were published in 2017 (18 articles) and 2014 (14 articles). Most studies are published in Public Relations Review (n=28), International Journal of Public Administration in

the Digital Age (n=4), and Voluntas: International Journal of Voluntary and Nonprofit Organisations (n=4). The most studies investigated nonprofits operating in social service (n=24), Health (n=22 articles), law, advocacy and politics (n=19), culture and recreation (n=15), and education and research (n=10). The least investigated nonprofits are those operating as international nonprofits, professional associations and unions, religious-based nonprofits, development and housing, environment, and philanthropic and voluntarism.

We categorised studies basing on the six continents and specific countries in which the investigated organisations operate – i.e., Africa, Asia, Australia & Oceania, Europe, North America, and South America. Majority of articles (n=53) were based on nonprofits operating in North America, particularly the United States of America (n=46), Canada (n=3) and Haiti (n=4). There are eleven (n=11) studies reporting findings based on nonprofits in Europe, where, eight studies were conducted in the UK, 2 in Germany and 1 in Spain. There eleven (11) studies based on nonprofits in Asia, particularly China. Five (5) articles were based on nonprofits operating in Australia and New Zealand. There were three (3) articles based on nonprofits in Africa, i.e., Ghana, Libya, central and east Africa. Lastly, one (1) article reports findings based on nonprofits in South America, specifically, Colombia.

Existing studies suggest that the most popular and therefore, most studied social media tools are Facebook (n=55), Twitter (n=54) and YouTube (n=24). It is not surprising that Facebook, Twitter, and YouTube are the most studied tools given that they are the most popular social media used by individuals as well as organisations. Among others, researchers explored tools such as LinkedIn, Pinterest, Google+ and Weibo used in China. A summary of social media tools used and studied is provided in Figure 3-2 below.

Figure 3-2. Most Studied Social Media Tools

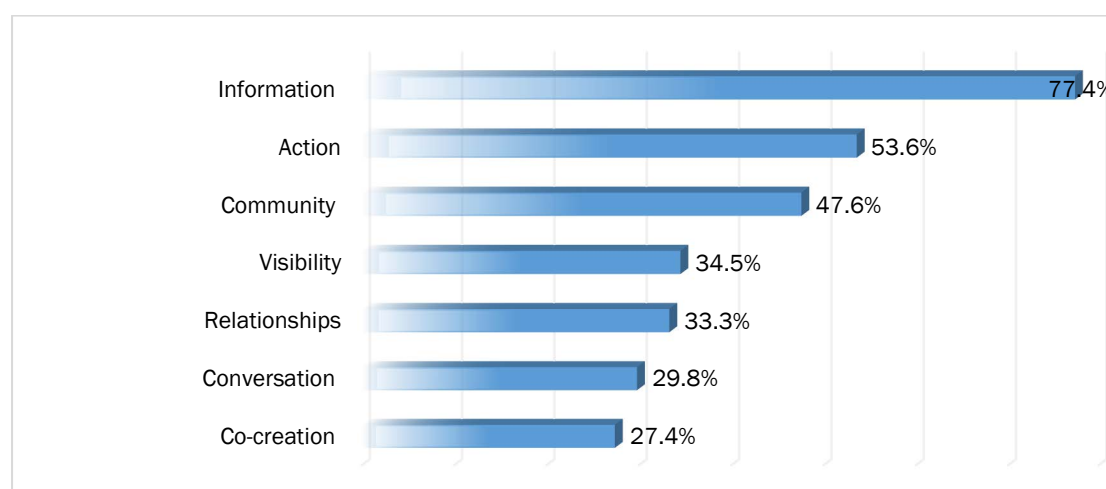


With the background on different studies on the topic, we summarise and categorise, in the sections that follow, the functions, enablers and inhibitors of social media use in nonprofits.

3.1.1. Social Media Functions for nonprofits

Figure 3-3 summarises social media functions identified in the literature, extending Lovejoy and Saxton (2012)'s Information–Community–Action model. Lovejoy & Saxton's model extends from three functions to seven functions including information sharing (77.4%), calling for action (53.6%), creating community (47.6%), improving visibility (34.5%), build relationships (33.3%), engaging in conversations (29.8%), and sometimes attracting co-creation activities (27.4%) (See Figure 3-3).

Figure 3-3. Social Media Functions for Nonprofits



Information sharing is the most popular social media function for nonprofits reported in the existing literature. Nonprofits seek to communicate their services to a broader audience by using social media. They also attract responses from the community about services and community needs. Nonprofits share information through activities such as posting, messaging, broadcasting, raising awareness, public education, ads, and promotions (see Table 3-1). Communication and information dissemination are seen as ways to enhance corporate reputation and social legitimacy.

Table 3-1. Social Media Function 2 - Information Sharing

Social Media Function 2	Associated Practices	Representative Sources from 2016
Information Sharing	Giving or receiving information; Messaging; broadcasting; raising awareness; public education; ads and promotions	(Adjei et al., 2016; Anagnostopoulos et al., 2017; Bellucci & Manetti, 2017; Brengarth & Mujkic, 2016; Cottrill et al., 2017; Davis et al., 2016; Feng et al., 2017; Gálvez-Rodríguez et al., 2016; Guidry et al., 2017; Guo & Saxton, 2018; Huang et al., 2016; Lai et al., 2017; Li et al., 2018; Madden et al., 2016; Raman, 2016; Young, 2017; Zhou & Pan, 2016)

Calling for Action. Social media affords nonprofits to call on community efforts and resources such as events, donation and fundraising appeals, enrolment of volunteers and advocacy and activism programs, to support services (Anagnostopoulos et al., 2017; Huang et al., 2016). Community building is one avenue to collective action (Zhou & Pan, 2016). To enable collective action, organisations create a community of advocates, supporters and amplifiers (Vaast et al., 2017) also known as generators, transmitters, and diffusers, respectively (Zheng & Yu, 2016). Advocates initiate activity and create a stimulus for collaboration and action; supporters are early followers who spearhead the call for action, while amplifiers create enduring momentum for collaboration and collective action. Table 3-2 below presents sample practices on how nonprofits call for action on social media.

Table 3-2. Social Media Function 6 – Calling for Action

Social Media Function 6	Associated Practices	Representative Sources from 2016
Calling for Action	Mobilising people for public events; collaboration; advocacy and lobbying; persuading people towards action; activism; fostering participatory culture; organising volunteers and capacity building; donation, fundraising and charity appeals; involving the public in organisation's activities; influencing policy and legislation; adding momentum	(Adjei et al., 2016; Anagnostopoulos et al., 2017; Bellucci & Manetti, 2017; Brengarth & Mujkic, 2016; Cottrill et al., 2017; Guo & Saxton, 2018; Huang et al., 2016; Lai et al., 2017; Leggett, 2017; Li et al., 2018; Madden et al., 2016; Peng, 2017; Sorensen et al., 2017; Zhou & Pan, 2016)

Community creation. Nonprofits continuously seek to interact and build a community of supporters, fans, or followers through social media (Rathi et al., 2016). Interacting with the community involves maintaining on-going interactions, widening their reach and attract new audiences to engage with the organisation (Rathi et al., 2016). Social media tools such as Twitter enable NPOs “to strategically engage their stakeholders via dialogic and community-building practices than they have been with traditional websites” (Lovejoy & Saxton, 2012, p. 337). Social media enables NPOs to increase their presence (Gálvez-Rodríguez et al., 2014), meet people and organise volunteer groups or support groups (Young, 2017). Table 3-3 below, presents some social media practices for community creation among nonprofits.

Table 3-3. Social Media Function 5 - Community Creation

Social Media Function 5	Associated Practices	Representative Sources from 2016
Community Creation	Creating groups; emotional support and comfort; emphasising identity; building information communities; showing appreciation; fostering common goals; a sense of community or belonging; social facilitation; empowerment; inspiration; fostering bonds of reciprocity; tapping into key stakeholders and influencers; offering advice	(Anagnostopoulos et al., 2017; Brengarth & Mujkic, 2016; Davis et al., 2016; Guidry et al., 2017; Li et al., 2018; Peng, 2017; Wyllie et al., 2016; Young, 2017; Zhou & Pan, 2016)

Organisational visibility relates to the ways and the extent to which an organisation is seen and perceived. It often involves public scrutiny, which defines its characteristics relating to reputation, status and prominence in society that could lay the ground for its legitimacy (Yu et al., 2017). Corporate reputation is the beliefs and evaluations held by stakeholders about the organisation (Dowling, 2016) and is shaped by corporate image (both functional and emotional image) (de Leaniz & del Bosque Rodríguez, 2016). The organisation's image is depicted by prominence, distinctiveness, and favourability within a community (Lange et al., 2011). Organisational legitimacy is 'a generalised perception or assumption that the actions of an entity are desirable, or appropriate within some socially constructed system of norms, values, beliefs, and definitions' (Suchman, 1995, p. 574). It involves evaluative concerns (i.e., organisations being understandable) and cognitive concerns (i.e., organisations being desirable). Nonprofits build and maintain legitimacy through practices such as ensuring transparency and accountability (Long, 2016). More visibility practices are provided in Table 3-4.

Table 3-4: Social Media Function 7 – Organisational Visibility

Social Media Function 7	Associated Practices	Representative Sources from 2016
Visibility	Enhance transparency; accountability for action; public education about organization mission and objectives; disclosure; credibility; identity management; executive branding; create a good image; communicating organizational values	(Bellucci & Manetti, 2017; Feng et al., 2017; Long, 2016; Madden et al., 2016; Naraine & Parent, 2016; Young, 2017)

Relationships. Nonprofits use social media to connect to target communities or a wider community to build and maintain supportive OPR. Although OPR could emerge in varying types, e.g., communal, exchange, covenantal, and symbiotic relations (Hung, 2005), existing literature provides no discussion on nature or properties of OPR on social media. Nonprofits connect and build relationships by linking to specific audiences, identifying key stakeholders and influencers,

and recruiting volunteers. Table 3-5 mentions several activities involved in using social media for connecting and building OPR.

Table 3-5. Social Media Function 1 - Relationships

Social Media Function 1	Associated Practices	Representative Sources from 2016
Relationships	Building relationships; connecting target audiences; identifying key stakeholders and influencers; networking	(Adjei et al., 2016; Brengarth & Mujkic, 2016; Cottrill et al., 2017; Lai et al., 2017; Madden et al., 2016; Naraine & Parent, 2016; Raman, 2016; Wyllie et al., 2016)

Conversation promotes sociability of the organisation, builds enduring connections, and build productive relationships (Ellison & Boyd, 2013). To socialise on social media, organisations would consider connecting, initiating and engaging in conversation (Ang, 2011). The organisation's sociability on social media, i.e., its level of conversation and extent of social interaction, is measured by the number of followers, number of comments and messages, number of on-topic messages, breadth of messages, among others (Preece, 2001). Anagnostopoulos et al. (2017) report limited conversion and interaction between nonprofits and the community through social media. Nonprofits ought to recognise that instrumental socialising can lead to more significant benefits, such as building productive relationships and functional online communities (Jarrahi & Sawyer, 2013). However, managing conversations and change of conversation remains a challenge among some nonprofits (Madden et al., 2016). More visibility practices are provided in Table 3-6.

Table 3-6. Social Media Function 3 – Conversation

Social Media Function 3	Associated Practices	Representative Sources from 2016
Conversation	Dialogue (interactive communication); Messaging; ongoing participation; building rapport; personalizing responses; discussion	(Bellucci & Manetti, 2017; Cottrill et al., 2017; Feng et al., 2017; Gálvez-Rodríguez et al., 2016; Guidry et al., 2017; Guo & Saxton, 2018; Leggett, 2017; Li et al., 2018; Sorensen et al., 2017)

Co-creation. Social media enhances stakeholder engagement in innovation in the public and nonprofit sectors (Kaushik et al., 2018). Innovation involves the “production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and the establishment of new management systems. It is both a process and an outcome” (Crossan & Apaydin, 2010, p. 1155). Natural innovation processes include co-creation; therefore, public engagement in these sectors has organically supported co-production of services (Bovaird

& Loeffler, 2012; Loeffler & Bovaird, 2016). Co-production of services is a common process in co-creation (Frow et al., 2011). In co-creation, two or more actors collaborate and integrate resources to make products or services (Frow et al., 2011); therefore, this process often occurs in open innovation activities like crowdsourcing and user innovation, which are increasingly supported by social media (Aitamurto et al., 2011).

Bovaird and Loeffler (2012) grouped social media activities under the theme of co-creation and innovation in their discussion on community engagement and co-production of public services. Service providers in any sector and service consumers as members of a given community not only interact but co-produce services through regular and enduring relationships (Bovaird & Loeffler, 2012). When service organisations establish communities to engage with service users, then the users are critical success factors, thinking people, resources, asset holders, and legitimators who can participate in collaborative relationships leading to co-production. Core practices in co-creation and innovation are presented in Table 3-7 below.

Table 3-7. Social Media Function 4 - Co-creation

Social Media Function 4	Associated Practices	Representative Sources from 2016
Co-creation	Engaging donors; logical reasoning; seeking information for enhanced decisions; gathering donations and charity; advocate for change in policy and legislation; organisation assimilation learning; solution-based messaging; knowledge sharing and reuse; knowledge co-creation; crowdsourcing; enhance co-operation; co-developing; value co-creation; harnessing ideas and opinion; sharing experiences and storytelling; gathering feedback on service quality	(Davis et al., 2016; Guidry et al., 2017; Kaushik et al., 2018; Lai et al., 2017; Madden et al., 2016; Sorensen et al., 2017)

Despite the above functions, there are several enablers and inhibitors to social media use in nonprofits. Such enablers and inhibitors could be organisational, relational, environmental, or technological related. The sections that follow discuss such enablers and inhibitors as presented by existing studies.

3.1.2. Enablers of Social Media Activity in Nonprofits

Enablers refer to factors that promote the strategic and productive use of social media among nonprofits. It is noticeable that a great deal of literature concentrates on functions of social media while largely ignoring enablers and inhibitors of productive social media activity. While 81 studies examined the functions of social media, only 17 studies examined the enablers of social media use in nonprofits. Table 3-8 summarises the enablers of social media use.

Table 3-8. Enablers of Social Media Use among Nonprofits

Enablers of Social Media Use among Nonprofits		Representative Sources (2010-2018)
Organization related	• Social media policy and strategy • Credibility of the organisation • Organizational capabilities and resources, such as budget allocation • Management support, leadership, and governance • Large-sized and long-existing organisations • Employee experience in social media communication • Operating internationally • Creating a public relations department	(Adjei et al., 2016; Gálvez-Rodríguez et al., 2014; Gálvez-Rodríguez et al., 2016; Nah & Saxton, 2012; Zerfass & Schramm, 2014)
Relational	• Nature of engagement activities on social media, e.g., advocacy vis a vis fundraising • Characteristics of the organisation's social media network, e.g., large community and strong ties • Communication style, particularly tone and language used in posts • Relationship management abilities	(Farrow & Yuan, 2011; Gálvez-Rodríguez et al., 2014; Gálvez-Rodríguez et al., 2016)
Environment-related	• Environmental pressure and social influence • Organisational visibility in mainstream media • Market segment or community orientation, i.e., community focus	(Curtis et al., 2010; Nah & Saxton, 2012; Zerfass & Schramm, 2014)
Technology-related	• Running an organisational website • Recognising the usefulness of social media • Low effort and performance expectancy • Self-efficacy • Positive attitude toward social media	(Adjei et al., 2016; Curtis et al., 2010; Raman, 2016; Zorn et al., 2013)

Organisational and relational aspects are essential enablers of social media use in nonprofits, which suggest that organisations may have to revise their plans, policies, approaches and strategies to improve their social media performance. Such enablers include adopting an appropriate communication style, the direction of communication, social media post content, and social media tone. Visibility in mainstream media and the organisation's relationship and interaction capabilities seem to provide the foundation for successful use of social media.

Managing potential inhibitors could augment the functions and enablers of social media use. In many cases, objects such as IT artefacts present functions and limitation. As in the design and use of everyday objects, emerging constraints can be intelligently managed by the user to maximise the benefits offered by the object (Norman, 2013). To improve social media performance, organisations will have to recognise and devise ways to deal with the key inhibitors.

3.1.3. Inhibitors of Social Media Use in Nonprofits

Inhibitors refer to factors that constrain the strategic and productive use of social media among nonprofits. Nonprofits are countered by budgetary, infrastructure and resource limitations, which prompt these organisations to consider low cost, but high impact approaches to deliver value to society and support their mission (Rathi et al., 2016). Among such approaches is the use of social media to foster organisation-public engagement for creation, development and improvement of services and ensuring community satisfaction. However, of the 81 studies reviewed, only 28 examined the inhibitors of social media activities in nonprofits.

In Table 3-9 below, we represent the inhibitors of social media use among nonprofits. We found that one-way communication, as opposed to two-way dialogic communication, is the most common inhibitor of productive use of social media in nonprofits. A one-way communication approach limits community interaction, engagement, and collaboration. By adopting one-size-fits-all organisations could limit the opportunity to harness the advantages of social media interaction for the organisation.

Table 3-9. Inhibitors of social media use in nonprofits

Inhibitors of Social Media Activity among nonprofits		Representative Sources (2010-2018)
Organisation related	• Focusing on one-way communication • Lack of organisation social media policy communication strategy and implementation plan • Lack of long term vision for social media activities • Applying a one-size-fits-all approach • Limited resources and time commitments to social media activities • Unclear social media benefits and ways to commercialisation • Lack of a measure of social media performance	(Campbell et al., 2014; McCarthy et al., 2014; Naraine & Parent, 2016)
Relational	• Lack of network awareness • Failure to listen to the social media audience • Failure to connect with the community • Lack of consistent power users • Difficulties in managing social media conversation, e.g., dealing with the change of conversation • Minimal interaction, short-lived dialogue and abandoning social media page	(Anagnostopoulos et al., 2017; Davis et al., 2016; Madden et al., 2016; Naraine & Parent, 2016; Wyllie et al., 2016)
Technology-related	• Perceived irrelevance of social media • Lack of knowledge and experience in social media • The unpredictable social media environment • Information inaccuracy and information overload • Distrust in social media • Fear of legitimacy and organisation image crisis • Privacy & security concerns about social media	(Guidry et al., 2017; Madden et al., 2016)

Moving beyond identifying functions and difficulties presented by social media to managing social media for situated outcomes requires a way of recognising the complexity of this technology in everyday life of the organisation and its effects on potential outcomes. Organisations, and scholars, would have to consider widening their focus in ways that do not ignore or take for granted the overall structure of social media in particular contexts, and how this structure shapes emerging outcomes. Understanding the structure of social media is integral to managing this technology, and the emerging structures could differ between organisations, based on organisational size or services, shaping the collaborative outcomes that emerge thereof.

3.1.4. Gaps in Existing Literature on Nonprofits' Use of Social Media

Although existing literature offers profound insight, there are some gaps which if considered would enrich existing knowledge and practice in nonprofit use of social media. First, failure to explicate the contextual outcomes of social media use. Such outcomes could be observed by uniting the resource integration roles played by nonprofits and those played by the public; however, there is limited recognition of the collaborative potential of social media towards resource integration between nonprofits and the public for co-creation of nonprofit services and value. Social media is a potential space for co-creation of nonprofit services because the posts and comments emerge as useful resources for enabling nonprofit services (Sorensen et al., 2017). Beyond posts and comments, social media, through its functions of information sharing, community creation and calls for action, is inherently a tool for resource mobilisation in nonprofits (Zhou & Pan, 2016). It allows nonprofits to access resources such as donations, volunteers, and support to provide services and run activities at large (Brengharth & Mujkic, 2016; Zorn et al., 2013). Above all, social media supports public involvement, participation and engagement (Smitko, 2012), which are foundational activities for SCC (Oertzen et al., 2018). Opportunities for resource mobilisation enabled by the possibilities of public participation, involvement and engagement, could situate SCC as a potential outcome of nonprofit use of social media.

Second, although existing literature continuously mentions the social media as a community and relationship building strategy for nonprofits, the nature of relationships between nonprofits and target communities, supporters and the public at large remains undiscussed. According to Hon and Grunig (1999), the value of OPI is in the relationships. Organisation-public relationships (OPR) have inevitable consequences or outcomes, which are defined objectively or subjectively by exchanges embedded in the relationship or the properties of that relationship (Broom et al., 2000; Hon & Grunig, 1999). Moreover, an enriching analysis of social structure would explicate the configuration

of relationships in terms of exchanges involved, such as valued items or motivated by reward, and observe the patterns of interaction among actors (Cook & Whitmeyer, 1992). However, many studies are not only silent about the overall outcomes or consequences of OPR in improving nonprofits services or any other nonprofit activities, but also ignore the nature of social media based OPR in nonprofits and the ways in which these relationships shape the operations of, and outcomes for nonprofits.

Third, existing studies, in Table 3-11, have identified social media affordances for different users, individuals and organisations; however, there is a limited discussion on the role of social media affordances and nonprofits' goals and outcomes. Prior studies, in Table 3-1 to Table 3-7, provide a rather restricted view of the action possibilities that social media afford nonprofits because they fail to link the identified possibilities to the observed outcomes. There is thus a lack of understanding of how social media can be used to drive nonprofits' services outcomes in target communities. Examining the relationship between social media affordances and organisational goals would enhance our understanding of social media enabled organisational goals. Looking at affordances reveals the mechanisms that explain the organisational value of social media among nonprofits (Bygstad et al., 2016).

Fourth, existing studies have not tackled the role of organisational related factors, such as organisation capabilities for social media interaction and relationship building. Some studies mention organisation factors such as resources, management support and leadership (Briones et al., 2011; Debika, 2017; Zorn et al., 2013), and organisation policy and strategy (Carim & Warwick, 2013), but there is lack of sufficient empirical evidence on the association between such factors and social media outcomes among nonprofits. In sociomaterial interactions, such as organisation use of social media, the actors involved are knowledgeable, have intent and goals and have the capacity or capability to act to achieve their goals (Orlikowski, 2007; Suchman, 2007). Nonetheless, dynamic and unpredictable environments, such as the social media environment could require the organisation to be proactive, adaptive and rejuvenate resources to thrive (Hodgson et al., 2017; Levinthal, 1994; Sun & Zou, 2018a, 2018b), but such aspects have not caught the attention of researchers.

Lastly, existing literature fails to elucidate the prevalence of nonprofit social media activities. This gap exists because the majority of studies apply a qualitative approach to investigate this phenomenon, which limits our appreciation of the prevalence of these activities, practices or behaviour (Folger & Stein, 2017; Pinsonneault & Kraemer, 1993). Further investigation of social media in nonprofits through quantitative approaches and mixed methods could be desirable and

may offer the explanation and prediction that could improve our understanding of this phenomenon.

3.2. Social Media and the User: The Affordances View

Social media such as Facebook, Twitter and LinkedIn are increasing popular in organisation practice and research, but studies offer multiple views, interpretations and definitions of this technology. Also referred to as social network sites (Ellison & Boyd, 2013), social media are most commonly defined by way of their functionality or purpose to different users. We note some of the view held by social media scholars.

Boyd and Ellison (2008) initially define social media as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (p. 211). Later, Ellison and Boyd (2013) suggest that social media “is a networked communication platform in which participants; (1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, or system-provided data. (2) Can publicly articulate connections that can be viewed and traversed by others. (3) Can consume, produce, and interact with streams of user-generated content provided by their connections on the site” (p. 7).

Kane et al. (2014) claim to update Ellison & Boyd’s definition of social media. They note that social media are platforms where, “users; (1) have a unique user profile that is constructed by the user, by members of their network, and by the platform. (2) Access digital content through, and protect it from, various search mechanisms provided by the platform. (3) Can articulate a list of other users with whom they share a relational connection; and (4) view and traverse their connections and those made by others on the platform” (p. 279).

Social media is functionally interactive, and users are value-laden actors. From this perspective, Carr and Hayes (2015) define social media as “internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others” (p. 50). Social media “employs mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content” (Kietzmann et al., 2011, p. 241). This technology consists of; “(a) the information infrastructure and tools used to produce and distribute content that has individual value but reflects shared values. (b) The content that takes the digital

form of personal messages, news, ideas that becomes cultural products. (c) The people, organisations, and industries that produce and consume both the tools and the content” (Howard & Parks, 2012, p. 359).

3.2.1. Social Media Affordances

In Chapter 4, on theoretical perspectives, we provide a detailed account of the theory of affordances. Here, we mention briefly that an affordance, from an ecological perspective, is a property of the environment taken respectively to the observer (Wells, 2002). Affordances emerge from different sources, such as affordances of a natural environment, affordances of artefacts or objects, and affordances of other species in a given environment (Hutchby, 2001). The principal source of affordance considered in this study is the *social media platform (as an artefact)*. Technology affordances ‘are action possibilities and opportunities that emerge from actors engaging with a focal technology’ (Faraj & Azad, 2012). Technology users do not perceive the features of a technical object but rather its affordances, which are the action possibilities it permits (Markus & Silver, 2008). However, affordances may not be a “homogenous block” (Norman, 1999; Scarantino, 2003). Table 3-10 below elaborates the types of technology affordances.

Table 3-10. Types of IT affordances

Potential IT Affordances	Description	Source
Real (Physical)	Actions that allow the user to take physical action. In-built by designers, e.g., moving a cursor on a display screen	(Hartson, 2003; Norman, 1999)
Perceived (cognitive)	Actions that users recognise to be possible. They allow users to know something	(Hartson, 2003; Norman, 1999)
Sensory	Actions that allow the user to sense something related to the real or cognitive affordances	(Hartson, 2003)
Functional (Goal)	Actions triggered by the user’s intention towards, or selection of, a goal. Relate to the usefulness of an IT	(Hutchby, 2001; Scarantino, 2003)
	Individualised Unique ways in which someone uses technology that is not common among others	(Paul M Leonardi, 2013)
	Collective Ways of using technology that are collectively created by a group to do something that could never have been accomplished	
	Shared Ways of using technology to complete non-interdependent tasks to achieve group-level goals	
Happening	Actions that are not goal-achieving, not triggered by intentions, but manifest anyway	(Scarantino, 2003)

Exploring all variations in technology affordances would be interesting, but would extend a little beyond the scope of this study. At this moment, we zoom in and focus on the potential functional

affordances of Social media. Functional affordances indicate the users' actions around a given technology, and such affordances are closely associated with the user's beliefs of the technology and the outcomes (Grgecic et al., 2015). Furthermore, functional affordances are taken as a close and better representation of the structural features of technology from the user's perspective (Markus & Silver, 2008). Functional affordances mainly refer to "the possibilities for goal-oriented action afforded to specified user groups by technical objects" (Markus & Silver, 2008, p. 622). Functional affordances of social media will thus represent the action possibilities, potentials or opportunities provided by social media to nonprofits, as a specific user, as enabling or constraining mechanisms for social media outcomes.

3.2.1.1. Criteria for Substantiating Technology Affordances

While affordance researchers provide a clear definition of the concept, there are some inconsistencies in the conceptualisation and operationalisation of affordances. Such inconsistencies occur when researchers fail to distinguish between the structural features of the technology, the outcomes of the technology, and user's agentic actions around the technology (Evans et al., 2016). Evans et al. (2016) provide threshold criteria for substantiating affordances and guide the exploration and conceptualisation of technology affordances. Explicating affordances does not emerge from colloquial use of the verb "afford" but instead comes from specifying the multidimensional relationship between the technology and the user, and how this relationship offers actual outcomes, i.e., what emerges from the user's interaction with the technology (Evans et al., 2016). An affordance is a relational variable that links the technology to user outcomes (i.e., technology – affordances – outcome) (Evans et al., 2016; Majchrzak & Markus, 2012; Markus & Silver, 2008). Evans et al. (2016) provide the following criteria for determining affordances.

Criteria #1: Confirm proposed affordance is neither the object nor a feature of the object.

Structural features 'are specific types of rules and resources, or capabilities, offered by the system' (DeSanctis & Poole, 1994, p. 126). They are the activities that the users can do with the technology (Markus & Silver, 2008). Features are static because they are in-built design elements, while affordances are dynamic because they are perceived and discovered depending on the user's goals and capabilities (Evans et al., 2016). Technology features are common to all users, but affordances differ among users (Markus & Silver, 2008). For example, social media profile is a feature, while an affordance is social media presence (i.e., the ability to exist as a member of a social media community).

Criteria #2: Confirm the proposed affordance is not an outcome

Affordances are only a mechanism through which technology users achieve intended outcomes or produce contextual influences on the outcome (Bygstad et al., 2016). A “mechanism may produce a particular outcome in one context and a different one in another context” (Bygstad et al., 2016, p. 85). That is why social media affordances, like other technologies, too, will produce different outcomes for different users (Evans et al., 2016). Outcomes are best defined by the goals of the actor, rather than the actor’s actions (Markus & Silver, 2008). Outcomes occur as events which take up time, may occur at different stages, and can change over time (Mingers & Standing, 2017), while affordances are relatively constant irrespective of the changes in the user’s goal (Gibson, 1986). For example, social media presence is an affordance that could produce outcomes such as receiving emotional support from the community.

Criteria #3: Confirm the proposed affordance has variability

The ‘potential strength of affordances is that, unlike features, they are not binary; rather, there are gradations of affordances’ (Evans et al., 2016). IT artefacts can afford an action at different levels, such as a higher (broad) or lower (specific) level (Savoli & Barki, 2016). It could also offer a strong or weak action because affordances involve strong or weak clues about the operations of the object, which indicates the range of possibilities (Norman, 2013). The features of an IT artefact and the capabilities of the user shape the variations in affordances (McGrenere & Ho, 2000).

3.2.2. Functional Affordances of Social Media

Functional affordances of social media represent what users can do with social media, driven by different goals. Studies have conceptualised social media affordances as “actions enabled by social media” (Jalonen, 2014; Vuori, 2011), “valuable attributes of social media for corporate communication” (Postman, 2009), “functional blocks of social media” (Kietzmann et al., 2011), and “social media affordances” (O’Riordan et al., 2012; Treem & Leonardi, 2013). These studies have presented the affordances for individuals, groups and organisations based on goals sought. Table 3-11 presents prior studies on social media affordances, in chronological order, by identifying the user and goal sought. Using this Table, we identify social media affordances for nonprofits and identified service co-creation as a potential goal.

Table 3-11. Social Media Affordances for Different Users with Different Goals

Author	Affordances Identified	User(s)	Goal / Outcome
O'Riordan et al. (2012)	Social connectivity and interactivity, profile management, content discovery, sharing, and aggregation	Individuals	<i>Not Specified</i>
Treem and Leonardi (2013)	Visibility, editability, persistence, and association	Organizations	Organizational communication processes
Majchrzak et al. (2013)	Metavoicing, triggered attending, network-informed associating, and generative role-taking	Individuals	Communal knowledge sharing
Mathiesen et al. (2013)	Participation, collective effort, transparency, independence, persistence, emergence, and connectivity	Organizations	Business Process Improvement
Cabiddu et al. (2014)	Persistent, customized and triggered engagement	Individuals	Customer engagement in tourism
Dini et al. (2016)	Idea storming, information sharing, opinion gathering, and political networking	Individuals	eParticipation
Zheng and Yu (2016)	Mobilising resources, participant enrolling and distributed collaboration	Organizations	Collective action
Raja-Yusof et al. (2016)	Visibility, editability, persistence, virtual collaboration, collective, synthetic representation, and individualized	Organizations	Cyber-volunteering
Rice et al. (2017)	Pervasiveness, editability, self-presentation, searchability, visibility, and awareness	Organizations	Organizational communication processes
Vaast et al. (2017)	Individualized, collective, shared, and connective affordances	Individuals	Connective action
Schlagwein and Hu (2017)	Broadcasting, dialogue, collaboration, knowledge management, and sociability	Organisations	Absorptive capacity
Leidner et al. (2018)	Networking, visibility, information gathering/sharing, and innovation	Individuals	Organizational socialization of newly hired employees
Sæbø et al. (2020)	Adapting rules and processes, collective decision making, circulating information, crossing boundaries, deconstructing the community, ubiquitous acting, delimiting action, connecting members, and triggering actions	Individuals	Collective action
Shao et al. (2020)	Interactivity, information, and navigation	Individuals	SNS satisfaction and stickiness
Sun et al. (2020)	Visibility, persistence, association, and editability	Individuals	Psychological empowerment and thriving at work
<i>This study</i>	<i>Socializing, information sharing, call for action, visibility, and knowledge sharing</i>	<i>Organizations</i>	<i>Nonprofit service co-creation</i>

Affordances are relational, context-dependent and relative to a specific user group (Markus & Silver, 2008; Savoli & Barki, 2016). We identify and examine high-level affordances, also known as system-level affordances (Savoli, 2014), for nonprofits. Keeping in mind the criteria outlined in Section 3.2.1.1, we identify potential social media affordances for nonprofits at different levels, i.e., high-level (system-level), medium-level, or low-level (feature-level) affordances (Savoli, 2014). Low-level affordances would relate to feature level affordances, while high-level affordances relate to system-level affordances (Savoli & Barki, 2016). Given the function of social media in nonprofits provided in Section 3.1.1, the list of social technology affordances attached in Appendix K, and the presentation of social media affordances in Table 3-11, we embrace five high-level social media affordances for nonprofits, with the associated medium-level and low-level affordances, as presented in Sections 3.2.2.1 through to 3.2.2.5.

3.2.2.1. Socialisation Affordances

Socialisation is a process of integrating into a community by learning the norms, values and roles required to function as a member of the community. For organisations, socialisation is interaction, and communication with other actors leading to familiarity with others, improved communication, and problem-solving (Jia et al., 2016). To socialise, users create profiles, connect with others, and converse with their contacts (Ang, 2011). Many not only socialise but engage in recurrent patterns of interaction to create and manage relationships (Ang, 2011; Ellison & Boyd, 2013), which Jarrahi and Sawyer (2013) refer to as instrumental socialising.

Socialization is critical to nonprofits' mission (Guidry et al., 2017; Lovejoy & Saxton, 2012; Sorensen et al., 2017). Majority of tweets made by nonprofits are embedded with socialising tactics aimed to increase stakeholder interaction and engagement (Lovejoy & Saxton, 2012). Socialisation affordances create opportunities for organisations to connect, relate and exist as members of the social media community. Socialisation drives the formation, functioning and maintenance of online communities among nonprofits (Lovejoy & Saxton, 2012). Table 3-12 presents socialisation affordances of social media, with examples of associated practices on Facebook and Twitter.

Table 3-12. Socialisation Affordances

High-level Affordance	Medium-Level Affordance	Low-level affordances
Socialisation	Connection	Adding an account, friend requests, following, inviting friends
	Presence	Creating profiles, using active notifications
	Relationships	friend requests, following, inviting friends
	Conversation	Chatting, commenting,
	Groups	Using Facebook groups or Twitter lists

3.2.2.2. Information Sharing Affordances

Information sharing affordances allow organisations to disseminate “information about the organisation’s activities, highlights from events, or any other news, facts, reports or information relevant to its stakeholders” (Lovejoy & Saxton, 2012, p. 343). On social media, Information sharing and communication are intertwined, in the sense that they happen simultaneously. Like socialisation, communication and information sharing are profoundly the other core actions afforded by social media to its users, and a key driver for social media use (Ellison & Boyd, 2013). Three kinds of communication activities occur on social media – *directed communication* with friends, which involves personal or one-on-one exchanges, or *undirected communication* through *passive consumption of social news* and *broadcasting*, which involves creating content that is not targeted to a particular individual or group (Burke et al., 2011). By using social media, nonprofits take on the role of information disseminators (Feng et al., 2017; Li et al., 2018) and use different cues to indicate the credibility of the information they share (Osatuyi, 2013).

Information sharing is critical to organisational socialisation and stakeholder engagement (Jia et al., 2016) and thus the increasing number of informational tweets among nonprofits (Feng et al., 2017; Li et al., 2018; Young, 2017). As indicated in Figure 3-3, the information affordance is the most actualised and accounts for 77.4% of nonprofits’ social media use. Commonly, nonprofits use hyperlinks to direct followers to a comprehensive source of information, @mentions to send message notifications, and hashtags (#) to enable users to search for information or follow a conversation (Lovejoy & Saxton, 2012).

However, organisations have to pay attention to the direction of communication, i.e., is it two-way or one-way communication (Gálvez-Rodríguez et al., 2016; Lovejoy & Saxton, 2012), and the style, tone and format of the content that makes up the communication and information (Sorensen et al., 2017). Such factors could facilitate or hinder interactivity and socialisation. Overall, information sharing affordances, in Table 3-13, are action possibilities afforded by social media to enable users to convey messages or information to their intended audience in a variety of formats – text, animation, video, audio etc.

Table 3-13. Information sharing Affordance

High-level Affordance	Medium-Level Affordance	Low-level affordances
Information Sharing	Content creation	Posting, messaging, sharing content
	Dialogue	Responding to comments, one-to-one chatting, many-to-many communication
	Broadcasting	One-to-many communication, live streaming
	Immediacy	Real-time messaging

3.2.2.3. Call for Action Affordances

Social media support collaborative and innovative activities (Abhari et al., 2016, 2017; Vaast et al., 2017; Zheng & Yu, 2016). In nonprofits, social media supports collective effort, which emerges through calls for fundraising (Young, 2017), civic engagement (Auger, 2013; Obar et al., 2012), advocacy and public education (Auger, 2013; Guo & Saxton, 2014), and social support (Davis et al., 2016).

Social media enables collective (or connective) action through three key users – advocates, supporters and amplifiers (Vaast et al., 2017), also known as, generators, transmitters and diffusers respectively (Zheng & Yu, 2016). The advocates use social media through making posts or tweets, creating events or use the call for action feature. The supporters use hashtags, share and retweet. The amplifiers will proliferate the call for action by continuously sharing and liking until the call spans through to the network. Social media enable users to enrol participants, mobilise resources, frame and set the agenda for collective action (Zheng & Yu, 2016).

Call for action affordances refer to action possibilities afforded by social media that allow the organisation to initiate collective effort and togetherness for a common goal. Other social media affordances could support calls for action. For instance, Facebook and Twitter afford immediacy (fast communication), which, in turn, fosters collective action (Obar et al., 2012). Table 3-14 presents call for action affordances of social media with examples of associated behaviours on Facebook and Twitter.

Table 3-14. Call for Action Affordances

High-level Affordance	Medium-Level Affordance	Low-level affordances
Call for Action	Group	Creating advocacy groups, accepting group invites, responding to events
	Participation	Making an input to a call for action, event, or post
	Organising events	Creating an event, selecting target participants, inviting participants, participant enrolment
	Mobilising people	Request for support, donations, fundraising, volunteers

3.2.2.4. Visibility Affordances

While social media can ignite an organisation crisis and pose a reputation risk due to spread rumours and misinformation (Madden et al., 2016), they afford nonprofits to increase visibility among target communities (Naraine & Parent, 2016) and build a reputation that enables them to work closely with target communities (Griffis et al., 2014). Transnational nonprofits consider social media to be useful in fostering organisational visibility, which includes improving image,

transparency, and legitimacy (Seo & Vu, 2020). According to Van den Bosch et al. (2005), visibility refers to how prominent the organisation stands in the minds of its publics. An organisation will shape its visibility, identity and reputation through its behaviour (practices or activities) in a given environment, communication strategy and its symbolism (Van den Bosch et al., 2005; Van Riel & Balmer, 1997).

Visibility affordances are more critical for organizations than other possibilities afforded by social media (Mathiesen et al., 2013; Vaast & Kaganer, 2013). Visibility allows the organisation to present and identify itself to a broad audience, identify potential contacts, and diffuse and locate content (Kietzmann et al., 2011; O'Riordan et al., 2012; Treem & Leonardi, 2013). For nonprofits, visibility is one of the most regarded affordances for fundraising, knowledge sharing, and problem-solving (Raja-Yusof et al., 2016). It also promotes the organisational mission, transparency, image, and reputation to stakeholders (Seo & Vu, 2020; Yang & Kent, 2014).

Organisational reputation is closely related to visibility but extends beyond organisational visibility, to distinctiveness, consistency, authenticity and transparency (Van den Bosch et al., 2005). Nonprofits use social media for identity and reputation building by ensuring transparency, openness, making accountability, and taking responsibility for their actions (Attouni & Mustaffa, 2014; Madden et al., 2016). In this study, we recognise visibility affordances, in Table 3-15, as action possibilities afforded by social media to enable the organisation to build, attest and maintain its identity through its social media interactions.

Table 3-15. Visibility Affordance

High-level Affordance	Medium-Level Affordance	Low-level affordances
Visibility	Identity	Using customisation or personalisation features, Portraying values, common cause, organisation image posting, identifying with societal needs
	Transparency	Information disclosure, timeliness of disclosure, the intensity of disclosure
	Accountability	Publishing information on donations and social outcomes

3.2.2.5. Knowledge Sharing Affordances

Although social media is not popular as knowledge enabling technologies, some nonprofits innovate, design and develop services by tapping into public knowledge and talent on social media (Bertot et al., 2010). Facebook groups, for example, have become a fruitful source of information; in fact, they are seen as “mini-googles” (Mudliar & Raval, 2018). These groups create virtual communities for knowledge sharing (Pi et al., 2013). On realising that, nonprofits use social media functions like # hashtags to foster knowledge sharing and public education (Saxton et al., 2015).

Moreover, for nonprofits, “social media activity which is based on sharing of knowledge as well as on social interaction has better sustainability prospects” (Forkosh-Baruch & HersHKovitz, 2012, p. 58).

Social media users are not merely producers and consumers of content, but they are knowledge creators (Paquette & Desouza, 2011), some organisations are continuously using social media to support informal knowledge enabling processes (Schlagwein & Hu, 2016). People continuously appropriate social media for personal and collective knowledge (Razmerita et al., 2014; Razmerita et al., 2016). Social media offer a salient avenue for knowledge sharing (Gaál et al., 2015) and knowledge creation (Jalonen, 2014). Moreover, social media provides natural means of enabling tacit knowledge (Bolisani & Scarso, 2017) and supports tacit knowledge sharing (know-how) more abundantly than explicit knowledge sharing (Molly & Samer, 2008). This occurs because social media allows for socialisation and content creation which are fundamental processes for tacit knowledge sharing (Panahi et al., 2013), and explicit knowledge sharing (Jalonen, 2014), respectively.

Table 3-16 presented knowledge conversation affordances, which are action possibilities afforded by social media to enable its users to frame and share ideas, opinions, advice and experiences thereby allowing them to learn and unlearn from each other through on-going interactions.

Table 3-16. Knowledge Sharing Affordances

High-level Affordance	Medium-Level Affordance	Low-level affordances
Knowledge sharing affordances	Authoring	Publishing content, posting and tweeting
	Editability	Making changes to the content
	Ideation	Sharing ideas and opinion
	Expert locating	Request for advice, using hashtags
	Content exploration, aggregation and categorisation	Newsfeed, pinning tweets, social tagging
	Persistence	Tracking posts on timeline, collection

Social media affordances do not stand in isolation from one another but could reinforce each towards higher level affordances, the user’s outcome, and the general effects of IT (Savoli, 2014). For instance, communication and information sharing are pivotal in social interaction, and thus foster organisation identity and reputation (Van den Bosch et al., 2005; Van Riel & Balmer, 1997), knowledge sharing (Van Den Hooff & De Ridder, 2004), and collective action (Vaast et al., 2017; Zheng & Yu, 2016). Similarly, knowledge is highly individualised, and we create knowledge through socialisation (Helms et al., 2017). Socialisation could bolster collective action and fuel the growth of collaborative networks (Romero & Molina, 2011).

3.3. Organisation-Public Interaction (OPI)

While studies identify social media as a platform for nonprofit-public interaction, the nature of this interaction not sufficiently defined. The concept of organisation relationships is more prevalent in public relations literature where, organisation-public relationships (OPR) are conceptualised as organisation relationships that involve different groups of *publics* (i.e. people of interest to the organisation) such as investors, employees or members, consumers or clients, and community (Bridges & Nelson, 2000). Community publics, who are of interest to this study, refer to a diverse and unique group with whom the organisation aims to interact and relate. Building a relationship with community involves effort “to win the support or cooperation of or aim to improve relationships with people or organisations in communities in which the organisation has an interest, need, or opportunity” (Bridges & Nelson, 2000, p. 111). Relationships with target communities enable organisations to exist amicably and pursue their goals (Bridges & Nelson, 2000). The “purpose and direction of an organisation is affected by relationships with key constituents in the organisation’s environment” (Dozier 1995) cited in (Ledingham & Bruning, 2000, p. xiii). The concept of OPR supports our understanding of organisational communication and relationships, organisation behaviour, marketing, social psychology, and others (Ledingham & Bruning, 2000).

3.3.1. A Two-Sided View of OPI

A rich conceptualisation and understanding of OPI on social media could consider multiple approaches or different lines of thinking to explain the consequences of this interaction (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992; Kane et al., 2014). When social networks are recognised as explanatory mechanisms for emerging consequences, then two discernible streams of research could support our understanding of observable outcomes; the *structuralist thinking* and the *connectionist thinking* (Borgatti & Foster, 2003). Other sociologists refer to the same as the networks and the exchange approach, respectively (Cook & Whitmeyer, 1992). A structuralist approach focuses on the topology or configuration of ties in the ego-network, i.e., the patterns of interconnection; while, the connectionist thinking focus on resources that flow through the ties, e.g., information, aid, support (Borgatti & Foster, 2003). An actor with connectionist thinking considers a productive network as one through which they draw on the resources possessed by their contacts, in other words, one in which they can see the exchange or maximisation of benefit (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992).

These perspectives are explicit in social networks literature but often implicit in public relations and organisational communication literature. However, both arguments concur that a sufficient

“theory of networks or relationship theory” elicits not only the type of relationships embedded in the network but also the structure, patterns or properties of those relationships (Borgatti & Halgin, 2011; Broom et al., 2000). According to Duck (1973) cited in (Broom et al., 1997), relationships must then be defined in a particular actor’s point of view, i.e., the ego. Learning from an ego networks lens, the organisation exist as the ego (the principal actor in OPR on social media), while individuals and groups in its social media community are alters with ties to the focal organisation (Wasserman & Faust, 1994). The “egocentric organisational network is a channel through which the focal organisation obtains resources and information from the environment that is quality-controlled in both its content and credibility” (Gulati et al., 2002, p. 281). Moreover, to manage OPR, the organisation must – a) focus on the relationships it cultivates with its alters, i.e., the key stakeholders and b) how it communicates and interacts with its network through a set of defined activities that build those relationships (Ledingham & Bruning, 1998).

We, therefore, consider the role of OPI as a mechanism for SCC to emerge from the structuralist or network thinking (i.e., patterns of interaction embedded in relationships) as well as the connectionist or exchange thinking (i.e., types of relationships). In the sections that follow, we discuss OPI from the above two points of thinking.

3.3.2. Types of Organisation-Public Relationships

Existing literature rhetorically states that social media enables nonprofits to build relationships with stakeholders, supporters and the public, at large, but such literature rarely explicates the specific types of relationships. By type of relationship, we refer to the organisation’s perception and consummated view of its state of relationship with the public and how it contributes towards organisational and societal goals and value. This view on the type of relationships aligns with the exchange approach to examining and understanding social relationships. Inspired by the exchange theory, the exchange (connectionist) approach considers that relationships can be viewed from the point that two or more actors motivated by interests or rewards and therefore, their interaction is based on the exchange of valued things (Cook & Whitmeyer, 1992) or the flow and access to resources (Borgatti & Foster, 2003).

OPR management literature (Bringle et al., 2012; Clark & Mills, 1993; Clark et al., 1986; Hon & Grunig, 1999; Hung, 2005; Ledingham & Bruning, 1998; Ni, 2007; Osobajo & Moore, 2017; Waters & Bortree, 2012) provides about seven prominent types of OPR productive to the functioning of an organisation. Originally, OPR was defined as either communal or exchange (Bruning & Ledingham, 1999; Clark & Mills, 1993), but later, Hung (2005) identified five types of

OPR, i.e., covenantal, symbiotic, contractual, manipulative and exploitive, developed strategies to support the organisation's goals and objectives.

3.3.2.1. Communal relationships

Communal relationships are based on the norm that one actor "gives benefits in response to the needs, or to demonstrate a general concern for the other" (Clark & Mills, 1993, p. 684). Communal relationships involve greater concern for the other's needs; therefore, the organisation will mainly keep track of its community needs without necessarily focusing on reciprocation (Clark et al., 1986). Communal relationships can be one-sided, sometimes (Clark & Mills, 1994) – e.g. organisation cares for community needs, but the community may not necessarily care about the organisation's goals. Given the nature of nonprofits, communal relationships are more likely to occur since the organisation seeks social responsibility and providing social value (Hon & Grunig, 1999).

Communal relationships are central in collective and collaborative initiatives, and they will emerge through symmetrical interactions (Grunig, 2000). In nonprofits, for example, such relationships could allow the organisation to engage in collaborative, collective, and decision making practices and initiatives (Grunig, 2000). Further still, communal relationships enable the organisation to build reputation, social legitimacy and support (Grunig, 2000). However, because communal relationships seem costly, organisations are often tempted to engage in exchange relationships, but these also become costly in the long run due to negative reputation and lack of support (Grunig, 2000). It is possible that when an organisation fosters communal relationships, it is likely to build a sense of closeness with its community and maintain long-lasting relationships, even in the event of service delivery failure or process failure (Tsai et al., 2014). Nonprofits, particularly, may need to focus on communal relationships – based on trust and satisfaction – to cultivate quality and productive OPR (Waters & Bortree, 2012).

Communal relationships are contrasted with exploitive relationships, in which one entity (i.e. the organisation) takes advantage of the other (i.e. supporters) (Hung, 2005). An exploitive relationship is a non-reciprocated relationship where one entity enjoys benefits at the expense of the other entity (Hung, 2005). In such relationships, one party does not fulfil its obligation to the other (Clark & Mills, 1994). Exchange relationships, unlike communal ones, may become exploitive when parties fail to meet obligations as expected or anticipated (Clark & Mills, 1994). In a study of the dyadic relationship between students, faculty, administrators, community organisations and community residents for service learning and civic engagement, Bringle et al. (2012) observed that exploitive relationships breed chronic dependency that prevents one entity from rising capacity to

be self-reliant due to embedded power differences that support the benefit of at least one of the entities.

It is unlikely that an exploitive relationship will lead to positive co-creation outcome because, according to Bringle et al. (2012), such relationships “lack closeness, equity, and integrity because they possess unrewarding or harmful outcomes and are not satisfying to one or both persons, even if they are maintained” (p. 7). Additionally, exploitive relationships overlook the importance of reciprocity, yet, Harrison et al. (2017) indicate that reciprocation is core in nonprofits’ relationships with volunteers because it breeds trust and commitment, which are characteristic of communal relationships. Without reciprocity, trust and commitment, it may be difficult for nonprofits to realise relational outcomes in general (Harrison et al., 2017) and co-creation outcomes in particular (Randall et al., 2011).

3.3.2.2. Exchange relationship

Exchange relationships are based on the norm that “benefits are given with the expectation of receiving a comparable benefit in return” (Clark & Mills, 1993, p. 684). Such relationships involve “the trading of benefits between the organisation and market [or community]” (Grunig, 2000, p. 42). Exchange relationships involve greater concern for the other to reciprocate; therefore, organisations in such relationships will mainly keep track of the ability to receive reciprocated benefits from the community without overly focusing on changing expectations of stakeholders (Clark et al., 1986).

Exchange relationships are characterised by dialogic communication between the organisation and its community of interest (Bruning et al., 2008) leading to mutual benefits and thus a productive relationship (Bruning et al., 2006). When an organisation emphasises exchange relationships, its community is likely to feel a strong sense of betrayal in the event of service failure than when it focuses on communal relationships (Tsai et al., 2014). According to Tsai et al. (2014), failure by the organisation to meet its community expectations will lead to negative responses from its community which may constrain further engagements in activities, mainly, collaborative engagements such as co-creation.

On the other hand, exchange relationships may enhance Facebook based relations and collective action campaigns for nonprofits (Bowen & Sisson, 2015). For nonprofits, careful consideration of communal and exchange relationships is essential, because, depending on the context, these relationships could influence social motivation for individuals to make donations or their attitude and willingness to donate (Johnson & Grimm, 2010), or may constrain public participation when

the relationship tends to become exploitive (Clark & Mills, 1994). Nonprofits promote continuity and better exchange relationship outcomes, in social media particularly, by considering symmetrical, dialogic or two-way communication (Edman, 2010).

3.3.2.3. Symbiotic relationship

The notion of symbiotic relationships originated from biological disciplines, particularly ecology, and now often used in human-computer interaction studies, such as human-robot interaction. In human ecology, symbiotic adaptation occurs between two organisms that are dependent on each other (Hallen et al., 1991). Organisms “make dissimilar demands to the environment [but they] supplement the efforts of one another and thus become mutually interdependent” (Astley & Fombrun, 1983, p. 578). Symbiotic adaptation is also recognised in organisational ecology as one of the mechanisms to analysing inter-organisational collaborative processes, interdependence and survival. Understanding symbiotic interaction from an organisational perspective allows us to envision, analyse and understand organisation-environment relations for mutually beneficial goals (Astley, 1984; Astley & Fombrun, 1983; Ivery, 2007). Understanding symbiotic relationships is particularly important in the context discussed here given the fact that “social work administrators and practitioners are often involved in the development and management of community partnerships to address complex social problems and increase a community’s capacity to develop an effective and efficient system of service provision” (Ivery, 2007, p. 8).

In organisation-public relations literature, a symbiotic relationship is one in which the organisation works together with the public to fulfil their interest, where, the interest is not an expectation of benefit exchange but a mutual interest to continue existing in the same environment (Hung, 2005). Symbiotic relationships will exist as long as both actors continue to benefit from the relationship (Lepak & Snell, 1999). Learning from these bodies of research, we say that in the context of organisation-community relationships, both the organisation and the community will engage in a symbiotic relationship where both strive for goals that create value for either party. The motivation for engaging in such relationships and arising values may differ between the organisation and the community.

Learning from existing studies on symbiotic interaction, particularly (Jacucci et al., 2014; Rosenthal et al., 2010), it is possible that in a symbiotic relationship;

- Actors are self-governing and do not control or direct one another’s actions.
- Actors interact through synchronous communication to request and provide support to one another
- Actors perform actions for one another

- Actors increase one another's capabilities to complete actions, where individual actor on their own could not complete the action
- Goal interdependence, i.e., common or related goals from a collective perspective, despite differing goals at the actor level. Interact for mutual benefits.
- Transparency and collaborative use of resources are crucial aspects

The idea of symbiotic OPI, and relationship that we would like to capture unifies the above characteristics into a comprehensive view of the nature of organisational relationships that could support SCC. By encouraging and building a symbiotic relationship, the organisation attempts to develop a collective strategy as a mechanism towards collective action because such relationships enhance resource flow between the organisation and the community (Astley, 1984; Astley & Fombrun, 1983). According to Astley (1984), collective strategy, towards SCC, would imply the joint formation of service propositions and implementation of action by organisation-community collectives to fulfil those propositions. The organisation, as a leading actor, may consequently shape or maintain its relationship through negotiation and social compromise (Astley, 1984).

Symbiotic relationships are essential for collaboration and joint efficiency of all actors (Hallen et al., 1991; Jacucci et al., 2014). In SCC, where individuals, groups, organisations collaborate, work together and account for a considerable contribution towards resource integration, there is reason to expect that symbiotic relationships occur and become a vital enabler of this process. Hence, the organisation and target community adapt to each other's needs. Additionally, a symbiotic relationship will enable the organisation to sustain social interaction amidst environmental dynamism. It has been noted that "NGOs in symbiotic relationships would be less likely to experience fundraising drift due to shifting public opinion and more likely to receive consistent media attention" (Shumate & O'Connor, 2010, pp. 591-592).

3.3.3. Patterns of Interaction in Social Relationships

Like other social relationships, OPR could involve the pattern of interaction between the organisation and the public geared towards achieving organisational or societal goals and value. Patterns of interaction here refer to the sequence of activities that underlie the exchange of resources between the organisation and its (social media) community. To conceptualise the patterns of interaction, we draw on the social networks approach – i.e., the structure or configuration of social ties between the organisation as an actor on the one hand and individuals, groups, supporters, and the public, as the actors on the other hand (Cook & Whitmeyer, 1992). From this perspective, we can offer topological explanations of potential OPI mechanisms for SCC.

Looking at OPR without understanding the patterns of interaction embedded in such relationships provides an incomplete exploration and understanding of what OPI involves and the different ways it contributes to the organisation (Broom et al., 2000).

Broom et al. (2000, p. 3) posit that exploring OPR requires the analysis of “measurable properties distinct from their antecedents and their consequences, and independent of the perceptions held by individuals in the relationship”. Relationship properties “are recurrent patterns of interpersonal or subjective events ... discerned only by reference to samples of interactions or subjective experiences” (Huston & Robins 1982) cited in (Broom et al., 2000, p. 8). OPR “have properties that are distinct from identities, attributes, and perceptions of the individuals and collectivities in the relationship” (Broom et al., 2000, p. 18). Patterns of interaction, also defined as properties or structures of relationships, are the subjective and objective attributes associated with parties engaging in a relationship and their interactions (Broom et al., 2000). Basing on studies (Berscheid & Peplau 1983; Huston & Robins 1982), Broom et al. (2000) identify the frequency of impact on each other, degree of impact, diversity of activities during interactions, duration of time in interaction, as fundamental properties eminent in OPR.

On the other hand, social networks scholars (Borgatti & Halgin, 2011; Borgatti et al., 2009; Forrest & Kearns, 2001; Friedkin, 2004; Gilbert & Karahalios, 2009; Granovetter, 1973; Wasserman & Faust, 1994) also identify potential patterns of interaction or structures in social relationships. For example, online social relationships exhibit unique patterns of interaction based on content, i.e., the functions or activities undertaken between two actors, strength, and direction of the relationship (Garton et al., 1997). In offline environments, social relationships are defined commonly by the strength of ties (Granovetter, 1973; Marsden & Campbell, 1984), cohesiveness (Friedkin, 2004; Moody & White, 2003), and social similarity (Reagans, 2011; Rogers & Bhowmik, 1970). In OPR, particularly, two-way dialogic or symmetrical interaction is rhetorically recommended as a basis of interaction (Grunig, 1989, 2000, 2001; Kent & Taylor, 1998, 2002), although subsequent studies have paid little attention to it. Overall, a social networks perspective enriches our understanding of OPR and builds relationship management theory and practice (Sommerfeldt & Kent, 2015).

3.3.3.1. Strong Interaction

Understanding the strength of relationships resonates from the famous theory “strength of weak ties” by Granovetter (1973). The strength of a relationship reflects in the amount of time, intensity, intimacy and reciprocation of services between two persons in a social network (Granovetter, 1973). Because the measures of tie strength were not empirically tested, Marsden and Campbell

(1984) test the measures of tie strength leading to a conclusion that emotional intensity, i.e. closeness is the best predictor of tie strength. However, Gilbert and Karahalios (2009) argue that intimacy appears the best predictor of tie strength on social media, followed by intensity. Evidence suggests that nonprofits seemingly build strong relationships through active participatory behaviour – such as frequent communication and emotional appeal (Smitko, 2012).

In online environments, the intensity of relationships reflects in behaviours such as frequency of contact between two persons and the number of inbox messages exchanged and message thread depth (Gilbert & Karahalios, 2009). The ‘frequency of contact is measurable in five or six ordered categories, with possible responses ranging from “rarely” to “more than once a week” (Marsden & Campbell, 1984). We need to be cautious when measuring frequency because it tends to overestimate tie strength in instances where individuals are relatives, colleagues or neighbours (Marsden & Campbell, 1984). The intensity of a relationship is the fact that two people are close friends, mostly defined as “good friends” or “very close friends”. If we assume that two individuals may be “just colleagues”, “colleagues but good friends” or “colleagues but very close friends”, we may sustain some ambiguities and may not be sufficient to determine the intensity of relations. We thus contend with Gilbert & Karahalios and Marsden & Campbell that tie strength will be sufficiently determined by the aggregate of closeness, frequency of interaction number of message and message thread depth.

On the other hand, intimacy in a relationship resonates in the breadth of topics discussed and the extent of mutual confiding between individuals, i.e., how commonly actors discuss topics of interest (Marsden & Campbell, 1984). For example, when two actors can discuss a broad range of subjects not related to work such as their personal lives and can confide in one another to as far as asking for bits of advice and favours such as a loan. A tie is intimate if they commonly engage in discussions on friends, family, and politics and not so intimate if they commonly engage in discussion on work and leisure. Another measure of intimacy is observable in friends who can mutually confide in each other. Mutual confiding occurs when two or more individuals can confide in each other about personal problems and consult each other for advice. Although Gilbert and Karahalios (2009)’s intimacy variables are not explicitly stated, they suggest that intimacy in online environments can be observed in the intimacy words used on one’s Facebook wall for example or inbox messages.

According to Granovetter (1973), social ties are strong or weak, but the latter create bridging ties, which account for the majority of the resources (e.g. information) embedded in the network

structure. A bridging tie is a link to another person not connected to one's existing line of friends (Borgatti & Halgin, 2011). Bridging ties are a source of novel ideas and information, and therefore, weak ties are a source of novelty (Borgatti & Halgin, 2011; Granovetter, 1973). Strong ties, in contrast, create a network of individuals who have common characteristics and that it is most likely that every one person in the network will know what all the others know (Granovetter, 1973). However, Farrow and Yuan (2011) found that strong ties on Facebook, which are characterised by frequent contact and emotional closeness increase volunteerism and charitable giving, which are essential in the provision of nonprofit services. Although weak ties are believed to offer informational resources, the role of strong ties in enabling resource integration between nonprofits and their supporters cannot be overlooked.

3.3.3.2. Symmetrical Interaction

Social network researchers (Adler & Kwon, 2002; Jackson et al., 2016; Kane et al., 2014) argue that there consequences of directed and undirected ties in a network. Understanding directed and undirected ties highlight the relevance of tie symmetry in the functioning of a network. Tie symmetry refers to mutual and reciprocated ties between actors (Bonacich, 1972; Granovetter, 1973; Koput, 2010). A relationship structure will be symmetric if actors engage in two-way communication (Bonacich, 1972). Social relationships are symmetric when they constitute undirected relations (e.g., dialogue between friends) or asymmetric when they constitute directed relations (e.g., a person seeks advice from another) (Koput, 2010). During information sharing, for example, the organisation will engage in a directed/asymmetric relationship when it offers information to the public. It will engage in undirected/symmetric relationship when it engages in discussion with publics.

Initially, scholars like (Granovetter, 1973) analyse social relationships with the assumption that all relationships are symmetric, i.e. ties are mutual and reciprocated, e.g. LinkedIn connections or Facebook friends. However, later, scholars like (Kane et al., 2014; Mislove et al., 2007; Petróczi et al., 2007) suggest otherwise. There is, therefore, full recognition that naturally, not all relationships are balanced or reciprocated in such a way that every person in a relation perceives the relationship in the same way (Garton et al., 1997; Jackson et al., 2016; Petróczi et al., 2007). For example, entity *A* may claim a close friendship to *B*, while *B* claims a weaker friendship to *A*. such a scenario represents the nature of *asymmetric* relationships, which actors may need to put into consideration. On social media, the organisation's followers on Facebook or Twitter could constitute an asymmetric relationship between the organisation and its community of followers.

Asymmetry relationships tend to sufficiently depict the source and receiver of information in a network, although the symmetry of a tie alone may not be sufficient to determine reputable sources of information because of the number of random users linking to them (Mislove et al., 2007). Asymmetric relationships may create an asymmetric social structure that constrains informational and reputational benefits among organisations (Ahuja et al., 2009). Symmetric structures are considerably more desirable in OPR (Grunig, 1989, 2000, 2001).

There strong theoretical arguments on the nature and role of symmetry in OPR. Much of such arguments emphasise that dialogue, two-way communication, and balance between organisation and community interest is at the crux of symmetrical relationships (Grunig, 1989, 2000, 2001; Kent & Taylor, 1998, 2002). Symmetrical relationships would imply that the organisation and the community are each willing to accommodate the interests of one another (Grunig, 2001). Symmetrical theories of communication indicate that symmetric relationships involve (Grunig, 1989);

- Holism, where the organisation and its publics exist as parts of a whole
- Openness, where the organisation strives for transparency and collaboration in practice
- Interdependence, where the organisation strives to maximise rewards from relationships while minimising costs

Social media users may engage in symmetric interaction on asymmetric based social media platform (Kim & Lee, 2016). Symmetrical relationships, such as those on Facebook, require mutual consent between entities, while asymmetrical relationships, such as those on Twitter, allow contacts to select and filter their informational and interaction priorities (Kim & Lee, 2016). On social media, relationship symmetry shapes actor roles, the distribution of ties or network diameter, and the type of information distributed on the network (Kane et al., 2014; Mislove et al., 2007).

3.3.3.3. Similarity-Based Interaction

“Similarity breeds connection”, no matter the type of relationship, be it – friendship, work, support, organisation, advice, exchange, or others, it is the key to network formation (McPherson et al., 2001, p. 415). Social similarity exists across different disciplines, especially in interpersonal relationships, but what is essential is to recognise the opposite pole of this structural determinant (Rogers & Bhowmik, 1970). Social similarity and dissimilarity are also conceptualised as homophily and heterophily, segregating and differentiating, and co-linear and non-linear (Rogers & Bhowmik, 1970). The most popular term used for social similarity and dissimilarity in interpersonal relationships is homophily vis-à-vis heterophily. Homophily “refers to the degree to which pairs of

individuals who interact are similar concerning certain attributes, such as beliefs and values. Heterophily, on the other hand, is the degree to which pairs of individuals who interact are different concerning certain attributes” (Rogers & Bhowmik, 1970, p. 526). The principle of homophily states that “contact between similar people occurs at a higher rate than among dissimilar people” (McPherson et al., 2001, p. 416).

Social similarity is significant in shaping communication behaviour and relationships (Rogers & Bhowmik, 1970) because it tends to influence the content and quality of the relationship between actors (Mesch & Talmud, 2006). The organisation can increase the frequency and duration of social interactions by ensuring social similarity with communities (Mesch & Talmud, 2006). Alternatively, increasing social similarity (for example, between the organisation and its supporters) will contribute to strong interaction (Reagans, 2011) and the stability of the relationship (Hallinan & Kubitschek, 1988). It predicts whether or not social interactions will continue between members of a community (McPherson et al., 2001). Because social similarity is strongly linked to the formation of attitude (McPherson et al., 2001), it tends to cultivate a powerful group identity, which is vital in enabling social support (Lehtimäki, 2016). One may argue that social similarity is a social structural factor that has powerful implications for social interactions, attitude formation and information flow (McPherson et al., 2001).

Some scholars posit that “if a network has strong homophily [i.e., similarity] then ... there are relatively fewer bridges across groups ... the diffusion [of resources, e.g. information and knowledge] can remain confined within certain areas of the network or take a very long time to reach other parts of the network” (Jackson et al., 2016, p. 27). In other words, an organisation should foster social similarity with caution because it could limit broader interaction and collaboration for a social organisation (Lehtimäki, 2016). Although similar interests, values and attitude among individuals seem to attract formation of social ties and prompt discussion, these aspects may not at all times facilitate network formation and participation among individuals (Chu & Kim, 2011). This is mainly because homophilous tie formation in specific contexts, e.g. women social organisation, emerges with the evaluation of the tie function, i.e. the set of actions or resource flow embedded in a relationship (Ibarra, 1992). Social scientists (Feld, 1981; McPherson et al., 2001) apply different dimensions to measure social similarity depending on the unit of analysis or social context. These include, but not limited to, the following.

- Baseline similarity (i.e. the demography of potential tie pool)
- Inbreeding similarity (i.e. the opportunity set)

- Status similarity (i.e. based on informal, formal or ascribed status), value (i.e. based on values, attitudes and beliefs)
- Cognitive similarity (i.e. when two individuals interact, and their understanding becomes similar).
- Institutional similarity (i.e. institutional structures and constraints)
- Natural similarity (i.e. elite preferences) in organisational contexts (Spires, 2011).

In an online environment, social similarity or homophily is characterised by shared group interests and shared mindset rather than personal attributes or characteristics (Brown et al., 2007). Brown et al. (2007) conclude that interests, values, beliefs or the mindset are a more certain dimension of measuring online social similarity.

Drawing on Brown et al. (2007), OPI could revolve around a common interest in a community issue and social value. We believe that nonprofits would attract connection and build relationships by attracting followers who bare similar interest in discussing, advocating and solving a given community issue, which in this study could be either of the following depending on the sector in which the organisation operates. Interest in education for children and girls. Interest in orphaned children. Interest in women challenges. Interest in persons with disabilities. Interest-based on region or district in which the organisations operate. Different individuals in the organisation's target community would feel attracted to the organisation if they view themselves as socially similar (in interests) to the organisation. We thus investigated similarity-based interaction from the view of perceived social similarity based on interest and values – i.e. the degree to which the organisation perceives that it holds similar social values, interests, and goals with its focal community, and that shapes its social media interactions.

Whatever the dimension of social similarity embedded in a social network, social similarity can be defined subjectively (i.e. perceived homophily/social similarity) or objectively (i.e. observing composition and behaviour of a given relationship) (Feld, 1981). Social network analysts are more attracted to observable similarity; however, studying subjective social similarity is equally informative (Feld, 1981). In communication and information sharing, participants tend to behave according to their perceptions of others, their actions, the environment and information shared (Feld, 1981). Dealing with the perceived social similarity between the organisation and its community is sufficient because; (1) OPR is all about communication, collaboration and information sharing, and perceived similarity is a viable predictor of interpersonal communication (McCroskey et al., 1975). (2) Perceived similarity correlates with observable similarity (Feld, 1981).

3.3.3.4. Cohesive Interaction

Cohesion is a property of social relationships (Moody & White, 2003) that represents a community existing in a given space (Forrest & Kearns, 2001). Social cohesion, community cohesion, group cohesion and network (structural) cohesion are customary terms used in sociology, social psychology and psychology to describe cohesiveness between individuals, groups, organisations and society. The common denominator across these terms is “cohesion”; however, it is used and measured in varying ways depending on context and discipline. Such variations could lead to different interpretation and measures, and therefore discerning the differences in examining cohesion could be useful (Carron & Brawley, 2012).

From a *societal point of view*, “social cohesion is used more broadly and aligned with more general socioeconomic factors, whereas community cohesion has emerged as a more specific term to describe the societal fractures which are based on identifiable communities defined by faith or ethnicity, rather than social class” (Cantle, 2005, p. 47).

In *social network analysis*, cohesion refers to the extent to which an individual is connected to other individuals who are in turn connected (Ho et al., 2006). It is “the minimum number of actors who, if removed from a group, would disconnect the group” (Moody & White, 2003, p. 103).

In *social groups and organisations*, cohesion is a dynamic process reflected by togetherness and pursuit of instrumental objectives intended to satisfy members’ needs (Carron & Brawley, 2012). Where a social group is considered to “possess a common identity, have common goals and objectives, share a common fate, exhibit structured patterns of interaction and modes of communication” (Carron & Hausenblas 1998) cited in (Carron & Brawley, 2012, p. 94).

Given that our study examines relationships from an organisation’s perspective, the social groups and organisations view on cohesion is the most appropriate school of thought to guide our investigation. Within this school of thought, studies provide an account of the meaning and measures of cohesion by specifying key facets of cohesion in social groups (see Table 3-17).

Table 3-17. Indicators of Cohesiveness in Social Relationships

Studies	Indicators of Cohesiveness in Social Relationships
Bollen and Hoyle (1990)	Sense of belonging; Feelings of morale
Braaten (1991)	In-group dimensions of cohesion include – attraction and bonding; support and caring; listening and empathy; self-disclosure and feedback; process performance and goal attachment
Moody and White (2003)	Relational togetherness; and Sense of togetherness
Beal et al. (2003)	Attraction to a group; task commitment; and group pride

Carron and Brawley (2012)	Group integration beliefs about closeness, similarity, bonding, and unification of the group; Individual attractions to the groups associated with satisfaction of personal needs and objectives
Chan et al. (2014)	Shared norms and values; Sense of shared identity or belonging; Sense of continuity and stability; Presence of collective risks and welfare; Active citizenship

Overall, we can consider cohesion as a condition where “members of a group develop a sense of belonging and share a common membership. [Where] Cohesiveness can be ... a subjective experience of group members, as well as an objective condition of a group whereby sharing common values and commitment, are essential” (Chan et al., 2014, p. 125). “Groups are cohesive when group-level conditions are producing positive membership attitudes and behaviours, and when group members’ interpersonal interactions are operating to maintain these group-level conditions. Thus, cohesive groups are self-maintaining with respect to the production of strong membership attractions and attachments” (Friedkin, 2004, p. 410). Forrest and Kearns (2001) suggest that conflict, low levels of interaction between members, and low level of space attachment are characteristics of a community with low social cohesion.

Cohesive OPI, in the context of nonprofits and target communities, could arise from shared interests, mindset, goals and welfare, values such as religious faith, where individuals interact, comment and support an organisation because it based on their religious background, e.g. a Christian or Muslim based nonprofit. Individuals that interact with nonprofits may be attracted to the organisation based on the region of operation, where an organisation that operates and supports the needs of people in the southern region of the country attracts individuals who were born and raised from that part of the country.

Specifying a unit of analysis is crucial to understanding social cohesion, where the unit of analysis can be a small group, a local community, diverse communities, society, or even globally (Chan et al., 2014). After defining our unit of analysis, it is also important to note that social cohesion can be examined subjectively or objectively (Chan et al., 2014), depending on the research question. A quantitative analysis on cohesion focuses on values, attitudes and behaviour conducive for bonding in a community (Chan et al., 2014). Like Chan et al. (2014), our study takes a subjective assessment of cohesion, which, according to Chan and colleagues, appreciates that perceptions shape behaviour and one’s evaluation and agency towards social cohesion.

Nonetheless, Mann (1970) contests the view of cohesion as shared norms and values among individuals in a community. Mann (1970, p. 424) offers four reasons for his argument. First, “most general values, norms and social beliefs usually mentioned as integrating societies are extremely

vague, and can be used to legitimate any social structure, existing or no". Second, "even if a value is stated precisely, it may lead to conflict, not cohesion". Third, "the standards embodied in values are absolute ones, and it is difficult for such absolutes to co-exist without conflict". Lastly, "where insulation processes operate, cohesion results precisely because there is no common commitment to core values".

3.4. Organisational Generativity

If we can define social media by the user's interpretation of this technology and its affordances for the users, we then need to recognise that perceiving, discovering and actualising these elements, lies in the user's capabilities (Norman, 2013; Orlikowski, 2007). When organisations use social media, they will require "capacities for action" (Suchman, 2007) or "the capacity to act" (Orlikowski, 2007) in ways that leverage the opportunities provided by this technology to achieve their goals. Organisations, like individuals, would possess some capability to leverage social media for their outcomes.

An organisational capability is "a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organisation's management a set of decision options for producing significant outputs of a particular type" (Winter, 2003, p. 991). Organisational capabilities exist "as the sustained ability to perform, which implies the existence of skills and knowledge for today's work as well as a preparedness to grow and develop for future needs" (Bryson et al., 2006, p. 281). The sustained ability of an organisation to undertake its operations relies on its capability to re-configure internal resources (Attouni & Mustaffa, 2014). Organisational capability fundamentally focuses on internal resource manipulation amidst environmental dynamism (Bryson et al., 2006; Eisenhardt & Martin, 2000; Li & Liu, 2014; Teece et al., 1997). Due to the overwhelming effects of environmental dynamism (Eisenhardt & Martin, 2000; Li & Liu, 2014), organisations will need dynamic organisational capability more than just organisational capability.

The "*dynamic*" aspect is crucial in organisation capabilities. "Dynamic refers to the capacity to renew competences to achieve congruence with the changing business environment; certain innovative responses are required when time-to-market and timing are critical, the rate of technological change is rapid and the nature of future competition and markets difficult to determine. Capabilities emphasise the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organisational skills, resources, and functional competencies to match the requirements of a changing environment" (Teece et al., 1997, p. 515).

Organisation dynamic capabilities refer to “the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al., 1997, p. 516). A dynamic capability “is a learned and stable pattern of collective activity through which the organisation systematically generates and modifies its operating routines in pursuit of improved effectiveness”(Zollo & Winter, 2002, p. 340).

In every way, we choose to look at dynamic organisation capabilities; the following characteristics must be taken into consideration (Eisenhardt & Martin, 2000).

- they are identifiable and specific to an organisational process
- they are commonalities with some unique definitions
- they may be detailed or straightforward, predictable or unpredictable
- they have a unique evolution path depending on experiences

Building organisation dynamic capability is not a goal, but a means for the organisation to accommodate and manage uncertainties and environmental dynamism towards sustaining its operations (Sherehiy et al., 2007). Dynamic capabilities are essential for improved performance for organisations operating in environments of high technological dynamism or in developing economies (Fainshmidt et al., 2016). They may have an indirect impact on an organisation's performance (Laaksonen & Peltoniemi, 2016). They are as much a source of competitive advantage as they are a source for building lasting relationships between the organisation and its stakeholders (Oktemgil & Greenley, 1997). Although dynamic capabilities may have some commonalities across processes, units or organisations (Eisenhardt & Martin, 2000), organisations have to identify the relevant dynamic capabilities before they can enable and manage those capabilities (Pablo et al., 2007).

Organisations in the face of uncertainty and changing environments are more likely to develop generative capabilities (Ambrosini et al., 2009). Organisation generativity, also known as generative capability, is among such dynamic capabilities that allow the organisation to reconfigure its internal resources for sustainability and effectiveness (Hodgson et al., 2017; Levinthal, 1994; Sun & Zou, 2018a, 2018b).

3.4.1. What is Organisation Generativity? Why is it Important in this Context?

Organisation generativity is ‘the ability to originate, produce or procreate’ (van Osch & Avital, 2010; Van Osch & Mendelson, 2011). It is the productive capacity that focuses on creating something beneficial and desirable (Avital & Te'Eni, 2009). Generativity is an ability driven by task, context,

and goal (Avital & Te'Eni, 2009; van Osch & Avital, 2010; Van Osch & Mendelson, 2011). Generativity, as rooted in the seminal work of Erikson, has been fruitfully applied to many contexts, including, social psychology (Gergen, 1994a), educational science (Yorks, 2005), information systems (Avital & Te'Eni, 2009) and innovation (Sun & Zou, 2018b).

Here, we conceptualise generativity from a social science perspective, where we identify generativity as “a characteristic that can provoke and transform social reality and social action” (Avital & Te'Eni, 2009). Organisation generativity is considered an overarching capability for productive social media interactions leading to SCC, because, it encompasses capabilities that;

- Enable organisations to engage in explorative creativity and innovation (Sun & Zou, 2018b)
- Enable the organisation to rapidly integrate new knowledge, ideas and ways of thinking (Sun & Zou, 2018a; van Osch & Avital, 2010)
- Allow organisations to uncover new possibilities in the social world (Avital & Te'Eni, 2009),
- Enable the organisation to survive and thrive when operating in dynamic situations (Ambrosini et al., 2009)
- Enable the organisation to transform, refresh, and adopt new ways of operating (van Osch & Avital, 2010)

Generativity could be essential in such circumstances because it involves “rejuvenating and reconfiguring, reframing the way we see and understand the world challenging status quo and generating fresh alternatives for social action” (Avital & Te'Eni, 2009; Gergen, 1994b; van Osch & Avital, 2010).

3.4.2. Organisational Generativity in the face of Social Media

Mainstream organisation studies often focus on dynamic capabilities, firm performance and competitive advantage. Increasingly, researchers have reported the role of various capabilities on operative routines without due reference to the nature of the operating environment and the possibility of environmental contingencies. Organisations that perceive environments such as social media as evolving, non-linear and uncertain, are likely to develop generative capabilities (Ambrosini et al., 2009). Such organisations will delineate and build capabilities sufficient for dynamic, complex and volatile environments at the times when comparatively static environments dissolve, and new opportunities emerge (Levinthal, 1994). For instance, adaptability is superfluous in stable or motionless worlds (Hodgson et al., 2017). Dynamic environments may require

organisations to respond more proactively or more effectively to contingencies by adaptation, rejuvenation, and transformation to continue operating and thriving (Hodgson et al., 2017; Levinthal, 1994; Sun & Zou, 2018a, 2018b).

In technological, highly innovative and competitive worlds, the organisation will need to possess distinctive capabilities (Levinthal, 1994) or build generative capabilities, which constitute learning-to-learn capabilities highly engrained in adaptability, easy of mastery, accessibility and transferability (Sun & Zou, 2018b). Langlois (1992) acknowledges that in such environments, organisations need capabilities such as adaptation, learning, innovation and technology development or succumb to dynamic transaction costs. By analysing the characteristic descriptions of generative capabilities, i.e., dynamic capabilities enabling adaptation, learning⁴, transformation, innovativeness and technology awareness, we identify four capabilities that meet the core aspects of generativity mentioned in section 3.4.1 and would, therefore, enable organisations to thrive and perform productively on social media. The identified capabilities are explained in Sections 3.4.2.1 to 3.4.2.4 below.

3.4.2.1. Digital Spanning

IT capabilities is a broad and far-reaching concept often defined and measured depending on the functions that the technology is designed to support. A firm's IT capability is defined as "the ability to mobilise and deploy IT-based resources in combination or copresent with other resources and capabilities" (Bharadwaj, 2000, p. 171). Drawing on Bharadwaj (2000)'s classification, we can manage IT capabilities by recognising the following schemes: (1) IT capability by physical infrastructure, which considers the extent of an organisation is IT infrastructure and structural components. (2) IT capability by IT human resources, which relates to the availability of sufficient skills, experiences and knowledge in technical and managerial IT needs. (3) IT capability by intangible IT-enabled resources, which relates to IT-enabled operations, knowledge assets, and synergy.

Given the nature of social media, organisations may not build IT infrastructure capabilities; but they take full responsibility for the development of required IT-human resource and IT-enabled operations capabilities. Inherently, organisations with IT-human resources capabilities can run IT-

⁴ We take the basic distinction between learning and adaptation as 'learning means the accumulative development of skills and knowledge; whereas, adaptation refers to a response to feedback from one's environment' Levinthal, D. A. (1994). Surviving Schumpeterian environments: An evolutionary perspective. *Evolutionary dynamics of organizations*, 167, 178. .

enabled operations and achieve the IT-operations synergy for improved performance (Bharadwaj, 2000). Synergy is positive emergent IT-operations capabilities, which make it more likely for the interaction between components to lead to task and goal accomplishments (Nevo & Wade, 2010). Advocates of IT effects on performance argue that organisations mainly benefit from IT when they can embed IT in their operations and strategy (Bharadwaj, 2000; Dehning & Stratopoulos, 2003; Lu & Ramamurthy, 2011; Ravichandran & Lertwongsatien, 2002). Ravichandran and Lertwongsatien (2002) argue that the targeted use of IT for core competencies or functions is what yields organisational value. Organisations should ensure that the chosen technologies can deliver value to the organisation (McLaughlin, 2017). Lu and Ramamurthy (2011) encourage organisations to reflect on their IT strategic vision, IT strategic plan, the value of IT to its operations, as well as provide ways to enhance the effectiveness of IT.

The targeted use of IT for specific functions is what we here refer to as digital spanning. This concept relates to what Ravichandran and Lertwongsatien (2002) refer to as “IT support for Core Competencies” or Bharadwaj (2000)’s IT-enabled Intangibles. Lu and Ramamurthy (2011, p. 935) define digital spanning as “the ability of a firm’s management to envision and exploit IT resources to support and enhance business objectives – a capability that reflects the extent to which the firm develops clear IT-strategic vision, integrates business and IT strategic planning, and ... understands the value of IT”. Digital spanning in the context within which it is used in this study reflects the organisation’s ability to exploit social media resources to supports the organisation’s core functions, develop a clear social media strategy, understand the value of social media, and possess sufficient knowledge and skills for utilising social media.

We have previously indicated three standard classifications of IT capabilities that enable firm performance. Table 3-18 below presents varying ways in which existing studies have examined these capabilities.

Table 3-18. Classifications of IT-Related capabilities

Classifications of IT Capabilities	Related Measures	Supporting literature
IT infrastructure capability	IT infrastructure flexibility IT infrastructure sophistication IS planning, development and maturity Quality of the IT infrastructure,	Lu and Ramamurthy (2011); Anand et al. (2013); Ravichandran and Lertwongsatien (2002); Bhatt and Grover (2005); Dehning and Stratopoulos (2003); Chen et al. (2015)
IT human resources capability	IT personnel expertise IT knowledge IS human capital IT business experience Managerial and technical skills	Ringim et al. (2017); Anand et al. (2013); Ravichandran and Lertwongsatien (2002); Dehning and Stratopoulos (2003)
Digital spanning (intangibles)	IT-business alignment IS support for competencies Business & technology leadership management of technology technology alignment technology adoption IT proactive stance	Ravichandran and Lertwongsatien (2002); McLaughlin (2017); Lu and Ramamurthy (2011); Anand et al. (2013); Chen et al. (2015)
IS partnership capability	Relationship with other business units Relationship with IT vendors Relationship infrastructure IT integration	Ravichandran and Lertwongsatien (2002); Bhatt and Grover (2005); Chen et al. (2015)

Drawing on the observations in Table 3-18, and the arguments provided by advocates of IT-operations alignment, we consider digital spanning an essential IT capability for productive use of social media. *Operations and technology relationship* relates to the organisation's ability to span its operations to understand how well its technologies align with its operational needs and activities. Looking at digital spanning, we recognise capabilities of IT-business alignment, IT-business competence, management of technology, IT proactive stance, and experience, knowledge and skills in using IT. This construct focus on the extent to which the organisation can identify, plan and exploit technology resources to support and enhance its activities and goals (Lu & Ramamurthy, 2011).

IT-business competence is the ability to identify, select, adopt, implement and use quickly and effectively the appropriate technologies that are core to its operations and activities (McLaughlin, 2017). Managing technology relates to the ability to manage its social media content, network communication services, maintain its social media platforms, manage transition and changes as they occur (Lu & Ramamurthy, 2011; McLaughlin, 2017). *IT proactive stance* relates to the ability to understand the value of social media to its operations and then take the initiative, appreciate

and embrace social media-enabled innovations and resources in many varying ways to create more opportunities (Lu & Ramamurthy, 2011). *IT experience, knowledge and skills relates to the ability to apply technical and managerial knowledge, skills and experience to support its social media, based activities.* Drawing on Bhatt and Grover (2005), we consider that the organisation's social media personnel are knowledgeable about the organisation's strategy, policies and goals, social media opportunities and social media content management. IT-related knowledge and experience enable the organisation to quickly and effectively respond to environmental changes and improve its performance (Anand et al., 2013; Ringim et al., 2017).

3.4.2.2. Relationability

Sociologists suggest that organisational action and the structure of social relationships have an endogenous association, which provide the basis for new relationships (Gulati & Gargiulo, 1999). Managerial scientists, also provide that organisations require individual capabilities to derive organisational action through relationships (Möller et al., 2005). Relationability, based on the relational capability stance, is both a dynamic capability and network management capability (Czakon, 2009). Thus, it denotes 'the capacity of an organisation to purposefully create, extend, or modify its resource base through relationships' and its willingness and ability to establish those relationships given an opportunity for interaction (Czakon, 2009). Additionally, organisations will need the potential for adaptive and generative relationship learning to delineate between relationship driving and relationship-driven actions (Jarratt, 2004). Therefore, the relational capability is not only a dynamic (Czakon, 2009; Jarratt, 2004) but also a regenerative capability because it allows the organisation to improve the existing set of capabilities to form and modify its relationships (Ambrosini et al., 2009). Moreover, the formation and modification of relationships is an iterative process (Gulati & Gargiulo, 1999), which is a critical dimension of generativity (Sun & Zou, 2018a). Thus, relationability is the ability to iterate, renew, and rejuvenate existing relationships towards new relationships given new opportunities for interaction.

Relationability is driven by the organisation's relationship management capability (Jarratt, 2004) or alliancing capability (Czakon, 2009). Relationship management capabilities allow the organisation to acquire social capital through its networks and relationships (Lin et al., 2016). Over the time relationships accumulate into a network (Gulati & Gargiulo, 1999) and organisations would need to possess adequate networking competencies to initiate, maintain and utilise relationships (Walter et al., 2006). Organisations will rely on their networks for cues on future relationships, which further increases the functional value of their relationships (Gulati & Gargiulo, 1999). Relational capabilities are grounded in social capital integration and therefore enable the

organisation to utilise resources embedded in networks and alliances to achieve organisational goals (Lin et al., 2016). The core of relational capabilities is the quality of the organisation's social fabric and relations as a significant variable in its network performance (Giraud et al., 2013).

Relational capabilities are drivers of value co-creation and innovation (Ngugi et al., 2010) as well as co-adaptation and co-innovation (McGrath, 2008; O'Toole & McGrath, 2008). Relations are generally a valuable resource to the actors (Adler & Kwon, 2002; Lin, 2004). Therefore, the organisation as a corporate actor will need sufficient relational ability to access, assess and realise value from its networks. Relationability from an organisational network perspective is measured as follows – see Table 3-19 below.

Table 3-19. Measuring Relationability

Measures of relationability	Description and related measures	Supporting literature
Utilising Relationships	Resources dedicated to co-operation with partners knowledge management processes to ensure effective co-operation governance to manage the costs of networking Jointly managing challenges, see the value of relationships Social capital integration, Realisation capability access to knowledge and opportunity relationship experience relationship memory	(Lin et al., 2016); (Czakon, 2009); (Kenny & Fahy, 2013); (McGrath, 2008); (O'Toole & McGrath, 2008); (Jarratt, 2004)
Relationship learning	sense of obligation expectation of future engagements relational closeness relationship assessment adapting	(Kenny & Fahy, 2013); (McGrath, 2008); (O'Toole & McGrath, 2008); (Jarratt, 2004)
Open to Relationships	nurture mutually beneficial relationships interaction promoting collaboration flexibility managing relationship change	(Kenny & Fahy, 2013); (Lin et al., 2016); (Jarratt, 2004)

When the network is not resourceful to its actors, it has no value and therefore, does not motivate further engagement (Adler & Kwon, 2002). Drawing on Jarratt (2004) we consider that relationability in building productive relationships on social media will involve (1) utilising the relationships, (2) learning from existing relationships, and (3) being open to relationships.

Utilising and managing Relationship relates to the ability recognise the scope of their social media relations and the opportunities embedded in the networks (i.e. realisation) that could enhance their co-creation practices (McGrath, 2008; O'Toole & McGrath, 2008). To allocate resources efficiently to their network and proactively manage and expand valuable relationships (assessment) (McGrath, 2008; O'Toole & McGrath, 2008). To generate, challenge and disseminate lessons learnt from prior behaviour and existing relationships (relationship memory) (Jarratt, 2004). To extract and exploit opportunities in its social media networks (access to opportunity) (McGrath, 2008; O'Toole & McGrath, 2008).

Relationship learning relates to the ability to recognise and mark out relationship-driving behaviour and relationship-driven behaviour (Jarratt, 2004). It involves the organisation ability to generate, integrate and utilise knowledge resources such as opinions, ideas, skills and experiences embedded in its network flows to ensure the effectiveness of its network and co-creation practices (McGrath, 2008; O'Toole & McGrath, 2008). Relationship learning will generate knowledge and stimulate cognitive activity which enables the organisation to manage its relations appropriately, improve its network-oriented practices, and predict and prepare for future relationship needs (Jarratt, 2004).

Open to Relationships relates to the ability to attract interaction, foster collaboration, adjust to new relationships and changes, i.e., collaboration-flexibility-change (Jarratt, 2004). According to Jarratt (2004), a relationship behavioural capability implies behavioural norms supporting relational capabilities. Relational norms refer to relational capital and emerging mechanism for enhancing relationships and relational closeness. Aspects of relational norms may emerge through a sense of obligation, the expectation of future benefits and engagements, sense of mutual benefits, trust and commitment (Kenny & Fahy, 2013).

3.4.2.3. Adaptiveness

Adaptiveness is as often noted as adaptive capability, for example (Chryssochoidis et al., 2016); but some studies refer to it as organisational adaptability (Hodgson et al., 2017). From a biological science stance, Hodgson et al. (2017) indicate that this capability is centred on adaption, which refers to “an evolutionary change in the structure or functioning of an organism that makes it better suited to its environment” (p.4). From an organisational perspective, “adaptation is said to have occurred when an organisation changes its strategy, structure or some other core attributes to fit some new environmental contingency” (Levinthal, 1994, p. 432). Scholars that conceptualise it as adaptive capability say the firm can identify emerging opportunities, respond to such opportunities and adapt processes to suit emerging opportunities (Wei & Lau, 2010). Adaptiveness relates to

the organisation's capacity to adapt to change (Hodgson et al., 2017) or respond to feedback from the environment (Levinthal, 1994). Taken all together, adaptiveness affords the organisation the ability to prosper under conditions of extreme volatility (Staber & Sydow, 2002).

The idea of adaptive capability emerges from the contingency approach in organisational research (Sherehiy et al., 2007). According to Sherehiy, Karwowski & Layer (2007), contingency theories state "that there is no one universal way of managing or organising a company, and that the organising style is dependent on the situational constraints of the environment in which the company operates" (p. 446). Analysing, an organisation's adaptive capabilities requires particular consideration of its environment of operation (Sherehiy et al., 2007). On the other hand, adaptiveness differs but related to organisational learning in that the latter 'contributes to organisational inertia which in turn provides a basis for selection processes as an important source of change' (Levinthal, 1994, p. 432).

More generally, organisational adaptiveness emerges in three dimensions; reactivity, resilience and incremental innovation (Kharabe, 2012). Reactivity, also represented as responsiveness (Bryson et al., 2006; Sherehiy et al., 2007), relates to the organisation's ability to react rapidly to emerging opportunities in its environment of operation. Resilience is the ability to respond rapidly to the threats posed by an organisation's environment of operation. Incremental innovation is the ability of the organisation to adapt existing models, processes and best practices to improve its performance. Adaptive capability is thus closely related to organisation agility (Kharabe, 2012), organisational learning (Bryson et al., 2006), enterprise systems implementation (Trinh-Phuong et al., 2012) and high-performance work systems (Kindström et al., 2013).

For service innovations, three dimensions of the adaptive capability are essential, i.e., sensing opportunities, seizing emerging opportunities, and reconfiguring resources to meet expected changes (Kindström et al., 2013). "Sensing refers essentially to the gathering of relevant marketing intelligence" (p. 1064). An organisation must be able to seize market intelligence to support innovations. Seizing capability relates to "the readiness [of an organisation] to disseminate market intelligence throughout the firm and duly take initiatives based upon it" (p. 1065). Lastly, the organisation needs to reconfigure its resources to suit emerging opportunities. Reconfiguring capability relates to the organisation ability to adjust its processes and model to take advantage of emerging changes in the environment (Kindström et al., 2013). Trinh-Phuong et al. (2012) unite these perspectives into two dimensions – sensing capability and responding capability. In their perspective, sensing capability means the "organisation's ability to detect, capture and interpret

organisational opportunities [while] responding capability is the organisational ability to transform resources to react to the opportunities that it senses” (p. 7).

We draw on the above dimensions of the adaptive capability to frame organisational adaptiveness as the ability to sense and respond to emerging opportunities in their environment of operation. Drawing on Trinh-Phuong et al. (2012), we recognise;

- *Sensing* as the organisation’s ability to detect, capture and interpret its emerging social media opportunities to support organisational operations and goals, while
- *Responding* as the organisation’s ability to reconfigure its available resources and quickly respond to emerging social media opportunities and adapt its existing operations.

The implication is that organisations would need the ability to mobilise, transform and deploy resources as well as rapidly embed them in their operations to respond to changes in their target social media communities (Trinh-Phuong et al., 2012).

3.4.2.4. Learning Capability

The ability to understand dynamic environments, act and adjust to unveiling opportunities and changes rests on the organisation learning capability (Garvin et al., 2008; Rowley & Gibbs, 2008). The learning capability fits within our categorisation of generative capabilities for leveraging social media for SCC because of several reasons. First, “learning is a dynamic concept, and its use, in theory, emphasises the continually changing nature of organisations” (Dodgson, 1993, p. 376). Second, this capability enables the organisation to transform itself, be responsive and adapt to change, thrive and progress systematically to meet its strategic goals (Dodgson, 1993). Third, it supports the processes of transforming, refreshing, and modifying shared vision, resources, routines and behaviour necessary to understand dynamics and take advantage of new opportunities in a practically wise sense (Rowley & Gibbs, 2008; Senge, 2004). Fourth, it is a continuously evolving capability that allows the organisation to gain and integrate new knowledge, try new approaches, utilise feedback, learn new behaviours, and experiment (Goh, 2003; Jerez-Gómez et al., 2005). It allows the people operating in a given organisation to expand their capacities, adopt new patterns of thinking, engage in open and continuous collective learning to generate the desired outcome (Peters, 1996). Nonetheless, the higher the uncertainty of the environment, such as the social media environment, the higher the need for learning (Dodgson, 1993).

Organisations that purposely build adequate capabilities, structures and strategies to enhance learning are referred to as “learning organisations” (Senge, 2004) or “knowing organisations” (Choo, 2006). Organisational learning in itself is “a system of actions, actors, symbols and processes that enables an organisation to transform information into valued knowledge which in turn increases its long-run adaptive capacity” (Schwandt 1993) cited in (Gorelick, 2005). In other words, it “can be described as the ways firms build, supplement and organise knowledge and routines around their activities and within their cultures, and adapt and develop organisational efficiency by improving the use of the broad skills of their workforces” (Dodgson, 1993, p. 377). It “is related to the experiences and actions of its members” (Goh, 2003, pp. 216-217). It is “the product of individual and group learning applied to achieve the organisation’s vision and performance goals” (Goh, 2003, p. 217). A learning organisation is thus an organisation in which “employees continually create, acquire, and transfer knowledge helping their company to adapt to the unpredictable faster than rivals can” (Garvin et al., 2008, p. 1). A learning organisation will usually provide a supportive learning environment for its employees, create concrete learning processes, and provide leadership that reinforces learning (Garvin et al., 2008).

Rowley and Gibbs (2008, pp. 359-360) organised the thoughts of various scholars in organisational behaviour highlights that a learning organisation is one that “facilitates the learning of its members, and continuously transforms itself”. One that “facilitates participative and innovative development with and between people and institutions commercially, technologically and socially ... Forms the strategy, structure and culture of the enterprise into a learning system. [It] encourages double-loop learning, in which learning informs and changes organisation objectives and impacts on strategic direction”. Rowley and Gibbs (2008) then conclude that a practically wise organisation will learn in a reflective and propositional way, such that it can “act appropriately, often in ways that help define the future which may be incomprehensible, incommensurate or just dogmatically blocked by others’ ways of being” (p. 363).

The organisation learning draws heavily on the perspectives of absorptive capacity (ACAP) (Sun & Anderson, 2010), such that some scholars such as (Sun & Anderson, 2010) have proposed for an integration of the two notions articulating, precisely, the nature of their relationship. By analysing prominent models on organisation learning and ACAP, Sun and Anderson (2010) argue that “ACAP (a dynamic capability) is a concrete example of organisational learning that concerns an organisation’s relationship with new external knowledge” (p.143).

Absorptive capacity “refers not only to the acquisition or assimilation of information by an organisation but also to the organisation’s ability to exploit it” (Cohen & Levinthal, 1990, p. 131).

“Prior knowledge permits the assimilation and exploitation of new knowledge, and the possession of related expertise will permit the firm to understand better and therefore evaluate the import of intermediate technological advances” (Cohen & Levinthal, 1990, pp. 135-136). ACAP particularly emphasises the organisation’s “dynamic capabilities geared towards strategic change flexibility wherein firms create and exploit new knowledge by transforming acquired knowledge” (Zahra & George, 2002, p. 198).

The ACAP of an organisation involves potential and realised absorptive capacities; where, “potential capacity comprises knowledge acquisition and assimilation capabilities, and realised capacity centres on knowledge transformation and exploitation” (Zahra & George, 2002) (p. 185). The organisation will first *recognise and understand* new external knowledge, then *assimilate* valuable external knowledge and *apply* assimilated external knowledge. Assimilation is the organisation’s ability to interpret, comprehend and learn from the knowledge acquired while applying assimilated knowledge (exploitation) involves the organisation’s ability to use the knowledge to manage improvements in its operations (Zahra & George, 2002).

ACAP should not be seen as another “thing” in the organisation but as another dynamic capability that enables an organisation to reconfigure its resources to suit its evolving operations (Lane et al., 2006). The most crucial link between ACAP and organisation learning is that ACAP is embedded in the organisational learning process (Lane et al., 2006; Lichtenthaler, 2009). This is the same idea fronted by Cohen and Levinthal (1990) who also presented ACAP as a new perspective to learning and innovation for both the individual and the organisation. Similarly, (Jerez-Gómez et al., 2005) indicate that the organisational learning process will involve the individual acquisition of knowledge, transfer of knowledge, and collective integration of knowledge. From the ACAP perspective, Lane et al. (2006) indicate that an organisation learning capabilities will relate to “(1) recognising and understanding potentially valuable new knowledge outside the firm through *exploratory learning*, (2) assimilating valuable new knowledge through *transformative learning*, and (3) using the assimilated knowledge to create new knowledge and commercial outputs through *exploitative learning*” (p. 856).

By continuously scanning, identifying and collecting information from an organisation’s environment as well as monitoring trends and the emergence of new knowledge constitutes an exploratory learning process of the organisation (Tzokas et al., 2015). The exploratory learning process, from the ACAP lens, relates to knowledge acquisition in the organisation (Lichtenthaler, 2009). The organisation must retain the acquired knowledge over time to achieve transformative learning, which will require the organisation to analyse and understand the acquired knowledge

(Lichtenthaler, 2009). To reach the exploitative learning stage, the organisation must not only assimilate knowledge but should be able to match the knowledge it has to its products of services – i.e. knowledge in context (Lichtenthaler, 2009). Exploitative learning, therefore, involves converting knowledge and applying knowledge to relevant context (Lane et al., 2006; Lichtenthaler, 2009). Scholars conclude that the link between ACAP and organisation learning is that the former complements the latter (Lichtenthaler, 2009).

From the organisational learning perspective, the organisational learning capability can be assessed by observing its internal management practices related to the clarity of mission and vision, leadership commitment and empowerment, experimentation, effective transfer of knowledge, and teamwork and group problem solving (Goh, 2003). Alternatively, this capability will entail the organisation's ability to learn about the current operating environment and future possibilities, to learn how to challenge existing practices, to learn how to capture, store and retrieve knowledge (Peters, 1996). Learning capabilities in, and through networked environments relate to aspects such as gaining faster ways of learning, gaining quality experiences, sharing experiences, open and collaborative learning, and learning from others (Hughes et al., 2014). From the ACAP perspective, in which ACAP is a type of organisational learning, learning capability could relate to the ability explore (acquire and assimilate), transform (maintain and reactivate) and exploit (transmute and apply) new knowledge to achieve the organisation's intended objective (Lane et al., 2006; Lichtenthaler, 2009; Tzokas et al., 2015).

3.5. Service Co-creation

Offering a service involves “the application of specialised competences (knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself” (Lusch & Vargo, 2006, p. 283). The offer of benefit between entities occurs in a mutually agreed or beneficial manner (Schmidt et al., 2009). The service, rather than good, is recognised as the central aspect in the exchange process, and that the firm and service consumers are resource integrators in this process. Because of their resource integration roles, the firm and the customer exist as co-creators of value; and there are two components of value co-creation, i.e., co-creation of value and co-production (Lusch & Vargo, 2006). Lusch and Vargo (2006) differentiate co-production and co-creation of values as follows. Co-production relates to participation in the creation of the core offering itself between any partners in the value network, i.e., “making something, a unit of output”, while co-creation of value is the creation of value with and determined by the user in the consumption process.

Basing on the above considerations, we examined SCC not as co-creation of value, but as co-production of services, which implies, according to Lusch and Vargo (2006), public participation in the creation of core nonprofit offerings. Moreover, SCC or co-production of services is a component in the process of value co-creation (Lusch & Vargo, 2006). The firm and service consumers create value through the co-produced offering, which makes co-creation of value the ultimate goal; but only subjectively realised through service consumption (Lusch & Vargo, 2006).

Recognising that the organisation, its supporters, stakeholders and the public at large are all economic resource-integrating actors in a service ecosystem, we explicate SCC as an outcome of nonprofits interactions on social media. SCC is more of collaborative activity (Lusch & Vargo, 2006; Vargo & Lusch, 2016), which makes it a potential outcome arising from a series of possible actions (Evans et al., 2016). In this section, we will discuss the concept of SCC, first by referring back to co-creation in general. We discuss the essential considerations in co-creation, the theoretical foundations on SCC and the potential forms of SCC from different nonprofit related contexts.

3.5.1 The Practice of Co-creation

As a practice or strategy, co-creation emerged from creative problem-solving contexts way back in the 1920s and later adopted in the field of service and participatory design, open innovation and product development (VanPatter & Pastor, 2016). Co-creation practices may shift in-depth and breadth depending on the field in which it is applied; therefore, scholars tend to provide context-aware definitions, which may create perplexity around co-creation practices (Dong & Sivakumar, 2017; Oertzen et al., 2018). Table 3-20 provides some useful definitions from different fields.

Table 3-20: Definitions of Co-creation

Authors	Definition of co-creation	Context
De Koning et al. (2016, p. 267)	“Together (co-) make or produce something (new) to exist (creation)”	Not specified
Frow et al. (2011, p. 1)	“An interactive process, involving at least two willing resource-integrating actors, which are engaged in a specific form(s) of mutually beneficial collaboration, resulting in value creation for those actors”	Product design
Hughes (2014, p. 338)	“The processes by which two or more parties collaborate, or participate, in creating value for themselves or others”	Innovation
Ramaswamy and Ozcan (2014, p. 14)	“Joint creation and evolution of value with stakeholding individuals, intensified and enacted through platforms of engagement, virtualised and emergent from ecosystems of capabilities, and actualised and embodied in domains of experiences, expanding wealth-welfare-wellbeing”	Product design

Roser et al. (2013, p. 22)	"A dynamic and interactive social process between co-creators across and embedded within co-creation environments"	B2B and B2C
Wimmer and Scherer (2018, p. 21)	"Collaborative planning and design of public services in e-government and e-participation contexts, where citizens and businesses act as service producers"	Service design

According to Table 3-20, familiar to many contexts, co-creation involves: "(1) active involvement between at least two actors; (2) integration of resources that create mutually beneficial value; (3) willingness to interact and (4) a spectrum of potential forms of collaboration" (Frow et al., 2011, p. 1). Different actors – the organisation and its stakeholders, such as consumers, volunteers, donors, and the public at large, work together in a defined space often a joint sphere of interaction (i.e., social media as a platform of engagement), to present and merge ideas, opinions and experiences to generate service outcomes that deliver benefits or value for that matter, to all engaging actors. The value realised from co-created outcomes emerges through evaluative judgement, and therefore can only be defined subjectively by the actors (Hilton et al., 2012; Ramaswamy & Ozcan, 2014).

The subjective nature of the value associated with the novel outcomes, (such as new services, knowledge, social support, and others) is broad and extends far beyond monetary terms (Allee, 2000). This value emerges as "a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange" (Allee, 2000, p. 28). It is important to note that, "value is a function of the co-creation experiences of individuals, both their experiences in interacting through the platforms of engagement and the experiences of outcomes that result" (Ramaswamy & Ozcan, 2014, p. 32).

3.5.2. Service Co-creation: Definition and Theoretical Perspectives

Service co-creation is increasingly becoming a common practice in service management, whereby, customers and other stakeholders emerge as active participants in the creation of services. There is growing recognition of the concept of *service co-creation*, also known as, *co-creation of services* among service management researchers, as there is also growing adoption of strategies to co-create services with customers or consumers among service organisations. Like other co-creation engagements, SCC can be recognised from the view of the joint creation of offering (Hilton et al., 2012) or joint creation of value (Vargo & Lusch, 2008). SCC, i.e., co-creation in a service context, is generally regarded as "the activity, practice or process of jointly creating services in specific business context" (Oertzen et al., 2018, p. 642). More comprehensively,

The co-creation of services denotes collaborative activities in the customer-provider interface associated with the service; it necessitates the involvement, engagement and participation of at least one customer and one service provider and may lead to beneficial and counterproductive outcomes through resource integration. In services, co-creation manifests itself in different forms depending on the phases of the service process (co-ideation, co-valuation, co-design, co-test, co-launch, co-production and co-consumption) and is influenced by a contextual, multi-actor network (Oertzen et al., 2018, p. 642)

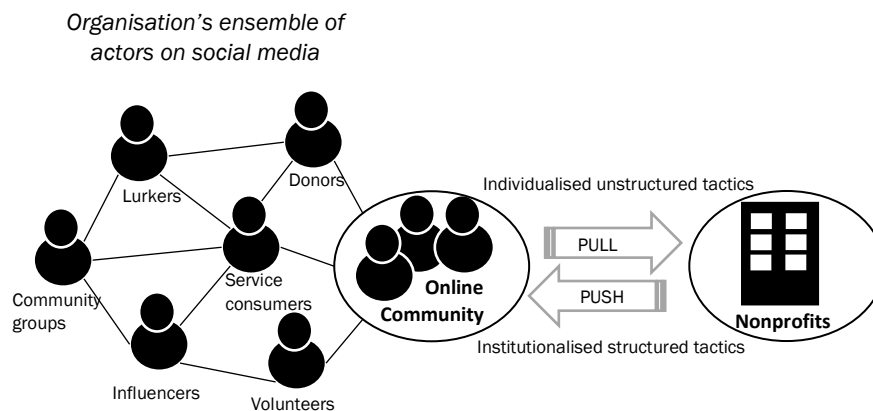
Service co-creation is recognised by “the extent to which customers are involved in service production and delivery by contributing effort, knowledge, information, and other resources” (Dabholkar 1990) cited in (Dong & Sivakumar, 2017, p. 944). It encompasses “activities in which customers actively participate in the early phases of the development process by contributing information about their own needs and suggesting ideas for future services that they would value being able to use” (Witell et al., 2011, pp. 143-144). In the context used in this study, we observe that SCC involves exchange and integration of resources for service delivery between nonprofits and their ensemble of actors including, but not limited to, service consumers, donors, volunteers, supporters, and influencers.

Considering the pros and cons in prior research, Oertzen et al. (2018, p. 657) suggest that “co-creation of services denotes collaborative activities in the customer-provider interface associated with the service; it necessitates the involvement, engagement and participation of at least one customer and one service provider and may lead to beneficial and counterproductive outcomes through resource integration”. Similar to Oertzen et al. (2018), we here consider nonprofit SCC as:

An outcome of the collaborative activities between a nonprofit and the public or target stakeholders that involves the community’s input in the development, production, and provision of a new or existing nonprofit service.

Service co-creation, from a nonprofit and social perspective, is about using social media platforms to engaging nonprofit stakeholders in resource integration to offer relevant services and enhance service delivery. The process is about the organisation tapping into potential resources offered by the public through social media, and developing strategies and capabilities to access, exchange, utilise, and integrate these resources for improved service delivery. Figure 3-4 below represents our view on the nature of social media interaction for SCC for nonprofits, where service co-creators are not only their service consumers but the public at large, including volunteers, donors, influencers, partnering organisations, and others.

Figure 3-4. Framing the Nature of OPI on Social Media. Adapted from (Jarvenpaa & Tuunainen, 2013)



To understand service innovation and consumer experiences, one needs to reflect on the concept of value co-creation (Edvardsson & Tronvoll, 2013), which is theoretically grounded in the Service-Dominant Logic (SD-Logic) (Vargo & Lusch, 2004, 2008, 2016). The SD-Logic emphasises that the model of exchange that focuses on the “intangible resources, the co-creation of value and relationships’ is more meaningful and rewarding than one focusing ‘tangible resources, embedded value, and transactions” (Vargo & Lusch, 2004, p. 1). Operant resources are critical in service exchange because they produce effects (Vargo & Lusch, 2004). Operant resources include information, skills and knowledge, relationships, and organisational capabilities, controls, culture, while operand resources are physical resources such as raw materials (Madhavaram & Hunt, 2008). The firm will have to – “identify and develop core competencies ... identify other entities (potential customers [or stakeholders]) ..., cultivate relationships that involve customers [or stakeholders], and gauge marketplace feedback ... to learn how to improve firm performance” (Vargo & Lusch, 2004, p. 5).

Since it was introduced, the SD-Logic has had a tremendous impact on service and marketing science. However, some studies (Hilton et al., 2012; Ind & Coates, 2013) are unsatisfied with the confined focus on value co-creation as well as questioning whether value is really co-created. To redirect the discourse on co-creation, Ind and Coates (2013, p. 91) assert that “rather than adopting the narrow view of the concept of co-creation [- i.e. value co-creation], the diversity of co-creation’s heritage should be recognised by bringing together psychotherapy, management science, innovation, open innovation, design, literary theory and creativity practice. From various strands, we can pinpoint ideas that suggest new opportunities for co-creation”. Hilton et al. (2012) add that to some degree, customers get involved in the provision and experience of services, but do not co-create value as an outcome. According to Hilton et al. (2012, p. 1506), SCC “is not about

value [per se], ... it must be about the way in which actors behave in the provision of services or delivery of products". Recognising the roles of actors (the organisation and customers or community or partners) in the provision and experience of services is useful (Hilton et al., 2012).

Oertzen et al. (2018) note seven terms used in relation to SCC – i.e., co-creation, involvement, engagement, participation, co-design, co-production and co-consumption. However, we can only consider that these terms are related but distinct concepts (Dong & Sivakumar, 2017). None of these terms is a synonym for SCC, but rather involvement, engagement, participation are pre-requisites for SCC while co-design, co-production are forms of SCC (Oertzen et al., 2018). In this study, we prefer to stick to the term SCC, because it offers an overarching meaning for all terms provided above, and it portrays a specific form and context of co-creation. The "SCC view does not specify whether the provider joins the consumer's sphere or vice versa; instead, it concentrates on the mutual creation of services during service processes and service innovation activities" (Oertzen et al., 2018, p. 642).

3.5.3. Service Co-creation in the Nonprofit and Public Sector

Some studies have explored SCC in nonprofit contexts, both through online, social media, and offline platforms of engagement. We provide some examples below.

Example 1: "Supporting Communities through Social Government in Co-Creation and Co-Production of Public Services: The SocialGov Concept and Platform Architecture" – (Wimmer & Scherer, 2018). Context of Wimmer & Scherer's study – public sector and social government (SocialGov). The study focused on creating communities through SocialGov to support co-creation and co-production of public services. The study contends that integrating internet and social media for open government and community governance offers the opportunity to engage citizens and businesses in co-creation and co-production of public services to meet their expectations. Co-creation and co-production provide the means to citizens' changing demands for connectivity, collaboration and transparency – identified forms of co-production of public services – co-governance, co-management and co-production. Public SCC and co-production involve – identification of agendas and demands, development of ideas, conceptualisation and implementation of solutions, execution of public services and evaluation of public services. The study concludes by eliciting core modules of a SocialGov platform for enabling co-creation and co-production of public services. The modules include – community, collaboration, decision support, open data, open service, and personalisation and user management.

Example 2: “Using social media posts as resources for engaging in value co-creation The case for social media-based cause brand communities” – (Sorensen et al., 2017). Sorensen, Andrews & Drennan’s study context was cause-based organisations and social media. The study focused on how organisations engage with a community on social media to co-create value. They found that community responses during engagement result in “co-developing, acknowledging, rewarding, sharing, advocating, adding momentum and learning” (p. 898). They note post themes representing engagement for co-creation of value – i.e. events, donations and fundraising, and social justice.

Example 3: “Co-creation of Knowledge in Healthcare: A Study of Social Media Usage” – (Bagayogo et al., 2014). Bagayogo et al.’s study context was healthcare and social media. The study focused on how patients, friends, families, caregivers and organisations use social media to collaborate and produce new knowledge. They found three phases that underlie the process of knowledge co-creation – initiation, transition and normalisation. They found that social media activities such as sharing stories, requesting information and conversation support initiation towards knowledge co-creation. Responding, supplementing and debating support transition towards knowledge co-creation. When members agree on certain aspects, such activity supports normalisation.

Others “Beyond participation to co-creation of meaning: mobile social media in generative learning communities” – (Lewis et al., 2010). Lewis, Pea & Rosen propose design heuristics of social media that support interaction for co-creation of meaning. Another example is provided by (Bovaird & Loeffler, 2012) from a study is titled “From Engagement to Co-production: The Contribution of Users and Communities to Outcomes and Public Value”. Although their observations were not specific to the social media environment, Bovaird and Loeffler (2012) argue that co-production occurs through public engagement enabled by the website-based environment and occurs in various forms. The variations in forms of co-production yield several value dimensions such as user value, value for a wider group, social value, environmental value and political value.

3.5.4. Observed Forms of Service Co-creation in Different Contexts

Organisations’ social media practices include actions and routines that provide prospects for SCC (Russo-Spena & Mele, 2012). These routines and actions allow co-creation to manifest in many forms and at different layers of community engagement depending on context (Frow et al., 2011; Hughes, 2014; Roser et al., 2013). SCC can but does not have to, manifest in different forms and phases, shaped by the multi-actor network and context (Oertzen et al., 2018). According to Edvardsson and Olsson (1996, p. 142), “services are produced by means of a process, which may

be described in various ways ... in a series of steps”. Learning from (Frow et al., 2015; Oertzen et al., 2018; Russo-Spena & Mele, 2012), this study considers that SCC in social media will take different forms; similar to or different from offline SCC processes. Deconstructing SCC into more discrete forms allows one to focus more on the range of co-creation opportunities that may occur through social media interaction (Frow et al., 2011).

Table 3-21. Potential Forms of SCC on Social Media and the Nonprofits Sector

Forms of service co-creation	Related Forms	Context(s)	Author(s)
Co-ideation	Co-exploration Co-diagnosing Co-conception of ideas Co-meaning creation	Service innovation; Public service provision; Health care services; Product design; Business and Value co-creation	(Agrawal & Rahman, 2015; Elg et al., 2012; Frow et al., 2015; Nambisan & Baron, 2010; Nambisan & Nambisan, 2013; Russo-Spena & Mele, 2012)
Co-evaluation	Co-valuation Co-assessment Co-test Co-monitoring	Service innovation; Business and Value co-creation	(Bovaird & Loeffler, 2012; Loeffler & Bovaird, 2016; Marcos-Cuevas et al., 2016; Russo-Spena & Mele, 2012)
Co-development	Co-design	Service innovation; Public service provision; Education and technology projects; Knowledge-intensive business services; Social innovation; Health care services; Business and Value co-creation	(Aarikka-Stenroos & Jaakkola, 2012; Agrawal & Rahman, 2015; Nambisan & Baron, 2010; Nambisan & Nambisan, 2013; Pirinen, 2016; Russo-Spena & Mele, 2012; Voorberg et al., 2014)
Co-promotion	Co-launch Co-market Co-diffuse	Service innovation; Business and Value co-creation; Knowledge-intensive business services	(Aarikka-Stenroos & Jaakkola, 2012; Agrawal & Rahman, 2015; Russo-Spena & Mele, 2012)
Co-initiation	Co-implementing Co-sensing	Social innovation; Collaborative innovation; Public service provision;	(Aarikka-Stenroos & Jaakkola, 2012; Agrawal & Rahman, 2015; Sørensen & Torfing, 2018; Voorberg et al., 2014)
Co-experiencing	Co-consumption	Business and Value co-creation; Health care services; Aged care services; Financial services	(Agrawal & Rahman, 2015; Elg et al., 2012; McColl-Kennedy et al., 2015; Ponsignon et al., 2015; Verleye, 2015)
Co-delivery	Co-providing Co-producing	Public service provision; Knowledge-intensive business services; Business and Value co-creation	(Aarikka-Stenroos & Jaakkola, 2012; Agrawal & Rahman, 2015; Bovaird & Loeffler, 2012)
Co-managing	Co-prioritise Co-planning Co-commissioning	Public service provision;	(Bovaird & Loeffler, 2012; Loeffler & Bovaird, 2016)

From existing literature presented in Table 3-21, we could identify the following forms of SCC as achievable given the characteristics of social media.

Co-ideation is the collaborative engagement between two or more actors or entities that allows them to contribute, gather, select or formulate ideas on matters of concern. Co-ideators are involved in expressing the problem context, conceptualising solutions to problems and contributing ideas for improving or modifying a solution, product or service (Nambisan & Nambisan, 2013). An “ideator addresses the *what* (innovative solution) question rather than the *how* question (the implementation of that idea or the design of the solution)” (Nambisan & Nambisan, 2013, p. 25). During co-ideation, participating actors may engage in processes such as, *co-conception of ideas*, which occurs when “actors collaborate on product concept innovation”, and *co-meaning creation*, which is the “interaction between actors that produces meaning and knowledge through multiple encounters over time” (Frow et al., 2015; Frow et al., 2011, p. 3).

With the availability of social technology, the organisation initiate the co-ideation process by building innovation platforms that allow customers to contribute ideas, view ideas and keep track of ideas implemented (Russo-Spena & Mele, 2012). Social technologies create diverse and interactively vibrant communities with a pool of knowledge, ideas and experiences – i.e., “wisdom of the crowds” – sufficient to support co-ideation and could ultimately enhance the organisation’s service propositions. Social media, in particular, creates an online community, which allows the organisation to identify and access lead users to support idea generation and screening, service testing and piloting, service design and delivery preferences (Pitta & Fowler, 2005). Social media communities, based on social networking and social intelligence, offer user-generated content that supports the identification of customer needs and suggestions for service improvement and risk reduction (Sigala, 2011).

Recognising co-ideation, from a social media perspective, indicates three potential outcomes, i.e. *identifying new ideas*, *selecting potential or winning ideas* and *put the winning ideas into action*. These outcomes are plausible due to several reasons. First, social media collects feedback, experiences and ideas from a community of users, consumers, followers and supporters of organisations. Such feedback provides a collection of fluid ideas that the organisation can gather, synthesise, and re-shaping to suit its goals. Second, social media offers a platform for evaluation of ideas through votes, likes, views, shares, and other features. These functionalities allow the organisation to identify and select the best possible or recommendable ideas that are best relevant to the target community. Lastly, organisations can leverage the images, videos, and live streaming features to demonstrate ideas in action, which could as well attract future engagement with the organisation.

Selecting ideas implies that the organisation carefully listens to its social media community to recognise constructive ideas, build on such ideas, and promote the best ideas that enhance their activities and services. Selecting ideas would involve scoring ideas, e.g. basing on likes and comments on a particular idea, and categorising ideas. The organisation could select and categorise ideas into – problem defining, solution defining, and experience defining. Idea scoring and categorising would enable the organisation to learn from its social media interactions and content. Nonetheless, the organisation may have to keep its social media community posted about ideas transformed into action, which could build longer-lasting interaction. Keeping the community involved and aware of ideas adapted, refined and executed, and the impact that such ideas have made on communities could provide a basis for future engagement in co-ideation and SCC.

Co-initiation of Services. Co-initiation is an essential activity that supports the entire process of co-creation (Dager, 2013). Dager (2013) argues that ‘if you are not co-initiating, how are you going to co-create?’ Co-initiation is associated with customer involvement and contribution towards discovering service offering and solutions that create value for both the organisation and the customer. Co-initiation is popular in collaborative innovation and co-production of enhanced public service (Maarja Toots, 2017; Sørensen & Torfing, 2018). Heikka and Carayannis (2017) concur that co-initiating services are the first step towards innovation in participatory journalism. Co-initiation of services could occur at an individual-individual level or organisation-individual level as individuals and organisations engage with one another to find resources that inspire them to explore and discover plausible options, solutions and possibilities of initiating enhanced services. Co-initiation allows the organisation to find a common ground and common goal among stakeholders (Heikka & Carayannis, 2017). “The objective of co-initiation is to search for a common calling of a core group of people, and for this group to be able to work, the boundaries of institutions and organizations taking part in innovation may need to be redrawn” (Heikka & Carayannis, 2017, p. 5).

During SCC practices, co-initiation will usually precede co-design and co-implementation of services (Maarja Toots, 2017), where, the community or service consumers not only play the role of co-designers and co-implementers but they are co-initiators of services (Agger & Lund, 2017). Co-initiation occurs together with other processes like co-sensing, which usually facilitates co-creation in innovation systems (Heikka & Carayannis, 2017). Co-sensing involves learning the needs and capabilities of a target community (Heikka & Carayannis, 2017). Co-initiation occurs when the community offers various resources such as ideas, initiatives, creativity, time,

entrepreneurship, collaborative capability, links to communities of practice, contextual knowledge, and experience (Agger & Lund, 2017).

According to Sørensen and Torfing (2018), co-initiation could offer about three benefits to the organisation. It spurs processes of resource mobilisation and idea generation and enhances community ownership of outcomes. Secondly, it fosters novel solutions to emerging community problems not yet unrecognised by the organisation. Thirdly, it enhances the collaborative capacities between the organisation and the community. With social media, the community contributes towards tailoring services incrementally to suit emerging their needs and challenges not yet recognised by the organisation. Social media enabled co-initiation of services may occur through activities such as starting a social media campaign, posting content that attracts the community towards a common goal, and sensing community capabilities and harnessing such capabilities towards SCC.

Co-development (co-progression) of services. Co-development relates to the progress of services or products through the processes of service design, service transformation, and service development undertaken in the overall process of service innovation. In a service development, for example, the organisation seeks “to create the right generic prerequisites for the service” (Edvardsson & Olsson, 1996, p. 140). Unlike manufacturing processes, service development processes are customer-oriented where the customer acts as a co-producer of services who not only receives and assesses the service but creates and produces it (Edvardsson & Olsson, 1996). Service development is commonly associated with quality, which we here also relate to “service relevance to the community”. It has become increasingly important for nonprofits to stay relevant to the communities they serve by ensuring that they provide services that are acceptable, relevant and suited to the needs of a focal community or group (Preston et al., 2009; Strasser et al., 2016).

Because service design generally addresses services from the users’ perspective, nonprofits would primarily design their services, by diving into their target communities and seeking their involvement. Like other service design processes, such processes may involve three to five stages depending on the nature of service or the context of service development (Oosterom, 2009). Usually, nonprofits will discover and concept, create, and provide and refine a community service. Discovering the desired community service will involve identifying and defining gaps and community needs as well as expected outcomes, impact or experiences. Creating services will involve building a service, initiating that service, and continuous learning through service provision. Refining a service will involve upscaling and increasing service outreach while continuously improving the organisation’s services to the community. Organisations proactively (e.g. by enrolling

volunteers or calling for donations) or passively (e.g. harvesting and interpreting social media content) involve their followers in the development of services to ensure that services are feasible and meet community needs.

Usually, nonprofits start with a small service idea often backed by a broader vision of societal value. Nonprofit services then slowly progress as they gather support from donors, supporters, followers, volunteers and influencers. In the end, organisations with their ensemble of stakeholders achieve some *co-progression of services* towards improved relevance, a long term goal or the ultimate vision. Co-progression could represent an ongoing process of, or set of activities for developing, reshaping and gradually advancing an organisation's services or community development programs towards becoming more valuable and relevant to the organisation's target community. Recognising the possibility of co-progression, through social media interaction, could allow the organisation to work together with the communities to express service propositions, modify and generate new service propositions, and engage in service realisation activities as a means to providing services that meet community needs. The organisation initially defines services, value and goals, guides and directs service implementation, shapes service offerings, in terms of when, where, to whom, and by who; but this could ultimately change.

Through social media, nonprofit stakeholders play a proactive participation role of contributing perspectives and opinions on community challenges and needs, service programs and interventions, and possible solutions to community challenges. Sigala (2012) argues that the organisation's online community has the potential to support the conceptualisation of the service elements. On the other hand, the same stakeholders may play an inactive participation role through which the organisations has to gather and interpret social media content provided in comments, likes, shares, views, and other revealing features without actively their followers. In this role, the organisation's social media community could offer a combination of weak signals on service propositions or offerings through likes, shares, or views. They may as well explicitly voice emerging challenges, potential solutions and their experiences with the organisation's service through comments or chats. Before attracting co-progression practices through social media interaction, a nonprofit organisation would play an active role in discovering, creating and delivering relevant services right from the start.

Overall, co-development involves the organisation interacting with service users or consumers to develop a service concept, resource structure and service process (Edvardsson & Olsson, 1996). Service conceptualisation involves developing a service prototype intended to offer utility and benefits to the customer (Edvardsson & Olsson, 1996). Service conceptualisation allows the

organisation to gather community needs and derive service offers that are suitable and relevant to the target community. Using social media, the organisation can engage the community in developing service characteristics and co-production, for example, engaging in crowdfunding initiatives in which customers contribute financial resources to support new services (Sigala, 2012).

Co-promotion of services (co-advocacy). Co-promotion, from a business perspective, involves strategies that attract two or more entities to launch a product or service under the same brand name with the same price and marketing strategy. Similar to, but not the same, as co-promotion is co-launching and co-marketing; where co-promotion and co-launching could be underlying aspects of co-marketing (Grieco & Iasevoli, 2017). Co-launching “activities lie in managing content information and mass appeal to overcome the initial diffidence toward unknown and provisory products/services and push the users to try them” (Russo-Spena & Mele, 2012, p. 542). Co-marketing is a form of working partnership between heterogeneous or homogenous entities (‘at the same level in the value chain’) that involves working together to create a synergistic effect in amplifying the benefits of a product, service or complementaries (Grieco & Iasevoli, 2017). “Customers as co-promoters can greatly increase the effectiveness and efficiency of marketing programmes, thus enabling the creation of long term relationship values” (Agrawal & Rahman, 2015, p. 149).

Co-promotion from a nonprofits’ perspective could be oriented towards *co-advocacy* and occurs when the organisation combines resources with partners, donors, government agencies, or service consumers, to promote, advocate, and increase awareness, on a common concern, solution, service, idea, policy, or practice. Co-promotion for nonprofits particularly resonates with increasing community outreach. Community outreach refers to the ‘efforts that connect an organisation’s ideas or practices to the public’ through an educational approach (Exploring Community Outreach: programs and strategies 2018). “Community outreach programs link and coordinate an organisation with key constituents ... in its external environment and thus meet boundary-spanning objectives” (Bartel, 2001, p. 381). Community outreach strategies, or nonprofit service promotions, are most effective when people engage with friends, relatives and other people they know or connected to (O'Donnell et al., 2008), which makes social media a suitable platform to enable such strategies. Social media has drastically changed organisational approaches to community outreach (Kane et al., 2009); for example, through eWOM, virality, propagation of ideas and opinions, social applaud through likes, shares and view.

Co-delivery of services (co-resourcing). Service consumers are an integral part of a service in that they have to participate in creating a service and ensuring their satisfaction with service experiences (Jo Bitner et al., 1997). Co-delivery of services involves harnessing community resources to support the supply and consumption of services. Co-delivery is even more prominent with education and health services because such services require a high level of community participation for effective delivery (Jo Bitner et al., 1997). Unless the community or service consumers accept and utilise the education support or health programs initiated by the organisation, achieving intended service outcomes could remain a challenge. Service co-delivery encompasses aggregative co-creation activities such as service co-financing, co-managing, and co-implementation of services. Achieving service co-delivery and associated co-creation activities, from a nonprofit's perspective, service consumers may play two notable roles (Jo Bitner et al., 1997, p. 195) – i.e., a productive resource, and a contributor to quality (relevance), satisfaction and value.

A Productive Resource in Service Delivery. The public and nonprofit community provide productive resource by contributing information, ideas and creativity, knowledge and skills, time and energy, reviews and support towards diagnosing needs and generating relevant service (Loeffler & Bovaird, 2016). With community effort, support, information and knowledge, the organisation could become more efficient and accurate in diagnosing and conceptualising community services. The community's operant resources will facilitate SCC activities, but the organisation can boost such resources by educating its target communities (Alves et al., 2016). Organisations should also care to isolate community input from their service delivery system in order to reduce the uncertainty the community could bring to service design and delivery (Jo Bitner et al., 1997).

Social media platforms play a significant role in supporting resource integration in multi-stakeholder co-creation activities (Singaraju et al., 2016). “The role of social media platforms as systems resource integrators is to provide a technological platform that exposes its modular resources to facilitate higher-order resource formations through the active participation of non-intermediary actors (i.e. customers and firms)” (Singaraju et al., 2016, p. 44). Managers should understand the qualities of social media resources in order “to facilitate more efficient resource configurations in the creation, transformation and renewal of resources via resource integration in actor interactions” (Singaraju et al., 2016, p. 44). Social media offers modular technological functions, like identify, conversation, sharing, presence, relationships, reputation, and groups (Kietzmann et al., 2011), which allow the organisation and service consumers to seamlessly

integrate resources for the mutual benefit of all participants involved in service delivery and exchange (Singaraju et al., 2016).

Social media brings together service consumers as a productive resource to the organisation because of two reasons, i.e., information flow and interaction in networks. The ability of social media to synthesise information flow through active participation and interaction between the organisation and service consumers creates sufficient space for the recombination, integration and application of knowledge, ideas and skills of consumer and organisation as operant resources enabling co-delivery of services (Barrett et al., 2015; Singaraju et al., 2016). Secondly, the ability of social media to support actor-to-actor interaction in a network of parties creates a means for resource integration (Gummesson & Mele, 2010).

A Contributor to Satisfaction and Service Experiences. To foster co-delivery of services, the community can play the role of contributors to their satisfaction and relevancy of the services they receive (Jo Bitner et al., 1997). Active community involvement and participation will increase the likelihood that community needs and benefits sought are met especially in health care and education services (Jo Bitner et al., 1997). As contributors to their satisfaction and service relevance, service consumers participate in co-creation of service experiences through interaction with other individuals in the community (Jaakkola et al., 2015; McColl-Kennedy et al., 2015; Verleye, 2015). This is also known as service co-experiencing (Elg et al., 2012).

Co-experiencing. Co-experiencing emerges as actors integrate their resources over time and across multiple encounters to create shared experiences. Service co-experience may occur as a process, an outcome, or a phenomenon (Helkkula, 2011). As a process, service experience evolves through multiple phases or stages, which start with service co-consumption. Co-consumption involves “collaboration during [service] usage as actors employ their resources (physical, social, and cultural), individually or collectively as co-consumers to determine and enhance their own consumption experiences” (Frow et al., 2015; Frow et al., 2011, p. 3). As an outcome, service experience emerges from other elements of the service ecosystem, such as the actors, the networks and the platform of engagement. As a phenomenon, service experience relates to individuals’ subjective interpretations of a service. Of the three, the phenomenological view is the predominant approach to conceptualising and operationalising service experiences, because it attempts to encompass the process and outcome by recognising actor’s interpretation of service elements such as provider, process, environment, (Jaakkola et al., 2015).

Following the phenomenological view, co-experiencing, also known as, service experience co-creation recognises the growing role of interaction between actors and service experience formation. Co-experiencing “occurs when interacting with other actors in or beyond the service setting influences an actor’s subjective response to or interpretation of the elements of the service” (Jaakkola et al., 2015, p. 193). Service consumers may experience services independently, but they will co-experience services through interaction in their social service experience networks (Ramaswamy, 2011). Co-created service experiences will emerge through representational practices reflected by how one perceives the service, normalising practices reflected in how one interacts with others or exchange practices reflected in one’s activities during service delivery and exchanges (McColl-Kennedy et al., 2015). Co-created experiences can also occur in many forms such as hedonic, cognitive, social, personal, pragmatic and economic experiences, which ultimately influence one’s overall co-creation experience (Verleye, 2015).

Service co-experiencing requires a co-experiencing platform which supports ongoing interaction between the organisation and service consumers to facilitate the creation of valuable collective experiences (Ramaswamy, 2011). Social media creates a co-experiencing platform that allows nonprofits, nonprofit service consumers, and nonprofit supporters to interact, share and create valuable nonprofit service experiences. This is because social media offers a pervasive technology environment that brings previously separate user experiences together (Yoo et al., 2012). Social media affords a pervasive digital space for convergence and generativity which not only supports organisation operations but mainly enables organisations to share content, processes and reconfigure relationships with and among actors, and thus innovate or co-create by using such platforms (Yoo et al., 2012). Convergence postulates the extensive varying effects of social media on people’s lives, work and interactions (Tilson et al., 2010), while generativity is the “capacity to produce unprompted change driven by large, varied and uncoordinated audiences” (Zittrain, 2006, p. 1980).

Co-evaluation (co-assessment) of services. Co-evaluation of services relates to the appraisal of organisation services, in terms of quality, relevance, accessibility, experiences, usability, among others. A comprehensive model of service evaluation considers five primary service evaluation measures, i.e., sacrifice, service quality, service value, satisfaction and behavioural intentions that fit across service contexts (Brady et al., 2005). Because competition is not necessarily a force in the provision of nonprofit services, evaluation measures such as service quality may be enhanced by exploring service relevance. With nonprofits’ goals on the one hand and social media functions

on the other, we could anticipate that nonprofits co-assess their services through public interaction social media.

Social media fosters appraisal of organisation services (Russo-Spena & Mele, 2012). 'It is estimated that 90% of customers are influenced by online reviews'; therefore, organisations continuously monitor their social media platforms 'to understand more about likes, dislikes, and complaints concerning products, additional products or product modifications customers want, and how people are talking about the brand' (positive and negative sentiments)" (Kenneth & Laudon, 2018, p. 22). For example, when individuals comment on their satisfaction or dissatisfaction with the activities of the organisation when they comment in appreciation and acknowledgement of the excellent work done by the organisation. Additionally, social media applause particularly, likes, reviews, and shares express approval of ideas, organisational activities, and services and are increasingly becoming a vital reflection of the public vote or interest in the organisation's activities and services (Oh et al., 2017). These social media tools have become important for evaluating consumer responses to organisation activities. The advent of social media has enabled the customers to share their experiences and vent out their anger for poor service performance (Agrawal & Rahman, 2015).

While the potential forms of service co-creation are visible, a conceptualisation of social media activities driving these forms could be useful. Table 3-22 aligns social media activities to potential forms of service co-creation.

Table 3-22. Potential Social Media Activities for Service Co-creation

Service co-creation	Social Media Activities	Source	
Co-ideation	Analysing comments, using social media groups, recognising rating and voting, listening to social media voices, suggestions, inspirational ideas, reminders, open public consultation	(Kietzmann et al., 2011; Madden et al., 2016; Raja-Yusof et al., 2016; Xu & Saxton, 2019; Zhao et al., 2013; Zhou & Pan, 2016)	Reported in Multiple Social Media Platforms, mainly, Facebook, Twitter and Weibo
Co-advocacy or promotion	Connecting to a wide audience, attracting attention, triggering responses, tapping into key influencers, instigators and amplifiers, advertising, mission promotion, Hashtags and mentions, virality of campaigns		
Co-development, progression or transformation	Using social media monitoring tools, extracting aggregate metrics, gathering feedback to transform services, understanding post-comment reactions, running support groups, public education		
Co-delivery or resourcing	Calling for social support, co-financing, crowdfunding, cyber-volunteering, ePhilanthropy, co-resourcing, creating events, mission-based support		

Table 3-22 links social media activities identified in prior studies to potential forms of service co-creation in nonprofits. Most commonly, social media supports co-delivery and co-promotion of services. Co-delivery manifests, particularly, through co-financing activities such as online fundraising and donations, cyber-volunteering, calling for emotional support, and organising events. Co-promotion emerges as social media amplifies the organisation's message and services by attracting attention to an event, tapping into community influencers or advocates, using hashtags and mentions to emphasise specific themes, topics, and events. Nonetheless, the pool of ideas, reactions, and open debates on social media could drive co-ideating practices and eventually co-progression and transformation of nonprofit missions and services.

3.5.5. Gap(s) in existing empirical studies on service co-creation

Although the S-D logic places networks and interaction at the centre of SCC – i.e., both in the co-production of services and the co-creation of value (Lusch & Vargo, 2006), few studies have explored or explained how organisation-consumer interaction influences SCC. Studies that have attempted to explain this reality, for example, Kusumaningdyah and Tetsuo (2017) suggested that network factors such as number, centrality, diversity and density of actors could influence co-creation processes in general. Consequently, social interaction for SCC remains unexplained.

Additionally, many scholars recognise that co-creation, and SCC, in particular, occurs through a platform of engagement for co-creators. Such platforms of engagement can be physical or virtual such as social media or the organisation's social technology systems. Although social media is increasingly becoming a platform for SCC, as mentioned by many scholars, such as (Sorensen et al., 2017), they have not explained the role of such platform in shaping SCC outcomes.

3.6. Chapter Summary

This Chapter presented insights from existing literature on different facets of our research phenomenon and research model. First, we discussed existing observations on social media use in nonprofits. We then identified potential social media affordances for nonprofits. These affordances were compared to the multitude of affordances associated with Social media. Third, we discussed the nature of organisation-public relationships (OPR). We reviewed the literature on social networks to identify potential patterns of interaction embedded in OPR. Fourth, we discussed organisational generativity basing on the theoretical and empirical perspectives on dynamic capabilities. We identified four potential generative capabilities for enabling social media interaction for SCC. Lastly, we reviewed the literature on co-creation, and SCC in particular, while identifying potential forms of SCC realised in several contexts of service provision.

Chapter 4. Theoretical Perspective(s)

The previous Chapter, Chapter 3, provides an empirical account of social media use in nonprofits, the nature of organisation-public relationships, the properties or patterns of interaction in social relationships, service co-creation (SCC) and its forms from different contexts, and organisational, generative capabilities. This Chapter provides a theoretical account of information systems and social interactions and therefore provides the theoretical stance for our line of argument, the variables investigated, and the association between them. There are four overarching analytical priorities in our study – the structure of social media in nonprofits, OPI on social media, SCC, and organisational generativity. For each of these analytical priorities, there is an underlying theory of preference that guides us into an empirical investigation.

First, we characterise the structure of social media following the reconceptualised adaptive structuration theory (Poole & DeSanctis, 1990) provided by (Markus & Silver, 2008) which draws on the theory of affordances (Gibson, 1977). Second, we conceptualise OPI on social media drawing on the concept and theory of organisation–public relationships (OPR) (Broom et al., 2000) and the structural dimension of the social capital theory (Coleman, 1988, 1993; Lin, 2004). Lastly, we conceptualise organisational generativity by drawing on the theory of dynamic capabilities in organisation management and change (Ambrosini & Bowman, 2009; Eisenhardt & Martin, 2000; Teece & Pisano, 1994). From a brief review of the major tenets of these theories, we present our research model, theoretical propositions and hypothesis development in Chapter 5.

4.1. Understanding the Structure of Technology in Organisations

The structurational perspective offers enriching insights on social structures as antecedents as well as consequences of human actions (DeSanctis & Poole, 1994; Giddens, 1984; Jones & Karsten, 2008; Markus & Silver, 2008; Orlikowski, 1992). From an IS perspective, social structures are “the sets of rules and resources⁵ that are (re)constituted in people’s recurrent engagement with the technologies at hand” (Orlikowski, 2000, p. 407); otherwise, they are “rules and resources

⁵ ‘Rules are implicit formulas for action, recipes for how to “get on” in life. They are guides for participants on how to play the game. Resources refers to all the relevant personal traits, abilities, knowledge, and possessions people bring to an interaction’ Griffin, E. (2009). *A first look at communication theory* (7th ed.). McGraw-Hill Publishing Company. .

of a group's characteristics such as composition, norms, communication networks, status hierarchies, task requirements and peer pressure" (Griffin, 2009, p. 237). Structuration, according to Giddens, is "the production and reproduction of social systems through group members' use of rules and resources in interaction" (Griffin, 2009, p. 237). IS scholars (Jones & Karsten, 2008; Markus & Silver, 2008; Orlikowski, 1992; Walsham & Han, 1990) applaud and propose the structuration theory by (Giddens, 1984) as a rich theoretical basis for theorising and empirically investigating social structure. It is thus a commonly drawn on theory in social and organisational research.

Although it is not widely and directly applied to IS research, Jones and Karsten (2008) indicate that Giddens's theory offers some strong insights for IS researchers. First, it challenges a dualist account of structure and agency and therefore guides researchers to avoid "hard-line" determinism driven by the decision theorists, who see technology as a causal agent of change rather than an opportunity for change (DeSanctis & Poole, 1994). Decision theorists 'assume technology to be an objective, external force that would have deterministic impacts on organisations' (Orlikowski, 1992, p. 398). Second, it recognises the dynamic nature of structure as being produced and reproduced. Lastly, it accounts for the broad-range and varying nature of social processes. According to Jones and Karsten (2008), this theory has attracted less attention in IS research because it almost totally neglects technological roles in social structures.

Later researchers focused on an integrative perspective, the "soft-line" determinism, which focuses on technology and social structure (DeSanctis & Poole, 1994) and therefore examines the "human aspects of technology, seeing it as the outcome of strategic choice and social action" (Orlikowski, 1992, p. 398). The integrative perspective presents the view that technology has structures moderated by social practices (DeSanctis & Poole, 1994). Researchers in this school argue that human and technology are inseparable elements and that technology is constitutively entangled in everyday life (Orlikowski, 2007). The theoretical views such as sociotechnical systems theory, structurational model of technology and adaptive structural theory are founded on the integrative perspective (DeSanctis & Poole, 1994). This research stream generally argues that "a particular technology is physically constructed through the social interactions and political choices of human actors ... [and that] shared interpretations around a certain technology arise and affect the development of and interaction with that technology" (Orlikowski, 1992, pp. 400-401).

The structuration theory has had great implications towards understanding and characterising IS (Jones & Karsten, 2008); specifically through IS theories such as the structurational model of technology (Orlikowski, 1992), adaptive structuration theory (AST) (Poole & DeSanctis, 1990), and

sociomateriality theory (Orlikowski, 2007, 2009; Orlikowski & Scott, 2008). Such theories have become fundamental in examining the human↔technology relationship and the role and structure of IT in organisational change.

The structure of a given technology is not located in the technology nor the organisation but is enacted by the users, i.e., people or organisations as they use the technology (Orlikowski, 2000). Orlikowski (2000, p. 407) explicitly states

Technology structures are not external or independent of human agency; they are not "out there," embodied in technologies simply waiting to be appropriated. Rather they are virtual, emerging from people's repeated and situated interaction with particular technologies. These enacted structures of technology use, which I term technologies-in-practice, are the sets of rules and resources that are (re)constituted in people's recurrent engagement with the technologies at hand.

As people interact on social media, structures will emerge (i.e., *emergent structures*) in the form of "processes, content-categorisation schemes, organisational networks, hidden virtual teams, and the like that are unknown or unplanned before social interactions but emerge through contribution, feedback, judgement, and change during community collaboration" (Bradley & McDonald, 2011, pp. 20-21). Structures are "constituted recursively as humans regularly interact with certain properties of [social media] technology" (Orlikowski, 2000, p. 407). The properties of social media, in themselves, cannot be seen as structures until when such elements are used routinely to achieve certain actions (Orlikowski, 2000). Pursuing emergent structures provides "a better understanding of *how things work*, i.e., how organisations informally behave to accomplish goals" (Bradley & McDonald, 2011, p. 21). Conceptualising and understanding the structures of social media and OPI provides a better understanding of how organisations intentionally, or otherwise, use and interact with the public on social media for collaborative outcomes.

4.2. Adopting the Adaptive Structuration Theory (AST)

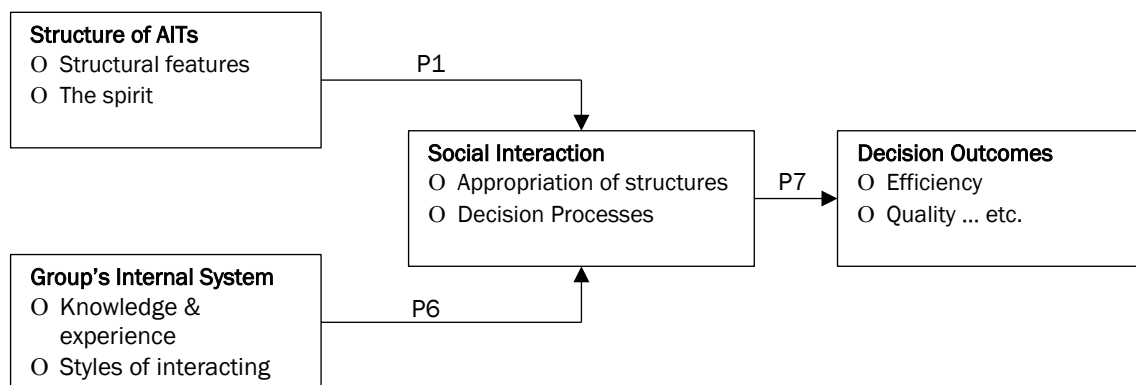
The adaptive structuration theory (AST) (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990) provides a structurational approach to technology use by theorising the appropriation of advanced information technologies (AITs) for group outcomes. The AST posits that "the impacts of the technology on group outcomes depend upon: (1) the structural potential of the technology (i.e., its spirit and structural features). (2) How technology and other structures (such as work tasks, the group's internal system, and the larger organisational environment) are appropriated by group members. (3) what new social structures are formed over time" (DeSanctis & Poole, 1994, p. 143).

According to DeSanctis and Poole (1994, p. 122), “there is an interplay between the types of structures that are inherent to AITs (and, hence, anticipated by designers and sponsors) and the structures that emerge in human action as people interact with these technologies”. By studying a small group using decision support systems, Poole and DeSanctis (1990), and later, DeSanctis and Poole (1994) conclude that social structures embedded in technology can be described by two properties – *structural features* and *the spirit* of the technology. “Structural features are the specific types of rules and resources, or capabilities, offered by the system – e.g. recording ideas and pooling comments” (p. 126). The spirit of a technology “is the general intent with regard to values and goals underlying a given set of structural features” (p. 126).

Drawing on Giddens’s structuration theory (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990) argued that people interact with IT to produce and reproduce a context-specific social structure and social system. During this process, the structural features of a technology communicate meaning and bring about control – similar to what Giddens calls structures of signification and domination, respectively (DeSanctis & Poole, 1994). Spirit, on the other hand, defines a normative frame that controls how people interact with the technology and other users – what Giddens calls legitimation – but it is also a means of signification because people draw meaning from technology which enables them to make sense of how they should act when using the technology (DeSanctis & Poole, 1994). Giddens’s structures of signification, domination and legitimation are discussed in the following Section 4.3.

The AST explains the relationship between AITs and social interaction, by indicating how actors in a group appropriate advanced information technology (AITs) for group decision processes, group outcomes, and the reproduction of social structure through communication. Our study draws heavily on the AST to suggest that the ways in which organisations actually use social media, i.e., appropriated the structure of social media rather than the design of social media influences the observed outcomes (DeSanctis & Poole, 1994; Markus & Silver, 2008; Poole & DeSanctis, 1990). While sociomateriality perspectives deny any separation of the realms of structure and action in technology use, the AST maintains that AITs provide *structures in technology* and *structures in action (i.e. social interaction)* – i.e., the realms of structure and action, respectively (Paul M. Leonardi, 2013) – that posit intertwined influences on group processes and outcomes, and offers seven propositions on the impact of AITs. As we adopt the arguments of the AST into this study, we looked closely into three propositions – see Figure 4-1 below.

Figure 4-1. A Look at three propositions of AST



At the core of AST is the argument that AITs bring about social structures, i.e., structures in the technology that enable or constrain social interaction. The structures in the technology can be described in two ways, i.e., the structural features (the rules, resources and capabilities of AITs) and the spirit (the values and goals embedded in the structural features). The structural features of AITs manifest in a variety of possible implementations while the spirit manifests in the interpretations of the users or designers. In consideration of these two aspects, DeSanctis and Poole (1994) propose that

P1. “AITs provide social structures that can be described in terms of their features and spirit. To the extent that AITs vary in their spirit and structural features sets, different forms of social interaction are encouraged by the technology” (p.128).

The different forms of social interaction, i.e., structures in action encouraged by the technology represent the nature of AIT appropriations which could be in line with the designer’s intent (faithful appropriation) or out of line with the designer’s intent (unfaithful appropriation). These forms of social interaction could vary depending on the organisation’s management styles, knowledge and experience with the structures of the technology, and the degree to which they recognise the typical use of the technology. Social interactions emerge through the actor(s)’ capacity to act, and such capacity could provide a key element of the actors’ internal system (Lin, 2004; Orlikowski, 2009; Suchman, 2007). Factors such as management styles, knowledge and experience with AITs, and the capacity to understand the potential use of the technology could represent the organisation’s capacity to act in pursuit of its goals and outcomes in AIT appropriations. In relation to these arguments, DeSanctis and Poole (1994) proposed that.

P6. “The nature of AIT appropriations will vary depending on the group’s internal system” (p.131).

The structures of AIT (structures in the technology) influence the forms of social interaction (structures in action) which also occur as opportunities for or constraints to group outcomes. According to AST, desired processes and outcomes will emerge from ideal appropriation, which implies; (1) when technology appropriations in social interaction are high and occur in line with the designer's intentions, e.g., increased participation. (2) When technology appropriation is task or process-oriented rather than exploratory, e.g., productive information sharing for idea generation. (3) When the users have a positive attitude towards the ways in which they use the technology. In relation to these arguments, DeSanctis and Poole (1994) proposed that.

P7. "Given AIT and other sources of social structure, $n_1 \dots n_k$, and ideal appropriation processes, and decision processes that fit the task at hand, then desired outcomes of AIT use will result" (p.131).

The AST was applied to examine the effects of different IT systems. Examples include; the use of group decision support systems (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990), group support systems (Gopal et al., 1992), electronic meeting systems (Chin et al., 1997), enterprise resource planning systems (Furumo & Melcher, 2006; LeRouge & Webb, 2004), electronic billing systems (Schwieger et al., 2004) and technology-based learning systems (Gupta & Bostrom, 2009; Huang & Liu, 2009). Researchers have also used AST to investigate how organisations use social media. For example, Sinclair and Vogus (2011) based on the AST to analyse SNS adoption and uses in global organisations. Hayes et al. (2016) also used AST to explore paralinguistic digital affordances on social media.

AST is applauded for avoiding pure determinism and focusing our attention on the soft-line determinism of technology consequences (DeSanctis & Poole, 1994; Markus & Silver, 2008). Drawing on the structuration theory, the AST allows us "to describe the unfolding human-technology interaction", but it also anticipates potential IT consequences, i.e., causal potential as argued by the critical realist ontology (Markus & Silver, 2008, p. 612). IT explains the impact of AITs depending "on how well the social and technology structures are jointly optimised" (DeSanctis & Poole, 1994, p. 125). With AST, we can generate the explanatory mechanisms for SCC based on the intentions and actions of the actors in this social phenomenon, i.e., human agency (Markus & Silver, 2008). The AST considers the differences in the impact of AITs between groups by accounting for the structural potential of technology for the specific groups of users, through appropriation (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990).

With the increasing use of social media in everyday life and organisations, we may need to pay attention to the emerging structures in this technology, structures in actions and the outcomes.

Even scholars in service systems, such as (Edvardsson et al., 2011) recommend the perspectives of the AST, arguing that a sufficient understanding of SCC necessitates an exploration of the intertwined influences of the social and technology, i.e., the socio-technical system in which co-creation occurs. Unfortunately, studies on service system phenomena rarely explore the important aspects of social construction (i.e. social structures, roles, positions, interactions and reproduction) shaping service exchange and co-creation (Edvardsson et al., 2011). Nonetheless, even though some studies adopt the arguments of the AST to analyse technology appropriation processes, they have failed to actually analyse the link between the structural features and the spirit of the technology, and technology appropriation (Markus & Silver, 2008; Poole & DeSanctis, 2004), for example, (Sinclair & Vogus, 2011).

The theoretical foundations on the *structure of social media* and the *social structures in OPI on social media* emanate from the AST's structure of AITs and social interaction, respectively, as indicated in Figure 4-1. However, our operationalisation of the structures provided by social media is heavily inclined on the reconceptualisation of the AST provided by (Markus & Silver, 2008) – see section 4.4. At the core of the reconceptualised AST is the use of *relational concepts of technology affordances* and *symbolic expressions* rather than structural features and spirit, respectively, to account for the interaction between people and technology as opposed to the properties of either people or technology (Majchrzak & Markus, 2012; Markus & Silver, 2008). This view of human↔technology relationship develops from the theory of affordances provided by ecological and cognitive psychologists – see section 4.4.1, and the theory of technology affordances and constraints (TACT) (Majchrzak & Markus, 2012). Before looking at the reconceptualisation of the AST, we revisit the key foundations of this theory.

4.3. Theoretical Foundations of the AST

The AST argues that technology provides social structures that produce and reproduce a purposeful social system (Poole & DeSanctis, 1990). AST provides an influential application of the structuration theory (Giddens, 1984) in IS research. The theory of structuration provides a general and a rather broad conception of human agency and social structure, noted as the duality of structure (Giddens, 1984). Giddens argues that structure and agency are dual and therefore, inseparable. Giddens' sophisticated writing could have hindered our understanding of the duality of structure, but Walsham (2002) provides an easier way to conceptualise the theory of structuration. He states that “human action and social structure [are] a duality rather than a dualism” (Walsham, 2002, p. 361). In other words, human action and social structure are parts of

the whole (duality) – like two sides of a coin – and not contrasting aspects of a collectivity (dualism) (Walsham, 2002).

Three concepts are crucial to our understanding of the duality of structure – structure, social system and structuration. In Giddens’s own words, “structure is rules and resources, or sets of transformation relations organised as properties of a social system. A social system is reproduced relations between actors or collectivities, organised as regular social practices. Structuration [means] the conditions governing the continuity or transmutation of structures and therefore, the reproduction of social systems” (1984, pp. 25-26). Structuration is the process of producing and reproducing social structures for the continuity of a social system. “Analysing the structuration of social systems means studying the modes in which such systems, grounded in the knowledgeable activities of situated actors who draw upon rules and resources in the diversity of action contexts, are produced and reproduced in interaction” (Giddens, 1984, p. 25).

Giddens maintains that there are three dimensions of the duality of structure – i.e., structure of signification, structure of domination and structure of legitimation. Signification refers to meaning communicated or conveyed by social practices, such as the signs and meaning interpreted by individuals in a society. Domination implies exercise and recognition of power and control mediated by the distribution of resources; this includes recognition of power and control in a society. Legitimation represents the recognition of norms and morally acceptable behaviour. Norms guide people’s understanding of society. The three dimensions of the duality of structure reflect human interaction that shapes their actions, thus producing and reproducing the social structure.

The theory of structuration recognises the role of human agency in producing and reproducing social structure. “Agency refers not to the intentions people have in doing things but to their capability of doing those things in the first place” (Giddens, 1984, p. 9). In fact, “structure has no existence independent of the knowledge that agents have about what they do in their day-to-day activity” (Giddens, 1984, p. 26). From Giddens’s perspective, “structure and agency are a mutually constitutive duality” where “social phenomena are not the product of either structure or agency, but of both. Human agents draw on social structures in their actions, and at the same time, these actions serve to produce and reproduce social structure” (Jones & Karsten, 2008, p. 129). Since social structure is neither independent of agency or ability of actors, nor is the agency or ability of actors independent of structure. We can, therefore, assume that the realms of structure and action occur through the organisation’s capability to leverage social media and public interaction for collaborative outcomes.

Despite the popularity of the structuration theory in social sciences, IS scholars have noted that this theory has received less direct applicability in IS fields for a number of reasons. First and most important, Giddens almost disregards the role of technological artefacts in social structures (Jones & Karsten, 2008; Orlikowski, 1992). Secondly, the theory operates at a high level of abstraction, given its complexity and generalised propositions (Pozzebon & Pinsonneault, 2005). Thirdly, the notion of structure, if not precisely defined, contributes to serious confusion (Sewell Jr, 1992). Sewell Jr (1992) believes the notion of structure provided by Giddens, and accepted by several structuralists is “frustratingly underspecified” (p. 5). In his theory of structure, Sewell Jr (1992) refutes the idea of structure being resources that are virtual, and his concerns lie in what we perceive as a resource. When we consider resources, taken together, e.g. humans, knowledge and factories, then resources may not necessarily be virtual (Sewell Jr, 1992). However, where resources are appropriately categorised into physical and social resources – as presented by social capital theorists (Coleman, 1988; Lin, 2004) – then physical resources are non-virtual while social resources are mainly virtual – for example trust, obligation, and strong relationships. For matters of clarity, we consider the nature of resources as implied in the structurational approaches, which is more of a social nature than a physical one.

4.4. Reconceptualising the AST drawing on the Theory of Affordances

In the AST, DeSanctis and Poole (1994) argue that *structural features* and the *spirit* of technology, together indicate the structural potential of technology for human action and group processes. These two concepts are applauded for offering a less problematic approach to characterising IT through designer intentions and user perceptions of technology, which characterise IT capabilities that could produce effects (DeSanctis & Poole, 1994; Markus & Silver, 2008). Analysing structural features reduces the problem of “repeating decomposition”⁶ while the concept of spirit enables us to analyse the values that the artefact promotes and also supports a holistic view of the artefact (Markus & Silver, 2008). However, the designer’s intentions may not be faithfully appropriated, while user perceptions may not offer a complete representation of the system (DeSanctis & Poole, 1994; Markus & Silver, 2008). Moreover, focusing on designer intentions and user perceptions do not generate hypotheses rich enough to inform the design of IT artefacts (Markus & Silver, 2008).

⁶ Repeating decomposition is the analysis of outcomes and consequences of an artefact based on its properties thereby reducing it to small objects DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization science*, 5(2), 121-147. , Markus, M. L., & Silver, M. S. (2008). A foundation for the study of IT effects: A new look at DeSanctis and Poole's concepts of structural features and spirit. *Journal of the Association for Information Systems*, 9(10/11), 609.

IS scholars (Jones & Karsten, 2008; Markus & Silver, 2008) found the AST premise that technology has embedded social structure to be problematic. They, (Jones & Karsten, 2008; Markus & Silver, 2008), recall that social structures do not exist independent of human agency, ability or action because they are not material entities – social structures manifest in human action. Technology is a product and a medium of human action (Orlikowski, 1992). Technologies will “facilitate and constrain human action through the provision of interpretive schemes, facilities, and norms originating from its material agency” (Orlikowski, 1992, p. 410). Material agency, i.e., structural features, does not necessarily have causal potential on human action as posited by AST; it is what people can do with the technology (affordances), in different contexts, that produces and reproduces social structure (Markus & Silver, 2008). Technology materiality implies structural features made available to all users in the same way (Leonardi, 2012), but a complete explanation of its role requires a look into its *functional affordances* and *symbolic expressions* to users (Markus & Silver, 2008).

4.4.1. Technology Functional Affordances

The affordance perspective is rooted in the seminal work of an American ecological psychologist James Jerome Gibson – *the theory of affordances* (Gibson, 1977, 1986). Gibson states that “the affordances of the environment are what it offers to the animal, what it provides or furnishes, either good or ill” (Gibson, 1986, p. 127). He also states that “the affordance of anything is a specific combination of the properties of its substance and its surfaces taken with reference to an animal” (Gibson, 1977, p. 67). An affordance is a combination of properties of the environment or object and the capabilities of a particular animal or actor (Faraj & Azad, 2012; Gibson, 1986; Wells, 2002). Based on the Gibsonian school of thought, there are three fundamental properties of an affordance. First, “an affordance exists relative to the action capabilities of a particular actor. Second, the existence of an affordance is independent of the actor’s ability to perceive it. Third, an affordance does not change as the needs and goals of the actor change” (McGrenere & Ho, 2000, p. 1). We can make some general conclusions from the Gibsonian school of thought. Affordances exist whether or not they are perceived. The actualisation of affordances will depend on the capabilities of an actor or agent. A particular actor or agent, who is goal-driven, is a frame of reference for an affordance; therefore, an affordance to one actor may not be an affordance to another.

Norman, a renowned cognitive psychologist and interaction design scholar, elaborates the concept of affordances to indicate that “an affordance is a relationship between the properties of an object

and the capabilities of the agent that determine just how the object could possibly be used” (Norman, 2013, p. 11). He explains that an affordance is not a property of an object but rather the relationship between the object and the actor. Therefore, “whether an affordance exists depends on the properties of both the object and the agent” (Norman, 2013, p. 11). At this point, Norman provides two enlightening aspects. First, for people to be able to know what to do and what is possible, they will have to discover or perceive both the affordances and anti-affordances. Affordances show possibilities while anti-affordances show difficulties with the object. Second, to effectively perceive affordances and anti-affordances, the agent will need some means of signalling, which Norman refers to as signifiers. He concludes that people need both the affordances and the signifiers to do what they want to do and to know what to do.

It is also apparent that “people perceive not the properties of objects, but rather the affordances of objects, defined as acts or behaviours that are afforded or permitted by an object, place or event ... humans do not perceive chairs, pencils, and doughnuts; they perceive places to sit, objects with which to write and things to eat” (Michaels and Carello, 1981) cited in (Markus & Silver, 2008, p. 619). Affordances provide a means of exploring appropriation of environment for different purposes (Faraj & Azad, 2012). Therefore, “affordances for the members of one species may be completely useless to members of another” (Markus & Silver, 2008, p. 619). Like the environment or objects, people may not perceive the properties or structural features of an IT artefact, but they look at the different ways to utilise the artefact toward achieving their goal. Since different IT users may have different goals, especially for technologies such as social media, its affordances for one user group could differ from another. Nonetheless, IT users not only discover the affordances offered but also counter its constraints, which they have to manage tactfully to achieve their goals (Majchrzak & Markus, 2012).

The affordances approach is a way to rectify the shortcomings of the earlier theoretical frameworks on the human-technology relationship, such as the concept of structural features provided in the AST (Faraj & Azad, 2012; Markus & Silver, 2008). For a number of reasons, exploring affordances in the sense of technology platforms has proved worthwhile (Faraj & Azad, 2012). First, we are able to focus on the materiality of the technology as a way to recognise the objective, realist, and non-mentalist nature of this technology. Second, we are able to observe the contemporary ways of exploring and representing technology–organisation phenomenon. Third, we are able to focus on social media affordances as a means of exploring and analysing the social media appropriation process in nonprofits specifically. Moreover, ‘emerging views [on structuration and technology] have not offered sufficient theoretical depth or empirical richness regarding the technology appropriation process’ (Faraj & Azad, 2012).

4.4.2. Technology Constraints

While technology affordances are widely recognised in IS research, “people and organisations do not always realise the potential of a technology when they use it”, they also encounter some constraints that could limit their possible action (Majchrzak & Markus, 2012). For agents, i.e., people and organisations, to be effective when faced with an object, environment or situation, they will need to discover or perceive both the affordances and anti-affordances, i.e., constraints (Norman, 2013). Constraints are “powerful clues, limiting the set of possible actions” (Norman, 2013, p. 125). While affordances offer possibilities with the object, anti-affordances pose difficulty with the object. An agent, can, however, make intelligent use of constraints to influence the desired outcome (Norman, 2013). According to the theory of technology affordances and constraints (TACT), there are “action potentials or potential stumbling blocks that people can draw on or may encounter when using a particular technology” (Majchrzak & Markus, 2012).

Norman (2013) provides four kinds of constraints – physical, cultural, semantic, and logical constraints. Cultural constraints are defined by a set of allowable behaviours in social situations. Such constraints “are represented in mind by schemas, knowledge structures that contain the general rules and information necessary for interpreting situations and for guiding behaviour” (Norman, 2013, p. 128). A form of cultural constraints are conventions (Norman, 2013). “Conventions determine what activities should be done; others prohibit or discourage actions, but in all cases, they provide those knowledgeable of the culture with powerful constraints on behaviour” (Norman, 2013, p. 131). Logical constraints arise from a disruption of the functional layout of the components of an object. “Semantic constraints, on the other hand, are those that rely upon the meaning of the situation to control the set of possible actions ... Semantic constraints rely upon our knowledge of the situation and of the world ... Such knowledge can be a powerful and important clue” (Norman, 2013, p. 129).

4.4.3. Symbolic Expressions of Technology

Another, and troubling premise of AST, according to Markus and Silver (2008) is ‘*positioning spirit as a property of technology*’. Markus and Silver (2008) argue that if the spirit is an embedded property of technology, and spirit is the general intent and values, then technology has intents and values, which is quite unlikely. It is more meaningful to interpret the spirit of technology as something the users interpret from their interaction with technology (Markus & Silver, 2008). Material artefacts, unlike humans, have no intentionality – therefore an artefact like technology has no intentions of its own, but rather, it has the capacity to offer possibilities for human action

(Leonardi, 2012). The reality, also indicated by AST, is that different groups of people recognise and take advantage of the possibilities that technology offers to achieve their objectives – which may not necessarily suit the initially intended objective of the technology designer, i.e. *unfaithful appropriations of technology*. For instance, social media is widely appropriated for different objectives such as to offer support in the event of a disaster, broadcasting news, community policing and awareness, and civic engagement.

According to Markus and Silver (2008, p. 622), the fundamental question in relation to the spirit of IT is, “what about an IT artefact that may enable its users to make interpretations of the system’s, or its designers’, values and intents”. This implies that the IT artefact and its structural features “not only enable the functionality of IT artefacts, but also enable users to perceive, interpret, and interact with IT artefacts” (Markus & Silver, 2008, p. 622). While the concept of functional affordances explains how IT artefacts are used, there is a lack of a concept to define how users interpret IT artefacts. Markus and Silver (2008) identified the concept to symbolic expressions, as a relational concept that could represent the user-technology relationship by indicating how users interpret the IT artefact given the communicative possibilities of that IT artefact to that specific user.

Looking back to the role of affordances and understanding how people act when confronted by certain situations or things, Markus and Silver (2008)’s perspectives on symbolic expressions strike an accord with Norman’s idea of the signifier. Norman (2013, p. 12) states that “if an affordance or anti-affordance cannot be perceived, some means of signalling its presence is required” which he refers to as signifier. A signifier is a way of communicating to the agent where possible actions could take place (Norman, 2013). Users or agents will need both the affordances which determine the actions that are possible and the signifiers which communicate where possible actions can take place (Norman, 2013). Norman’s concept of signifier represents the notion of symbolic expressions. A ‘signifier refers to any mark or sound, any perceivable indicator that communicates appropriate behaviour to a person’ (Norman, 2013). Drawing on Norman’s definition of signifiers, we can say that symbolic expressions provide clues to people on how to operate the technology and what actions are possible.

4.4.3.1. Theoretical Foundations Associated with Symbolic Expressions

The concept of symbolic expressions, or signifier as Norman calls it, relates closely to symbolic interactionism (Blumer, 1969; Mead, 1934), semiotics (Liu & Li, 2015; Stamper, 1993) or material culture (Berger, 2016). Symbolic interaction is “the peculiar and distinctive character of interaction as it takes place between human beings” (Blumer, 1969, pp. 78-79). First, “human beings interpret

or define each other's actions instead of merely reacting to each other's action" (Blumer, 1969, p. 79). Second, people live in a world of objects, such as a natural object like landscapes and weather or man-made things like automotive and other technologies, where "the nature of [these] objects is dependent on the orientation and the action of people towards them" (Blumer, 1969, p. 68). From the above perspectives, we can say that an object, e.g. an IT artefact, is defined by the meaning it has for the people to whom it is an object. Because of such meaning, individuals have the capacity to recognise, respond to and use a system of symbols to shape how they interact with one another (Faules & Alexander, 1978). A symbol is one type of sign that "signifies by virtue of an arbitrary norm that may be rooted in a societal or cultural convention" (Liu & Li, 2015, p. 15). Societal or cultural norms and values play an important role in communication and signification of human action in a particular environment. In fact, there is an existential or causal relationship between a symbol and the signified object, but societal or organisational norms and/or values will form the basis of the relationship between the symbol, signified object and human action (Liu & Li, 2015). Consequently, "symbols allow individuals to create meanings regarding their own selves and those of others who occupy the social world" (Davetian, 2010, p. 912).

George Herbert Mead concludes that there are three basic assumptions of the symbolic interaction position. "(1) Human beings act towards things on the basis of the meanings that these things have for them. (2) The meaning of such things is derived from, and arises out of, the social interaction that one has with one's fellows. (3) These meanings are handled in and modified through, an interpretive process used by the person in dealing with the things he encounters" (Blumer, 1969, p. 2). This would imply, in the context studied here, that the ways in which organisations interpret social media functionality could shape their experiences with target communities. Therefore, the symbolic expressions of social media may not only arise from the functionality of the platform but the social world that exists on this platform. Symbolic expressions of social media, taken altogether, influence individual and organisational beliefs and actions around this technology (Grgecic et al., 2015).

The semiotics perspective from the work of Charles Sanders Peirce on methods of cognitive mapping offers a deeper understanding of symbols and meaning during interaction and communication (Stamper, 1993). "Semiotics provides the concept of a *sign* as a primitive notion, one which can be understood on the basis of demonstration, or ostensive definition, and upon which we can build sound technical definitions of information, meaning, communication and so on" (Stamper, 1993, p. IX.2). According to Stamper (1993, p. IX.2), Peirce defines a sign as "something which stands to somebody for something in some respect or capacity". Stamper (1993) extends Peirce's definition to state that "a sign is something which stands to somebody for

something in some respect or capacity, *in some community or social context*” (p. IX.3). The context, according to Stamper, consists of “the mutual expectation, shared beliefs and values that enable people to operate in a socially cohesive manner” (p. IX.9).

Following Pierce’s triadic sign concept, Jensen (1993) represents three possible functions that technologies can adopt in the process of meaning. First, technology “as the object about which one speaks, the phenomenon about which one thinks, the reality one attempts to designate, to describe, to comprehend,” i.e. *technology as an object* (p. 298). Second, *technology as a sign*. He says “technology can itself, as a physically manifest and perceptible object, take on the nature of a sign vehicle that refers to or represents something ... where this referential function is established as a result of ... a cultural code, a social convention, an inscribed meaning” i.e. *technology as representamen (sign)* (pp. 298-9). We must recognise that “the semiotic materiality of the sign [say technology as a sign] is constituted simply by the possibilities the sign has of entering into different frames of interpretation” (Jorgensen, 1993, p. 100). Third, “technologies constitute patterns of interpretation, metaphors, figures of thought – in short: signs that clarify, interpret, and explain a given representation by relating it to a given object,” i.e. *technology as interpretant* (p. 299). Generally, the signs associated with an object emerge as “any pattern of stimulation, which evokes reactions on the part of an organism” (Osgood, 1952, p. 200). The meaning and change in meaning associated with the signs are influenced by human behaviour (Osgood, 1952).

4.4.3.2. Operationalising Symbolic Expressions of IT Artefacts

Drawing on the above perspectives, symbolic expressions of technology denote the communicative possibilities of the given technology to a specific user group (Grgecic et al., 2015; Markus & Silver, 2008). The concept bridges the gap between the technology (as a bundle of features) and the user’s interpretation of that technology (Cheikh-Ammar, 2018; Markus & Silver, 2008). Symbolic expressions provide more information on functionality and a deeper understanding of the technology in question (Cheikh-Ammar, 2018). This concept offers a comprehensive understanding of the symbolic interaction forces that could shape human action and the continuous development of the social world (Davetian, 2010; Faules & Alexander, 1978). What counts as human action in a social world is not simply people’s behaviour but their own perception and interpretation of the milieu (Davetian, 2010). Exploring symbolic expressions of social media allows us to understand nonprofits’ (as a user group) interpretation of social media functionality and the actions surrounding this technology. It, therefore, allows us to study nonprofits for their

own sake, which leads us to generate valuable insights and contributions to social policy and behaviour management in social media (Davetian, 2010).

Basing on the concept of semiotics in interactive software interface designs, Markus and Silver (2008)'s conceptualisation of symbolic expressions leads us to define symbolic expressions of social media as the communicative possibilities of social media to individuals, groups or organisations. Symbolic expressions represent those aspects of social media that "enable users to perceive, interpret, and interact with [social media]" and vary between groups of users (Markus & Silver, 2008, p. 622). Social media may convey the intended message of the designers or may convey unintended messages. Therefore, according to Markus and Silver (2008), exploring symbolic expressions of social media is a useful way to investigate the incoherence of social media across different users – for example, 1) between individuals and organisations and 2) between for-profit organisations and non-profit organisations

Grgecic et al. (2015) decompose symbolic expressions into the communication of meaning and communication of values. Interaction on social media is symbolic, and it, therefore, occurs according to the meaning that people assign to social media. These meanings and values will shape the affordances of the IT artefact for a specific user (Cheikh-Ammar, 2018; Grgecic et al., 2015). This is because symbolic cues from an IT artefact influence a user's decision about the functions of an IT artefact as well as its overall use (Trevino et al., 1987). The next sections elaborate on the definitions and implications of decomposed concepts.

4.4.3.3. Communication of values

The foundational studies on values offer sufficient insight into the meaning of "values". Vaske and Donnelly (1999), quoting Rokeach on "The Nature of Values" states that 'value is an enduring belief that a specific mode of conduct is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence' (p. 524). Values are "regulatory features of an environment" (Laumann et al., 1978, p. 466) and social cognitions that enable an individual [or organisation] to adapt to a particular environment (Vaske & Donnelly, 1999). They are "desirable trans-situational goals, varying in importance, which serve as guiding principles in the life of a person or other social entity" (Schwartz, 1994, p. 21). Values emerge as norms and ideals associated with the environment in which symbols manifest (Faules & Alexander, 1978), where, "norms are expected patterns of behaviour that receive assigned meaning from the participants in a social situation. Ideals, or standards of conduct or reasons for doing things, may not be shared or may only be partially shared because of a differing order of those standards for each participant" (Faules & Alexander, 1978, p. 6). Overall, "values ... have overriding significance for all members

of the field. [They are] coping mechanisms that make it possible to deal with persisting areas of relevant uncertainty ... [and] are the conceptual character of 'power fields' and act as injunctions" (Laumann et al., 1978, p. 466). Values are "ordered by importance relative to other values to form a system of value priorities" (Schwartz, 1994, p. 20).

Although the role of IT artefacts in shaping user's values around the systems has been marginally addressed, in favour of its functions, IT "users engage in processes of interpretation and social construction with respect to systems, we also assume that something in IT artefacts can contribute to (but not determine) users' impressions of systems" (Markus & Silver, 2008, p. 622). Therefore, "IT artefacts should be conceptualized in a way that 1) avoids the limitations of feature lists, designers' intentions, and users' perceptions and 2) permits holistic analysis of technology on values dimensions, not just functional ones" (Markus & Silver, 2008, p. 620). Affordances are directly linked to values, but while affordances are action possibilities, values "are sought-after ends realised by the enactment of actions" (Cheikh-Ammar, 2018, p. 286). Here, it is necessary to note "that values do not stem directly from the features themselves, but are instead rooted in the enactment of action possibilities made possible by an IT artefact (an affordance or a combination of affordances at the highest level of abstraction)" (Cheikh-Ammar, 2018, p. 286).

IT artefacts communicate through a system of symbols, and these symbols not only convey meaning to the users, but they also promote values (Grgecic et al., 2015). Communication of meaning relates to the conveyance of values, intentionally or unintentionally, by an object to support its functionality (Grgecic et al., 2015). Communication of values reflects in an organisation's interpretation of the values surrounding social media, which could account for variation in its interaction and ability to seek joint goals and outcomes. Exploring the communication of values "helps increase [our] understanding of how values affect user perceptions of functionalities. [How] values guide user decisions, provide norms that specify how resources should be used, and how users might behave. [Therefore, when IT artefacts] successfully promote positive values, they positively contribute to the perception of functions afforded" (Grgecic et al., 2015, p. 589). Grgecic et al. (2015) studied the formation of object-based beliefs in which they found information systems could convey values such as reliability, actuality, productivity, and control.

4.4.3.4. Communication of meaning

The artefact, like other objects, conveys signs and are, therefore, a source of meaning (Berger, 2016). Symbols and functions serve as a means of communication between the system and the user, so, information systems convey meaning attached to its symbols and functions, which enable

the user to make interpretation of an underlying real-world phenomenon (Grgecic et al., 2015). Meaning is what people perceive in association with a given symbol (Faules & Alexander, 1978). “What is perceived as real depends on our interpretation” (Davetian, 2010, p. 912). Based on Charles Sanders Peirce’s trichotomy, the founding father of modern semiotics, one’s interpretation could be based on resemblance, cause and effect, or learned meaning (Berger, 2016). One’s overall interpretation of a symbol shapes their values (Faules & Alexander, 1978). However, because our interpretation is based on varying conventions, objects can convey different meanings and false impressions (Berger, 2016).

Theoretically, there are five points of concern that are significant to the analysis of the role of an object [social media] in human interaction (Blumer, 1969). First, “the nature of an object is constituted by the meaning it has for the person or persons for whom it is an object. Second, this meaning is not intrinsic to [social media] but arises from how the person is initially prepared to act towards it. Third, all objects – are social objects in that they are formed and transformed by the defining process that takes place in social interaction. Fourth, people ... are set to act towards [social media] based on the meaning of [social media] to them. Fifth, just because it is something that is designated, one can organise one’s action towards it instead of responding immediately to it” (p. 68-9). From Blumer’s perspective, we can say that users can inspect, evaluate and explore IT artefacts through trials, thinking about its functions, planning how they act around it and deciding whether or not to use it.

Given the dynamics of user-artefact interaction (Al-Natour & Benbasat, 2009), social media users, through continuous interaction, will make meaning and beliefs about social media, which can influence the subsequent interactions and perceived outcome of social media. Conveyance of meaning and values by technical objects may strongly influence the perceived functionality of the object (Al-Natour & Benbasat, 2009; Grgecic et al., 2015), moreover, object driven stimulus influences how users respond, interact and behave concerning that object (Osgood, 1952).

4.5. Other Supporting Theoretical Views

While the AST denotes the role of structure in social interaction as a shaper of group outcomes, looking into a particular group dynamics could provide a deeper understanding on the nature of social interactions underlying the observable outcomes. Two theoretical views could improve our understanding of OPI on social media, i.e., the concept and theory of OPR and the theory of social capital. Although our investigation hinges on the tenets of the AST, we look into the above-

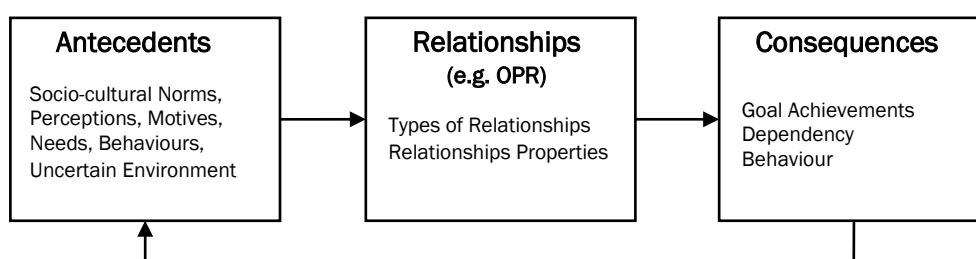
mentioned theoretical perspectives to shape our explanations on the structures provided by social interactions.

4.5.1. A Concept and Theory of OPR

The theoretical arguments on organisation–public relationships (OPR) could support our understanding of OPI. OPR represent “patterns of interaction, transaction, exchange, and linkage between an organisation and its publics” (Broom et al., 2000, p. 18). Publics are people or anyone of interest to the organisation, e.g. employees, community, government, media, customers, etc. (Hon & Grunig, 1999). OPR could be personal, professional, or community-based (Ledingham et al., 1999). Personal OPR involves employee-organisation relationship (EOR) (Ni, 2007) or volunteer-organisation relationship (VOR) (Harrison et al., 2017). Some organisations cultivate professional relationships, e.g., stakeholder-organisation relationship (SOR) (Smith, 2012), while many cultivate community relationships, e.g., business-community relationship (BCR) (Osobajo & Moore, 2017). Organisations can also produce or reproduce patterns of economic, social or humanistic relationships with other organisations, individuals or groups – such as public relationships, supplier relationships, customer relationships, resource flows, relationships with individual employees and strategic alliances – to constitute a social network (Gulati et al., 2002; Kim, 2001). The concept and theory of OPR (Broom et al., 1997, 2000) could support our understanding of the nature of such relationships.

Organisations engage in, or build different types of relationships when they interact with the community, most commonly communal and exchange relationships (Bruning & Ledingham, 1999; Clark & Mills, 1993; Hung, 2005). According to the concept and theory of OPR, relationships require an on-going examination to define their properties and associated consequences in different contexts, where, “relationship properties are recurrent patterns of interpersonal or subjective events ... discerned only by reference to samples of interaction or of subjective experiences at the level” (Huston & Robin 1982) cited in (Broom et al., 2000, p. 8). The relationship properties embedded in OPR could include intimacy, trust, control, frequency and duration, symmetry, reciprocity, stability, etc. (Broom et al., 2000). Figure 4-2 summarises the insights provided by the concept and theory of OPR (Broom et al., 2000).

Figure 4-2. A Theoretical Model of OPR (Broom, Casey & Ritchey 2000)



According to Figure 4-2 OPR are open systems; they have inputs that trigger the formation of relationships and output that emerges because of formulated relationship types and properties (Broom et al., 2000). Inputs are antecedents, contingencies and causes of OPR – such as perception, motive and behaviour. Outputs are consequences associated with cultivating particular types and properties of relationships. Furthermore, OPR is both a consequence of change and a cause of change – a stance posited by theories of social structure (Giddens, 1984; Jones & Karsten, 2008; Paul M. Leonardi, 2013; Orlikowski & Scott, 2008; Poole & DeSanctis, 1990; Sewell Jr, 1992; Walsham & Han, 1990). Social structure, specifically, is the production and reproduction of patterns of relations, with or without the knowledge of engaging actors (Sewell Jr, 1992). Figure 4-2 notes two aspects of OPR, i.e., the types of relationships and the properties of the relationships. While the types of OPR are discussed widely, the patterns or properties embedded in the relationships remains undefined. However, the theory of social capital, particularly the structural capital dimension, provides rich insights into defining the properties, patterns or configuration of relationships and the value embedded in relationships (Adler & Kwon, 2002; Coleman, 1988; Lin, 2004).

4.5.2. The Social Capital in Social Relationships

Social capital derives its historical foundation from the concept of capital (Coleman, 1988; Lin, 2004), with capital being the “investment of resources with expected returns in the market place” (Lin, 2004, p. 3). Social capital is capital because it involves time and effort to generate expected returns (Adler & Kwon, 2002; Lin, 2004). Social actors can own and benefit from financial and human capital, but no single actor can own social capital because of its embeddedness in social relationships with others (Adler & Kwon, 2002; Burt, 2009; Coleman, 1988; Lin, 2004).

“Unlike other forms of capital, social capital inheres in the structure of relations between actors and among actors. It is not lodged either in the actors themselves or in physical implements of production” (Coleman, 1988, p. P.S98). Social capital is “the aggregate of the actual or potential

resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition” (Bourdieu 1985 cited in (Portes, 1998, p. 3). Sociologist James Coleman insists that “social capital is defined by its function” (Coleman, 1988, p. C98). He states that “it is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors-whether persons or corporate actors-within the structure” (Coleman, 1988, p. C98). The third definition is provided by Lin (2004, p. 43), who state that social capital refers to “those resources accessible through social connections”.

Social capital takes various forms, i.e. information channels, social norms, obligations and expectations (Coleman, 1988; Lin, 2004). Nahapiet and Ghoshal (1998) elaborate and categorise these forms into – structural capital, relational capital and cognitive capital. Structural capital consists of the information channels or pattern of connections or the structural constraints in social relations, particularly, one’s social ties, their configuration and appropriation (Aslam et al., 2013; Nahapiet & Ghoshal, 1998). Relational capital consists of the assets created by social relationships, i.e. trust, norms, obligations and expectations and identification (Aslam et al., 2013; Nahapiet & Ghoshal, 1998). Cognitive social capital is the shared context that offers “resources that allow the formation of shared interpretations and meanings” between and among individuals or organisations (Aslam et al., 2013, p. 29) – i.e. shared narrative, shared language and codes, shared vision and goals (Aslam et al., 2013; Nahapiet & Ghoshal, 1998). Social capital, in its various forms, is productive, it relates to a function and facilitates action (Coleman, 1988; Lin, 2004).

Social capital is the value embedded in social networks (Adler & Kwon, 2002; Lin, 2004). Social networks refer to “a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behaviour of the persons involved” (Laumann et al., 1978, p. 458). Borgatti and Foster (2003) provide a typology for analysing and conceptualising the role of social capital in social networks (Figure 4-3). The typology allows us to clarify and appropriately situate some aspects of our study (i.e., structures provided by OPI) in social capital and social network research.

Figure 4-3. 2 by 2 Typology of Social Network Research (Borgatti & Foster, 2003)

	Social Capital (Performance Variation)	Diffusion (Social Homogeneity)
Structuralist (Topology)	Structural Capital	Environmental Shaping
Connectionist (Flows)	Resource Access	Contagion

As indicated in Figure 4-3, we can examine the role of social networks by adopting a structuralist or connectionist view, but when one seeks to examine the role of social capital, they are then considering structural capital and resource access respectively, to understand behaviour, actions and outcome of social relationships (Borgatti & Foster, 2003). A structuralist recognises the role of structural capital and environmental shaping in the functioning of a social network. “Environmental shaping is how the network environment exerts a predictable influence on its members, and structural capital is how particular structures of relationships benefit or constrain outcome” (Kane et al., 2014, p. 277). A connectionist, on the other hand, capitalises on resource access and contagion to analyse and explain the role of social networks, where “contagion is how resources spread through a network and influence nodes, and resource access is how nodes access and benefit from resources available in the network” (Kane et al., 2014, p. 277).

This investigation draws on social capital for a number of reasons. First, understanding the patterns, properties, or structure of social relationships is a more powerful assessment of the sociological explanations of actor’s behaviour and goals, if compared to understanding personal attributes of actors (Salvini, 2010). Secondly, the extensive literature on nonprofits’ use of social media emphasises that nonprofits intentionally as well as unintentionally build relationships for improved operations. However, social capital thinking is rarely applied to understand the nature and role of OPR, and where it is applied, literature offers a synopsis explanation of all three forms of social capital. For instance, the role of relational capital (e.g. trust, commitment, community involvement, openness), has generated a lot of excitement among scholars exploring OPR, such as (Jo et al., 2005; Kim, 2001; Ledingham & Bruning, 1998; Xu, 2017). While the excitement continues, studies rarely examine how structural social capital, i.e., the structural constraints of OPR influence OPR outcomes. Third, understanding structural social capital inherently improves our understanding of relational and cognitive social capital because it forms the basis of these two other dimensions of social capital (Lin, 2004). Moreover, exploring the structural constraints and associated action – i.e. underlying structures and processes is a better way to understand social capital embeddedness in relationships (Lin, 2004).

Although nonprofits are increasingly using social media to build relationships (Hu & Shi, 2017), scholars have insufficiently addressed the influence of structural social capital dynamics on nonprofits' network activity or relationship outcomes (Liu et al., 2017). While OPR scholarship elaborates the kinds of relationships, we can draw on the social capital theory to explore and explain the patterns or properties embedded in OPR. Moreover, understanding social capital is a rich way to explore the role of communities in co-creation (Nambisan & Baron, 2010; Zwass, 2010) and SCC in particular (Rihova et al., 2013). According to (Nambisan & Baron, 2010), social capital, social exchange and social identity are key social forces that pervade online communities and may influence co-creation.

By exploring structural social capital, we believe that "interaction [between nonprofits and their social media followers] is a means to attain a goal of action [e.g., SCC]" (Lin, 2004, p. 41). Nonprofits' interaction with the public on social media increases the organisation's access to a repertoire of resources through direct as well as indirect ties. "Even if the ego [i.e. the organisation] does not use or mobilise these resources, they have substantial symbolic utility ... sufficient to promote [its] social standing" (Lin, 2004, p. 44). The fundamental value of social capital that supersedes symbolic utility is its use for a purposive action, implying that "actors access social capital, through interactions, to promote purposive actions" (Lin, 2004, p. 48).

As we focus on social capital, and the structural social capital in particular to explain the patterns of interaction, we adopt the view that "social capital is rooted in social networks and social relations and is conceived as resources embedded in a social structure that is accessed and/or mobilized in purposive actions" (Lin, 2004, p. 41). The organisation as a corporate actor stands as a principal (ego) in its relation to individuals and groups, as agents (alters) in its network, who not only transact with the organisation but also amongst themselves as occupants of positions in the organisation's network (Coleman, 1993). In fact, "they [i.e. agents – individuals in the community –] must [interact among themselves] if their joint activity [say SCC] is to produce something of greater value than the sum of their independent activities" (Coleman, 1993, p. 8).

Three factors are important for the utilisation of social capital – *structure*, *opportunity* and *ability to act* (Lin, 2004). First, social capital is resources embedded in a structure and are utilised through purposive action (Adler & Kwon, 2002; Coleman, 1988, 1993; Lin, 2004). A "*social structure* is ... (1) a set of social units (*positions*) that possess differential amounts of one or more types of valued resources and that (2) are hierarchically related relative to *authority* (control of and access to resources), (3) share certain *rules* and procedures in the use of the resources, and (4) are entrusted to *occupants* (*agents*) who *act on* these rules and procedures" (Lin, 2004, p. 33). Since

social capital is attached to structure or positions held in a network, the loss of certain positions may imply loss of social capital resources (Burt, 2009; Lin, 2004). We, therefore, need to identify antecedents of structure and action, and the consequences of different structures and actions (Lin, 2004), as also indicated in Figure 4-2. A Theoretical Model of OPR (Broom, Casey & Ritchey 2000).

Second, the organisation's relationships, i.e., the network of social ties (direct and indirect ties), creates an *opportunity* for social capital (Adler & Kwon, 2002). Exploring the types of relationships and embedded properties, shown in Figure 4-2, provide a better and richer analysis of the actor's network to ascertain the opportunity provided by their network (Adler & Kwon, 2002; Borgatti & Halgin, 2011; Borgatti et al., 2009; Nahapiet & Ghoshal, 1998). Recognising the opportunity embedded in one's network builds one's motivation to act purposively towards achieving one's goals. Actors' motivation, in itself, shapes the structure of one's social relationships (Lin, 2004), as such structure as well shapes one's motivation to interact and relate with others (Adler & Kwon, 2002). Social structure reinforces motivation due to the benefits that accrue to engaging actors (Bourdieu (1985) cited in (Portes, 1998). This perspective corroborates Broom et al. (2000)'s argument that OPR leads to certain outcomes that shape motivation for proceeding structure and outcomes, as indicated in Figure 4-2.

Lastly, although rarely discussed, an individual or organisation's competencies – *ability to act* – works hand in hand with one's network of social ties to reach certain outcomes (Adler & Kwon, 2002). Precisely, the actor's abilities augment social capital (Portes, 1998). Even with social ties, an actor may not sufficiently utilise social capital transactions if they do not have the necessary skills and knowledge to take action (Adler & Kwon, 2002). Ability does not only apply to taking task-oriented action but also to establishing, maintaining and extracting value from social ties (Portes, 1998). Ideally, "social networks are not a natural given and must be constructed through investment strategies [ability in the form of knowledge, time and effort] oriented to the institutionalisation of group relations, usable as a reliable source of other benefits" (Portes, 1998, p. 3). For this reason, from an organisational perspective, this study recognises the role of organisational capabilities, in the formation, access and utilisation of OPR on social media.

4.6. Chapter Summary

This Chapter discussed theoretical perspectives on the use of social technology for group interactions and outcomes. We discussed the AST as the overarching theoretical perspective of this study along with closely related theories of structural model of technology and

sociomateriality. We discussed the reconceptualised views on the concepts of structural features and the spirit provided by the AST. We explained how the theory of affordances improves our understanding of organisation↔technology relationship and therefore provides a relational view of structural features and the spirit of technology. We also discussed the theory of OPR as supporting theory on organisation-public relationships and theoretical perspectives of social capital as supporting theory on social interaction and relationships. By reviewing the literature on nonprofits' use of social media, social media affordances, OPR, organisation dynamic capabilities, coupled with the theoretical perspectives discussed in this Chapter, we proposed a model for realising SCC on social media, which we present in the next Chapter.

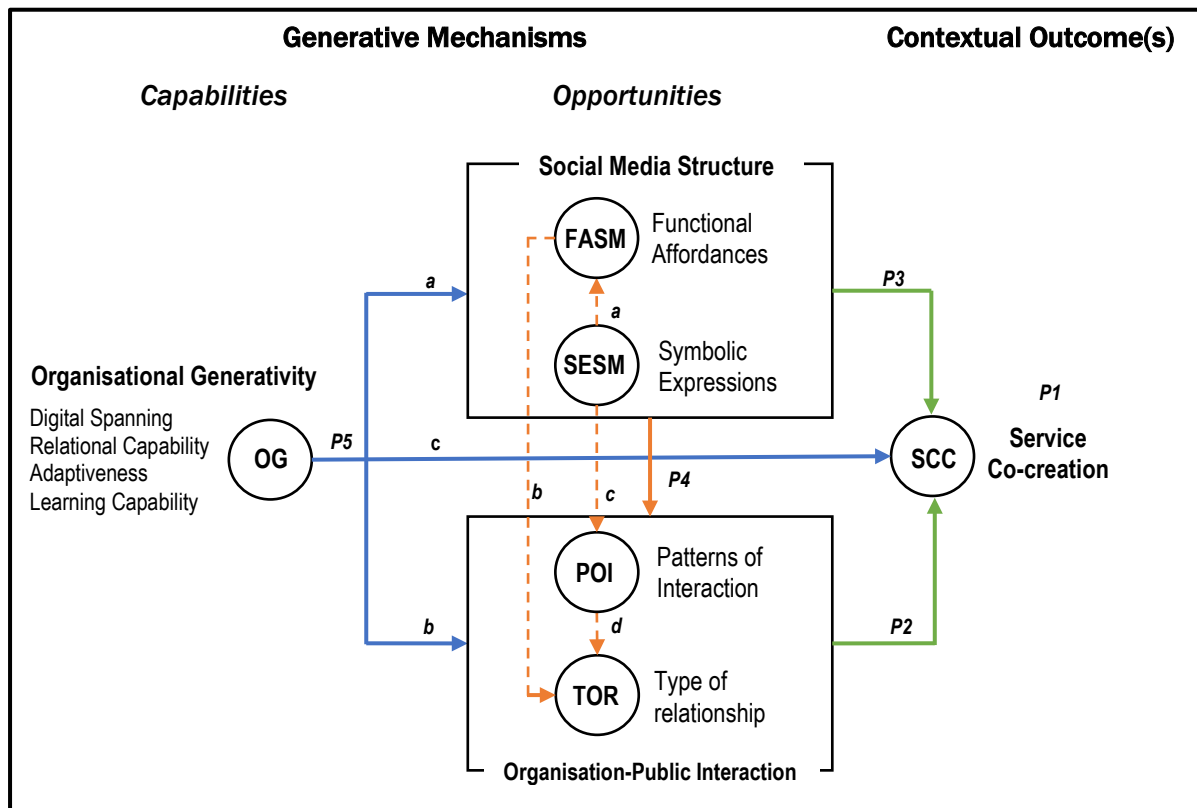
Chapter 5. Research Model, Propositions & Hypotheses

In this Chapter, we present and discuss our research model, key research propositions and the development of testable hypotheses on how the structures of social media and OPI provide mechanisms for service co-creation (SCC). We also discuss the potential role of organisational generativity in enabling purposeful social media interaction for SCC.

5.1. A Conceptual Model for Realising Service Co-creation on Social Media

Based on the aspects mentioned in Chapter 1, Section 1.2 to 1.3, the contributions and gaps in the literature provided in Chapter 3 and the theoretical perspectives discussed in Chapter 4, we proposed a model for realising SCC on social media. The research model in Figure 5-1 proposes; (1) the mechanisms for SCC on social media, (2) the enabling capabilities for realising SCC on social media, and (3) the relationship between capabilities, mechanisms and SCC. Figure 5-1, presents variables for realising SCC on social media include; SCC as the observed event or outcome, social media structure (SMS) and organisation–public interaction (OPI) as the opportunity mechanisms driving SCC, and organisational generativity (OG) as the organisation power mechanism (or capability for action) driving the organisation's SMS and OPI.

Figure 5-1. A Conceptual Model for Realising Service Co-creation on Social Media in Nonprofits



Following a critical realist perspective, the model in Figure 5-1 presents: (1) SCC as an event or outcome of nonprofits' social media interactions; (2) the explanatory mechanism(s) behind this outcome. The model supports our understanding of social media use in nonprofits by elaborating the “what” and the “how” in this phenomenon.

Service co-creation (SCC). We assume SCC as a potential event or outcome of nonprofit use of social media, since all fundamental pillars of co-creation and SCC, in particular, seem to exist; i.e., participation, involvement and engagement (Oertzen et al., 2018), as well as, the technology and social network (Kusumaningdyah & Tetsuo, 2017). SCC, as an outcome, is experienced directly or indirectly by the organisation on the one hand and the public, on the other hand (Blom & Morén, 2011). SCC, depending on the context, will occur in multiple forms, which inherently link to one another resulting in a process or definite outcome (Geissdoerfer et al., 2017; Oertzen et al., 2018; Russo-Spena & Mele, 2012). From a critical realist standpoint, we believe this outcome is observable and contextual (Blom & Morén, 2011; Bygstad & Munkvold, 2011); therefore, while social media structure, organisation-public interaction and organisation generativity are potential generative mechanisms, these may not be directly observed but could produce co-created services in nonprofits, and these mechanisms may produce another outcome for businesses and

individuals. Mechanisms are processes that make a system what it is (Bygstad & Munkvold, 2011). A generative mechanism is “a trans-empirical but real existing entity, explaining why observable events occur” (Blom & Morén, 2011, p. 60). The model in Figure 5-1 presents our conceptualisation of the potential generative mechanism driving nonprofit SCC, which could explain how or why this outcome may occur.

Social Media Structure. The AST posits that the structures of AITs, including the structural features and the spirit of the technology, explain emerging group processes and group outcomes (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990). To provide a balanced view on the potential interaction between the organisation and the technology without privileging the properties of either, scholars (Majchrzak & Markus, 2012; Markus & Silver, 2008) have argued for the adoption of the relational concepts of functional affordances and symbolic expressions, rather than structural features and the spirit, respectively. Functional affordances refer to action possibilities offered by social media, which in the case of nonprofits could include socialising (SOC), information sharing (CIS), visibility (VIR), and call for action affordances. Symbolic expressions, on the other hand, refer to the organisation’s understanding of the functions provided by, and recognition of values surrounding social media (Grgecic et al., 2015). Following Grgecic et al. (2015), we operationalise symbolic expressions of a social media through two aspects, i.e., communication of meaning (COM), and communication of values (COV).

Table 5-1. Description of Constructs and Sources of Measures for Social Media Structure (SMS)

Functional Affordances of Social Media (FASM)		
Construct	Description	Related Sources
Information sharing (CIS)	Creating and sharing content “containing information about the organisation’s activities, highlights from events, or any other news, facts, reports or information relevant to its stakeholders” (Lovejoy & Saxton, 2012, p. 343)	(Kietzmann et al., 2011; Lovejoy & Saxton, 2012; Mathiesen et al., 2013; Treem & Leonardi, 2013; Zhou & Pan, 2016)
Socialising (SOC)	Using social media for the purpose of connecting, sparking interactive conversations and community-building	(Abhari et al., 2016, 2017; Lovejoy & Saxton, 2012; O’Riordan et al., 2012; Vaast et al., 2017; Zhou & Pan, 2016)
Visibility (VIR)	Using social media for the purpose of increasing public presence, locating information about the organisation and presenting the organisation’s image	(Kietzmann et al., 2011; Treem & Leonardi, 2013; Zheng & Yu, 2016)
Calling for action (CCA)	Using social media for the purpose of asking followers to do something such as attend an event, make a donation or support a campaign, that enables the organisation to achieve its financial and strategic goals	(Lovejoy & Saxton, 2012; Mathiesen et al., 2013; Vaast et al., 2017; Zheng & Yu, 2016; Zhou & Pan, 2016)
Symbolic Expressions of Social Media (SESM)		
Construct	Description	Source
Communication of meaning (COM)	The conveyance of meaning attached to the symbols or functions of a given technology to a specific user group	(Grgecic et al., 2015; Markus & Silver, 2008)
Communication of values (COV)	The conveyance of the values relating to the entire IT object or to specific functions which align to the user’s perception of the desirability of the object or its functions.	

Organisation-Public Interaction. According to the AST, besides the structures provided by social media, there also structures that emerge in social interaction as users faithfully or unfaithfully appropriate the technology during group processes. The explanatory mechanisms emerging from the structure of OPI on social media can be explored through the structuralist thinking or the connectionist thinking approaches (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992; Kane et al., 2014). Through the structuralist (network) approach, we considered that OPI provides mechanisms for SCC through the patterns of interaction embedded in their social media relationships. Alternatively, we considered that OPI also provides mechanisms for SCC when organisations focus on the flow of resources or maximisation of resources or benefit from their social media relationships (i.e., the exchange or connectionist approach). Moreover, one can sufficiently understand the nature of organisation-public relationships by examining different types of

relationships and relationship properties as mechanisms for achieving desired outcomes (Broom et al., 1997, 2000). Cook and Whitmeyer (1992) argue that the relationship between the exchange and network qualities of social structures is both natural and potentially fruitful.

To investigate OPI for SCC, we studied the types of relationships based on the exchange approach (driven by public relations literature) and the patterns of interaction based on the network approach (driven by social networks literature). We identified potential patterns of interaction such as strong (STR), cohesive (COH), symmetrical (SYM) and similarity-based (SIM) interactions, and sufficient types of relationships for maximisation of benefits such as communal (COR), exchange (EXC) and symbiotic (SYB) relationships.

Table 5-2. Description of Constructs and Sources of Measures for OPI

Patterns of Interaction (POI)		
Construct	Description	Related Sources
Strong interaction (STR)	The intensity of interaction (frequency) and personalisation of a relationship (In-depth discussion) between two actors	(Brown et al., 2007; Gilbert & Karahalios, 2009)
Cohesive interaction (COH)	The extent to which actors are attracted to the group due to a sense of shared identity, goal commitments, presence collective risks and welfare, and/or active citizenship.	(Beal et al., 2003; Braaten, 1991; Chan et al., 2014)
Symmetrical interaction (SYM)	The extent of two-way dialogic communication between actors	(Grunig, 1989, 2000, 2001; Kent & Taylor, 1998, 2002)
Similarity-based interaction (SIM)	The extent to which actors perceive each other as similar in terms of shared interests and/or shared mindset	(Brown et al., 2007)
Types of relationships (TOR)		
Construct	Description	Source
Communal relationship (COR)	A relationship in which one entity shows concern for the other and seeks to offer benefits in response to the other entity's needs	(Clark & Mills, 1993; Hon & Grunig, 1999; Hung, 2005; Jo et al., 2005)
Exchange relationship (EXC)	A relationship in which all entities offer benefit with the expectation of an equivalent benefit in return	
Symbiotic relationship (SYB)	A relationship in which entities are largely interdependent and seek collaborative efforts for survival	(Hung, 2005; Hung & Chen, 2013)

Organisational generativity is a generative mechanism in the form of power, which relates to the organisation's ability to adopt explorative creativity (Sun & Zou, 2018b) and transformative ways of operating (van Osch & Avital, 2010) to uncover new possibilities in the social world that it could strategically leverage to achieve its goals (Avital & Te'Eni, 2009). Generativity is a key element in

the model because, first, the dynamic and evolving nature of social media requires organisations to build generative capabilities to thrive and survive (Hodgson et al., 2017; Levinthal, 1994; Sun & Zou, 2018a, 2018b). Second, actors (i.e., individuals and organisations) in such a sociomaterial phenomenon normally possess the capability to act purposefully to reach their intentions and goals (Orlikowski, 2007; Suchman, 2007).

Lastly, generative mechanisms provided by the structures of social media and OPI will consist of the fundamental powers of the actor (i.e. human or organisation power) as a driving force behind intentions, choices and considerations (Blom & Morén, 2011). Generative organisations would possibly possess the required capabilities for productive social media interaction towards collaborative outcomes. Drawing on the dynamic capabilities perspective, we specify a set of four generative capabilities that could stand the uncertainties and contingencies of social media and enhance social media interactions for SCC. These include digital spanning, relationability, adaptiveness, and learning capability – discussed earlier in Section 3.4 of Chapter 3.

Table 5-3. Description of Constructs and Sources of Measures for Organisation Generativity

Organisation generativity (OG)		
Construct	Description	Related Sources
Adaptiveness	The extent to which the organisation senses, reacts and respond to changes in the organisation's environment	(Chryssochoidis et al., 2016; Lin et al., 2016; Trinh-Phuong et al., 2012);
Learning capability	The ability to continuously acquire, assimilate, and apply new and relevant knowledge to enhance the strategic flexibility of the organisation	(Lane et al., 2006; Lichtenthaler, 2009; Sun & Anderson, 2010; Tzokas et al., 2015)
Digital spanning	The extent to which the organisation adopts aligns and integrates (social media) technology into its operations and overall strategy in order to achieve its objectives	(Lu & Ramamurthy, 2011; McLaughlin, 2017)
Relationability	The organisation's ability to initiate, maintain, utilise and acquire resources from its relationships	(Lin et al., 2016; McGrath, 2008; O'Toole & McGrath, 2008)

With the above description of the constructs in our research model, we draw on the AST and technology affordances perspectives to provide theoretical propositions and develop the hypotheses on the link between the enabling capabilities, the mechanisms for SCC on social media.

5.2. Propositions and Hypothesis Development

This section presents the hypotheses developed to quantitatively test our propositions and therefore answer our research questions. We develop high-level hypotheses, which present the overall effect of FASM, SESM, POI, TOR, and generative capabilities on SCC. We also derive lower-level hypotheses that depict the individual effects of different mechanisms and generative capabilities on SCC.

5.2.1. Services Co-creation through Social Media

Existing studies discussed in Section 3.1.1 in Chapter 3 indicate that OPI encourages community support towards the delivery of nonprofit services. By using social media, nonprofits intentionally or unintentionally interact and work with the community to deliver services and social value by means of stakeholder engagement (Xu & Saxton, 2019), connective and collective action (Zheng & Yu, 2016). Social media also supports resource mobilisation and acquisition (Saxton & Guo, 2020; Zhou & Pan, 2016). Social media activities such as authoring, posting, sharing and commenting allow organisations to engage the community in the co-production of content for a specific goal (Vaast et al., 2017). OPI on social media thus creates opportunities for nonprofit SCC (Sorensen et al., 2017).

Depending on the context, co-creation will manifest in different forms such as co-conception, co-design, co-experience, co-production, and co-promotion (De Koning et al., 2016; Frow et al., 2015; Frow et al., 2011). In service and innovation contexts, co-creation occurs in forms such as co-ideation, co-valuation, co-design, co-test, co-launch, co-production, and co-consumption (Oertzen et al., 2018; Russo-Spena & Mele, 2012). Similar to such cases, SCC on social media manifests in various forms, especially because these platforms support different resources ranging from social to financial resources.

SCC could involve regenerative and operative forms (Oertzen et al., 2018). Regenerative forms occur during the initial stages of the process and usually provide the foundation for subsequent operative forms towards overall SCC (Oertzen et al., 2018). Forms like co-ideation, co-valuation, co-design, and co-launching constitute regenerative SCC, while forms like co-production and co-consumption constitute operative co-creation (Geissdoerfer et al., 2017; Oertzen et al., 2018). Because regenerative forms of SCC occur prior to operative forms, they tend to shape the operative forms (Oertzen et al., 2018). Furthermore, operative forms may also shape future regenerative co-creation. For instance, compelling experiences (associated with co-consumption or co-

experiencing) influence future participation in SCC, the quality of contributions, the number of contributions, and the number of participants visits (Füller et al., 2011). Geissdoerfer et al. (2017)'s stages of the innovation process suggest that regenerative forms support the conceptualisation of services while the operative forms support the designing and implementation of service processes.

One can argue that the forms of SCC are interrelated and influence each other towards the overall outcome (Geissdoerfer et al., 2017; Oertzen et al., 2018). First, the initial processes enable the organisation to form an idea, define a problem, or derive a solution by inferring to shared instances or experiences (Dager, 2013). Second, the organisation and other actors progress into designing, developing, producing or testing solutions and ideas to ensure delivery of usable and relevant solutions or services. For instance, co-initiation is the first step towards the overall co-creation process (Dager, 2013). Similarly, the creation of communities, whether offline or online, provides the potential for co-creation and co-innovation (Rihova et al., 2013; Romero & Molina, 2011). Lastly, the organisation and other actors work together to derive a solution, product or service that is usable co-consumption and diversification (Geissdoerfer et al., 2017). With this evidence, we propose that:

Proposition 1. By using social media to engage the public in resource integrating activities, nonprofits realise multiple interrelated forms of service co-creation.

When drawing theoretical constructs from a real-world phenomenon, we need to specify the constructs prior to data collection and provide a testable hypothesis (Petter et al., 2007). There is a variety of plausible forms of SCC in the nonprofits context, as discussed in Section 3.5.4; therefore, we hypothesise that:

H1. Nonprofits will realise SCC in the forms of co-initiating, co-ideating, co-resourcing, co-advocating, co-assessing, co-experiencing, and co-progressing of services

5.2.2. Structures of Social Media and OPI for Service Co-creation

Figure 5-2 presents a fragment of the overall model of social media enabled SCC. Figure 5-2 elaborates propositions 2 to 4 and presents our hypotheses on the effects of social media structure (i.e., functional affordances and symbolic expressions to nonprofits) on OPI (i.e., patterns of interaction and types of relationships between nonprofits and the public) and the co-creation of nonprofit services.

Figure 5-2. A Model of Social Media, OPI and Service Co-creation

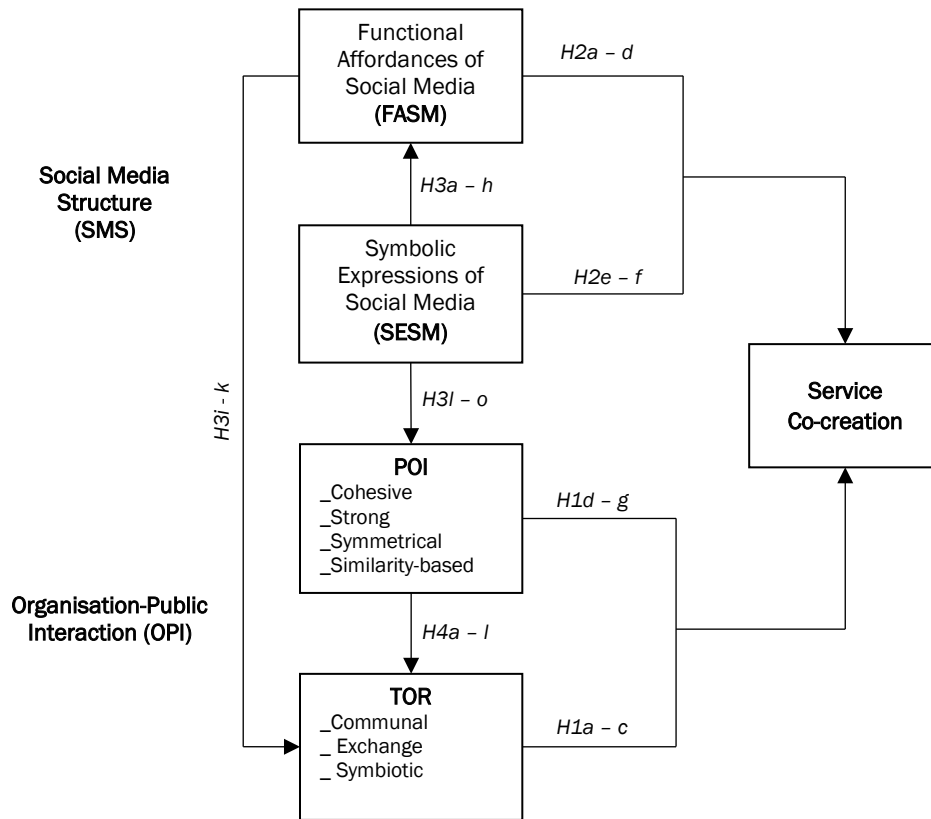


Figure 5-2 presents how the expressions of social media functionality and the expressions of meaning and values of social media affect nonprofit-public interaction and the co-creation of nonprofit services on social media. We elaborate propositions 2 and 3 by drawing a set of testable hypotheses.

5.2.2.1. Organisation-Public Interaction on Social Media and Service Co-creation

This section presents prior empirical and theoretical arguments on the potential role of OPI in the co-creation of nonprofit services through social media, which formed the basis for RQ3. We discuss, hypothetically, the potential role of organisational relationships and patterns of interaction in SCC.

Relationships are inherently embedded in customer co-creation processes because such processes denote active and creative social collaboration between customers and the organisation, facilitated by the organisation (Piller et al., 2012). Relationship building on social media is associated with enabling collective action and outcomes in philanthropic nonprofits (Maxwell & Carboni, 2017). Nonprofits strategically use social media to build and maintain

relationships that increase public involvement and participation in nonprofit activities (Briones et al., 2011). Increasing public involvement and participation in nonprofit activities could be the avenue to co-creation of nonprofits services since consumer involvement, participation and engagement are avenues to co-creation of services (Oertzen et al., 2018). For instance, organisations that continuously develop and maintain community relationships as well as foster a sense of community have also been able to actively engage in co-creation of consumption experiences (Rowley et al., 2007). Social media nurture collaborative and social economic-exchange relations sufficient for co-creation of innovation, leading to social product development. We, therefore, draw the following proposition and subsequent hypotheses.

Proposition 2. Nonprofit–public interaction on social media involves different types of relationships and embedded patterns of interaction, which provide the mechanisms for SCC

To test this proposition, we generated hypotheses as discussed in sections numbered (a) and (b) that follow below.

a. Types of Relationships and Service Co-creation.

Service co-creation is a relational, collective and collaborative process and outcome. Organisations that build rapport with key stakeholders, such as suppliers, customers or the public, are better suited to engage in co-creation activities (Hakanen & Jaakkola, 2012). Collaboration between an organisation and the public lies in the ability of the organisation to attract and leverage societal corporatism, collectivism and communal relationships (Grunig, 2000). Communal relationships build a reputation for being concerned about community needs and will attract support over time (Grunig, 2001). There is evidence to suggest that communal relationships are central to collective and collaborative initiatives (Grunig, 2000). Exchange relationships, like communal relationships, influence people's intrinsic, extrinsic and social motivations to donate in support of nonprofit activities (Johnson & Grimm, 2010).

Considering that SCC is a socio-economic activity, communal relationships allow the organisation to engage in mutually beneficial interactions (Grunig, 2000; Hung, 2005). Communal relationships breed ground for commitment and reciprocation (Clark et al., 1986). Likewise, symbiotic relationships are fundamental in interactions that seek to satisfy a common interest (Hung, 2005). Symbiotic relationships will support continuous interactions, even in social media environments (Shumate & O'Connor, 2010). A Facebook group, for example, will continue to exist for as long as the organisation and the community members in that group continue to perceive benefits

associated with it. Because co-creation activities are rarely one-off engagements (Hilton et al., 2012), the organisation needs to consider the role of on-going interactions with target groups or communities.

On the other hand, manipulative and exploitive relationships constrain on-going interactions, mainly because they involve one-way communication (e.g. organisation posts content on social media but ignores community comments and feedback) (Hung, 2005; Waters & Bortree, 2012). Without two-way communication processes, there is no dialogue, and therefore, co-creation activities are affected (Reypens et al., 2016). Manipulative and exploitive relationships would limit the productiveness of OPI on social media, which will, in turn, constrain the process and outcome of SCC. Similarly, exchange relationships may fail to build a strong reputation and attract social support (Grunig, 2000), but depending on the context, exchange relationships may enable collective action – e.g. collective campaigns in social media (Bowen & Sisson, 2015). We thus hypothesise that;

H1A. The organisation's relationships with the public on social media (TOR), all taken together, will have a positive effect on SCC, whereby;

H1a. Communal (COR) relationships have a positive effect on SCC

H1b. Exchange (EXC) relationships have a positive effect on SCC

H1c. Symbiotic (SYB) relationships have a positive effect on SCC

b. Patterns of Interaction and Service Co-creation.

Social innovation, co-creation and SCC in particular, thrive in a multi-actor network or multiple stakeholder network (Kusumaningdyah & Tetsuo, 2017; Oertzen et al., 2018; Reypens et al., 2016; Romero & Molina, 2011; Voorberg et al., 2014). The structural factors, as well as the relational and cognitive factors, of such networks, are positively related to co-creation (Nguyen, 2017). Interaction sequences in such networks will lead to successful negotiations (Miller, 2011) and will influence co-creation processes (Kusumaningdyah & Tetsuo, 2017). Significant interactions in multi-actor networks may constitute frequent, bidirectional and face-to-face communication to support co-creation processes, in general (Czarnota, 2018). Organisations need to focus on the frequency of interaction, direction of communication, modality and content to support SCC (Gustafsson et al., 2012). Frequent, bidirectional, face-to-face and active communication are likely to enable trust and high-quality information exchange about customers' needs, which in turn is instrumental for successful co-creation (Czarnota, 2018). Existing studies argue that social network factors influence nonprofit public collaborative activities including

fundraising, crowdfunding and the total donations – see (Bhati & McDonnell, 2019; Saxton & Wang, 2014; Zhou & Ye, 2019). From a general perspective, we hypothesise that

H1B. The organisation's patterns of interaction on social media (POI), all taken together, have a positive effect on SCC

Cohesive interaction and SCC. Cohesion is instrumental in building social synergy and pro-social attitudes towards addressing economic needs and social change (Cantle, 2005; Chan et al., 2014; Tsang & Chu, 2014). Over the years, the role of social cohesion among communities has evolved from a sense of belongingness and community to collaborative relationships and collective roles to promote social changes (Phillips & Berman, 2001; Tsang & Chu, 2014). Cohesive ties attract active cooperation in a social network (Gargiulo & Benassi, 2000; Ho et al., 2006). This occurs mainly because cohesive ties in informal social networks tend to encourage trust and solidarity towards mutual benefits (Ho et al., 2006). Cohesive ties also offer information advantages, such as multiple sources of information, and information veracity and reliability, which support effective action (Ho et al., 2006). When members are closely connected, e.g., in closed social media groups, there is an opportunity for knowledge transfer and acquisition between members (Tortoriello et al., 2012). Cohesive relationships attract bridging ties, such as Simmelian ties (common third-party ties), which create the opportunity for innovation (Tortoriello & Krackhardt, 2010). Generally, cohesion at a community level, rather than societal level, creates an avenue for collective effort to achieve a common goal (Jenson, 1998; Phillips & Berman, 2001). We draw a hypothesis that

H1d. Cohesive interaction (COH) has a positive effect on SCC

Strong interaction and SCC. Frequent interaction, which is characteristic of strong relationships (Gilbert & Karahalios, 2009; Marsden & Campbell, 1984; Petróczi et al., 2007), is conducive to learning, sharing and understanding of customer needs (Amin & Cohendet, 2004). Strong ties influence word-of-mouth more than weak ties since strong ties support information flow (Palmatier et al., 2006; Wirtz & Chew, 2002). Enabling word of mouth would create an avenue for co-promotion of services. Additionally, strong ties on Facebook improve communication between people and are reported to support broadcasting as well as directed communication (Burke & Kraut, 2014). While offline studies have indicated that weak ties tend to provide novel information, on social media, it is the strong ties that provide rich information to the extent that they improve a person's overall knowledge (Panovich et al., 2012). Moreover, strong ties increase question-answer interaction between people on social media (Panovich et al., 2012).

Strong ties facilitate innovation; therefore, business companies build strong ties to support customer co-creation (Fredberg & Piller, 2011). Strong ties with customers increase customer

loyalty, relationship continuity, cooperation between the organisation and its customers (Palmatier et al., 2006), and lead to optimisation of effort towards specific customer groups (Fredberg & Piller, 2011). Strong ties are a dependable source of supportive resources like social and emotional support and encourage actors to offer small services to one another (Granovetter, 1973; Wellman & Wortley, 1990). Moreover, existing evidence suggests that strong ties can build synergy for volunteering because they are associated with intensive and long-lasting interaction (Apinunmahakul & Devlin, 2008). We hypothesise that

H1e. Strong interaction (STR) has a positive effect on SCC

Symmetrical interaction and SCC. Two-way symmetrical communication and dialogic communication can be seen as steps in a process and product through which the organisation and the public communicate interactively (Kent & Taylor, 1998). In multi-stakeholder innovation networks, interactive, dialogic and two-way symmetrical communication enhances stakeholder interest, engagement (Van Wissen & Wonneberger, 2017), attitudes and behaviour towards nonprofits campaigns (Duong, 2017), which makes such interactions conducive for co-creation and value realisation (Reypens et al., 2016). Dialogic relations can be characterised of empathetic understanding and supportive attitude (Kent & Taylor, 2002), which could create a conducive climate for supportive interaction towards resource integration and SCC. When the organisation socialises with its service consumers, it engages in dialogic communication focused on its service value propositions which ultimately supports SCC (Jarvenpaa & Tuunainen, 2013). Two-way symmetrical and dialogic communication has also proved productive in co-creating corporate identity (Theunissen, 2014). We hypothesise that

H1f. Symmetrical interaction (SYM) has a positive effect on SCC

Similarity-based interaction and SCC. Social media interactions and networks attract closeness and friendship through social similarity based on interests and topics of discussion (Aiello et al., 2012). That is, similarity-based relations could complement strong and cohesive interaction. Besides the strength and cohesiveness of interactions, there is evidence to suggest that symmetrical and similarity could enable productive interaction towards collective activities and support. First, the similarity between people encourages the exchange of financial aid and small services (Wellman & Wortley, 1990). Second, bidirectional or two-way communication and interaction, characteristic of symmetrical relationships (Bonacich, 1972), enables the organisation to listen to, and solicit feedback from target groups thereby improving responses to the community (Kent & Taylor, 1998, 2002). Third, like tie strength, social similarity is a strong predictor of promotive behaviour such as eWoM on Facebook, Myspace and LinkedIn (Chu & Kim, 2011).

Status similarity may strongly affect the formation of organisation–public alliances and could indirectly stifle resource complementarity and productive collaborative experiences (Chung et al., 2000). Commonly, “effective co-creation of solutions requires a fit between the perceptions of multiple suppliers and their customers with regard to core content, operations and processes, customer experience and value of the solution” (Hakanen & Jaakkola, 2012, p. 536). We, therefore, hypothesise that

H1g. Similarity-based interaction (SIM) has a positive effect on SCC

5.2.2.2. Social Media Structure and Services Co-creation

Examining the role of social media requires us to unbundle its structural features (Smock et al., 2011). The structural features of a given technology and the spirit or intent of the designer constitute the structure of that technology that fully represents the role of a particular technology towards group processes and outcomes (DeSanctis & Poole, 1994; Poole & DeSanctis, 1990). However, focusing on the structural features and designer intent emphasises the material over the social component of the technology, thereby overlooking the sociomaterial nature of social media. Considering the functional affordances and symbolic expressions of a given technology allows a sociomaterial exploration and investigation of the potential effects of social media on collaborative activities and outcomes (Faraj & Azad, 2012; Markus & Silver, 2008).

a. Functional Affordances of Social Media and Service Co-creation.

The organisation chooses to use social media in a particular way because of the value it attaches to its features (Al-Natour & Benbasat, 2009). The possibilities for action that arise as the organisation uses social media influence the results of the technology (Bernardi et al., 2019). The perceived and actualised action possibilities of social media, i.e., the functional affordances for the user become enablers or constraints of social media towards achieving a user’s goal (Faraj & Azad, 2012). They provide a foundation for social outcomes (Grgecic et al., 2015). Social media affordances often enable collective acts resulting in collective outcomes (van Osch & Avital, 2010), collective action (Zheng & Yu, 2016) and create new forms of organising and collective engagement in which actors coproduce and circulate content based upon an issue of mutual interest (Vaast et al., 2017).

Social media is increasingly emerging as a space for resource mobilisation and integration among nonprofits because it supports information sharing, community creation and collective action (Zhou & Pan, 2016). Resource mobilisation, integration and value realisation provide the foundation for SCC (Hilton et al., 2012; Hughes, 2014). Similarly, social media posts have become

an avenue and resource for value co-creation because they enable nonprofits to engage the public in events, donations and fundraising, and social justice shout-outs and thunderclaps (Sorensen et al., 2017). Social media also enables public involvement, participation and engagement in nonprofit activities (Cho et al., 2014), which create the potential for SCC. This is mainly because consumer involvement, participation and engagement are the pillars of SCC (Oertzen et al., 2018). Realising the usefulness of social media, coupled with ongoing interaction between people, improves user attitudes towards SCC, their intention to co-create and their eventual SCC behaviour (Cheung & To, 2016).

Overall, technology affordances are mechanisms to a concrete outcome or an ultimate user goal (Bygstad et al., 2016; Faraj & Azad, 2012; Volkoff & Strong, 2013). Moreover, “a mechanism has the power to cause an event, but may or may not do so ... mechanisms can both enable or constrain action” (Volkoff & Strong, 2013, p. 821). We are drawn to propose that;

Proposition 3. The structures of social media enacted in the action possibilities offered, the meaning conveyed and the values promoted provide the mechanisms for co-creation of nonprofit services

To investigate this proposition, we hypothesise that:

H2A. The functional affordances of social media for the organisation (FASM), all taken together, will have a positive effect on SCC; whereby,

H2a. Information-sharing (CIS) affordances have a positive effect on SCC

H2b. Socialisation (SOC) affordances have a positive effect on SCC

H2c. Visibility (VIR) affordances have a positive effect on SCC

H2d. Calling for action (CCA) affordances have a positive effect on SCC

b. Symbolic Expressions of Social Media and Service Co-creation.

Context and interaction between individuals generate meaning that drives social acts (Chang, 2000). Technology, as a socio-technical context, presents features which are triggers of sense-making, where individuals make meaning of its symbols and functionality (Griffith, 1999). Technologies play a referential function to users; they convey signs which represent something based on culture, sociality and meaning (Jensen, 1993). Meanings and ideologies are generated by organisation interests and ultimately influence the purpose and ways in which organisations use technology (Scarbrough & Corbett, 1992). Technology will, therefore, shape the ways in which it is perceived and consequently shape the ways in which it is applied to achieve socio-economic activities (Orlikowski & Iacono, 2001). Social media, like other technologies, is subject to diverse

interpretation across users and context (Jorgensen, 1993) which will motivate the ways in which different users apply this technology to achieve their goals.

Technology “generates an artificial symbolic universe of its own that pre-empts the functions of its natural human counterpart” (Ellul, 1978, p. 207). It is a mechanism that conveys human meaning and shapes human action in various circumstances across time and place (Orlikowski, 2007). Social media, like other artefacts, is a sign (i.e. patterns of interpretation, metaphors and figures of thought) that drives human capacity for creativity and innovation (Petrilli, 2006). It conveys meaning and values to users, which not only leads to the formation of beliefs and values about it but also one’s actions (Faraj & Azad, 2012; Grgecic et al., 2015; Markus & Silver, 2008). Communication of meaning and values represents the symbolic expressions of technologies, which evolve as users work towards achieving their goals (Goh et al., 2011; Markus & Silver, 2008). Symbolic expressions shape the user’s agency to experiment and discover as a means to performance gain (Goh et al., 2011). Overall, symbolic expressions not only shape the immediate uses of an IT artefact but also the ultimate impacts or outcomes of that technology (Cheikh-Ammar, 2018). To further elaborate proposition 3, we hypothesise that

H2B. The symbolic expressions of social media to an organisation (SESM), all taken together, will have a positive effect on SCC; whereby,

H2e. Communication of meaning (COM) has a positive effect on SCC

H2f. Communication of values (COV) has a positive effect on SCC

5.2.2.3. Social Media and Organisation-Public Interaction

Social media provides the explanatory mechanisms for the networks that occur through social media (Kane et al., 2014). In Figure 5-2, we present hypotheses that explain the relationship between Social media and OPI on social media. The following sections, numbered a – d, discuss the relationship between each aspect of social media structure, i.e., functional affordances and symbolic expressions on types of relationships and patterns of interactions in OPI, respectively.

a. Symbolic expressions and functional affordances of social media.

Users derive messages, actions and outcomes that may not be intended by a technology designer but are rather shaped by the users’ impressions, understanding or interpretation of a technology (Cheikh-Ammar, 2018; Markus & Silver, 2008). Technology artefacts convey a system of symbols or messages, which communicate to the users the functions, and possible actions associated with the artefact (Grgecic et al., 2015; Markus & Silver, 2008). It is this symbolism embedded in a

technology that shapes its uses and impacts (Cheikh-Ammar, 2018). Through a system of symbols, technologies convey meaning and values which continuously shape the technology affordances to a group of users (Grgecic et al., 2015; Markus & Silver, 2008).

Markus and Silver (2008) conceptualise the ability of technology to convey meaning and values as symbolic expressions of a technology. They indicate two aspects of symbolic expressions. First, a technology, like social media, conveys expressions about its functionality to a particular user such as a nonprofit organisation. Additionally, it conveys an epitome of values associated with it. Such expressions of functionality and values shape the user's perception and actualisation of social media functionality, possibilities for actions or goal-oriented interaction (Cheikh-Ammar, 2018; Grgecic et al., 2015). Symbolic expressions related to technology can be formed prior to a user's interaction with the technology triggered by marketing and social influences (Goh et al., 2011). With the theoretical link between symbolic expressions and functional affordances, we propose that;

Proposition 4-a. The structures of social media influence nonprofit-public interaction, in such a way that the meaning conveyed and values promoted will influence the action possibilities afforded to nonprofits

To investigate this proposition, we hypothesise that

H3A. The symbolic expressions of social media to an organisation (SESM), all taken together, will have a positive effect on the functional affordances (FASM); whereby,

H3a. Communication of meaning (COM) has a positive effect on information sharing (CIS) affordances

H3b. Communication of meaning (COM) has a positive effect on socialisation (SOC) affordances

H3c. Communication of meaning (COM) has a positive effect on visibility (VIR), affordances

H3d. Communication of meaning (COM) has a positive effect on calling for action (CCA) affordances

H3e. Communication of values (COV) has a positive effect on information sharing (CIS) affordances

H3f. Communication of values (COV) has a positive effect on socialisation (SOC) affordances

H3g. Communication of values (COV) has a positive effect on visibility (VIR) affordances

H3h. Communication of values (COV) has a positive effect on calling for action (CCA) affordances

b. Functional Affordances of Social Media and organisation-public relationships.

Relationship building is a core function of social media (Kietzmann et al., 2011; Schlagwein & Hu, 2016; Treem & Leonardi, 2013). Like individuals, organisations are increasingly using social media as a key strategy for customer relationship management (Heller Baird & Parasnis, 2011). In nonprofits, specifically, the use of social media has allowed such organisations to evolve from communication and information sharing to building and maintaining relationships (Briones et al., 2011; Maxwell & Carboni, 2017). Scholars have argued that by virtue of its functionality, social media enables nonprofits, like other organisations, to connect to communities, to build and strengthen relationships with target communities and social groups.

Despite the insufficient evidence on types of OPR on social media, Majchrzak et al. (2013) argue that social media affordances such as metavoicing, network awareness, and generative role-taking, influence communal relationships for knowledge conversations and knowledge sharing. Web platforms tend to influence various aspects of organisational relationships such as control mutuality, commitment, trust, satisfaction, openness and intimacy (Liang et al., 2011; Park & Reber, 2008). Moreover, relationship factors like control mutuality, trust, commitment and satisfaction are key characteristics of productive OPR such as communal relationships (Huang, 2001; Ledingham & Bruning, 1998). On the other hand, openness is characteristic of symbiotic relationships (Jacucci et al., 2014; Rosenthal et al., 2010).

Public relations scholars, Kent and Taylor (1998), have long asked the question of how web technologies affect communicative relationships between the organisation and its publics. They argued that “technology itself can neither create nor destroy relationships; rather, it is how the technology is used that influences organisation – public relationships” (p. 324). IS scholars, (Faraj & Azad, 2012; Markus & Silver, 2008), in acknowledgement, state that technology as an object offers possibilities for action towards the user’s desired goal, which goal, in this case, could be relationship building. Moreover, to the extent that the structure of AITs, such as social media, vary, certain forms of social interaction are encouraged (DeSanctis & Poole, 1994). We propose that;

Proposition 4-b. The structures of social media influence nonprofit-public interaction, in such a way that the action possibilities afforded, provide the mechanisms for organisation–public relationships on social media

To investigate this proposition, we hypothesise that;

H3B. The functional affordances of social media to an organisation (FASM), all taken together, will have a positive effect on organisation-public relationships (TOR); whereby,

H3i. Functional affordances of social media (FASM) have a positive effect on communal (COR) relationships

H3j. Functional affordances of social media (FASM) have a positive effect on exchange (EXC) relationships

H3k. Functional affordances of social media (FASM) have a positive effect on symbiotic (SYB) relationships

c. Symbolic Expressions of Social Media and Patterns of Interaction.

Like functional affordances, the communicative possibilities of social media shape action (Grgecic et al., 2015; Markus & Silver, 2008). Symbolic expressions influence the formation of beliefs about information systems, which also shape social actions and social structure (Grgecic et al., 2015). Human perception, interpretation, meaning and values associated with technology shape the production and reproduction of social structure (Markus & Silver, 2008). Social structure involves resources and transformational relations, most commonly structural factors such as social ties (Giddens, 1984; Lin, 2004). As technology evolves over time, it influences network structural factors such as network centrality and power (Burkhardt & Brass, 1990; Licoppe & Smoreda, 2005). Technological means of communication and interaction allow people to re-negotiate their interaction patterns, i.e. time and who they interact with, social exchanges, roles, hierarchies and forms of power (Licoppe & Smoreda, 2005).

The organisation's perception of the usefulness of internet technology closely defines its level of interaction with stakeholders through the internet (Kusumaningdyah & Tetsuo, 2017; Saffer et al., 2013). Social media, particularly, shapes how people interact and engage in their social network (Majchrzak et al., 2013). Although the relationship between social media and social capital remains unclear, social media functionality is directly linked to the formation and thriving of social networks (Ellison, Steinfield, et al., 2011; Kane et al., 2014). Facebook, for example, improves the intensity of communication between users which improves bonding and closeness between people (Ellison, Lampe, et al., 2011). The formation of such strong relationships is theoretically associated with social cohesion (Forrest & Kearns, 2001; Friedkin, 2004) and multiplexity in social networks (Jackson et al., 2016). Social media also converts weak offline ties into strong online ties (Ellison, Steinfield, et al., 2011). Further still, sociality on social media fosters bridging social capital (linking to various groups), however, when users perceive social media as a platform for passive usage, it then constrains the possibilities of bonding and strong interaction (Min-Woo et al., 2013).

The different ways in which people interpret, understand and perceive social media will most certainly shape social media use leading to different social capital outcomes, relating particularly to structural patterns of linking, bonding, and bridging (Ellison, Steinfield, et al., 2011). However,

such interpretations will not only shape the ways in which people interact but also the relationships that emerge (Dumbleton, 2016). We propose that;

Proposition 4-c. The structures of social media influence nonprofit-public interaction, in such a way that the meaning conveyed and values promoted will influence organisational patterns of interaction on social media

To investigate this proposition, we hypothesise that,

H3C. The symbolic expressions of social media to an organisation (SESM), all taken together, will have a positive effect on the organisation's patterns of interaction on social media (POI); whereby,

H3l. Symbolic expressions of social media (SESM) have a positive effect on cohesive (COH) interaction

H3m. Symbolic expressions of social media (SESM) have a positive effect on strong (STR) interaction

H3n. Symbolic expressions of social media (SESM) have a positive effect on symmetrical (SYM) interaction

H3o. Symbolic expressions of social media (SESM) have a positive effect on similarity-based (SIM) interaction

d. Patterns of Interaction and organisation–public relationships (OPR).

Because social media is key in enabling nonprofits to communicate with the public in various ways, it creates a rich context for OPR to thrive. Such relationships are, fundamentally, “bestowed, sustained and transformed through communicative behaviours” (Broom et al., 1997, p. 87) citing (Millar and Rogers 1976). They exist from an individual entity's point of view and are a product of that entity's interaction events or patterns of message interchange with other entities (Andersen, 1993; Cappella, 1991). OPR, in particular, has measures, antecedents and consequences (Broom et al., 1997, 2000). There are different types of OPR, depending on a mix of attributes and perceptions applied to measure these relationships. In view of the open systems model of OPR, Broom et al. (1997, p. 94) citing (Cutlip et al., 1994) explain that “antecedents to relationships include perceptions, motives, needs, behaviours and so forth that are posited as contingencies or causes in the formation of relationships. The consequences of relationships are outputs that have the effects of changing the environment and of achieving, maintaining or changing goal states both inside and outside the organisations”.

Relationships are a combination of interactions between partners and the cognitive activity of actors, i.e., observing, sense-making, decision making, perceiving, and so forth (Andersen, 1993). Understanding relationships, both personal and organisational, requires our reflection on the

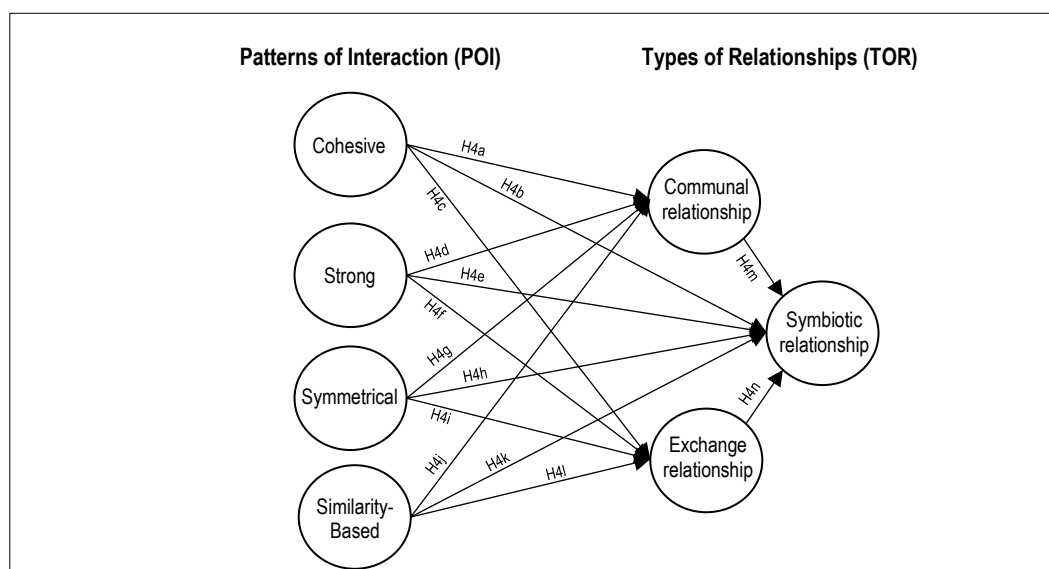
association between patterns of interaction, communication, exchange or linkage between actors and the actors' experienced state of the relationship (i.e., relational state/type) (Broom et al., 1997, 2000; Cappella, 1991). An insightful exploration of relationships should start by delineating “(1) the types and structure of behaviours enacted in interpersonal encounters, (2) the processes of encoding and decoding such behaviours, and (3) the magnitude and type of influence if any, that one's overt behaviour has on the other partner” (Cappella, 1991, p. 103).

We identify the types of OPR and patterns (structure) of interaction in OPR and give primary attention to the ways in which the interaction patterns of nonprofits on social media might affect the types of emerging OPR. The interactions patterns represent the dynamic features of OPR, while the types of OPR represent the static features of OPR. Ideally, the dynamic features of relationships (i.e. properties or patterns of interaction) are the defining characteristics of a relational state and represent the existing degree or type of adaptation, which is not inherently good or bad but a precursor for a given relational state (Cappella, 1991). For instance, organisational interactivity on social media tends to affect the quality of OPR (Saffer et al., 2013). We argue that

Proposition 4-d. The structures of social media influence nonprofit-public interaction, in such a way that organisational patterns of interaction on social media influence their relationships with the public

We elaborate this proposition and develop specific testable hypotheses depicting the effects of different patterns of interaction on various relationships, as indicated in Figure 5-3 below.

Figure 5-3. A Model of Patterns of Interaction and OPR on Social Media



Given the preceding observations, we investigate Proposition 4-d by hypothesising that;

H3D. The organisation's patterns of interaction on social media (POI), all taken together, will have a positive effect on organisation-public relationships on social media (TOR)

Cohesive Interaction and TOR. Cohesion involves attributes such as a sense of community and attachment to a group (Chan et al., 2014), which are characteristic of communal relationships (Tsai et al., 2014). Parties in cohesive interactions will tend to cooperate and a desire to assist others (Coleman, 1988; Granovetter, 1985), which is also a key aspect of communal relationships (Clark & Mills, 1993; Clark et al., 1986). Besides fostering a sense of mutual obligation, cohesive ties are associated with reciprocation, reward and coercive power (Gargiulo & Benassi, 2000; Ho et al., 2006), which are perceived by parties involved in exchange relationships (Clark & Mills, 1993; Clark et al., 1986). However, mutuality, reciprocity, and interdependence are characteristic of cohesive interactions (Chan et al., 2014) but also tend to manifest in symbiotic relations (Jacucci et al., 2014; Rosenthal et al., 2010). With the above notes, we posit that

H4a. Cohesive interaction (COH) is positively related to communal (COR) relationships on social media

H4b. Cohesive interaction (COH) is positively related to symbiotic (SYB) relationships on social media

H4c. Cohesive interaction (COH) is positively related to exchange (EXC) relationships on social media

Strong interaction and TOR. OPR, such as communal relationships can be strong or weak; but when such relationships are weak they “do not provide the degree of motivation sufficient for the giving of costly benefits” (Clark & Mills, 1993, p. 685). Strong communal relationships will be more productive because such interactions involve emotional intensity and increased customer commitment to the organisation (Stanko et al., 2007). Commitment and closeness ultimately nurture long term interaction which strengthens communal relationships (Tsai et al., 2014). Additionally, high interactivity and breadth of communication are characteristic of strong relations on social media and can positively affect perceived OPR (Saffer et al., 2013). Strong social media relations are also reported to improve relationship closeness over and above face to face interaction (Burke & Kraut, 2014). Researchers have found that relational closeness is associated with communal OPR in service processes (Tsai et al., 2014). On the other hand, long term interaction, intimacy, and commitment in many internet supported environments enable organisations to build exchange relationships (Park & Reber, 2008). We thus posit that

H4d. Strong interaction (STR) is positively related to communal (COR) relationships on social media

H4e. Strong interaction (STR) is positively related to symbiotic (SYB) relationships on social media

H4f. Strong interaction (STR) is positively related to exchange (EXC) relationships on social media

Symmetrical Interaction and TOR. Symmetric networks are characterised by mutual, reciprocated, and two-way communication between actors (Bonacich, 1972; Granovetter, 1973; Koput, 2010). Symmetrical interactions will involve dialogic communication between the organisation and the public (Koput, 2010). Dialogic communication balances the interests of the organisation and the public, which fosters mutual understanding and exchange of benefits (Grunig, 1989, 2001). Symmetrical public relations breed openness and closeness between the organisation and the public, which supports the formation of communal relationships (Grunig, 1989, 2000, 2001). Social media supports two-way communication and can, therefore, be used to improve the quality OPRs (Saffer et al., 2013). On the other hand, symmetrical interaction promotes interdependence between the organisation and the community (Grunig, 1989), which is characteristic of symbiotic relations (Jacucci et al., 2014; Rosenthal et al., 2010). With the above notes, we posit that

H4g. Symmetrical interaction (SYM) is positively related to communal (COR) relationships on social media

H4h. Symmetrical interaction (SYM) is positively related to symbiotic (SYB) relationships on social media

H4i. Symmetrical interaction (SYM) is positively related to exchange (EXC) relationships on social media

Similarity-based interaction and TOR. Similarity, based on people's characteristics and interests, fosters empathy and is more conducive for supportive exchanges (Wellman & Wortley, 1990). Similarity in interests and topics of discussion on social media also fosters closeness and friendship (Aiello et al., 2012). Similarity breeds strong interaction (Makela et al., 2007; Reagans, 2011), which in the long run, nurtures communal relations (Tsai et al., 2014). Early scholars have argued that resource similarity is associated with interdependence (Ahuja et al., 2009) citing (Pfeffer & Nowak 1976) and conducive for mutual understanding. Because nonprofit-public co-participation in service provision could be fundamentally for resource complementarity, and resource-based similarity attracts interdependence, then using social media to foster virtues of resource similarity and interdependence could ultimately nurture symbiotic relations.

H4j. Similarity-based interaction (SIM) is positively related to communal (COR) relationships on social media

H4k. Similarity-based interaction (SIM) is positively related to symbiotic (SYB) relationships on social media

H4l. Similarity-based interaction (SIM) is positively related to exchange (EXC) relationships on social media

Most research in public relations overlooks the symbiotic adaptation in OPR while emphasising the existence of communal and exchange relationships. However, relationships take on symbiotic forms to enable group processes when certain elements are lacking in a relationship (Broom et al., 1997) citing Miller (1978). Symbiosis is arguably the eventual relational state of productive OPR. We argue that popular OPR, i.e., communal and exchange, could be mere initial relational states which could ultimately evolve towards symbiotic OPR. The hypotheses below present a relationship between communal, exchange and symbiotic OPR.

Communal and Symbiotic OPR. Communal relationships have proved to support long-lasting collaborations in service organisations (Tsai et al., 2014). Continuous cooperation and collaboration may allow the organisation and its publics to identify common goals and develop joint strategies to achieve set goals (Ivery, 2007), which symbolizes a tendency to engage in a symbiotic relationship. Moreover, symbiosis is one form of adaptation that occurs after communal adaptation (Astley & Fombrun, 1983). When organisations engage in dialogic communication, i.e., symmetrical interaction, they build communal relationships (Grunig, 2000), which consequently nurture symbiotic relations due to the interdependence developed between the organisation and the public (Grunig, 1989). We thus posit that

H4m. Communal (COR) relationships are positively related to symbiotic (SYB) relationships on social media

Exchange and Symbiotic OPR. Organisations may interact with the public to collaborate and enhance each other's capability to achieve benefits and social satisfaction (Larson, 1992). During such interactions, actors collaborate and enhance their capabilities to address complex social issues, which is characteristic of symbiotic relationships (Astley, 1984; Astley & Fombrun, 1983; Ivery, 2007). Larson (1992) argues that exchange processes are embedded, naturally and socially, in symbiotic interaction to the extent that isolation of one transaction from the social context is a distortion of reality. Further still, companies and customers often engage in an ongoing exchange process and adapt to each other's needs and capabilities (Hallen et al., 1991). In exchange interactions, one or both parties may eventually bring about a fit between their needs and capabilities, in a symbiotic way, as a prerequisite for an ongoing exchange relationship (Hallen et al., 1991).

H4n. Exchange relationships (EXC) are positively related to symbiotic relationships (SYB) on social media

5.2.3. Organisation Generativity: Renewing and Incremental Capabilities

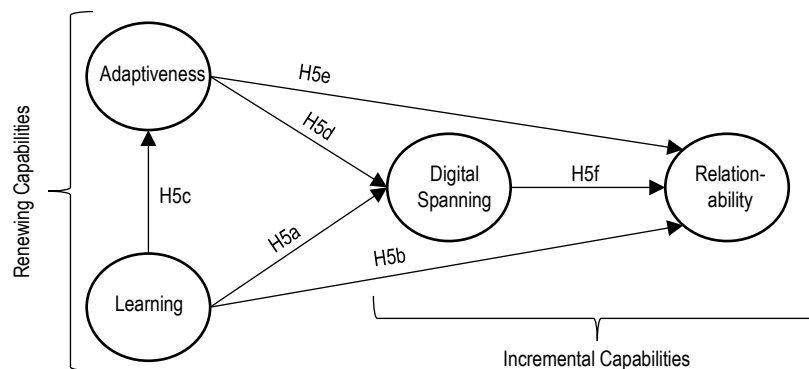
Dynamic capabilities are widely recognised for enabling operations and performance of an organisation. Organisations continuously evaluate their dynamic capabilities in all aspects of organisational life. For example, in the social media life of an organisation, organisations have realised that “application of social media for a particular task will depend on the technical capacity and skills of the organisation” (Oliveira & Welch, 2013, p. 399). Social media holds high social capital benefits for those using it; however, utilising social capital requires the actors to have sufficient ability to do so (Adler & Kwon, 2002; Lin, 2004). The user-technology nexus requires the user to have the capacity and capability to act on their goals (Orlikowski, 2007; Suchman, 2007). Therefore, organisations will need sufficient capacity or capability to act in ways that make their routine social media operations productive. Such capabilities include the organisation’s generativity, which is the capability to act in new ways to create new possibilities (van Osch & Avital, 2010). Generative capabilities support the organisation’s exploration of technology and sociomaterial interaction (Van Osch & Mendelson, 2011), improve its ability to leverage open innovation and business collaborations (Sun & Zou, 2018b). We note generativity is a crucial attribute of organisations that have the potential to leverage social media opportunities for improved public interaction and SCC. We argue that generative organisations grasp the meaning and values expressed by social media and leverage the opportunities it offers. We propose that,

Proposition 5. Organisational generativity enhances social media structures, organisation-public interaction, and service co-creation

Before examining this proposition, we discuss the likely effects of renewing capabilities on incremental capabilities. Organisational dynamic capabilities will influence operational routines through two levels – i.e., through a hierarchy of dynamic capabilities (Ambrosini et al., 2009; Collis, 1994). First level capabilities are incremental in nature and allow the organisation to continuously improve its processes (Ambrosini et al., 2009) and undertake its routine functions (Collis, 1994). For instance, IT dynamic capabilities are incremental directly affect the organisation’s utilisation of IT to support business processes, performance and competitiveness (Lin et al., 2016; Wei & Lau, 2010). At the second level lies the renewing capabilities, which refresh, adapt and augment the organisation’s resources (Ambrosini et al., 2009). They are higher-order capabilities that support the organisation through the process of learning to learn – i.e., renew the firm’s existing

set of capability (Collis, 1994). On the other hand, adaptiveness and learning are capabilities, which are likely to revitalise other capabilities because they tend to play a secondary role in the functioning of an organisation (Chryssochoidis et al., 2016; Collis, 1994). Figure 5-4 shows the hypothesised effects of renewing capabilities on incremental capabilities.

Figure 5-4. The Effects of Renewing Capabilities on Incremental Capabilities



Organisation learning capabilities, digital spanning and relationability. Organisation learning is a foundation for capability renewal and therefore, an antecedent for the dynamic and operational capabilities of an organisation (Inan & Bititci, 2015; Jarratt, 2004). Key learning capabilities such as absorptive capability are high-level capabilities (Kazadi et al., 2016) and normally posits indirect benefits to the organisation (Cohen & Levinthal, 1990). Such capabilities will not directly shape the function of an organisation the same way as technology capabilities, but it gears the organisations towards flexibility and strategic change (Zahra & George, 2002). Organisation learning capability is a mechanism for improving business operations and therefore, indirectly influences organisational performance (Hughes et al., 2014). Learning capabilities enable the organisation to translate external knowledge into tangible benefits (Tzokas et al., 2015). Learning capabilities are incremental in nature, and they enable the organisation to reconfigure its resources and support the evolution of other capabilities towards better operations (Lane et al., 2006; Zollo & Winter, 2002). Incremental and renewing capabilities conflate to reconfigure the organisation's resource base (Ambrosini et al., 2009), but capabilities that support routine operations (i.e., incremental capabilities) will emerge from the organisation's learning mechanisms (Zollo & Winter, 2002). Organisational capabilities thus change as organisations learn (Langlois, 1992), such that the intensity of organisational learning positively influences IT and relationship infrastructure capabilities (Bhatt & Grover, 2005). We hypothesize as follows;

H5a. Learning capability has a positive effect on digital spanning

H5b. Learning capability has a positive effect on relationability

Organisation learning capabilities and organisation adaptiveness. While learning capabilities shape renewing capabilities, as hypothesised above, it is also seen as “the highest form of adaptation” and scholars have thus indicated that the utmost goal of organisational learning is “adaptation and improved efficiency in times of change” (Dodgson, 1993, p. 378; Garvin et al., 2008). Organisational learning tends to increase the organisation’s adaptive capacity in the long-run (Schwandt 1993) cited in (Gorelick, 2005). There is also evidence to suggest the social learning processes, for example, are important for building adaptiveness in several ways, such as coping with informational uncertainty, reducing normative uncertainty, building consensus, empowering actors to take adaptive actions, and identifying synergies between adaptations (Lebel et al., 2010). Although adaptiveness is a distinct construct, it is related to learning capability in that the two capabilities allow the organisation to inquire and experiment within the current resources and processes (Baker & Sinkula, 2007). However, learning capability could be a basis for adaptation or organisational inertia, i.e., routine and resource rigidity (Levinthal, 1994). We thus draw a hypothesis that;

H5c. Learning capability has a positive effect on organisation adaptiveness

Organisation adaptiveness, digital spanning and relationability. Adaptive capabilities enable the organisation to sense and respond to environmental changes and opportunities (Kindström et al., 2013; Trinh-Phuong et al., 2012). Adaptive capabilities are arguably incremental dynamic capabilities utilised to adjust the nature of resource stock in anticipation or response to environmental contingencies and survival (Ambrosini et al., 2009; Hodgson et al., 2017). That is why such a capability may typically assume a supplementary role in reinforcing innovation (Chrysoschoidis et al., 2016). Decision theorists also consider adaptiveness as an incremental pursuit for operational routines that match environmental contingencies (Staber & Sydow, 2002) citing (Mintzberg, Raisinghani and Theoret 1976). Adaptiveness is, therefore, a more appropriate organisational capability for effectiveness and survival in dynamic and complex environments such as social media (Hodgson et al., 2017; Staber & Sydow, 2002). Organisational research contends that organisational adaptiveness and relational capabilities are positively and strongly correlated, in that they improve flexibility and relationship-based advantage (Smirnova & Kushch, 2006). In fact, structurationists think of relationship structures of multiplexity, redundancy and loose coupling as manifestations of organisational adaptiveness (Staber & Sydow, 2002).

H5d. Organisation adaptiveness has a positive effect on digital spanning

H5e. Organisation adaptiveness has a positive effect on relationability

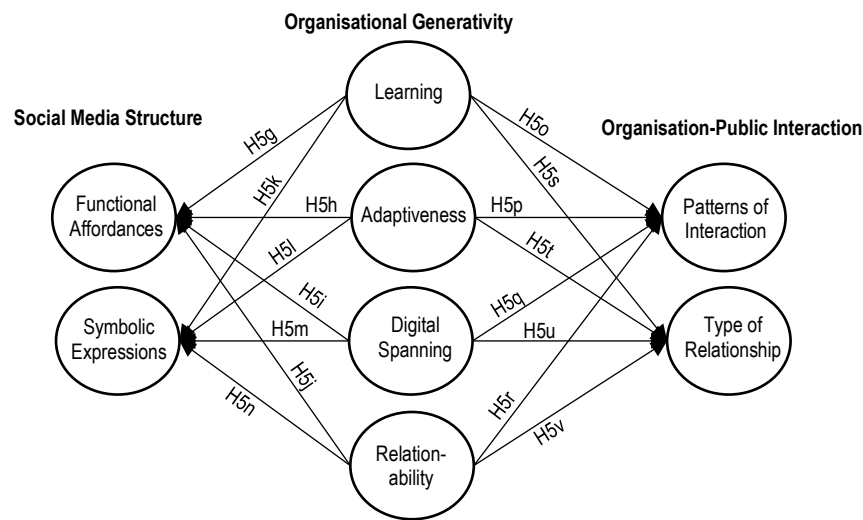
Digital spanning and relationability. Social media can be recognised as a customer relationship management (CRM) technology because it supports customer relationships (Trainor et al., 2014). Technologies such as social media are now strongly linked to relationship management because they provide a broad range of relational functionalities such as groups, relationship, identity, conversation, which allow its users (individuals as well as organisations) to build and maintain social relationships (Kietzmann et al., 2011). The organisation's use of social media is positively related to its CRM capabilities (Trainor et al., 2014). IT-related capabilities will generally augment relational value in inter-firm relationships (Rai et al., 2012) as well as customer relationships (Saraf et al., 2007). We, therefore, hypothesise that,

H5f. Digital spanning capability has a positive effect on relationability

5.2.4. Organisational Generativity on Social Media

In Chapter 3, section 3.4, we introduced and discussed organisational generativity as a critical capability for operating and managing the dynamic of social media. Organizational generativity, similar to generative fit (Avital & Te'Eni, 2009) and generative capacity (Gergen, 1994a), facilitates; (1) the enactment of new configurations; (2) discovery of possibilities to challenge existing procedures and routines in a specific task-driven context (Avital & Te'Eni, 2009); (3) recognition of alternatives to social action (Gergen, 1978; Gergen, 1994a). Nonetheless, “digital-human configurations are assembled arrangements between digital features and human intent and performative actions with organizations” (Baptista et al., 2020, p. 5). In this section, we summarise, in Figure 5-5, and discuss the hypotheses on the effects of generativity on social media structure (section 5.2.4.1), OPI (section 5.2.4.2), and ultimately service co-creation (section 5.2.4.3).

Figure 5-5. The Effects of Organisational Generativity on Social Media Structure and OPI



5.2.4.1. Organisational Generativity and Social Media Structure

Central to technology structures are its affordances and symbolic expressions to the user. However, one of the three fundamental properties of an affordance is that it exists relative to the action capabilities of the actor (McGrenere & Ho, 2000). Affordances are contingent upon triggering conditions and are related to the current ability, latent ability and the degree of reliability of current abilities of a potential actor (Parchoma, 2014; Scarantino, 2003). Therefore to establish what an *actor* (e.g., organisation) can do at *t* (e.g., with social media) is tantamount to establishing the actor's abilities at *t* (Scarantino, 2003). Understanding the organisation's abilities within the social media context will determine the extent of its goal affordances – such as functional affordances (Scarantino, 2003). Similarly, Grange and Benbasat (2010) intuitively suggest that a user's possibilities for goal-oriented behaviour are shaped by their goals and capabilities.

Organisation generativity is the organisation's ability to originate, produce and procreate (van Osch & Avital, 2010), which could shape its activities in a dynamic and evolving digital environment. It includes capabilities that allow the organisation to regenerate resources to produce new configurations and possibilities that could change and improve its current state of affairs (van Osch & Avital, 2010). To achieve such outcomes, organisations will need to build learning capabilities, adaptiveness and technology spanning capabilities. Learning capabilities, such as learning-by-doing, increase the organisation's capacity to understand, react and leverage the opportunities offered by new technologies (Roberts et al., 2012; Sambamurthy et al., 2003). Similarly, learning organisations are more collaborative, transparent and able to adapt transformations supported by

IT (Altınay et al., 2016). Organisations also need adequate IT capability, i.e., IT infrastructure capability, IT business spanning and IT proactive stance to routinely manoeuvre their operations to cope and provide faster response to changes (Lu & Ramamurthy, 2011). Generative capabilities will generally enable the organisation to act in new ways and produce a new outcome in a given context (Avital & Te'Eni, 2009). We hypothesise as follows; as also shown in Figure 5-5,

H4A. Organisational generativity, all taken together, will have a positive effect on the functional affordances of social media; whereby,

H5g. Learning capability has a positive effect on functional affordances of social media

H5h. Organisational adaptiveness has a positive effect on functional affordances of social media

H5i. Digital spanning has a positive effect on functional affordances of social media

H5j. Relationability has a positive effect on functional affordances of social media

H4B. Organisational generativity, all taken together, will have a positive effect on the symbolic expressions of social media; whereby,

H5k. Learning capability has a positive effect on symbolic expressions of social media

H5l. Organisation adaptiveness has a positive effect on symbolic expressions of social media

H5m. Digital spanning has a positive effect on symbolic expressions of social media

H5n. Relationability has a positive effect on symbolic expressions of social media

5.2.4.2. Organisational Generativity and Organisation-Public Interaction on Social Media

We have earlier noted that entities in a social relationship should have the ability to utilise social capital embedded in those social relationships (Adler & Kwon, 2002; Lin, 2004). For organisations, it is their dynamic capabilities that support the strategic functioning and performance of the organisation (Collis, 1994; Tzokas et al., 2015), which among others includes alliances, partnerships and relationships. Building and maintaining sufficient relationships with customers, suppliers and other stakeholders is an operational capability of an organisation, which is certainly determined by the organisation's dynamic capabilities (Inan & Bititci, 2015). Organisational learning, for example, affects the organisation's relationship orientation with other entities which orientation may include key relational attributes like trust, bonding, communication, shared values and empathy (Panayides, 2007). Similarly, technology capability and ACAP, which constitutes the learning capabilities, are key in building customer relationships for better performance of the organisation (Tzokas et al., 2015). On social media, specifically, the organisation would require

sufficient technology capabilities and social customer relationship management capabilities for improved customer relationship performance (Trainor et al., 2014). Nonetheless, organisational capabilities generally foster successful collaboration and co-creation networks (Romero & Molina, 2011). We hypothesise as follows; as also shown in Figure 5-5,

H4C. Organisational generativity, all taken together, will have a positive effect on the organisation's patterns of interaction on social media; whereby,

H5o. Learning capability has a positive effect on the organisation's patterns of interaction on social media

H5p. Organisation adaptiveness has a positive effect on the organisation's patterns of interaction on social media

H5q. Digital spanning capability has a positive effect on the organisation's patterns of interaction on social media

H5r. Relationability has a positive effect on the organisation's patterns of interaction on social media

H4D. Organisational generativity, all taken together, will have a positive effect on the types of relationships on social media; whereby,

H5s. Learning capability has a positive effect on the types of organisation–public relationships on social media

H5t. Organisation adaptiveness has a positive effect on the types of organisation–public relationships on social media

H5u. Digital spanning capability has a positive effect on the types of organisation–public relationships on social media

H5v. Relationability has a positive effect on the types of organisation–public relationships on social media

5.2.4.3. Organisational generativity and service co-creation.

Given the role of dynamic capabilities in the functioning and performance of an organisation (Collis, 1994; Tzokas et al., 2015), there is some evidence to suggest that dynamic capabilities are influential in co-creation, for instance, in the context of market creation and co-creation (Pitelis & Teece, 2010) and value co-creation (Romero & Molina, 2011). Innovative organisations rely on their generative capability to leverage current innovation for future innovative activities (Sun & Zou, 2018b). According to Lawer (2010), sensing and shaping market opportunities is a regenerative capability for developing opportunities for innovation. More so, “adaptive capabilities reflect managerial proficiency for competitive actions, which is why it may offset, through attenuation, the adverse impact of small firm limited resources” (Chryssochoidis et al., 2016, p. 441).

Primarily, dynamic capabilities enhance the organisation's ability to collaborate with external entities as well as improving their innovation performance (Chryssochoidis et al., 2016; Lin et al.,

2016; Nohrstedt, 2015). More so, co-creation is a common process in collaborative and open innovation (Piller et al., 2011). Organisational capabilities allow the organisation to move from passive involvement to active co-development with customers (Lawer, 2005). Also, technology competences and capabilities allow the organisation to identify and explore the functionalities of the available technology (McLaughlin, 2017). Technology exploration involves sensing external technology opportunities which shape the service innovation process (Kindström et al., 2013). Technology-related capabilities also improve the efficiency and effectiveness in identifying and utilising social media tools for relationship management (Trainor et al., 2014), value co-creation and innovation performance (Benitez et al., 2018; Lenka et al., 2017).

Additionally, organisations require adaptive capabilities such as sensing environment changes, seizing opportunities, and reconfiguring resources to enable service innovations (Kindström et al., 2013). Adaptive capability enhances the organisation's collaborative performance, thereby enabling service delivery (Nohrstedt, 2015). Adaptive capability reinforces innovation and innovation related outcomes (Chryssochoidis et al., 2016). Organisations need to be adaptable, flexible and responsive to be able to align their services to customer needs (Sharma et al., 2014). Similarly, organisations need to develop ACAP through dialogue with customers as a foundation for customer knowledge co-creation (Lawer, 2005). Organisations require learning agility to attract customer participation in health care services (Sharma et al., 2014). Even when organisations focus on external knowledge, internal knowledge remains crucial to enabling innovation because it improves the inflow of new ideas into the organisation (Vanhaverbeke et al., 2008). The organisation ACAP becomes a key success factor for innovating firms (Vanhaverbeke et al., 2008).

Similarly, other dynamic capabilities, such as a relational capability, tend to influence the initiation and implementation of innovations (Lin et al., 2016). Organisations would normally identify a set of relational and interaction capabilities to facilitate innovation and create of value for current, potential and future customers (Ngugi et al., 2010; Sharma et al., 2014; Wilden et al., 2019). At this point, we agree with Kindström et al. (2013) that certain dynamic capabilities are key to innovative service delivery. We hypothesise that;

H4E. Organisational generativity (OG), all taken together, will have a positive effect on SCC on social media; whereby,

H5w. Learning capability has a positive effect on SCC

H5x. Organisation adaptiveness has a positive effect on SCC

H5y. Digital spanning has a positive effect on SCC

H5z. Relationability has a positive effect on SCC

After discussing all propositions and hypotheses, both high-level and low-level hypotheses, we summarise how these hypotheses relate to our research questions – see Table 5-4. The research model in Figure 5-1 presents the link between different theoretical propositions.

Table 5-4. Research Questions, Propositions, and Hypotheses of this Study

Research question	Theoretical proposition	High-level hypothesis	Specific (low-level) hypotheses
RQ 1	Proposition 1	H1	-
RQ 2	Proposition 2	H1A	H1a - c
		H1B	H1d - g
RQ 3	Proposition 3	H2A	H2a - d
		H2B	H2e - f
	Proposition 4	H3A	H3a - h
		H3B	H3i - k
		H3C	H3l - o
		H3D	H4a - n
RQ 4	Proposition 5	-	H5a - f
		H4A	H5g - j
		H4B	H5k - n
		H4C	H5o - r
		H4D	H5s - v
		H4E	H4f - i

5.3. Chapter Summary

This Chapter presents our research model and discusses the hypotheses of the study. We connect our hypotheses to the theoretical propositions and research questions. First, we discussed how SCC could be realised in various forms, similar to what happens in offline platforms of engagement. We then discussed how the structures of social media and those of OPI would provide mechanisms for SCC. Lastly, we draw on the dynamic capabilities view to explain how organisational generativity could enhance or constrain the structures of social media, OPI and SCC.

Chapter 6. A Mixed Methods Research Design

This Chapter explains the mixed methods design we adopted and why we adopted that research design. We also discuss the epistemological framework of this study. We discuss the aim of inquiry and nature of theorising in this research. We explain how we conducted a convergent mixed methods design involving a quantitative and qualitative study, including the methods of data collection, data analysis, the measures for reliability and validity, and ethical considerations. We conclude with an explanation of how we integrated the findings from the two data sets.

6.1 A Critical Realist Philosophical Orientation

Understanding our philosophical stance, i.e. ontological and epistemological views, guides us to the use of appropriate research methods most especially when we consider combining quantitative and qualitative approaches (Maxwell & Mittapalli, 2010). “We begin our inquiry process with philosophical assumptions about the nature of reality (ontology), how we know what is known (epistemology), the inclusion of our values (axiology), the nature in which our research emerges (methodology), and our writing structure” (Creswell et al., 2007, p. 238). With our philosophical orientation, on the one hand, we define a research question that informs our approach or design used to collect and analyse data (Creswell et al., 2007).

Earlier accounts provided by scholars such as Hirschheim (1985) and Guba and Lincoln (1994) focused on *positivism* and *interpretivism (or constructivism)* as two contrasting views about knowledge, inquiry, and the nature of reality. Interpretivists and constructivists are unique in their view of the purpose and aim of human inquiry, but they share the general framework or approaches to human inquiry (Schwandt, 1994). Interpretivism or constructivism presents the relativism ontology, which supposes that there are multiple apprehendable realities in the form of intangible mental constructions of humans based on their social experiences (Guba & Lincoln, 1994). An interpretivist inquiry ‘adopts the position that our knowledge of reality is a social construction of human actors’ (Walsham, 1995, p. 376). A positivist inquiry presents a naïve realism ontology, which supposes that real reality is apprehendable (Guba & Lincoln, 1994; Hirschheim, 1985). It is an “epistemology which seeks to explain and predict what happens in the social world by searching for regularities and causal relationships between its constituent elements” (Hirschheim, 1985, pp. 12 - 13).

The challenges associated with the two contrasting inquiry paradigms is that positivism limits reality to what one can empirically know through scientific experiments (Fletcher, 2017). On the other hand, “constructivist perspectives view reality as entirely constructed through and within human knowledge and discourse” (Fletcher, 2017, p. 182). To minimise the limitations of these two extreme paradigms, Wynn Jr and Williams (2012) argue that “modern critical realism (CR) is positioned as an alternative to the positivist and interpretivist paradigms, and leverages elements of both to provide new approaches to developing knowledge” (p. 787). A post-positivist inquiry also presents a critical realist inclined view, which supposes that real reality is only imperfectly and probabilistically apprehendable (Guba & Lincoln, 1994).

According to Venkatesh et al. (2013, pp. 16-17), “if IS researchers prefer to embrace an alternative paradigm as the epistemological foundation of mixed methods research, there are at least three mixed methods research paradigms from which they can choose: (1) *pragmatism*, (2) *transformative–emancipatory*, and (3) *critical realism*”. Pragmatism emanates from the desire for social reform and focuses on effects, practical consequences, and solving problems as crucial ways to obtain knowledge (Biesta, 2015; Venkatesh et al., 2013). Transformative–emancipatory paradigm is concerned with the creation of a democratic society, therefore focuses on the role of power, culture and social justice embedded in a research context (Mertens et al., 2015; Venkatesh et al., 2013). On the other hand, CR postulates that the real world and the world of views, structures, events and ideologies are both important in the construction of scientific knowledge (Maxwell & Mittapalli, 2010; Shadish et al., 2002).

CR also noted as scientific realism (Belk, 2012; Maxwell & Mittapalli, 2010), “assumes that *the world is the way it is*, while acknowledging that there can be more than one scientifically correct way of understanding reality in terms of conceptual schemes with different objects and categories of objects” (Lakoff 1987) cited in (Maxwell & Mittapalli, 2010, p. 152). “The world is the way it is” implies that, “if humans did not exist, or were not to observe it, the universe would be and behave in a particular way that can be *objectively* described” (Belk, 2012, p. 843). The CR paradigm then premises on; ‘(1) the metaphysical/ontological assumption that there is a way the world is, independent of humans, and (2) the epistemological assumption that humans can somehow know and understand (and thus describe) that way the world is (Belk, 2012, p. 843; Maxwell & Mittapalli, 2010). CR, therefore, supports the view that science allows us to know and understand the way the world is, and it thus links compellingly to logical positivism (Belk, 2012).

CR is popularised from the seminal work of Roy Bhaskar on transcendental realist philosophy in *A Realist Theory of Science* (1975) and later *The Possibility of Naturalism* (1998). In his work,

Bhaskar argues of the existence of a reality independent of our knowledge of it that constitutes of objects with structures, causal powers or tendencies, and interactions between them that explain the occurrence of observable events. The foundations of a critical realist resonate in a stratified reality of three ontological domains, i.e., the empirical, the actual, and the real (Sayer, 1992, 2000). The “*domain of the empirical*” consists of what we experience, directly or indirectly. This domain is distinct from the *domain of the actual* where events happen whether we experience them or not because what happens in the world is not the same as that which is observed. This domain is, in turn, different from the *domain of the real*, where we also find the mechanisms that can produce events in the world” (Blom & Morén, 2011, p. 62).

The events (outcomes) that may occur in the domain of the actual may or may not be observed in the empirical domain, and the domain of the real constitutes the mechanisms which may or may not trigger events that happen in the actual domain (Bygstad et al., 2016; Mingers & Standing, 2017). The observability of events “may make us more confident about what we think exists, but existence itself is not dependent on it ... [therefore], rather than rely purely upon a criterion of observability for making claims about what exists, realists accept a causal criterion too” (Sayer, 2000, p. 12). The critical realist ontology allows us to understand and explain how things could become what they are not at the moment (Sayer, 2000).

6.1.1. The Mechanisms View: Adopting a Critical Realist Perspective in this Study

By following a critical realist perspective, our primary goal is not to engage in a thick empirical description of the study phenomenon, but rather analyse and explain “causal mechanisms” driving “social events” (Fletcher, 2017). Causal mechanisms, also noted as generative mechanisms (Mingers & Standing, 2017) or explanatory mechanisms (Borgatti & Foster, 2003) are enduring trans-empirical processes, which independent of how they are known or described, exist in a real ontological sense and explain why and how the observable events occur (Blom & Morén, 2011; Mingers & Standing, 2017). They are “processes or sequence of states, or pathways in a concrete system, natural or social” that makes it what it is (Bunge, 2004, p. 186). Mechanisms “may be said to consist of a structure of inter-related parts together with the powers or tendencies that the structure possesses” (Blom & Morén, 2011; Mingers & Standing, 2017, p. 176; Wynn Jr & Williams, 2012). Therefore, mechanisms = powers + social interaction and structure (Blom & Morén, 2011).

Powers are tendencies, motives, choices, or considerations of individual actors (Blom & Morén, 2011; Wynn Jr & Williams, 2012). Powers ‘designate possibilities, tendencies describe those

actions which are characteristic or typical of a given class, species, or type of thing' (Wynn Jr & Williams, 2012, p. 791). Powers like actors' beliefs or reasons, trigger behavioural intentions and certain actions but may not necessarily determine ultimate consequences (Wynn Jr & Williams, 2012). Mechanisms are attributable to physical objects, technology artefacts and social structure (Wynn Jr & Williams, 2012). They exist by the works of social structure in terms of micro, meso or macro social interactions or by way of social and material structures of communication technology, such as smartphones and social media (Blom & Morén, 2011). Mechanisms are largely imperceptible and must, therefore, be conjectured (Bunge, 2004). They cannot be directly observed and can only exist virtually as a set of practices or roles that enable social activities (Mingers & Standing, 2017). To some degree, mechanisms rely on the actors' knowledge who are aware of what they are doing and how they do it (Mingers & Standing, 2017). Like humans, organisations have a range of complex mechanisms to generate physical, cognitive, emotional and creative events (Mingers & Standing, 2017).

An event, on the other hand, can be defined "as a specific happening or action resulting from the enactment of one or more mechanisms" (Wynn Jr & Williams, 2012, p. 792). Events "are occurrants; they take up time and may have different stages" (Mingers & Standing, 2017, p. 176). They are clusters of observations made by the researcher or the researcher's informants (Bygstad & Munkvold, 2011). An event has two aspects; a) some element of change in existing entities. b) a particular duration, which has no absolute time because it will depend on the nature of the event, the observer and their purpose in recording the event (Mingers & Standing, 2017). Events are distinct from the mechanisms and are a result of the enactment of causal powers or tendencies from the structure' (Wynn Jr & Williams, 2012).

To explain SCC on social media, we express mechanisms empirically as powers (competences and facilities), opportunities, circumstances, beliefs and values, social interaction (Blom & Morén, 2011; Wikgren, 2005) or processes and sequence of states (Bunge, 2004). In Table 6-1, we show how we incorporate the critical realist views, i.e., the explication of mechanisms and events, to understand and explain how social media could be acting as a platform for SCC.

Table 6-1. A Critical Realist Framework of this Study – Adapted from (Wynn Jr & Williams, 2012)

CR Principle	Description	Application in this study
Explicating event(s) and context	Observations and empirical descriptions made by the researcher or drawn from informants (Bygstad & Munkvold, 2011)	Integration of resources between nonprofits and the public, where people participate by donating, volunteering, supporting nonprofits leading to co-creation of nonprofit services (directly and indirectly)
Retroductively identifying mechanisms as opportunities,	Mechanisms are opportunities, processes or states with causal tendencies (micro-social interaction and structure) (Blom & Morén, 2011; Bunge, 2004)	Social media (i.e., functional affordances and symbolic expressions) and OPI (i.e., relationships and patterns of interaction) as mechanisms producing SCC
Retroductively identifying mechanisms as Powers (entity capabilities or competencies)	A key aspect of social structure is the entity's ability or capacity to act purposively, creatively, and intentionally	Organisational generativity as the fundamental organisation power (enabling capability) for social media interaction
Empirical corroboration of findings	Convergence and correspondence of results from two or more methods	Used convergent mixed methods to generate both QUAN and QUAL data. The QUAL explores and identifies possible mechanisms while the QUAN builds our explanatory power of identified mechanisms
Triangulation	Adopting a single theoretical framework which unites the different methods and data types in one paradigm (theoretical unison) ⁷	Merged QUAN and QUAL findings, extracted convergent, divergent and new findings, and provided meta-inferences ⁸ as specific theoretical statements on the essence of social media in nonprofits

Causal mechanisms are inherent properties of an object – i.e., Social media (Fletcher, 2017). They are also inherent properties in social structure (Fletcher, 2017), which in this case includes OPI on social media. The mechanisms noted in this study are defined drawing on the AST – discussed in

⁷ The description of triangulation provided was adopted from Moran-Ellis, J., Alexander, V. D., Cronin, A., Dickinson, M., Fielding, J., Sleney, J., & Thomas, H. (2006). Triangulation and integration: processes, claims and implications. *Qualitative Research*, 6(1), 45-59. <https://doi.org/10.1177/1468794106058870>

⁸ Inferences are conclusions and interpretations made basing on either of the datasets while meta-inferences are overall conclusions and interpretations based on integration of both datasets Tashakkori, A., & Teddlie, C. (2008). Quality of inferences in mixed methods research: Calling for an integrative framework. In M. M. Bergman (Ed.), *Advances in mixed methods research* (pp. 101-119). SAGE Publications Inc. . Further discussion on how we generated meta-inferences is provided in Section 6.7.

detail in Section 4.4 in Chapter 4. The often mentioned but taken for granted aspect is the actor's capacity or ability to take action, i.e., utilise the rules and resources, and act effectively to realise their goal. From the human agency perspective, social media will not determine how its users act but the users will exercise their discretion in response to its features to achieve their goals (Leonardi, 2012). We also sense that the power to enhance mechanisms and outcomes could be related to the actor's abilities, which in this case relate to the organisation capabilities. CR provides a strong philosophical position in examining explanatory mechanisms and the outcomes they generate (Mingers & Standing, 2017) and generating the best possible explanations and solutions for social change (Fletcher, 2017). Moreover, CR favours both the statistical analyses and meaningful interpretation in explaining the phenomenon under observation (Mingers & Standing, 2017).

CR blends with our mixed methods approach to “resolve some of the problems created by other perspectives, it provides a philosophical stance that is compatible with the essential methodological characteristics of *both* qualitative and quantitative research, and it can facilitate communication and cooperation between the two” (Maxwell & Mittapalli, 2010, p. 147; Venkatesh et al., 2013). CR is “a particularly suitable paradigmatic choice for mixed methods IS research because of the dynamic nature and contextual richness of the IS discipline (e.g., different types of object of knowledge—physical, social, and conceptual) that can be adequately examined and theorized using a variety of methods in the same research study” (Venkatesh et al., 2013, p. 17).

A research paradigm, however, does not emerge as an obstacle, as we have to remember that a “substantive theory stance is a more appropriate paradigmatic stance for IS” because the researcher is able to mix their paradigmatic views and generate useful meta-inferences (Venkatesh et al., 2013, pp. 16-17). “A substantive theory [integrates] concepts and their interrelation into a set of theoretical statements for a given area or issue” (Glaser & Strauss 1965) cited in Venkatesh et al. (2013, p. 3). Such “theoretical statements, narratives, or a story inferred from the integration of findings from quantitative and qualitative strands of mixed methods research” represent meta-inferences (Venkatesh et al., 2013, p. 18). Providing meta-inferences is a principle to generating substantive theory; moreover, meta-inferences are the very objective for a mixed methods research (Venkatesh et al., 2013). A meta-inference (i.e., substantive theory) is considered appropriate because it is not only fundamental to a mixed methods study but also because such theory, according to Gasson (2009), offers a theoretical model that provides working propositions about the phenomenon.

6.2. An Analytical Explanatory Inquiry

According to Gregor (2006), identifying a problem that requires a solution or a question of interest is the initial step to an inquiry, and tackling this problem or question occurs with the intent to satisfy some primary goals of theory. The nature of theory in information systems (IS) research can be focused on – *analysing and describing, explaining, predicting and prescribing (i.e. designing and action)* (Gregor, 2006).

Gregor (2006, pp. 619-620) argues that we can provide an *analytical and descriptive theory* by providing “insight on the phenomena of interest, analyse relationships in constructs, degree of generalizability in constructs and relationships and the boundaries within which relationships, and observations hold”. An analytical and descriptive theory says, “What is” but provides no causal relationships and no predictions are made. Secondly, one can offer an *explanatory theory* by explaining “how, why, and when things happened, relying on varying views of causality and methods for argumentation”. Explanation promotes greater understanding or insights into the phenomena of interest, but provide no predictions with precision, therefore, provides no testable propositions. Thirdly, one can offer a *predictive theory* by stating “what will happen in the future if certain preconditions hold”. The degree of certainty is only approximate or probabilistic because IS are open systems subject to many extraneous influences. A predictive theory will say, “What is” and “What will be”, therefore provides testable propositions but offers no well-developed causal explanations. Lastly, in a *prescriptive theory*, the researcher “describes a method or structure or both for the construction of an artefact”. A prescriptive theory will provide “methods, techniques and principles of constructing an artefact How to do something”.

Our epistemological assumptions shape the nature of our inquiry and theory (Wynn Jr & Williams, 2012). A critical realist epistemology, as adopted in this study, seeks to provide an “*explanation of the mechanisms that generate a certain event, more so than the ability to make predictions about future events or to understand the social/cultural meanings behind the events*” (Wynn Jr & Williams, 2012, p. 793). A critical realist seeks “to posit descriptions of reality based on an analysis of the experiences observed and interpreted by the participants, along with other types of data” (Wynn Jr & Williams, 2012, p. 793). In this study, we provide a descriptive and explanatory empirical discussion of the enabling capabilities and mechanisms for realising SCC on social media among nonprofits. The nature of inquiry undertaken in this study is thus threefold: First, we analyse and describe the forms of SCC realised by nonprofits on social media. Second, we explain how nonprofits interaction with the public on social media contributes to SCC. Lastly, we explain how organisational generativity enhances social media interaction and SCC.

6.3. A Retroductive Reasoning Approach

Scholars can either adopt a deductive, inductive, or abductive or retroductive reasoning approach to explain a phenomenon. Inductive reasoning may only offer probable conclusions, and we are less likely to express the prevalence of human action (Folger & Stein, 2017; Pinsonneault & Kraemer, 1993). On the other hand, deductive reasoning alone narrows our thinking and limits the discovery of new knowledge on the study phenomenon (Yu, 2006). Abductive reasoning, coined by Charles Sanders Peirce, involves finding the “inference to the best explanation” (Harman, 1965). ‘Abductive reasoning is very similar in meaning to the critical realist concept of retroduction’ (McEvoy & Richards, 2006).

Retroduction ‘is the act of proposing speculative—but plausible—conjectures about the nature of a phenomenon, and hence what kinds of evidence might increase the prospects of further insights into it’ (Folger & Stein, 2017). Since we sought for MBEs, retroductive reasoning allowed us to form explanatory conjectures (Pietarinen & Bellucci, 2014). Retroductive inference allowed us to go “beyond what is empirically observable by asking questions about and developing concepts of the more fundamental, transfactual conditions for the events and phenomena under study. The core of retroduction is transcendental argumentation ... [where] one seeks to clarify the basic prerequisites or conditions for social relationships, people’s actions, reasoning and knowledge” (Danermark et al., 2002, p. 96).

Drawing on Peirce’s work on the logic of science, retroductive reasoning is triggered when the researcher’s mind wanders with no specific focus or when the researcher has genuine doubt or uncertainty or fear about a certain problem (Reichert, 2004). The Stanford Encyclopaedia of Philosophy suggests that retroductive reasoning is then applied in two ways – for explanatory reasoning in generating hypothesis or for explanatory reasoning in justifying hypothesis (*Abduction*, 2017). In this study, the researcher applies retroductive reasoning to propose and explain based on emerging findings how nonprofits realise SCC through social media. Although retroductive reasoning is commonly applied in qualitative studies, this logic “can be well applied to quantitative research ... especially exploratory factor analysis (EFA) and path searching in structural equation modelling (SEM)” (Yu, 2006, p. 9). Yu (2006) explains that while we undertake EFA and SEM, we may generate more than one explanation, but we abduct the plausible variables and paths to build the model.

The researcher decided to extend the interpretation of findings in this study from a deductive reasoning approach, followed in quantitative studies, into retroductive reasoning through

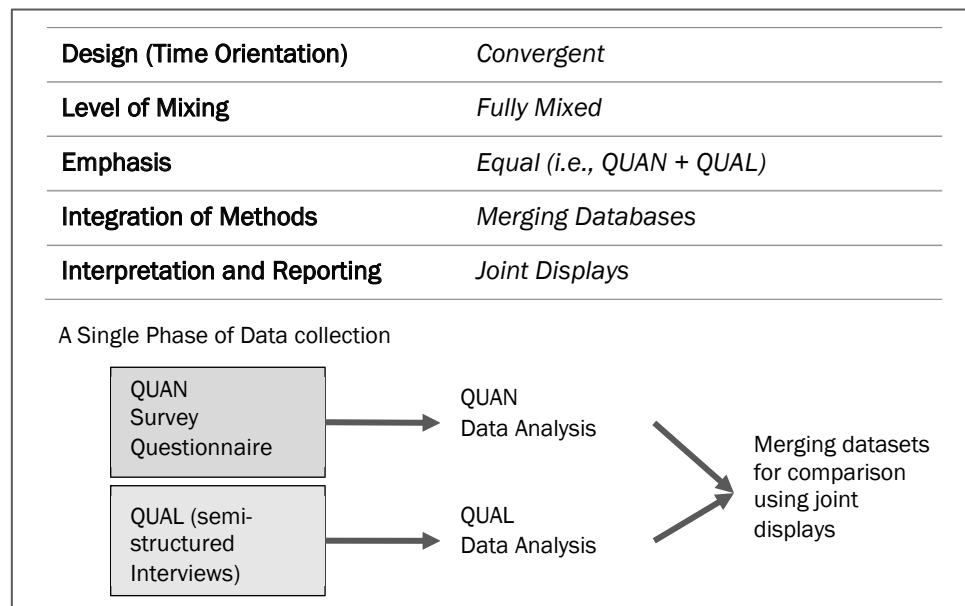
interviews because it provided the best approach to explicating SCC outcomes and underlying mechanisms (Bygstad & Munkvold, 2011; Wynn Jr & Williams, 2012). A retroductive approach in CR minimises the limitations of the deductive and inductive reasoning (McEvoy & Richards, 2006). Also, CR allowed us 1) to avoid narrowed thinking and somewhat incomplete or inconclusive findings, 2) to corroborate findings and provide more insight and explanation, and 3) to enrich and offer more knowledge (Yu, 2006). Peirce advised that a comprehensive inquiry might necessitate the researcher to apply more than a single form of reasoning in the same inquiry (Reichert, 2004). For critical realists, retroductive reasoning enriches the conceptualisation of the phenomenon (Yu, 2006), offers rich insights (McEvoy & Richards, 2006), and is particularly useful for generating explanations of a phenomenon (Folger & Stein, 2017).

6.4. A Convergent Mixed Methods Design

Existing studies on SCC (see Section 3.5, Chapter 3) tend to provide purely interpretivistic accounts of this event (Voorberg et al., 2015) and those on social media use in nonprofits (see Section 3.1, Chapter 3) also provide the same line of observation (Namisango et al., 2019). In this study, we sought an inquiry that compares different perspectives drawn from both quantitative and qualitative observations as a way of providing a comprehensive discussion (Moran-Ellis et al., 2006). Our nature of inquiry and epistemological orientation demand a mixed methods design to sufficiently generate explanatory mechanisms for the observed outcome (McEvoy & Richards, 2006; Venkatesh et al., 2013; Zachariadis et al., 2013). Mixed methods is a research approach in which the researcher applies two methods of data collection and analysis (Creswell, 2003). Consequently, “mixed methods research represents research that involves collecting, analysing, and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon” (Leech & Onwuegbuzie, 2009, p. 267). There are three common mixed methods designs – the convergent design, the explanatory sequential design and the exploratory sequential design (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018). Of the three mixed methods designs, we applied the convergent design, also known as simultaneous triangulation (Morse, 1991), to gather answers to our question. A convergent mixed method meant conducting a single-phase approach where we collect and combine quantitative and qualitative data to provide an inclusive analysis of the study phenomenon (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018). We, therefore, conducted both a quantitative study (described in Section 6.5) and a qualitative study (described in Section 6.6, Chapter 6)

simultaneously. Figure 6-1 below presents a summary and visual model of our mixed methods research strategy.

Figure 6-1. Visualisation of the Mixed Methods Design Used



A strategy adopted in a mixed methods study should clarify the timing (i.e. convergent or sequential), the level of mixing (i.e., partial or fully mixed), and the emphasis of approaches (i.e. equal status or dominant status) (Creswell, 2003; Leech & Onwuegbuzie, 2009). We adopted a convergent mixed methods approach in which we collected both data in a single phase of data collection. The study was fully mixed, where we used both quantitative and qualitative approaches to answer the same question(s). Lastly, we accorded equal status to both the survey data and the interview data in the analysis and interpretation of results.

Besides specifying the three dimensions of our mixed methods strategy – i.e. timing, mixing and emphasis, a researcher should indicate how they achieve integration in their mixed methods design (Fetters et al., 2013; Guetterman et al., 2015; Moran-Ellis et al., 2006). Because we applied a convergent design, we merged the quantitative data and qualitative data at interpretation and reporting using joint displays to generate and present convergent and divergent findings. Merging is noted as the feasible type of integration for convergent designs and allow the researcher to present the extent to which findings are congruent and complement each other (Guetterman et al., 2015) – as explained in Section 6.7 in this Chapter.

6.4.1. The Rationale for a Convergent Mixed Methods Design

There are five traditional reasons for using a mixed methods approach (Greene et al., 1989).

- (a) Triangulation – seeks convergence, corroboration, correspondence of results from the different methods
- (b) Complementarity – seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method
- (c) Development – seeks to use the results from one method to help inform the other method
- (d) Initiation – seeks the discovery of paradox and contradictions, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method
- (e) Expansion - seeks to expand the breadth and range of inquiry by using different methods for different inquiry components Greene et al. (1989, p. 259)

According to Venkatesh et al. (2013), one can use mixed methods in IS research for one or more of the six purposes – corroboration, complementarity, developmental, expansion, completeness, compensation and diversity. The purpose of a convergent mixed methods approach for this study is *corroboration and complementarity*, implying that we sought for congruence, divergence, or complementarity of findings from both the quantitative and qualitative data.

However, the purpose of a mixed methods study, as indicated in the previous paragraph, presents triangulation and complementarity as distinct aims but can be sought in a single study. We reflect on triangulation to state explicitly the rationale of a mixed methods study, first, and then state the rationale of a convergent design. Triangulation initially referred to mixing two or more methods in a single study (Greene et al., 1989; Hammersley, 2008; Moran-Ellis et al., 2006; Morse, 1991). However, it “cannot be reduced to matters of technique, and does not necessarily refer to the mixing of quantitative and qualitative methods” (Hammersley, 2008, p. 23). Triangulation “is an epistemological claim concerning what more can be known about a phenomenon when the findings from data generated by two or more methods are brought together” (Moran-Ellis et al., 2006, p. 47). Triangulation carries different meanings across studies based on the purpose for which it is applied in a given study as well as the philosophical and methodological assumptions behind the study (Hammersley, 2008). Hammersley (2008) identifies four meanings of triangulation summarised in Table 6-2 below.

Table 6-2. The Meaning of Triangulation and Its Purpose in a Study. Adapted from (Hammersley, 2008)

Meaning	Description	Purpose of triangulating
No. 1: Triangulation as validity checking	“Checking the validity of an interpretation based on a single source of data by recourse to at least one further source that is of a strategically different type” (pp. 23-4).	Validation of findings. Seeks converging results. Diverging outcomes are interpreted in terms of threat to validity, direction and extent of error in data sources.
No. 2: Indefinite triangulation	“Collecting accounts of the same event from several people to document how these accounts were ‘assembled from different physical, temporal, and biographically provided perspectives” (p. 26).	Show the variation in participant accounts based on purpose and particular occasions rather than reflections of the world
No. 3: Triangulation as complementary information	Using different methods to investigate a domain of social reality from different viewpoints, which offer different accounts of the domain that might not validate each other but might yield a complete explanation of the phenomenon when brought together.	Provide more insights “a fuller picture” of the phenomenon Minimise the weaknesses of each method
No. 4: Triangulation as epistemological dialogue	Using “different methods to construct the social world in divergent ways, so that combining them may not lead either to validation or increasing the completeness of the picture” but lead to identifying issues about combining methods and its legitimacy (p. 29).	Compare and contrast findings (juxtaposition) Establish a dialogue between epistemological positions in research methods and data interpretation with the view of resolving or transcending epistemological divides.

In this study, triangulation meant juxtaposition and seeking complementary information – i.e. triangulation meaning no.3 and no. 4 in Table 6-2 above. We collected qualitative data not only to compare those findings to the quantitative findings but also, to gain richer or deeper insights on the quantitative findings. We collected quantitative data to provide an explanatory account of the associations between variables (or themes) derived from the qualitative data.

Furthermore, according to methodologists (Creswell, 2003; Onwuegbuzie & Collins, 2007), a convergent design was appropriate because we sought to triangulate our methods and results, not to validate results from one dataset using another dataset, but to compare, contrast and complement our findings. A mixed methods study “for confirmation and completeness may play a

valuable role in a research strategy that is underpinned by CR” (McEvoy & Richards, 2006, p. 72). Applying a mixed methods design also enabled the researcher to enhance the reliability and validity of the findings presented in this dissertation (Johnson et al., 2007; McEvoy & Richards, 2006).

6.5. The Quantitative Study

The researcher applied a deductive approach to contextualise the study and scope the boundary of inquiry. According to Reichertz (2004), adopting a deductive approach in the initial stages of this study meant two things. First, our inquiry into SCC outcomes emerging from the use of social media by nonprofits proceeds from what we know about these organisations, such as knowing the functions that social media offers to these organisations. Secondly, the inquiry proceeds from familiar rules, particularly theoretical underpinnings on the structures of AITs and social interaction, generative capabilities, social networks, and organisation-public relationships. Using deductive reasoning, we reviewed existing literature on social media use in nonprofits and the theories on social interactions, social relationships and social structures in IS environments, and then generated variables and developed propositions and underlying hypotheses which were tested through a survey.

Noticeably, much of the existing literature on social media use in nonprofits apply an inductive approach through which researchers interviewed participants, conducted a content analysis or discourse analysis on content mined from social media pages of particular nonprofits, which led these studies to offer theoretical propositions about nonprofits and their use of social media. However, when we use inductive reasoning, we may only offer probable conclusions, which we are less likely to generalise to the entire populations or explain the prevalence of human behaviours or actions (Folger & Stein, 2017; Pinsonneault & Kraemer, 1993). Inductive reasoning offers a starting point to other means of reasoning such as deductive or retroductive reasoning (Folger & Stein, 2017) – as it is the case for this study. Therefore, the wide-reaching theoretical conclusions on social media use among nonprofits provided in existing literature, offered sufficient grounds to prompt a deductive approach to this inquiry.

6.5.1. A Cross-sectional Survey Method

This study applies a quantitative approach, which involves a numerical description of the phenomenon of social media enabled SCC in nonprofits. A cross-sectional survey was an appropriate method because it allowed us to gather data from independent observations which is a key statistical requirement for valid estimations in structural modelling (Bentler & Chou, 1987).

Second, it is quite suitable for estimating the prevalence of behaviour in a population (Connelly, 2016; Sedgwick, 2014). Third, surveys are an efficient method for gathering data to explain relationships between variables through hypothesis testing (Connelly, 2016; Pinsonneault & Kraemer, 1993). Fourth, a cross-sectional survey was also quite economical and enabled the researcher to gather a sufficient amount of data within the limited time of the study (Connelly, 2016). Lastly, surveys are a generally popular method of data collection in IS research and allow researchers to yield valid and easily interpretable data if applied correctly (Pinsonneault & Kraemer, 1993).

6.5.2. Questionnaire Design and Sampling.

During questionnaire design, we identified latent variables and develop measurable items based on theoretical and empirical observations in IS, social networks and organisation science. This step was important because the “conceptual requirement for valid evaluation of theories via structural modelling lies in having theoretically appropriate operationalisation of variables” (Bentler & Chou, 1987, p. 82). It is important to ensure that measurable variables and latent variables make sense within a given domain, and their existence should be theoretical supported (Bentler & Chou, 1987). “A latent variable makes sense when its indicators are logical (theoretical) consequences of the latent variable, not causally related to each other, and correlated sufficiently highly to suggest a common core concept” (Bentler & Chou, 1987, p. 82). We relied on theoretical and prior empirical evidence to identify and justify the constructs (latent variables) in the research model. To measure our constructs, we developed a questionnaire with five categories (i.e., five-point Likert scale items) – (5) strongly agree, (4) agree, (3) neither agree nor disagree, (2) disagree, and (1) strongly disagree (See Appendix B). When structural equation modelling is the preferred approach to data analysis, it is important that we apply four or more categories to minimise the possibility of inaccurate estimates and model fit (Bentler & Chou, 1987; Finney & DiStefano, 2006). Further still, using five or more categories improves data distribution which minimises violation of the normality assumption of SEM (Finney & DiStefano, 2006).

A Simple Random Sample. According to Onwuegbuzie and Collins (2007), the objective of the study dictates the sampling scheme adopted for that study and the appropriate sample size. “Mixed methods researchers also should determine appropriate sample sizes for each phase. The choice of sample size is as important as is the choice of sampling scheme because it also determines the extent to which the researcher can make statistical or analytic generalizations” (p. 287). In fact, “the size of the sample is determined by the optimum number necessary to enable valid inferences

to be made about the population. The larger the sample size, the smaller the chance of a random sampling error, but since the sampling error is inversely proportional to the square root of the sample size, there is usually little to be gained from studying very large samples. The optimum sample size depends upon the parameters of the phenomenon under study" (Marshall, 1996, p. 522). Because we apply structural equation modelling for model estimation and evaluation, first, we assume that "each of the units or cases in the population has an equal probability of being included in the sample to be studied" (Bentler & Chou, 1987, p. 85), which makes a simple random sample an appropriate method of sampling for our study. Second, we considered that the appropriate sample size N is relative to the number of parameters q in our study (Deng et al., 2018). According to Bentler and Chou (1987), the ratio of $N:q$ can be 5:1 for normally distributed data and 10:1 for non-normal distributions. Since our parameters vary between 6 and 23 per model estimated, we determined that sufficient cases (usable responses) should be at least 230. This allowed us to improve the accuracy of our z-tests on the significance of parameters and model estimation (Bentler & Chou, 1987).

An adequate sample from our target population should have the power to detect statistical significance and support generalisation of results to the population (Marshall, 1996; Sandelowski, 1995). However, it was generally not possible to study the entire theoretical population for two reasons (Gliner et al., 2017). First, practicality (i.e. inaccessibility of some areas, lack of contact information or failure to establish contact with some cases). Second, economic reasons (i.e. it would have been expensive and time-consuming for the researcher to reach all nonprofits in Uganda). Consequently, the accessible or survey population was nonprofits operating in the central region of Uganda. Our sampling frame consisted of non-government organisations listed on HelloUganda.com and commonwealthofnation.org. At that time, between February and March 2018, we created a list of 295 organisations and determined that a sample of 169 nonprofits is representative of this population, according to (Krejcie & Morgan, 1970). To select participating organisations, we generated random numbers in Microsoft Excel. Overall, 73 nonprofits agreed to participate in our study; we distributed 400 copies of the questionnaire and collected 328 responses.

For ethical considerations, the researcher sought informed organisation consent through organisation executives before accessing potential respondents. Individual participants within each organisation were recruited through five steps learned from (Blanton et al., 2006, p. 1521). (1) Identifying eligible participant. Eligible participants were social media representative(s), or personnel in the organisation's department tasked to manage its social media activities. An

executive in the organisation assisted us in identifying eligible participants. (2) We contacted the identified employee and adequately explained the study, providing them with the study information sheet. (3) If the employee was comfortable with participating, we recruited him/her as a participant. (4) We obtained true informed consent, and the individual was allowed to read and sign the consent form at free will. (5) We maintained ethical standards throughout the data collection process.

6.5.3. Quantitative Data Analysis

Quantitative data analysis involved principal component analysis (PCA) in identifying the underlying measures of SCC on social media. It also involved confirmatory factor analysis (CFA) in drawing the measurement models for all constructs in the research model in Figure 5-1 in Chapter 5. Using the outcomes of EFA and CFA, we ran structural model analyses for hypothesis testing. Generally, we applied structural equation modelling to generate findings from quantitative data.

6.5.3.1. Exploratory Factor Analysis (EFA)

We conducted an EFA to generate the basic factor structure of a measurement model of SCC before CFA (Bentler & Chou, 1987; Deng et al., 2018). EFA is a common method “used when a researcher wishes to identify a set of latent constructs underlying a battery of measured variables” (Fabrigar et al., 1999, p. 275). A thorough EFA requires one to consider the suitability of the data set for factor analysis, appropriate factor extraction, and factor rotation methods (Costello & Osborne, 2005; Williams et al., 2010).

a. Extraction Method.

There are multiple extraction methods that one could use to extract and group variables into smaller sets of components or factors. Popular among these methods are principal component analysis (PCA), principal axis factoring (PAF) and maximum likelihood (ML). PAF and ML are EFA methods, while PCA is more specifically, a data reduction method (Costello & Osborne, 2005; Fabrigar et al., 1999). To apply maximum likelihood method, the distribution of data should be relatively normal, while principal axis factoring is suitable for data sets that violate the normal distribution assumption (Costello & Osborne, 2005; Fabrigar et al., 1999). While “the goal of common factor analysis (i.e. PAF and ML) is to explain correlations among measured variables, the goal of PCA is to account for variance in the measured variables” (Fabrigar et al., 1999, p. 275). Common factor analysis allows us to understand the structure of correlation among measured variables while PCA is a data reduction technique that takes scores on a large set of measured

variables and reduces them to scores on a smaller set of composite variables that retain as much information from the original variables as possible' (Fabrigar et al., 1999, p. 275). PCA "essentially restructures data sets containing many correlated variables into smaller sets of components of the original variables" (Iezzoni & Pritts, 1991, p. 334).

In this study, we apply principal component analysis (PCA) as a dimension reduction technique to derive smaller sets of latent variables that are quite representative of the original variables. "The central idea of principal component analysis (PCA) is to reduce the dimensionality of a data set consisting of a large number of interrelated variables while retaining as much as possible of the variation present in the data set" (Jolliffe, 2002, p. 2). PCA allowed us to identify patterns and arrange our measures of SCC in a way that could support the development of new hypotheses on variable relationships and testing of possible effects (Iezzoni & Pritts, 1991). PCA is useful not only in identifying patterns but also eliminates redundancy in univariate analyses in case of multicollinearity in the data (Iezzoni & Pritts, 1991). PCA enabled us to specify the latent variables for measuring nonprofit SCC on social media.

b. Rotation method.

Rotation methods clarify and simplify the data structure (Costello & Osborne, 2005). A researcher can apply an orthogonal rotation method, e.g., Varimax rotation or an oblique rotation method, for example, Promax. Orthogonal rotation techniques assume that variables are uncorrelated, while oblique methods assume that variables are correlated (Tabachnick & Fidell, 2007; Yong & Pearce, 2013). According to Costello and Osborne (2005), studies related to social sciences and behavioural sciences often gather observations that are normally correlated at least to some degree. We applied Promax rotation, which assumes that there is some degree of correlation between variables. This assumption is based on the view that 'IS epistemology draws heavily from the social sciences because information systems are, fundamentally, social sciences rather than technical systems' (Hirschheim, 1985, pp. 9-10). We draw on theoretical perspectives in social sciences, in which variables are highly correlated. Applying Promax, we generated and examined the factor correlation matrix to establish any correlation between variables (Tabachnick & Fidell, 2007). We examined the correlation matrix for values greater than ± 0.32 , c.f. (Corner, 2009; Tabachnick & Fidell, 2007). When the majority of the correlations exceed ± 0.32 , it is advisable for one to apply an oblique rotation rather than an orthogonal rotation (Tabachnick & Fidell, 2007).

6.5.3.2. Covariance-Based Structural Equation Modelling (CB – SEM)

We applied structural equation modelling technique to analysis measurement models and structural models during hypothesis testing. Using SEM, we conducted a confirmatory factor analysis (CFA) to derive measurement models for all constructs (see Section 7.3) and tested structural models to analyse our hypotheses (see Section 7.4). SEM is considered the second generation of multivariate analysis that offers substantial advantages to the researcher which mainly involves generalisation and extension of first-generation techniques such as principal components analysis, factor analysis, discriminant analysis, or multiple regression (Chin, 1998). SEM allows us the flexibility to “(a) model relationships among multiple predictors and criterion variables, (b) construct unobservable latent variables, (c) model errors in measurements for observed variables, and (d) statistically test a priori substantive/theoretical and measurement assumptions against empirical data (i.e., confirmatory analysis)” (Chin, 1998, p. vii). When conducting SEM analyses, we were faced with two important considerations, i.e., model estimation and model fit.

a. Model Estimation.

There are several estimation methods applicable in SEM, such as normal theory estimators like maximum likelihood (ML) and general least squares (GLS). An alternative method that does not require multivariate normality of the data is the asymptotic distribution-free (ADF) estimator. ML is a popular and highly recommended estimation method because of its robustness, unbiased and consistent parameter estimates (West et al., 1995). However, the advantages of normal theory estimators like ML only hold when data is continuous and satisfies multivariate normal distribution with particular emphasis on multivariate kurtosis (Byrne, 2010; West et al., 1995). Application of ML to categorical non-normal data can lead to inflated chi-square test values and underestimated standard error and goodness-of-fit indices, which ultimately result in Type I errors (Byrne, 2010; Finney & DiStefano, 2006). We recognise the desirability and assumptions of ML; we also recognise that data gathered in this study is categorical, rather than continuous, and that it indicates a moderate departure from multivariate normality. We thus applied ML estimation with two remedies (i.e., bootstrapping and item parcelling) to correct the effects of multivariate normality and categorised variables.

Since behavioural and social science-related data rarely follows a normal distribution (Finney & DiStefano, 2006; West et al., 1995), researchers developed techniques to minimize distortion of model estimates. As mentioned by Hirschheim (1985), we anticipated tendencies of non-normal distribution because our data is a collection of self-reported responses, which are characteristic of

social science studies. Researchers, c.f., (Finney & DiStefano, 2006) and (West et al., 1995) provide options from which we can choose an appropriate estimation method that suits the characteristics of our data.

- Using asymptotically distribution-free (ADF) estimation,
- Satorra-Bentler SCALED χ^2 statistic and robust standard errors,
- Robust weighted least squares (WLS) estimation,
- Bootstrapping,
- Re-expression of variables through item parcels or transformations

When data is moderately non-normal (skew < 2, kurtosis < 7), we can use ML estimation with Satorra-Bentler scaling methods if at least four categories are representing our data (Finney & DiStefano, 2006). If data is severely non-normal (skew > 2 and kurtosis > 7), with categories less than 4, then WLS is the best option (Finney & DiStefano, 2006). According to ‘continuous methods can be used with little worry when a variable has four or more categories, but with three or fewer categories one should probably consider the use of alternative procedures’ (Bentler & Chou, 1987, p. 88). Alternatively, asymptotically distribution-free (ADF) estimator produces unbiased test statistics and standard errors under conditions of severe departure from multivariate normality (Finney & DiStefano, 2006; West et al., 1995). However, the major reason why ADF was not an option in our study was that it requires sample size > 2,500 for reliable results (Tabachnick & Fidell, 2007).

Satorra-Bentler scaling method is used with ML estimation ‘to adjust the ML- χ^2 in order to better approximate the theoretical χ^2 reference distribution’ (Finney & DiStefano, 2006, p. 289). Finney and DiStefano (2006) indicate that the Satorra-Bentler SCALED χ^2 (S-B χ^2) is a better estimator than ML χ^2 used solely when non-normality levels increase. They add that it also outperforms ADF χ^2 , especially in small sample size studies. SCALED χ^2 is available in the EQS program; however, this program was not available to the researcher at the time of data analysis.

Bootstrapping. Alternatively, we used bootstrapping techniques (i.e. naïve bootstrap and Bollen-Stine bootstrap) ‘to construct an empirical distribution of model test statistics that incorporate the non-normality of the data’ (Finney & DiStefano, 2006, p. 295). Bootstrapping ‘is one potential solution for estimating model test statistic p values and parameter error estimates under non-normal data distributions’ (Nevitt & Hancock, 2001). Under conditions of multivariate non-normality, bootstrap estimates are less biased than standard ML estimates (Byrne, 2010). However, we recognised that bootstrapping may lead to misleading results if the sample is not representative of the population or when study observations do not meet the assumption of

independence and identical distribution (Byrne, 2010). It is also noted that naïve bootstrapping will not provide reliable test statistics and model fit indices (Bollen & Stine, 1992). To minimize the inaccuracies associated with naïve bootstrapping and improve the performance of bootstrap resampling, we applied the Bollen-Stine Bootstrap, which is “a modified bootstrapping procedure that applies to hypothesis testing with the usual test statistics” (Bollen & Stine, 1992, p. 227).

Item Parcelling. When estimating structural models, we re-expressed variables using item parcels. Item parcelling “is a method of re-expression of variables by summing or taking the mean of several items that purportedly measure the same construct” (West et al., 1995, p. 70). Item parcels allowed us to exhibit distributions that more closely approximate multivariate normality than our original items (West et al., 1995). Secondly, because our sample was moderately small, i.e., $n=289$ after elimination of missing values, item parcels allowed us to use fewer parameters that could produce reasonably stable estimates (West et al., 1995).

With the issues mentioned above, we recorded responses by assigning numbers/codes to the five categories represented by the data, i.e. (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = Agree and 5 = strongly agree) in IBM SPSS Statistics 25. According to Arbuckle (2017), assigning codes is a way to record categorical responses as a numeric dataset. With the skewness and kurtosis values in Table 7-3, we derive our measurement models and the structural models using ML with Bollen-Stine bootstrap resampling using the covariance-based structural equation modelling (CB-SEM) provided by IBM SPSS Amos 25 Graphics.

b. Assessing Model Fit

Our decision on model fit is mainly based on the sample size used in our analysis. The most popular model fit index is the chi-square test statistic (χ^2), which equals $(N - 1)F_{\min}$, where N is the sample size, and $F_{\min}$ is the minimum fit function. Over the years, reliance on χ^2 is cautioned because it is highly sensitive to sample size (N) – c.f. (Byrne, 2016; Hu & Bentler, 1999; Kline, 2016) and multivariate normality (Finney & DiStefano, 2006; Hooper et al., 2008). Consequently, the debate led to the development of other goodness-of-fit indexes ‘that take a more pragmatic approach to the evaluation process’ (Byrne, 2016, p. 94).

First of such was Wheaton et al. (1977)’s relative/normed chi-square (χ^2/df) derived to minimize the impact of sample size on χ^2 , where $\chi^2/\text{df} \leq 5$ indicates good model fit. We concluded model fit based on Kline (2016) observations that $\chi^2/\text{df} \leq 3$ indicates a good model fit.

The standardized root mean square residual (SRMR), goodness-of-fit (GFI), Adjusted goodness-of-fit (AGFI) and Root Mean Squared Error of Approximation (RMSEA) are alternative absolute fit indices to χ^2 statistic (Hooper et al., 2008). Researchers discourage the use of GFI and AGFI – c.f. (Schreiber et al., 2006), because, these “values [GFI and AGFI] can be overly influenced by sample size” (Byrne, 2016, p. 96). Some SEM scholars, e.g. (Byrne, 2016; Hooper et al., 2008; Hu & Bentler, 1999) recommend using SRMR as one of the stable indices for model fit. SRMR is the average value for standardized residuals (Byrne, 2016). We recognise that “SRMR will be lower when there is a high number of parameters in the model and in models based on large sample size” (Hooper et al., 2008, p. 55). We realised that SRMR might actually be a good indicator of model fit because our measurement models have few parameters and are based on small sample size ($n=289$). Although the threshold for SRMR is blurry, Hu and Bentler (1999) recommend model fit at $SRMR < 0.08$ while Byrne (2016, p. 95) comment that “in a well-fitting model, this value [SRMR] will be small, say, 0.05 or less”.

Root Mean Squared Error of Approximation (RMSEA), proposed by Steiger and Lind (1980) cited in (Browne & Cudeck, 1993), is a highly recognised indicator of model fit; in fact, it is “one of the most informative criteria in covariance structure modelling” (Byrne, 2016, p. 98). RMSEA is an absolute measure of model fit, but it is sensitive to model complexity, and it thus may accept a model with a lesser number of parameters (Byrne, 2016; Hooper et al., 2008). RMSEA also tends to over reject models derived from small samples (Hu & Bentler, 1999; Tabachnick & Fidell, 2007). Nonetheless, RMSEA is widely recommended and thus reported as a “trusted” indicator of model fit (Schreiber et al., 2006) due to its appropriateness in confirmatory contexts (Rigdon, 1996).

Basing on RMSEA we concluded model fit, where, $0.08 < RMSEA < 0.1$ indicates mediocre fit, $RMSEA > 0.1$ indicates poor fit (Byrne, 2016), $0.06 < RMSEA < 0.08$ indicates a good fit (Schreiber et al., 2006) while $RMSEA < 0.03$ represent perfect/excellent fit (Hooper et al., 2008).

Other recommended model fit indices, i.e. incremental or relative fit indices include Normed Fit Index (NFI) by Bentler and Bonett (1980), Non-Normed Fit Index (NNFI, also known as, Tucker-Lewis Index – TLI), Relative Fit Index (RFI) and Incremental Fit Index (IFI). The use of NFI is discouraged because it tends to underestimate model fit for small samples (Bentler, 1990; Byrne, 2016). For the above reason, we did not base our model fit decision on NFI index. Bentler (1990) rectified this problem by developing the Comparative Fit Index (CFI). CFI is said to be one of the model fit indices least affected by sample size (Hooper et al., 2008). CFI may be problematic, though, given that it uses a null model as the baseline (Rigdon, 1996, p. 372). This very challenge

renders CFI more valuable for small sample studies, because “the statistical value of the null model seems to be more important in small samples” (Bentler & Bonett, 1980, p. 604), where “small sample” ranges from 50 to 800 (Bentler, 1990). To minimize the possibility of misspecification of a model based on CFI, the threshold for CFI was raised from 0.90 to 0.95 (Rigdon, 1996). We note that ‘RFI represents a derivative of the NFI’, while IFI is very consistent with CFI given that it was developed to address concerns associated with NFI (Byrne, 2016, p. 97). Lastly, we recognised that NNFI, was also developed to rectify sample size limitations in the NFI; however, “in situations where small samples are used, the value of NNFI can indicate poor fit despite other statistics pointing towards good fit” (Bentler, 1990; Hooper et al., 2008, p. 55; Tabachnick & Fidell, 2007). Moreover, NNFI is recommendable for simulation studies (Hooper et al., 2008).

We concluded model fit based on Hu and Bentler (1999)’s 2-indexed presentation strategy for covariance structure analysis, where standardized root mean square residual ($SRMR$) < 0.08 and the Comparative Fit Index (CFI) ≥ 0.95 would be used.

We preferred the 2-index strategy because “ML-based SRMR is the most sensitive index to models with misspecified factor covariance or latent structures while ML-based CFI and RMSEA are most sensitive indexes to models with misspecified factor loadings” (Hu & Bentler, 1999, p. 16). Moreover, combining SRMR and CFI minimizes Type I error and is usually more appropriate with smaller samples (Hu & Bentler, 1999). CFI provides some added advantages of adjusting for model complexity or parsimony and is almost stable with sample size ≥ 150 (Iacobucci, 2010).

Overall, we mainly concluded model fit when $CFI \geq 0.95$, $SRMR < 0.08$ and $RMSEA < 0.08$. We chose to add RMSEA to 2-index strategy because it is sensitive to model misspecification and model quality (Byrne, 2016; Hu & Bentler, 1999). We also decided to report RMSEA values because we recognise that fellow researchers in our field of research appreciate a report of model fit that shows $RMSEA < 0.08$, chi-square p -value > 0.05 and $\chi^2/df \leq 3$.

6.5.4. Validity and Reliability of Quantitative Data

In psychosocial, behavioural and managerial research, it is important to analyse the reliability and validity of the measurement model before further analysis. To assess reliability and validity, one has to assess *coefficient alpha* (α), *composite reliability* (CR) and *average variance extracted* (AVE). The coefficient alpha, also known as, Cronbach’s alpha, is a common measure of reliability or internal consistency of measurement items. Through SEM analyses, we can assess the

composite reliability (CR) coefficient of latent variables in addition to, or as an alternative to Cronbach's alpha (Fornell & Larcker, 1981). In this study, we analysed construct reliability and composite reliability by deriving the Cronbach's alpha (α) and the composite reliability (CR) of latent variables, respectively. We derived α through SPSS Statistics 25. We estimated composite reliability using the equation below, as postulated by (Fornell & Larcker, 1981).

$$CR_{\eta} = \frac{(\sum \lambda_{\eta i})^2}{[(\sum \lambda_{\eta i})^2 + (\sum \varepsilon_i)]} \quad (1)$$

Where CR_{η} is the composite reliability for the construct η ; $\lambda_{\eta i}$ is the standardized factor loading for scale item ηi , and ε_i is the measurement error for scale item ηi . CR greater or equal to 0.6 indicates adequate internal consistency, where CR greater or equal to 0.7 is better.

We analysed convergent validity and discriminant validity of latent variables in the measurement models by considering the factor loading of indicators, the CR and the AVE of latent variables. We estimated the AVE using formula (2) recommended by (Hair et al., 2014).

$$AVE_{\eta} = \frac{\sum \lambda_{\eta i}^2}{n} \quad (2)$$

Where AVE_{η} is the average variance extracted for construct η ; $\lambda_{\eta i}$ is the standardized factor loading of scale item ηi and n is the number of items. The rule of thumb is that an AVE greater or equal to 0.5 suggests adequate convergence and high distinct validity (Bagozzi & Yi, 1988; Fornell & Larcker, 1981).

We evaluate and conclude convergent validity following the Fornell-Larcker criterion and Hair et al. criteria.

- a) The Fornell-Larcker criterion requires AVE is above 0.5 or not significantly smaller than 0.5, and the standardized factor loadings of observable items are not significantly less than 0.5 (Cheung & Wang, 2017). One may conclude convergent validity when $AVE > 0.4$ with $CR > 0.6$ (Fornell & Larcker, 1981).
- b) The Hair et al. criteria requires $AVE > 0.5$, standardised factor loading > 0.5 and $CR > 0.7$ (Cheung & Wang, 2017).

We evaluate and conclude discriminant validity following the Fornell-Larcker criterion and Kline criterion.

- a) The Fornell-Larcker criterion requires that the AVE of each construct be greater than the squared correlation between the two constructs (Cheung & Wang, 2017). Simulation models have proved that this criterion can be trusted in covariance-based SEM (Voorhees et al., 2016), unlike variance-based SEM (Henseler et al., 2015).

- b) Kline criterion considers discriminant validity when the correlation between two constructs is less than 0.85 (Cheung & Wang, 2017).

In conclusion, we conducted a quantitative study to generate a numerical description of the enabling capabilities and mechanisms for SCC. The existing discourse on social media use in nonprofits focuses overly on exploring this phenomenon based on qualitative content analysis of nonprofits' social media pages (Namisango et al., 2019). There is, therefore, a dearth of knowledge on the prevalence of nonprofit activities on social media. The current study applied a quantitative survey for both exploratory and explanatory purposes. For exploratory reasons, the survey was used to collect data to allow the researcher to generate plausible measures of the forms of SCC realised on social media by nonprofits. For explanatory purposes, the survey was used to examine the relationship between nonprofits' social media interactions and SCC.

We avoided a situation where researchers use a single method where multiple methods are needed, which is a major limitation in IS research (Orlikowski & Baroudi, 1991; Pinsonneault & Kraemer, 1993). Therefore, we recognised that surveys “rarely probe deeply into the comprehensive meaning of phenomena to the people involved” (Connelly, 2016, p. 370). Moreover, deductive reasoning is tautological and rarely offers new knowledge besides conveying the truth (Reichert, 2004). For more reasoned, reflective and insightful inferences, the study applies a QUAL method to corroborate and complement the QUAN findings. It was also advisable that we use more than a single method since we sought to answer a research question that called for both exploration and explanation of the phenomenon (Pinsonneault & Kraemer, 1993).

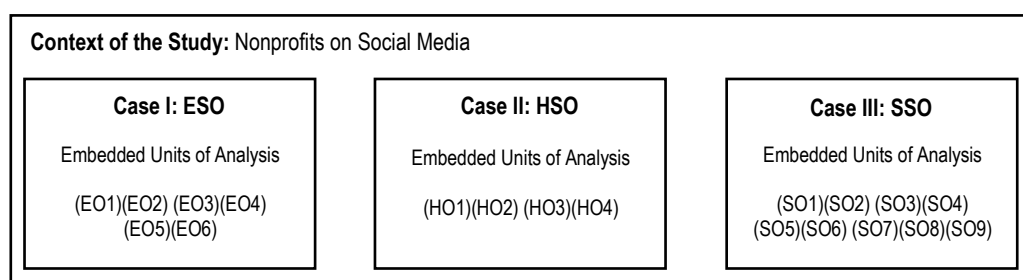
6.6. The Qualitative Study

A qualitative approach provides immense meaning in the study of social relations (Flick, 2009, 2014). Despite the fact that we could objectively draw the ideals from prior knowledge and follow on with methodological controls, Flick (2009) indicates that we cannot entirely avoid influences from interests, social and cultural issues or else our findings would remain distant from the everyday issues and problems. Conducting a qualitative study improves the degree of applicability of results and their implications for the real world (Flick, 2009, 2014). Flick argues that science [alone] may not produce absolute truth readily applicable in socially interactive phenomena because it provides limited interpretation, yet there is rapid social diversification of lifeworlds. It is thus important to link the QUAN results to the QUAL results to mutually confirm and support our conclusions (Flick, 2009, 2014). It is not only possible but also fruitful to combine a QUAN study with a QUAL study based on case study research design (Eisenhardt, 1989; Yin, 2014, 2018).

6.6.1. Multiple-Case Study Design

A case study is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-world context especially when the boundaries between phenomenon and context may not be clearly evident” (Yin, 2014, p. 16). There are four types of case study design, according to (Yin, 2014). First is a single case holistic design, in which the researcher investigates a single unit of analysis within a particular context. Second is a single-case embedded design, in which the researcher investigates multiple units of analysis embedded within the same case and context. The third is the multiple-case holistic design, in which the researcher investigates multiple units of analysis in different contexts. The fourth and last is the multiple-case embedded design, in which the researcher investigates multiple units of analysis embedded in different cases and contexts. Drawing on Yin (2014)’s categorisation, we examined the phenomenon based on *multiple-case embedded design*, as shown in Figure 6-2.

Figure 6-2. Embedded Multiple Case Study Used in this Study. Case Study Design Type 4 (Yin, 2018)



We examined ESO, HSO, and SSO. We obtained six, four and nine units of analysis from the three cases, respectively. As (Yin, 2018) comments, bringing the three cases together provided a stronger case study design, where, for example, findings from units in ESO supplemented and enhanced findings from the HSO and SSO. We explain the rationale for this design in the following Section.

6.6.1.1. The Rationale for Multiple Case Studies

Social media use in open innovations, such as co-creation and ideation is a generally under-investigated phenomenon (Mount & Martinez, 2014). Case studies are helpful in exploring specific phenomena, developing and testing theoretical propositions for relatively new research phenomena (Eisenhardt, 1989; Eriksson & Kovalainen, 2016; Yin, 2014). “There is general agreement that a multiple-case study design offers the best abilities for testing theories or

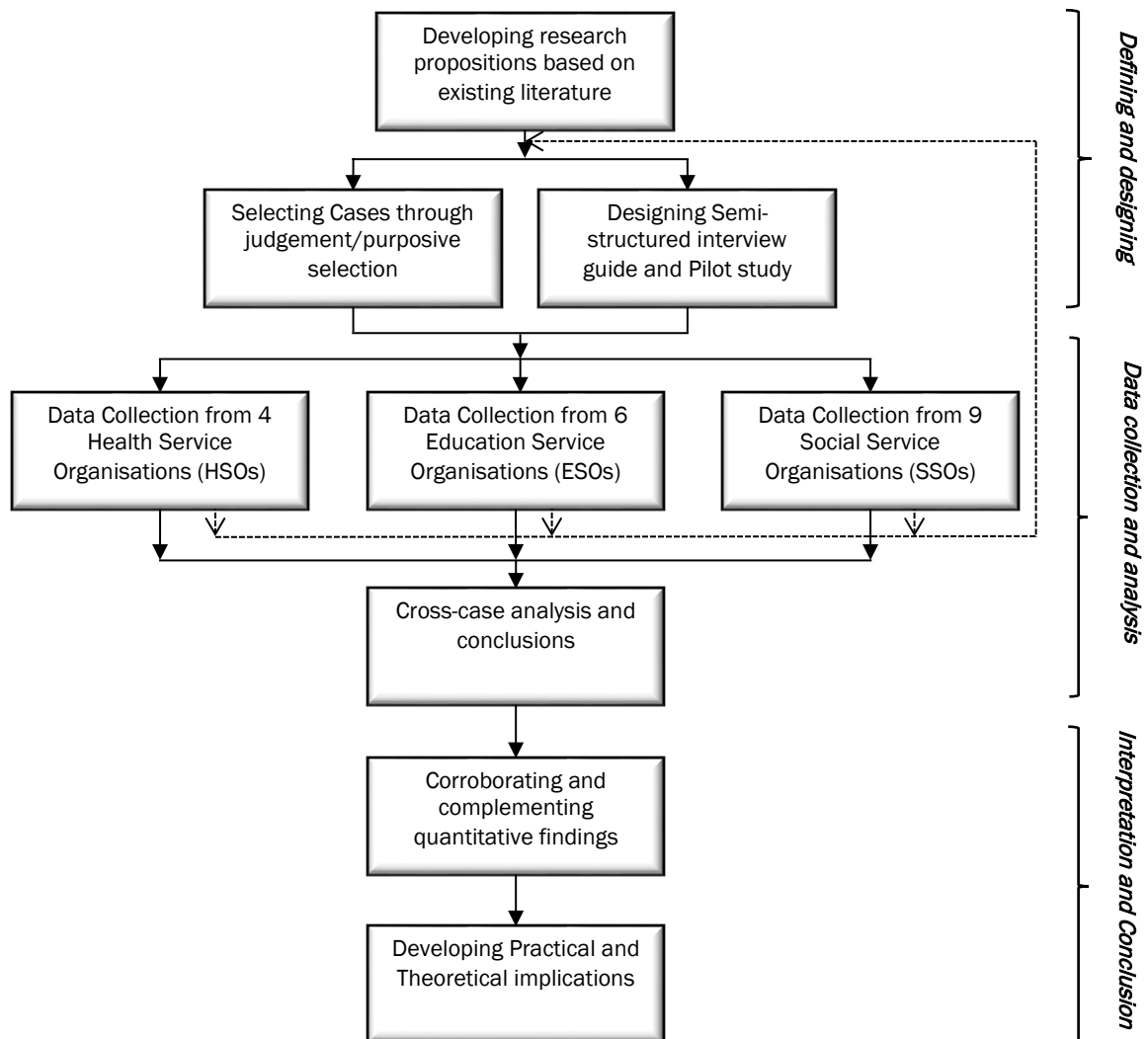
hypotheses because it allows researchers to systematically compare variation between the cases” (Bleijenbergh, 2010, p. 65).

Basing on qualitative methodologists (Baxter & Jack, 2008; Creswell et al., 2007; Yin, 2014), a multiple case study is appropriate to generate a deeper and richer explanation when we know little about the phenomena in question. In some studies, depending on context and research problem, multiple-case studies enable a researcher to generate broader insight, deeper understanding, and reliable and stronger evidence of the problem than when a single case study is used (Baxter & Jack, 2008; Yin, 2014). Multiple case studies allow for greater generalizability and validity of findings than a single case study (Burns, 2010; Eisenhardt, 1989; Eriksson & Kovalainen, 2016; Miles et al., 2014; Noor, 2008; Yin, 2014). They provide grounds for a more convincing theory because it is grounded in the existing empirical evidence (Gustafsson, 2017). However, as also noted by case study methodologists (Gustafsson, 2017; Yin, 2014), this design was time-consuming, and therefore the researcher could not reserve enough time to explore each case in greater depth.

6.6.1.2. Replication of the Study in Multiple Cases

“Studying a random sample provides the best opportunity to generalize the results to the population but is not the most effective way of developing an understanding of complex issues relating to human behaviour” (Marshall, 1996, p. 523). The combination of quantitative and qualitative studies, for whatever reason, may require two samples drawn basing on two logics of sampling which are suitable for each research method (Sandelowski, 1995). However, a qualitative study that follows a multiple case study approach should consider that “any application of a sampling logic to case study research would be misplaced” (Yin, 2014, p. 59). As such, it is feasible to apply a replication logic instead of sampling logic for a multiple case study approach (Yin, 2014). The replication process in this study meant duplicating the exact line of inquiry in three cases – i.e. literal replication to predict similar results (Yin, 2014). Figure 6-3 below presents the replication process as followed in this study.

Figure 6-3. Research Process for the Multiple-Case Study. Adapted from (Yin, 2018)



As visualised in Figure 6-3, this part of our study evolved through three steps – 1) defining and designing the study, 2) collecting and analysing data and 3) interpretation and conclusion. The first step involved developing and refining research propositions (Summarised in Section 1.3.3 of Chapter 1) drawing on theory and existing evidence in extant literature. Theoretical propositions, although not mandatory, are helpful in case study research because they enable us to define and manage the scope of the research and guide the study (Baxter & Jack, 2008). Multiple case studies are largely, but not entirely, seen as instruments that can be used in exploring specific business-related phenomena, test and elaborate theoretical positions and enable the generalisation of findings in other related contexts (Eriksson & Kovalainen, 2016). In the second step, we studied three cases drawing on 19 semi-structured interviews. We conducted a cross-case analysis in Chapter 8. The patterns emerging from the cross-case analysis were matched to those in the

theoretical propositions initially generated. The third step involved drawing interpretations and conclusions from the cases, which were integrated with the QUAN findings for corroboration and complementary purposes as earlier explained.

6.6.1.3. Case Selection

Case selection is a rational process where the researcher selects cases due to their relevance to research objective or theoretical considerations (Bleijenbergh, 2010; Yin, 2014). To identify cases, we considered the fact that “some informants are *richer* than others and that these [organisations as well as some particular] people are more likely to provide insight and understanding for the researcher” (Bleijenbergh, 2010; Marshall, 1996, p. 523). According to Sandelowski (1995), participating organisations in the QUAN study offer critical cases, or informants whose selection for a qualitative study can be purposeful as long as the data obtained is deemed informationally sufficient. Therefore, determining an adequate number of cases to replicate the study was “a matter of judgement and experience in evaluating the quality of the information collected against the uses to which it will be put” (Sandelowski, 1995, p. 179).

The researcher purposively selected typical cases (or representative cases) of nonprofits on social media (Seawright & Gerring, 2008). We selected cases purposively because it allows “the identification and selection of information-rich cases related to the phenomenon of interest” (Palinkas et al., 2015, p. 533). Typical cases, in the case of our study, were representative nonprofits that exhibited common practices of using social media. Selected organisations exhibited the following. (1) *Social media engagement* (i.e., followers > 4000, likes > 4000 and frequency of posting on their social media page >= once every week). (2) *Interaction* with their followers on social media in the last quarter (i.e., the last four months prior to June 2018, the organisation has posted, uploaded content, invited for events, or called for support or participation). Typical cases allow us to probe causal mechanisms at work in a cross-case relationship (Seawright & Gerring, 2008). Such cases not only support a confirmatory inquiry (i.e., judging between observations and existing theory through pattern-matching) (Seawright & Gerring, 2008) but also offer complimentary results (Palinkas et al., 2015).

A typical and recommended number of cases for a case study research is 3 to 5 (Collins, 2015; Daniel, 2012; Onwuegbuzie & Collins, 2007). Multiple case studies conducted for the purpose of literal replication, a few cases (2 or 3) are sufficient (Yin, 2014). However, saturation for homogenous groups often occurs between 12 and 15 participants (Guest et al., 2006; Patton, 2015). It is advisable that we can exceed this number slightly to ensure that all concepts are

covered (Latham, 2013). With these insights, we set out to interview twenty participants, but one later failed to participate, and we ended up with 19 interviews.

6.6.1.4. Conducting Semi-structured Interviews

We conducted semi-structured interviews (face-to-face interviews) with nonprofit employees who plan and run social media duties of their organisations – see interview protocol in Appendix D. Our interviews were theory-driven (Flick, 2009, 2014), which implied that our theoretical model was the subject matter of the interviews and the participants were interviewed to confirm, falsify, and above all to refine prior propositions (Pawson, 1996). Being a semi-structured interview, the researcher set up a general structure or the standard of the interview by deciding in advance what aspects of social media use, OPI, organisation capabilities, and SCC to be covered and the main questions to ask (Drever, 1995). The semi-structured interviews used in the study were, as Kvale (2007) describes, ‘attempts to understand themes of the lived daily world from the subjects’ [i.e. organisations’] perspective’. It was more appropriate for the researcher to use semi-structured interviews because the questions were oriented to a specific area of knowledge and the researcher’s propositions (Flick, 2009, 2014).

Semi-structured interviews were well-suited for case study research because they provide a deeper explanation while maintaining coverage of a particular context and issues under investigation (Drever, 1995; Noor, 2008). Semi-structured interviews also “offer[ed] sufficient flexibility to approach different respondents differently while covering the same areas of data collection” (Noor, 2008, p. 1604). Such interviews may not be suitable for large numbers of participants; however, they were certainly helpful in our small-scale research project and case study (Drever, 1995).

As explained in Section 6.6.1.3, we purposively selected nineteen participants across the three cases. Although a qualitative inquiry may not have clear rules on sample size (Patton, 2015), a sample size between 15 and 30 individual interviews is common and recommendable for a study that involves pattern matching across data (Clarke & Braun, 2013). Further still, collecting responses from at least ten persons is, not only, recommendable for homogeneous or critical cases (Sandelowski, 1995), but is sufficient for theoretical saturation (Eisenhardt, 1989; Morse, 1995). Sandelowski (1995) suggests that at least 14 participants for the qualitative study allow the researcher to obtain a richly textured understanding and case-oriented analysis.

6.6.2. Qualitative Data Analysis

The overall qualitative data analysis technique applied was theoretical thematic analysis – see Section 6.6.2.1. We developed a codebook and applied provisional, pattern and hypothesis coding – see Section 6.6.2.2. We conducted a cross-case analysis to generate overall findings and applied pattern matching to compare our theoretical propositions to observed outcomes, as explained in Section 6.6.2.3.

6.6.2.1. Theoretical Thematic Analysis

There are two common approaches to qualitative data analysis, i.e., thematic analysis and content analysis. Content analysis is “a systematic coding and categorisation approach used for exploring large amounts of textual information unobtrusively to determine trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication” (Vaismoradi et al., 2013, p. 400). Thematic analysis, on the other hand, is “a method for identifying, and analysing and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 79). While both methods are commonly applied to developing a descriptive account of the phenomenon, a content analysis may not be suitable when the researcher seeks to provide a rich and detailed description of the phenomenon (Braun & Clarke, 2006; Vaismoradi et al., 2013). Considering thematic analysis, as an alternative, a researcher may choose an inductive thematic analysis or a theoretical thematic analysis (Braun & Clarke, 2006), also referred to as the data-driven inductive approach, and the deductive a priori template of codes approach, respectively (Fereday & Muir-Cochrane, 2006).

This study applies ‘theoretical’ thematic analysis which is “an approach driven by the researcher’s theoretical or analytic interest in the area [a priori model] and is thus more explicitly analyst driven” (Braun & Clarke, 2006, p. 84). We searched and matched themes that explain the six areas of interest (analytical priorities) – i.e., (1) service co-creation; (2) action possibilities (or constraints) of social media (functional affordances); (3) meanings and values conveyed by social media (symbolic expressions), (4) patterns of interaction on social media, (5) types of relationships, and (6) the organisation’s generative capabilities for social media interactions. By applying a theoretical thematic analysis, we provide a less rich descriptive account of the data but provide a more detailed analysis of the above-mentioned areas of interest (Braun & Clarke, 2006).

6.6.2.2. Coding

Coding is a process of development, refinement and application of conceptual and relationship codes to generate findings of a phenomenon of interest (Bradley et al., 2007). Developing a conceptual and relationship code structure can assist in generating themes and signal a link or association between themes from qualitative data (Bradley et al., 2007). A researcher can develop codes from existing theory, concepts and literature (theory-driven codes) or can generate codes from the data (data-driven codes) (DeCuir-Gunby et al., 2011; Fereday & Muir-Cochrane, 2006). We applied theory-driven codes, which meant “assigning of codes operationalised in the codebook to raw data” (DeCuir-Gunby et al., 2011, p. 138). Using theory-driven codes allowed us to simplify and reduce our data towards key areas of interest; make connections between mechanisms for SCC, examine how data supports, contradicts or refines our research propositions and quantitative data findings, and reconceptualise our theoretical associations or research propositions (DeCuir-Gunby et al., 2011). The coding process followed five stages adapted from (Fereday & Muir-Cochrane, 2006).

Stage 1: Developing a codebook (code manual). A “codebook is a set of codes, definitions, and examples used as a guide to help analyse interview data” (DeCuir-Gunby et al., 2011, p. 138). The codebook presents conceptual codes, which are comprised of main codes and subcodes used to identify key domains in the study. A subcode “is a second-order tag assigned after a primary code to detail or enrich the entry” (Miles et al., 2014, p. 80). According to Miles, Huberman & Saldana, sub coding is appropriate when general code entries are too broad and require extensive indexing, categorising and subcategorising. To create codes, we first listed six key areas of investigation. We then created potential codes under each area by iteratively revisiting theory and existing literature on each area. We structured our codebook using three components, including code name, description, and examples. The codebook applied to this study is provided in Appendix E.

Stage 2: Testing the reliability of the code. After developing the codebook, we had to revise the codes based on the data collected (DeCuir-Gunby et al., 2011). We selected three interview transcripts, one from each category of nonprofits, as test pieces. We applied our theory-driven codes to the selected interviews while striving for conceptual meaningfulness, clarity and data representativeness. We then assessed the reliability of codes to ensure that they are applicable to the rest of the data. To assess reliability, we applied the codebook to the selected test pieces and invited two other fellow PhD students to code one interview each following the predefined codes. The results were compared, which led us to modify some parts of the codebook.

Stage 3: Applying a template of codes and additional coding. We applied the template of codes to the text while attempting to identify meaningful and representative units of text from the interviews. The codes from the codebook were entered into NVivo 11 software as nodes and data was then coded by matching text from interview transcripts to representative codes.

Our analysis involved the first and second coding cycles (Miles et al., 2014). The first cycle of coding involved provisional coding, which is an exploratory coding method (Saldana, 2016) that allows us to start with a list of codes⁹ and can guide us towards refining our propositions or corroborating quantitative findings (Miles et al., 2014). After provisional coding, we further applied hypothesis coding to refine our research propositions, which we formulated prior to data collection. The propositions guided our focus, perspective and explanation of the specific aspects of the phenomena under study. Provisional and hypothesis coding was suitable and helpful to the study because it allowed us to support or build on prior observations generated from literature and quantitative data (Miles et al., 2014).

The second cycle of coding involved pattern coding which allowed us to group codes under major themes and searched for associations between themes and explanations in the data (Miles et al., 2014; Saldana, 2016). Learning from Miles et al. (2014), we found that pattern codes generally enabled us to achieve the following: (1) Condense interview data into a smaller number of meaningful conceptual parts; (2) engage in focused data analysis; (3) elaborate our model by indicating the interplay between the mechanisms and the outcome, and (4) lay the groundwork for cross-case analysis by surfacing common themes and directional relationships. Pattern coding involved clustering similar codes in generating well-defined smaller categories, called pattern codes.

Stage 4: Connecting the codes to identified themes. This involved discovering evidence in the data that supported or refined our themes and patterns (Fereday & Muir-Cochrane, 2006). Initially, we identified sets of three to six codes to identify a theme, but we inductively discovered more codes relating to different categories and themes. The codes were developed from prior evidence in the literature and were closely representative of measures used in quantitative data collection. We grouped codes under categories, and categories under themes, to represent the mechanisms and the associated variations in the outcome. We thus explored the relationships between different mechanisms and outcomes, as proposed in the research model.

⁹ For a list of codes applied see code book in Appendix E

Stage 5: Corroborating and legitimating coded themes. This final stage involved conducting initial data analysis to ensure that themes were suitable for interpreting the data and confirming findings (Fereday & Muir-Cochrane, 2006). At this stage, we compared the codes, categories and the data to ensure that codes were representative of the respective categories and those themes were appropriately clustered and assigned to capture the mechanisms and outcome in the study phenomenon.

6.6.2.3. Cross-Case Analysis

Because we followed a multiple case study design, it was important to have a general analytic strategy to enable us to link case study evidence to the tenets of our research model as well as have a systematic approach to analysing data and generating findings (Yin, 2014, 2018). There are four (or more) general strategies for analysing case study evidence (Yin, 2014, 2018) – i.e., relying on theoretical propositions, working our data from the ground up, developing a case description and examining plausible rival explanations. Following any of these strategies, the researcher would apply a specific analytic technique such as pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis (Yin, 2014, 2018).

In this study, we analysed qualitative data and interpreted findings by following the five theoretical propositions on realising SCC – see Section 5.2 of Chapter 5. The initial theoretical propositions served as the basis of our case study design and thus shaped our data collection plan and analytic priorities. We applied pattern matching and cross-case analysis as our analytic techniques. Pattern matching is a technique used to match a theoretical (predicted/expected) pattern of outcome with the observed pattern (empirical) of outcome emerging from data (Trochim, 1989; Yin, 2014, 2018). We compared observed patterns in the data against the predicted outcome and explored the relationship between these themes as guided by our theoretically derived propositions based on cross-case evidence – see Chapter 8.

On the other hand, we conduct a cross-case analysis which “is a method that facilitates the comparison of commonalities and differences in the events, activities, and processes; the units of analyses in case studies” (Cruzes et al., 2015, p. 1639). There are two main reasons why we followed a cross-case analysis (Miles et al., 2014; Yin, 2014). First, it enhances generalisability or transferability of results from one case of a nonprofit to another. Second, cross-case analysis was also helpful to generate a deeper understanding of the study phenomena while enhancing our ability to explore our theoretical propositions by generating results from different contexts. Overall, the cross-case analysis makes it easier and quicker to generalise findings than single case analysis (Miles et al., 2014).

It is also recommended that we subject themes generated from case-oriented analysis to variable-oriented analysis (Burns, 2010; Miles et al., 2014). Variable-oriented analysis “is conceptual and theory centred ... the building blocks are variables and their interrelationships” (Miles et al., 2014, p. 102). In this study, we mixed both strategies because the two are generally interdependent, and it is desirable for a rich cross-case analysis (Burns, 2010; Miles et al., 2014). We generate findings within each case to observe and generate emergent patterns and themes in a single case data. We also analysed the remaining cases, sequentially, to identify the presence of, absence of and alternatives to the patterns identified in the subsequent case.

6.6.3. Validity and Reliability of Qualitative Data.

To ensure the quality of the qualitative study and increase the generalisability of findings, we ensured to observe the validity (i.e. construct validity, internal validity, external validity) and reliability of findings (Yin, 2014). Validity and reliability are both important in obtaining fruitful qualitative findings. There are three constructs of validity that are equally important but not independent from each other, i.e., “without a clear theoretical and causal logic (internal validity), and without a careful link between the theoretical conjecture and the empirical observations (construct validity), there can be no external validity in the first place” (Gibbert et al., 2008, p. 1468). In the preceding paragraph, we first mention the effort to ensure construct and internal validity, and then the effort to ensure external validity.

Construct validity, also known as measurement validity (Yue, 2010), was concerned with identifying the best definition and operational measures for the overarching constructs of the study. To ensure construct validity, we covered two steps (Yin, 2014, 2018). First, we defined our constructs based on the common concepts offered in key scholarship, including social media in nonprofits, social media affordances, OPR, dynamic capabilities, and service co-creation; while relating back to the context of nonprofit-public interaction on social media. Second, we identified the operational measures of each construct as applied in other contexts discussed in previous studies. We, therefore, identified and applied the operational measures of each construct based on previous empirical studies, and very closely related to the QUAN measures. Besides matching the constructs to prior studies in different contexts, we also applied data triangulation by combining QUAN and QUAL data to generate overall conclusions. This is a recommended approach to improving construct validity in qualitative research (Gibbert et al., 2008; Yin, 2014, 2018; Yue, 2010).

Internal validity, also known as logical validity, relates to the correctness of “causal relationships between variables and results” (Gibbert et al., 2008, p. 1466). To ensure internal validity, we observed the three measures (Gibbert et al., 2008). First, we applied and followed a clear research framework guided by theory and prior empirical evidence in different contexts. Second, we applied the pattern-matching technique to identify similarities and differences between empirically observed patterns in different cases as well as those established in previous studies. Third, we applied theory triangulation by adopting multiple perspectives, particularly, applying the AST as the overarching theoretical lens with supporting views from the affordances theory (see Section 4.4 in Chapter 4), the concept of OPR (see Section 4.5.1 in Chapter 4) and the social capital theory (see Section 4.5.2 in Chapter 4).

External validity refers to ensuring analytical generalisation of the study findings to other settings (Gibbert et al., 2008; Yin, 2018). Unlike in the quantitative study, “case studies can be viewed as generalizing to theory and not to populations. Thus, if a series of findings in a case can be understood in terms of the existing theory or literature, that constitutes a type of external validity” (Yin, 2014; Yue, 2010, p. 71). Learning from Yin (2018), we ensured external validity by replicating our inquiry in three case studies as visually illustrated by Figure 6-3 in this Chapter. Replication in multiple case studies offered sufficient grounds for testing our propositions and therefore improved analytical generalisation (Gustafsson, 2017; Yin, 2014). We specifically conducted the cross-case analysis as a means towards analytical generation (Gibbert et al., 2008).

Reliability, unlike validity, reliability of qualitative research necessitates the researcher to ensure that the study measures are consistent and therefore applicable to other research contexts (Yue, 2010). In this case, a case study protocol was a useful tool to ensure the reliability of the case study research (Gibbert et al., 2008; Yin, 2014). The researcher developed a case study protocol (see Appendix C) which offered a clear research procedure from developing theoretical propositions, through case selection, replication and reporting to generating meta-inferences. Additionally, the researcher maintained a case study database in order to have a consistent collection of case study material. A case study database “is a primary method for organising and warehousing case study data and analyses—including notes, narratives, tabular material, and documents—in a single space” (Davis, 2010). We maintained a simple database containing 1) case study protocol 2) audio-recordings of interviews taken during interviews and stored as mp3 files. 3) Interview transcripts, which were stored as Microsoft Word files, and 4) the NVivo dataset comprising of all the coding done in the study.

6.7. Integration of Data, Interpretation and Reporting of Findings

Quantitative and qualitative components “can be considered integrated to the extent that these components are explicitly related to each other within a single study and in such a way as to be mutually illuminating, thereby producing findings that are greater than the sum of the parts” (Woolley, 2009, p. 7). Integration, in mixed methods research, denotes “a specific relationship between two or more methods where the different methods retain their paradigmatic nature but are inter-meshed with each other in pursuit of the goal of knowing more” (Moran-Ellis et al., 2006, p. 51). Integration of findings and generating meta-inferences is central in mixed methods studies and allows us to “mix” results (Venkatesh et al., 2013) and know more about our study phenomenon (Moran-Ellis et al., 2006). Integration “does not in itself imply anything about what can be claimed; such claims are made based on the researchers’ theoretical perspectives” (Moran-Ellis et al., 2006, p. 56). Therefore, failure to link, combine, mix, or integrate the quantitative and qualitative components creates unhelpful gaps and undermines analytical inferences (Moran-Ellis et al., 2006).

Mixing methods goes beyond applying two or more methods in a single study. Moran-Ellis et al. (2006, p. 46) argue that integration must be considered and presented as “a practical relationship between different methods, sets of data, analytic findings or perspectives”. Therefore, integration in a mixed methods study can occur at three levels – design, methods, and interpretation and reporting (Fetters et al., 2013). As explained in Section 6.4, there was no integration at the design level as we followed a convergent mixed methods design in which we collected quantitative (as described in Section 6.5) and qualitative data (as described in Section 6.6) as two separate sets of data in a single data collection phase.

Integration at the methods level occurs by linking the methods of data collection and analysis through (1) connecting, (2) building, (3) merging or (4) embedding (Fetters et al., 2013). Table 6-3 provides a brief description of the four methods-integration approaches.

Table 6-3. Integration through methods. Source: (Fetters et al., 2013, p. 2140)

Approach	Description
Connecting	One database links to the other through sampling
Building	One database informs the data collection approach of the other
Merging	The two databases are brought together for analysis
Embedding	Data collection and analysis link at multiple points

In this study, we adopted the merging approach in which we brought together the quantitative and qualitative results for comparison and interpretation. Merging “typically occurs after the statistical analysis of the numerical data and qualitative analysis of the textual data” (Fetters et al., 2013, p. 2140). We used a theoretical thematic analysis guided by a priori codes for qualitative data (see Section 6.6.2) to ensure that the qualitative data responds to the key constructs measured in the survey and therefore creates a conducive way of merging the two data sets.

Integration of data at the interpretation and reporting level occurs by (1) integrating through narrative; (2) integrating through data transformation; and (3) integrating through joint displays (Fetters et al., 2013). Integration through narrative can follow the weaving approach (presenting findings on a theme-by-theme or concept-by-concept basis), contiguous approach (i.e., presenting the quantitative and qualitative findings in different sections of a single report) or the staged approach (i.e., findings are reported in stages as data is analysed separately) (Fetters et al., 2013). First, we used the contiguous approach through which we present a narrative of quantitative findings and qualitative findings in different Chapters – see Chapters 7 and 8, respectively. Because our study is fully mixed and emphasises both the quantitative and qualitative results in answering research questions), we later, in Chapter 9, merged our findings and used joint displays to extract the convergent and divergent findings, if any, and drew out new insights that emerged beyond the quantitative or qualitative results. Consequently, we conducted separate methods, separate analysis, but provided a theoretical integration, also known as interpretive integration (Moran-Ellis et al., 2006).

Findings from quantitative and qualitative data may be or may not be congruent (Maxwell & Mittleman, 2010; Moran-Ellis et al., 2006; Woolley, 2009). The lack of congruency resonates from the fact that “the paradigms which underpin quantitative and qualitative methodological approaches rest on apparently incompatible assumptions about how we understand and theorize notions of reality, and so cannot be combined to produce increasingly accurate approximations to the ‘truth’ of a phenomenon” (Moran-Ellis et al., 2006). Integration of findings may, therefore, lead to three possible outcome – i.e., confirmation, expansion or discordance of inferences (Fetters et al., 2013). The findings can be combined to study a complex social phenomenon and allow us to know more (Moran-Ellis et al., 2006) – i.e., in a complementarity rather than validity manner (Woolley, 2009). We concluded our interpretation of findings by drawing meta-inferences, through the integration of quantitative and qualitative findings, which is the essence of a mixed methods study (Moran-Ellis et al., 2006; Venkatesh et al., 2013).

Meta-inferences are “theoretical statements, narratives, or a story inferred from the integration of findings from quantitative and qualitative strands of mixed methods research” (Venkatesh et al., 2013, p. 38). In simpler terms, a meta-inference is “an overall conclusion, explanation, and understanding developed through an integration of the inferences obtained from the qualitative and quantitative strands of a mixed methods study” (Tashakkori & Teddlie, 2008, p. 101). Therefore drawing meta-inferences in this study involved developing an overall conclusion on, explanation and understanding of the essence of social media in nonprofits based on the integration of the quantitative and qualitative results. We provided meta-inferences in the form of propositional statements, based on both the QUAN and QUAL findings, in which we confirm, falsify, or refine our theoretical propositions (see Section 9.2 in Chapter 9). Generating meta-inferences allowed us to cater for both the convergence and divergence in findings (Moran-Ellis et al., 2006).

6.8. Ethics Consideration

This study involved getting into contact with human participants through a self-administered questionnaire and semi-structured interviews. We therefore first obtained ethics approval from UTS Human Research Ethics Committee (UTS-HREC) before data collection – approval number is UTS HREC REF NO. ETH17-1939 (See Appendix A). The UTS-HREC followed up on the research progress within a period of one year after the commencement of data collection. We obtained organisations’ consent before contacting individual participants for data collection. With the individual participants, we explained in detail what the study was about, why we were conducting this study, how the results were going to be used, and that their confidentiality was assured. We provided the participants with an information sheet for reference if they needed to know more about the study. We provided a participant consent form to participants who agreed to participate in the study. Once the individual agreed to participate and signed the consent form, we then proceeded to collect responses from that individual.

6.9. Chapter Summary

This Chapter discussed the research method applied to study the essence of social media in nonprofits, which study dug into the aspects of nonprofits, social media and SCC. The Chapter discussed our epistemological assumptions, which are consistent with the views of critical realists. It presented and explained the application of CR views in this study. Second, it indicated how we sought to provide an explanatory inquiry of the phenomenon mentioned above and discussed how we applied a retroductive reasoning approach. Third, which was the peak of this Chapter; we

explained why we applied the mixed methods research and described how we applied the convergent mixed methods design to gather quantitative and qualitative data. We explain, in detail, the collection, analysis and validity of findings from the survey and interview data. We explained why we used surveys and semi-structured interviews from multiple case studies. The sampling approaches for both methods of data collection are discussed. Lastly, the Chapter indicated our approaches to integration, interpretation and reporting of findings. We indicated and explained that merging of databases, use of joint displays and generation of meta-inferences were chosen and applied as the most suitable approaches for a convergent mixed method.

Chapter 7. Quantitative Data Analysis:

Measurement & Structural Model

Analysis

This Chapter offers a quantitative account of social media enabled SCC in nonprofits, which we later compare with the qualitative account of events in the subsequent Chapter 8. The results provided are based on a cross-sectional survey of nonprofits offering health, education and social services. This Chapter explains the phenomenon mentioned above by postulating the relationship between four (4) conceptual entities, i.e., social media structure, OPI, organisation generativity and SCC. We apply the structural equation modelling technique to analyse the relationship between variables.

7.1. Preliminary Data Analyses

The following Section also presents the analysis of qualitative data, including the background characteristics of respondents and participating organisations, assessment of bias, normality, reliability and validity. The analysis of the study variables involves - Descriptive Statistical Analysis, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) and Path Analysis using Structural Equation Modelling (SEM). The EFA and CFA are preliminary analyses that preceded path analysis to test the validity of and, the correlation among the indicators measuring respective constructs.

7.1.1. Participant Demographics

In order to ensure the authenticity of the data collected and representation with respect to the unit of inquiry and analysis, a descriptive analysis of background characteristics of both the respondents and the organisations was conducted. The characteristics include; gender, age, levels of education, job position in the organisation, nature of the organisation, fields of service of the organisation and size and length of operation.

Table 7-1. Profile of Respondents and Participating Organisations

Detail	Category of Respondents	Number	Percentage
Gender	Female	145	50.2
	Male	144	49.8
Age	18 – 30	196	67.8
	31 – 45	80	27.7
	Above 45	13	4.5
Job Position	Operational	205	70.9
	Supervisory	41	14.2
	Senior Management	25	8.7
Organisation Type	Local NGO	69	94.5
	International NGO	4	5.5
Organisation size*	Small	17	23.3
	Medium	32	43.8
	Large	24	32.9
Nature of Nonprofit Service	Education	31	42.5
	Culture and Recreation	16	21.9
	Social Services	40	54.8
	Health	10	13.7
	Others**	11	15.1
Years of Operation	Over 10 years	25	34.2
	2 – 10 years	37	50.7
	Less than 2 years	11	15.1

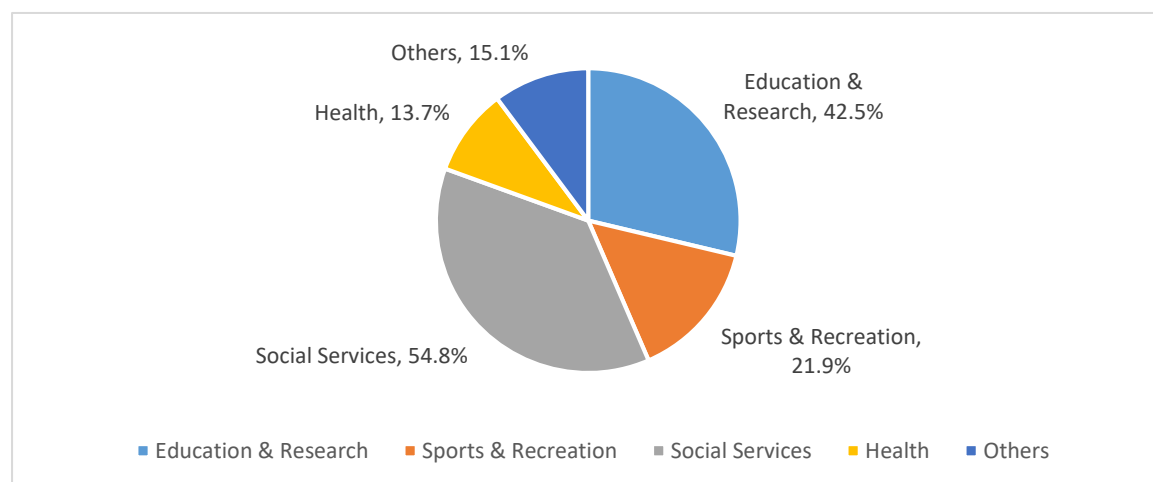
*Definition of organisation size in Uganda
Small – 5 to 49 employees; total assets range from \$2,645 to \$26,445
Medium – 50 to 100 employees; total assets range from \$26,445 to \$95,200
Large – employees > 100; total assets > \$95,200
Source: <http://www.ugandainvest.go.ug/sme/>
** Other nonprofits offering services like law, advocacy and politics, philanthropic and voluntarism, Religious services, and Nonprofit unions

The female respondents (50.2%) were slightly more than the male respondents (49.8%). One respondent did not select either of the options provided on the questionnaire. The majority were aged 18 – 30 years (67.8%). Others were either 31 – 45 years (27.7%) or above 45 years (13%). This age distribution is quite representative of the age structure of Uganda's population, where the majority of the workforce is youthful. Moreover, youth are more adaptive to the use of social media. Additionally, the majority of the respondents were administrative or operational staff (70.9%). Some respondents were supervisory staff (14.2%) and senior managers (8.7%).

Participating organisations were medium-sized organisations (43.8%), large organisations (32.9%) and small organisations (23.3%). Approximately half of the participating organisations have been in operation for 2-10 years (50.7%). Other organisations have been in operation for over ten years (34.2%) while the least percentage has been in operation for less than two years (15.1%).

National NGOs dominated the study, with a percentage of 94.5% of the 73 participating NGOs, while 4.1% were international. National NGOs here represent those organisations initiated by an individual, group or other organisation based in Uganda. International NGOs, on the other hand, are those organisations initiated by an individual, group or other organisation based in another country. Participating organisations are categorised social services organisations (54.8%), Education & Research organisations (42.5%), Sports & Recreation organisations (21.9%), and health organisations (13.7%). Some organisations offered other services or fell into a category other than the ones mentioned above (15.1%).

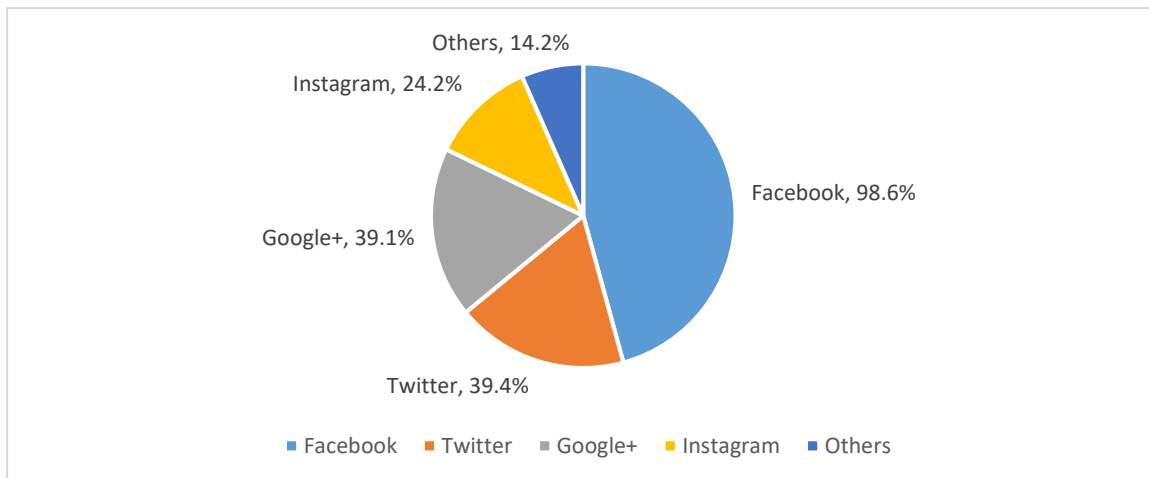
Figure 7-1. Services Offered by Participating Nonprofits



The other (15.1%) indicated that some participating organisations also operated in four other categories, i.e. (1) law, advocacy and politics. (2) Philanthropic and voluntarism. (3) Religion. (4) Nonprofit unions and networking organisations. For details on categories of nonprofits, see – The International Classification of Nonprofit Organisations, Major Groups and Subgroups (Salamon & Anheier, 1996).

Social media platforms used among nonprofits include Facebook (98.6%), Twitter (39.4), Google+ (39.1%), Instagram (24.2%) and other platforms (14.2%) – See Figure 7-2. Other social media included platforms such as LinkedIn.

Figure 7-2. Social Media Platforms Used in Participating Nonprofits



Many participating organisations use the English language (97.9%) when interacting on social media. However, in a few cases (33.9%) organisations use other local (African) languages, together with English.

7.1.2. Bias and Normality Assessment

7.1.2.1. Missing Values

We cleaned our data before running any analyses. Data cleaning involved steps in minimizing missing values and assessment of normality. To minimize and overcome the challenges of dealing with missing values, the researchers encouraged respondents to complete the questionnaire at the time of collecting questionnaires from respondents. We were able to do so because we used self-administered questionnaires. We did not record, in the SPSS statistics, any response with missing values; therefore, the usable responses reduced from 328 to 289 after elimination of responses with missing values.

7.1.2.2. Non-response Bias

It is important to note that failing to correct for non-response bias “distorts aggregate estimates” (Whitehead et al., 1993, p. 215). Researchers have indicated that non-response bias arises due to sampling method (Cheung et al., 2017) or the survey approach used – i.e. mail, telephone or face-to-face (Berg, 2005), and may limit the ability to generalize findings over the population. Berg (2005) mentions that response rates in face-to-face versus mail among Whites do not differ that much, while the response rates differ significantly in African-American respondents.

In this study, we sent out 400 questionnaires to respondents in 73 nonprofit organisations operating in Uganda. We collected 328 responses, before eliminating the missing values, which gave us a response rate of 72.2% and possible nonresponse bias of 27.8%. We observed non-response bias by comparing the characteristics of respondents and those of non-respondents (Whitehead et al., 1993). We followed up with non-respondents at the time of collecting questionnaires. We observed that the demographics of non-respondent (i.e., age, gender, positions and organisations) did not differ significantly from those of respondents. We concluded that non-respondents had the same responses as those of the respondents.

7.1.2.3. Common Method Bias

Common method bias (CMB) is caused by common method variance (CMV) which is the systematic error variance shared among study variables that are introduced into the measures by the method of measurement rather than the theoretical basis of the measures (Jakobsen & Jensen, 2015). CMV can inflate or deflate correlations between variables and therefore creates a systematic bias in the estimated relationships between variables (Jakobsen & Jensen, 2015). We tested for CMB since our study relied on self-reported data, which is commonly affected by common methods bias (CMB) (Podsakoff et al., 2003). We tested for CMB using Harman's single factor test to check whether a single factor was accountable for the majority of covariance in the measures (Podsakoff et al., 2003). We tested all independent items using principal axis factoring to check if one factor explains more than 50% of the variance in the measures (Podsakoff et al., 2003). A single factor explained 18.5% of the variance, which indicates CMB does not affect our data. The single factor test from the SPSS output is provided in Appendix F.

7.1.2.4. Multi-collinearity Test

Although there is, generally, limited discussion on multicollinearity problems in structural equation modelling, we acknowledge that multicollinearity could cause some problems in theory testing leading to uninterpretable results and erroneous conclusion even when we use powerful analyses like structural equation models (Marsh et al., 2004). Multicollinearity leads to inaccurate estimates of coefficients and standard errors (Marsh et al., 2004). "When multicollinearity is extreme, Type II error rates are generally unacceptably high (over 80%), and when multicollinearity is moderate, Type II error rates can be substantial (greater than 50%) especially when composite reliability is weak, explained variance (R^2) is low, and the sample size is relatively small" (Grewal et al., 2004, p. 519).

We tested for multi-collinearity by measuring the degree of multicollinearity of independent variable – functional affordances of social media – FASM) with other independent variables (symbolic expressions – SESM, organisation generativity - OG, types of relationships –TOR, and patterns of interaction – POI). We provide the Tolerance Statistics and the Variance Inflation Factors (VIF) in Table 7-2. On the other hand; we tested for multicollinearity by deriving the determinant of the correlation matrix for independent variables. The Determinant value for each variable is also provided in Table 7-2 below.

Table 7-2. Multicollinearity Statistics

		Coefficients ^a		Determinant of the Correlation Matrix
Model		Collinearity Statistics		
		Tolerance	VIF	
1	SESM	0.713	1.402	0.384
	OG	0.571	1.750	0.003
	TOR	0.606	1.649	0.012
	POI	0.618	1.617	0.024
a. Dependent Variable: Functional affordances (FASM)				0.008

O'brien (2007), citing Neter et al., (1989), indicates that multicollinearity is confirmed when VIF exceeds 10, with a Tolerance statistic less than 0.1, or when VIF exceeds 5 and a Tolerance of 0.2. We can also detect multicollinearity when the Determinant of the correlation matrix is less than 0.00001 (Field, 2013). Given the VIF and Tolerance values in Table 7-2, we believe there are no multicollinearity problems in our data.

7.1.2.5. Assessment of Normality

There are three core non-normality indices that we had to explore before conducting SEM – univariate skewness, univariate kurtosis and multivariate kurtosis (Finney & DiStefano, 2006). Multivariate kurtosis causes a greater concern for SEM analyses (Byrne, 2010, 2016). Skewness measures the extent to which values deviate from symmetry around the mean and kurtosis measures the extent to which values are distributed around the mean (George & Mallery, 2016). We examined skewness and kurtosis normality tests to guide our choices for model estimation methods. Table 7-3 summarises these tests while Appendix G provides the detailed SPSS Statistics output of skewness and kurtosis values.

Table 7-3. Skewness and Kurtosis Values for Normality Tests

Variable	Mean	SD	Skewness		Kurtosis	
			(S.E = 0.143)	Z _{skewness}	(S.E = .286)	Z _{kurtosis}
FASM	4.346	0.348	0.162	1.133	-0.468	-1.636
SESM	4.280	0.397	-0.237	-1.657	1.304	4.559
TOR	4.093	0.513	-0.094	-0.657	-0.254	-0.888
POI	4.001	0.447	-0.657	-4.594	2.627	9.185
OG	4.211	0.409	0.213	1.490	-0.469	-1.640
SCC	4.263	0.404	0.139	0.972	-0.403	-1.409

Finney and DiStefano (2006), citing Bentler and Wu (2002), suggest that multivariate kurtosis greater than three could lead to inaccurate results if the maximum likelihood (ML) estimation is applied. Because computer programs rescale this value by subtracting it from the standardized kurtosis index value, a growing number of studies suggest that non-normality may affect ML-based results when skewness and kurtosis approach values of 2 and 7, respectively (Chou & Bentler, 1995; Finney & DiStefano, 2006; West et al., 1995). To obtain normality tests using skewness and kurtosis, we obtain a z-score, which is the fraction of skew value and the standard error of skewness, and the fraction of excess kurtosis and the standard error of excess kurtosis, as indicated below (Kim, 2013).

$$Z = \frac{\text{Skew value}}{SE_{\text{skewness}}}, Z = \frac{\text{Excess kurtosis}}{SE_{\text{excess kurtosis}}} \quad (3) \text{ (Kim, 2013)}$$

According to Kim (2013, p. 53), ‘for medium-sized samples ($50 < n < 300$), reject the null hypothesis [that the data is normally distributed] at absolute z-value over 3.29, which corresponds with an alpha level 0.05, and conclude the distribution of the sample is non-normal. Given the tests in Table 7-3, we observe that some variables, i.e. POI and SESM exhibit substantial departure from a normal distribution, which led us to consider model estimation methods including maximum likelihood with bootstrapping and item parcelling, discussed in Section 6.5.3.2 of Chapter 6. Usually, non-normal distribution is a common challenge encountered in behavioural and social science-related datasets (Bono et al., 2017), which can be managed by considering the above-mentioned estimation methods.

7.2. Model Fit Assessment

As we earlier explain in Section 6.5.3.2, in Chapter 6, we estimate the measurement models and structural models using ML estimation. Because our data showed signs of departure from a normal distribution, we applied ML with bootstrapping technique and item parcelling to improve the accuracy of model estimates. We conclude model fit when $CFI \geq 0.95$, $SRMR < 0.08$ and $RMSEA < 0.08$. We combine the RMSEA fit index and the 2-index strategy (Hu & Bentler, 1999) because, the 2-index strategy minimises Type I error, while RMSEA allows us to detect model misspecification and model quality (Byrne, 2016; Hu & Bentler, 1999).

We also assess the reliability and validity of constructs using Cronbach's alpha, CR and AVE, as earlier discussed in Section 6.5.4 of Chapter 6. Overall, we conclude internal consistency when constructs achieve Cronbach's alpha ≥ 0.7 . We mainly follow the Fornell-Larcker criterion to conclude convergent validity of constructs when $AVE > 0.5$, and discriminant validity when $AVE >$ square correlation between two constructs.

7.3. Measurement Model Analysis

Sections 7.3.1 to 7.3.4 present measurement model analyses, i.e., CFA for the study constructs presented in our research model. With each model, we present the measures for reliability and validity, as earlier discussed in Section 6.5.4 of Chapter 6. CFA allows us to estimate, evaluate, modify and specify a measurement model (Tabachnick & Fidell, 2007).

7.3.1. Measurement Model of Service Co-creation on Social Media

To define a measurement model of service co-creation (SCC), we first conducted an exploratory factor analysis (EFA) using PCA as an extraction method with Promax rotation. We used twenty-three (23) items in the questionnaire to derive and define forms of SCC realised through social media in nonprofits. We theoretically anticipated multiple forms of SCC would emerge, as mentioned in Section 3.5.2.2.

Our sample was sufficient for factor analysis with Kaiser-Meyer-Olkin (KMO) = .722, which is above the threshold of 0.5 (Field, 2013). Bartlett's test of sphericity of approximate chi-square = 2944.432, $df = 253$, $p = .000$ implies that factors have significant relationships fit to measure SCC. Secondly, the measures of sampling adequacy (MSA), i.e., the diagonal values with an "a" script in the anti-image correlation matrix produced all values above 0.5 (see shaded diagonal

values in Appendix H). This provides additional evidence that our sample was adequate to generate distinct and reliable factors in factor analysis (Yong & Pearce, 2013). See Appendix H for SPSS Statistics output on KMO, Bartlett's test, correlation matrix and determinant value.

Using Kaiser's Eigenvalue criterion and Cattell's scree test, we extracted six (6) components measuring SCC. The Kaiser's criterion recommends that we retain factors with Eigenvalue above 1 (Yong & Pearce, 2013), while the scree test leads us to extract components above the point of inflexion. However, we were fully aware that the scree test is normally biased by researcher subjectivity and ambiguity (Hayton et al., 2004). This was not a major threat to our findings because we followed the EFA with CFA to generate the final measurement model.

Table 7-4 presents the pattern matrix extracting measurement items for SCC, with corresponding eigenvalues, percentage of variance and cumulative percentage of variance from the rotation sums of squared loading. Refer to Appendix H for SPSS output for commonalities, total variance explained, scree plot, component matrix, pattern matrix, structure matrix and component correlation matrix.

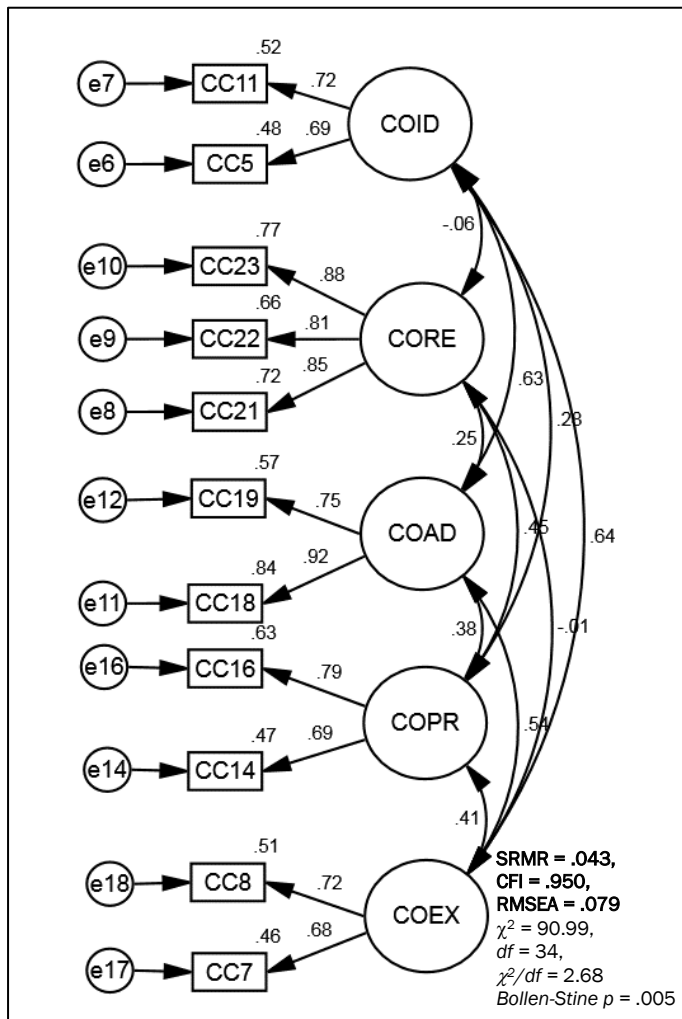
Table 7-4. EFA for Service Co-creation on Social Media

Pattern Matrix ^a							
Items		Components					
		COID	CORE	COAD	COPR	COEX	COAS
CC2	Getting together with people of similar needs	.857					
CC6	Listening to community voices	.763					
CC4	Recognising potential ideas from the community	.712					
CC3	Creating a community of opinion	.703					
CC1	Connecting to a wide community of common concern	.680					
CC5	Selecting useful ideas to build on our own ideas	.581					
CC11	Gathering ideas to create better services	.473					
CC12	Accessing a wider community to understand community needs						
CC23	Getting in touch with people who can work with us		.897				
CC21	Attracting voluntary support		.874				
CC22	Getting donations		.860				
CC18	Advocating through social media campaigns			.920			
CC19	Attracting more people to participate in our activities			.819			
CC20	Letting people know what we stand for			.600			
CC15	Transforming services to target specific groups or situations				.876		
CC14	Aligning services to what matters to the community				.687		
CC16	Using feedback to develop new or more services				.613		
CC9	Getting a sense of community response and perception of our services					.826	
CC8	Sharing experiences about the services we offer					.689	
CC7	Relating stories about our services from the community					.607	
CC17	Using social media feedback to create relevant services						.737
CC13	Gathering social media feedback to sense service gaps						.590
CC10	Gathering social media reviews to identify better services						.500
Eigen Value		6.29	3.24	1.64	1.49	1.31	1.05
Variance (%)		27.4	14.1	7.1	6.5	5.5	4.6
Cumulative Variance (%)		27.4	41.5	48.6	55.1	60.7	65.3
Kaiser-Meyer-Olkin (KMO) = .722; Bartlett's test of sphericity Approximate chi-square = 2944.432, df = 253, p = .000. Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization. a. Rotation converged in 8 iterations.							

The results in Table 7-4 show that the EFA extracts and retains six forms of social media enabled SCC with factor loading ranging from 0.473 to 0.920. The extracted factors were, in order of significance: (1) Co-ideating (COID) (27.4% of variance). (2) Co-resourcing (CORE) (14.1% of variance). (3) Co-advocating (COAD) (7.1% of variance). (4) Co-progressing (COPR) (6.5% of variance). (5) Co-experiencing (COEX) (5.7% of variance). 6. Co-assessing (COAS) (4.6% of variance).

Following the EFA, we conducted a CFA to derive the final measurement model for social media enabled SCC, as presented in Figure 7-3. The CFA retained five (5) latent variables that fit well enough to measure SCC in our context. They include – COID, COAD, CORE, COPR, and COEX.

Figure 7-3. A Five-Factor Model of Service Co-creation



The five-factor measurement model for SCC constitutes items with factor loadings ranging from 0.68 to 0.92. We concluded that the measurement model for SCC had an absolute fit (SRMR = 0.043, CFI = 0.950 and RMSEA = 0.079). In the table below, we present the reliability and validity analysis for the above model.

Table 7-5. Reliability and Validity Analysis for Service Co-creation Measurement Model

Constructs	N	Mean	SD	CR	AVE	Squared Correlations				
						COID	CORE	COAD	COPR	COEX
Co-ideating (COID)	2	4.46	0.44	0.95	0.51	-				
Co-resourcing (CORE)	3	4.02	0.76	0.99	0.72	0.00	-			
Co-advocating (COAD)	2	4.34	0.51	0.97	0.70	0.40	0.06	-		
Co-progressing (COPR)	2	4.17	0.50	0.93	0.56	0.08	0.20	0.14	-	
Co-experiencing (COEX)	2	4.35	0.47	0.94	0.49	0.41	0.00	0.30	0.17	-

In Table 7-5 above, the CR for all variables is greater than 0.70, leading us to conclude that the measurement model achieved construct reliability. The variables also have good internal consistency since COLD has $\alpha = 0.67$, CORE has $\alpha = 0.87$, COAD has $\alpha = 0.81$, COPR has $\alpha = 0.71$, and COEX has $\alpha = 0.66$. The AVE of latent variables is greater than 0.5, which is evidence of convergent validity of the SCC measurement model. There is sufficient evidence of discriminant validity because, first, the AVE for each latent variables is greater than the squared correlation between variables, and all correlations between variables are less than 0.85. From Figure 7-3 and Table 7-5, we conclude that nonprofits realise five forms of SCC, which modifies proposition 1 and hypothesis 1 (See Section 5.2.1).

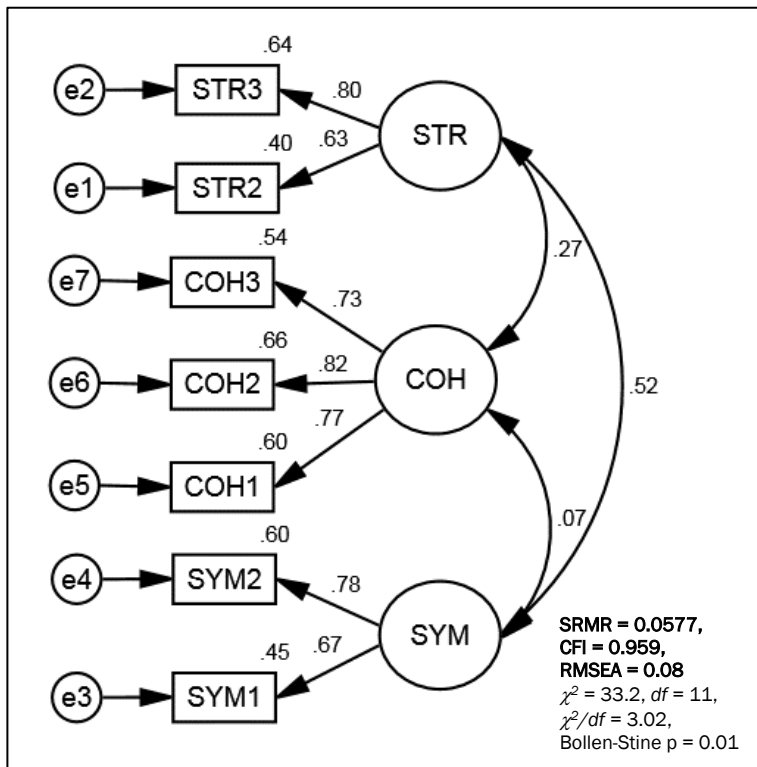
7.3.2. Measurement Models of Organisation-Public Interaction (OPI)

We explored OPR from two different but closely related points of view. First, we analyse the patterns of interaction (POI), which we operationalised based on social networking literature to include strong, cohesive, similarity-based and symmetrical interaction. Second, we analyse the types of relationships (TOR), which we operationalise basing on public relations scholarship to include communal, exchange and symbiotic relationship. Sections 7.3.2.1 and 7.3.2.2 below provide the analysis for the measurement models of POI and TOR, respectively.

7.3.2.1. Measurement Model for Patterns of Interaction (POI)

We identified, in Chapter 3, Section 3.3.3, some structural properties of social networks that indicate potential POI. In Figure 7-4, we derive and present a three-factor model of POI, including strong, symmetrical and cohesive interaction. Similarity-based interaction in OPR did not fit to the model together with other patterns of interaction. To obtain an absolute fit model, we dropped the similarity-based interaction construct.

Figure 7-4. A Three-Factor Model for POI



In Figure 7-4, above, we derive a three-factor measurement model of POI on social media with an acceptable fit at (SRMR = 0.058, CFI = 0.959, RMSEA = 0.08). In Table 7-6, we analyse and present the reliability and validity of the model above.

Table 7-6. Reliability and Validity Analysis for POI Measurement Model

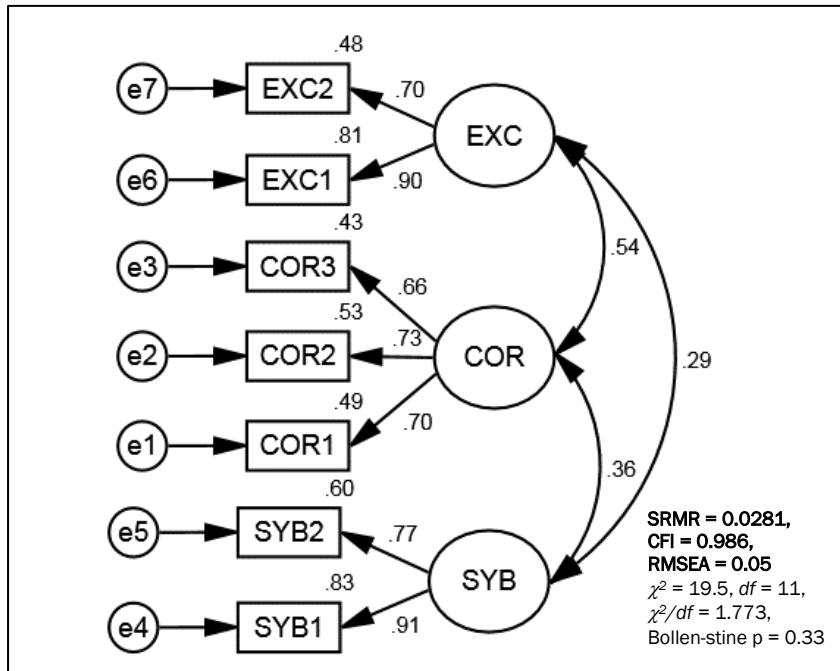
Constructs	N	Mean	SD	CR	AVE	Squared Correlations		
						STR	COH	SYM
Strong (STR)	2	4.06	0.65	0.89	0.52	-		
Cohesive (COH)	3	4.23	0.53	0.97	0.60	0.07	-	
Symmetrical (SYM)	2	3.62	0.74	0.91	0.53	0.27	0.00	-

In Table 7-6, the CR for all constructs is greater than 0.70, which indicates sufficient construct validity for the model. The variables are also reliable given STR has $\alpha = 0.70$, COH has $\alpha = 0.81$ and SYM has $\alpha = 0.68$. The table above also shows the AVE of latent variables is greater than 0.5, which is evidence of convergent validity of constructs in the model. The AVE for all constructs is greater than the squared correlation between variables, which is evidence of discriminant validity of the measurement model.

7.3.2.2. Measurement Model for Types of Relationships (TOR)

Drawing on the public relations literature, we noted, in Chapter 3, Section 3.3.2 that OPR emerge in states or types such as communal, exchange and symbiotic. In Figure 7-5, we present a three-factor model of TOR – i.e. communal, exchange and symbiotic.

Figure 7-5. A Three-Factor Model for TOR



The three-factor measurement model of TOR presented in the figure above achieved an absolute fit at (SRMR = 0.0281, CFI = 0.986, RMSEA = 0.05). Below, we present a reliability and validity analysis of the model above.

Table 7-7. Reliability and Validity Analysis for TOR Measurement Model

Constructs	N	Mean	SD	CR	AVE	Squared Correlations		
						COR	EXC	SYB
Communal (COR)	3	4.21	0.52	0.95	0.49	-		
Exchange (EXC)	2	2.95	0.96	0.93	0.65	0.29	-	
Symbiotic (SYB)	2	4.22	0.47	0.94	0.71	0.13	0.08	-

According to the validity analysis summarized in Table 7-7, CR for all variables is greater than 0.70, which indicates construct validity. Items used to measure each construct show sufficient internal reliability where COR has $\alpha = 0.70$, SYB has $\alpha = 0.75$, and EXR has $\alpha = 0.77$. The AVE of EXC and SYB is greater than 0.5, which is evidence of convergent validity of TOCR measurement model. The AVE for COR is also close to the recommended value of 0.5. We retained the COR construct

because AVE of 0.4 may be acceptable if the CR is above 0.6 (Fornell & Larcker, 1981). Further still, the square root of AVE for all factors is greater than the correlation between variables, which is evidence of discriminant validity.

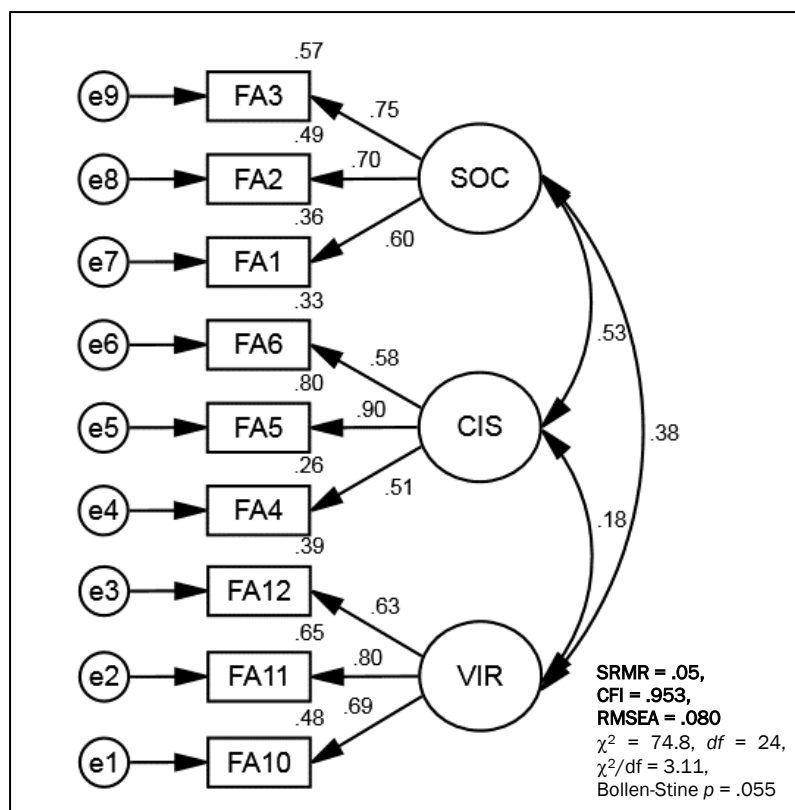
7.3.3. Measurement Model for Social Media Structure

We analyse social media structure by examining its *functional affordances* and *symbolic expressions* to organisations as users of this technology. In the sub-sections below, we present the measurement models for each component.

7.3.3.1. Measurement Model for Functional Affordances of Social Media (FASM)

We measured functional affordances of social media (FASM) drawing on potential identified from existing studies (Section 3.2.2). The measurement model for functional affordances in Figure 7-6 retained three of the four constructs retrieved from literature. The retained constructs were socialising (SOC), information sharing (CIS) and visibility (VIR). We deleted the CCA construct because it inhibited model fit due to low factor loadings. We note that factor loadings for all constructs in the measurement model range from 0.51 to 0.9.

Figure 7-6. A Three-Factor Model for FASM



We consider the model in Figure 7-6 as an ideal measurement of FASM because all standardized coefficients are greater than 0.5 (Kline, 2016). The measurement model shows adequate fit at SRMR = 0.05 and RMSEA = .080 (Browne & Cudeck, 1993). It shows a relative model fit at CFI = .953 (Hooper et al., 2008; Hu & Bentler, 1999). It also generated a chi-square value of 74.8 at 24 degrees of freedom, which resulted in a relative/normed chi-square (χ^2/df) = 3.11. Factor loading for all items ranging from 0.51 to 0.9.

On internal consistency of measurement constructs, the Cronbach's alpha for the three (3) observable items measuring – VIR (α = 0.736), CIS (α = 0.681) and SOC (α = 0.722). The above coefficient alpha values indicate acceptable internal consistency and construct reliability. We demonstrate convergent validity and discriminant validity for FASM measurement model in Table 7-8 below.

Table 7-8. Reliability and Validity Analysis for FASM Measurement Model

Latent Constructs	N	Mean	SD	CR	AVE	Squared Correlations		
						VIR	CIS	SOC
Visibility (VIR)	3	4.37	0.53	0.96	0.50	-		
Information sharing (CIS)	3	4.36	0.47	0.95	0.47	0.03	-	
Socialising (SOC)	3	4.30	0.42	0.96	0.47	0.14	0.28	-

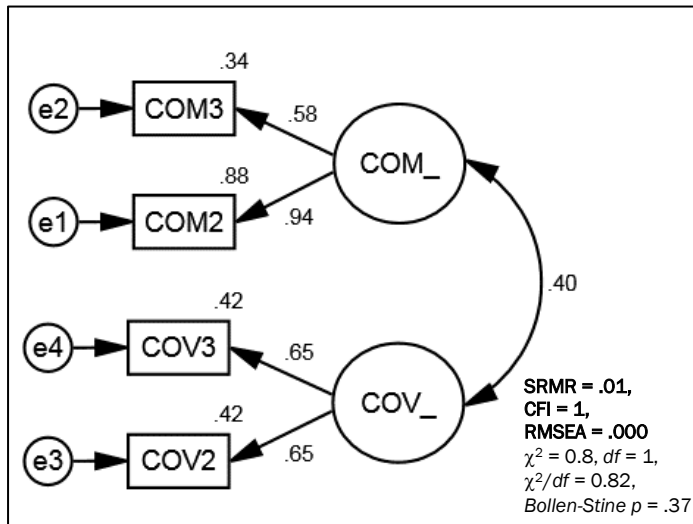
The retained constructs have good internal consistency with Cronbach alpha of VIR (α = 0.74), CIS (α = 0.70), and SOC (α = 0.72). The CR for all variables is greater than 0.6, which indicates good convergent validity of the FASM measurement model. The AVE for the latent variables ranges from 0.47 to 0.50, which falls in the acceptable range of values that confirm they have achieved convergent validity. We retained CIS and SOC variable AVE < 0.5 because, first, the value is not significantly less than 0.5. Secondly, the Cronbach's Alpha for CIS would drop to 0.67 if we delete item FA4 (the item with the lowest factor loading of 0.51) and that of SOC would drop to 0.69 if we deleted item FA1 (the item with the lowest factor loading of 0.6). This would reduce the reliability of the two scales. Thirdly, the two items in question have a factor loading above 0.5 and CR > 0.7, which suggests acceptable convergent validity (Fornell & Larcker, 1981). The AVE for each construct is greater than the squared correlation between constructs, which confirms discriminant validity among constructs measuring FASM.

7.3.3.2. Measurement Model for Symbolic Expressions of Social Media (SESM)

We gathered responses on symbolic expressions of social media (SESM) to nonprofits using six (6) items, and two (2) constructs adapted from (Grgecic et al., 2015) – i.e. communication of value

(COV) and communication of meaning (COM) (Section 4.4.3). In Figure 7-7, we present a measurement model of symbolic expressions of social media.

Figure 7-7. A Two-Factor Model for SESM



The model generated a chi-square value of 0.8 at 1 degree of freedom, resulting in a relative chi-square of 0.82, SRMR = 0.01 and RMSEA = .000. With these values, we concluded model fit with two variables each observed using three items. CFI = 1 indicates the model is relatively fit the data. The Cronbach's alpha for the two (2) observable items measuring communication of value ($\alpha = 0.60$) and two (2) observable items measuring communication of meaning (COM) ($\alpha = 0.70$). The above coefficient alpha values indicate acceptable internal consistency and therefore, good construct reliability. Following the (Fornell & Larcker, 1981) approach, we tested for convergent validity and discriminant validity for the SESM measurement model.

Table 7-9. Reliability and Validity Analysis for SESM Measurement Model

Constructs	N	Mean	SD	CR	AVE	Square Correlation	
						COM	COV
Communication of Meaning (COM)	2	4.22	0.44	0.87	0.61	-	
Communication of Values (COV)	2	4.36	0.44	0.87	0.42	0.16	-

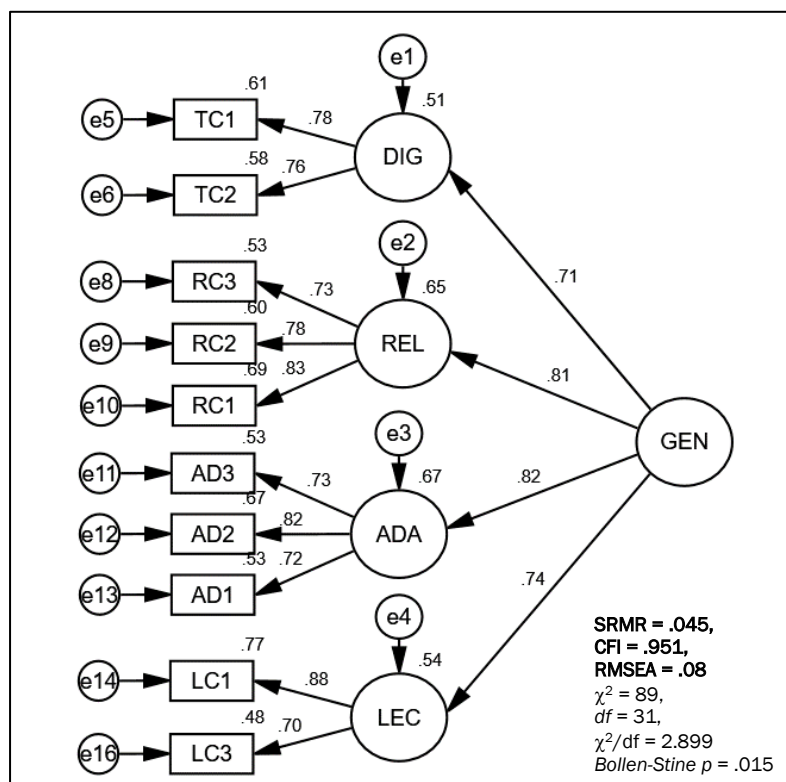
The retained constructs have acceptable internal consistency with Cronbach alpha of COM ($\alpha = 0.70$) and COV ($\alpha = 0.60$). The reliability and validity statistics summarized in Table 7-9 indicate acceptable convergent validity with CR for both constructs is above 0.7 and AVE above and close to 0.5. However, the measurement model has mediocre but acceptable convergent validity with AVE range from 0.42. We accept this model proceeded for further analysis given its AVE because

the AVE of COV is not significantly less than 0.5, especially that its shows a good CR which is above 0.7 (Cheung & Wang, 2017; Fornell & Larcker, 1981). Nonetheless, the results indicate discriminant validity among the indicators of COV and COM, since the AVE for both variables is greater than their square correlation.

7.3.4. Measurement Model of Organisation Generativity

Basing on existing literature on generative capabilities (Section 3.4.2), we identified four measures of organisation generativity that could support OPI on social media. These include IT-business spanning (DIG), relationability (REL), adaptiveness (ADA), and learning capability (LEC). Because generativity involves a set of abilities that enable the organisation to reconfigure its resources towards a targeted outcome, we intrinsically proposed that organisation generativity (GEN) is a multidimensional reflective construct of four measures (i.e. a second-order factor).

Figure 7-8. A Second-Order Model of Organisation Generativity



We derived a reflective model of organisation generativity with four latent variables (with factor loading from 0.71 to 0.82) and ten measurement items (with factor loading from 0.70 to 0.88). The model chi-square value is 89 at 31 degrees of freedom, resulting in a relative chi-square of

2.826. Other model fit indices including RMSEA = .080, SRMR = 0.455 and CFI = 0.957 indicate relative fit.

Table 7-10. Reliability and Validity Analysis for GEN Measurement Model

Constructs	N	Mean	SD	CR	AVE	Square Correlation			
						DIG	REL	ADA	LEC
Digital spanning (DIG)	2	4.16	0.54	0.96	0.60	-			
Relationability (REL)	3	4.13	0.48	0.98	0.61	0.34	-		
Adaptiveness (ADA)	3	4.29	0.41	0.97	0.57	0.35	0.44	-	
Learning capability (LEC)	2	4.18	0.57	0.95	0.63	0.28	0.35	0.37	-

The validity statistics summarized in Table 7-10 indicate that CR of the retained factors was above 0.7, which is evidence of construct reliability. The AVE for all factors lies above 0.5, which is evidence of convergent validity among latent variables measuring GEN. The squared correlations for all factors are less than the AVE for all variables, which is evidence of discriminant validity. Further still, the retained constructs have good internal consistency with Cronbach alpha of DIG ($\alpha = 0.74$), REL ($\alpha = 0.82$), ADA ($\alpha = 0.80$), and LEC ($\alpha = 0.79$).

7.4. Covariance Structural Analysis

With the measurement models presented in Section 7.3., we conducted structural model analyses to test our hypotheses and answer research questions 2, 3 and 4. We present structural models that elaborate and test hypotheses for propositions 2 to 5. We also report the correlation coefficients between variables.

7.4.1. The Effect of OPI on Service Co-creation (RQ.2)

In proposition 2, we posit that organisation–public interaction on social media (i.e., TOR and POI) shape co-creation of nonprofit services on social media. We elaborate proposition 2 using testable hypotheses H1a to H1g discussed in Section 5.2.2.1 of Chapter 5. Figure 7-9 and Figure 7-10 provide the structural analysis of the effects of TOR and POI on SCC, respectively. First, we present the effects of TOR on SCC (as summarised in Table 7-11) and later present the effects of POI on SCC (as summarised in Table 7-13).

Figure 7-9. A Structural Model of FASM, TOR and SCC

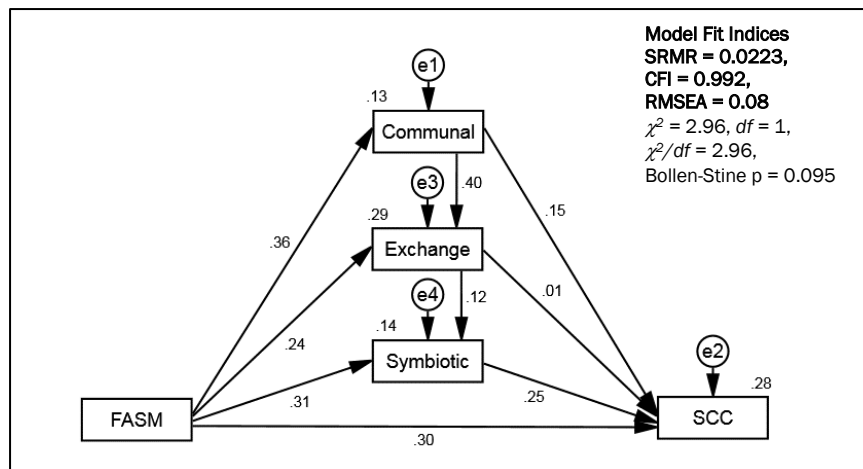


Figure 7-9 presents our results on the effect of FASM on three types of OPR, i.e., communal, exchange and symbiotic OPR, which in turn affect SCC. At this moment, we refer to Figure 7-9 to present our findings on hypotheses H1a to H1c as summarised in Table 7-11.

Table 7-11. Results on Hypothesised Relationship between TOR and SCC

Hypothesised Relationship		β	C.R.	SE	p	Comment
H1a	COR → SCC	.15	2.508	.071	.040	Supported
H1b	EXC → SCC	.01	0.093	.064	.983	Not supported
H1c	SYB → SCC	.25	4.486	.059	.011	Supported

Results in Figure 7-9 and Table 7-11 suggest that communal ($\beta=0.15$, $p<0.05$) and symbiotic ($\beta=0.25$, $p<0.05$) relationships have a positive effect on SCC. Exchange relationships, on the other hand, do not affect SCC, but the observed effect is negligible and not significant ($\beta=0.01$, $p>0.1$). The results support hypotheses H1a and H1c, but not H1b. However, symbiotic relationships have a stronger effect on SCC than communal relationships. Our results suggest that these types of relationships taken together with the effects of the functional affordances of social media will explain 28% of the variation in SCC and this variation is significant ($p=0.036$) (Figure 7-9).

We analysed the correlation coefficients to support that a change in functional affordances is associated with changes in TOR and SCC. Table 7-12 provides the correlation coefficients between FASM, TOR and SCC.

Table 7-12. Implied Correlations between FASM, TOR and SCC

	FASM	Communal	Exchange	Symbiotic	SCC
FASM	1.000				
Communal	.361**	1.000			
Exchange	.386**	.484*	1.000		
Symbiotic	.361*	.172**	.244**	1.000	
SCC	.450*	.308**	.258*	.389*	1.000

*p< 0.05; **p<0.01

According to Table 7-12. Implied Correlations between FASM, TOR and SCC, communal OPR and SCC are positively correlated $r(1)^{10} = 0.308$, $p < 0.01$. Similarly, exchange OPR $r(1) = 0.258$, $p < 0.05$ and symbiotic OPR $r(1) = 0.389$, $p < 0.05$ are positively correlated with SCC. With these correlation results, we expect that increase or decrease in communal, exchange and symbiotic OPR will be associated with similar changes in SCC.

We observed that SESM would affect patterns of interaction, which in turn also affect SCC. At this moment, we discuss the effects of patterns of interaction on SCC, as indicated in Figure 7-10.

Figure 7-10. A Structural Model of SESM, POI and SCC

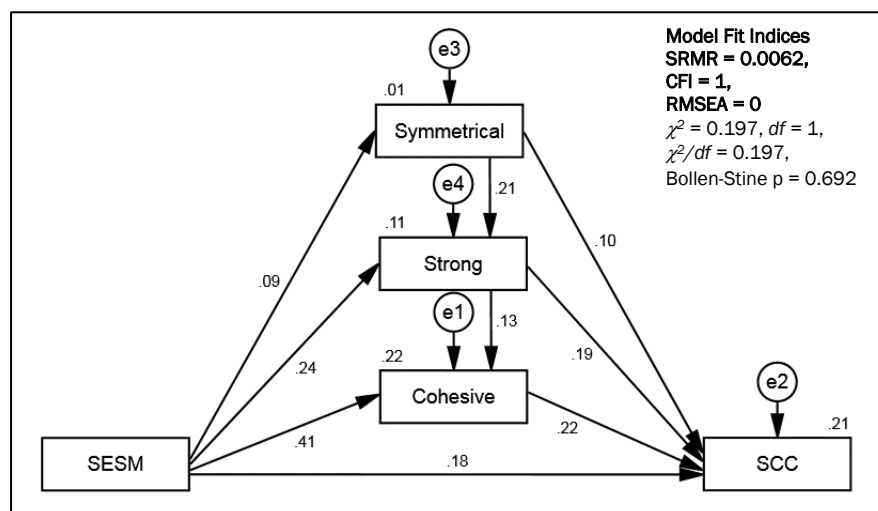


Figure 7-10 presents the effect of SESM on cohesive, strong, symmetrical interaction towards SCC. We refer to the evidence shown in Figure 7-10 to respond to hypotheses H1d to H1g as summarised in Table 7-13 below.

¹⁰ $r(df)$ denotes correlation coefficient(degrees of freedom), two-tailed significance test. This presentation is used whenever we report correlation results.

Table 7-13. Results on Hypothesised Relationship between POI and SCC

Hypothesised Relationship		β	C.R.	SE	p	Comment
H1d	COH $\rightarrow$ SCC	.22	3.536	.059	.009	Supported
H1e	STR $\rightarrow$ SCC	.19	3.299	.061	.011	Supported
H1f	SYM $\rightarrow$ SCC	.10	1.874	.060	.106	Not Supported
H1g	SIM $\rightarrow$ SCC	...	...	...	...	SIM Dropped at CFA

Figure 7-10 and Table 7-13 show that cohesive ($\beta=0.22$, $p<0.01$) and strong ($\beta=0.19$, $p<0.05$) interaction have a positive effect on SCC. Symmetrical interaction has a weak and non-significant effect on SCC ($\beta=0.10$, $p>0.1$). The results support hypotheses H1d and H1e, but not H1f. Moreover, cohesive interaction has a stronger effect on SCC than strong interaction. We did not test the effect of similarity-based interaction on SCC (SIM $\rightarrow$ SCC) because SIM is not a sufficient measure of POI according to our measurement model in Figure 7-4. We, therefore, have no evidence to support hypothesis H1g. Posting that SESM would affect nonprofits' patterns of interaction on social media, we found that SESM and POI explain 21% of the variation in SCC and this variation is significant at $p=0.023$ (Figure 7-10).

The correlation coefficients between SESM, POI and SCC also indicated that a change in symbolic expressions is associated with a similar change in cohesive interaction, strong interaction and SCC. Table 7-14 provides the correlation coefficients between SESM, POI and SCC.

Table 7-14. Implied Correlations between SESM, POI and SCC

	SESM	Strong	Symmetrical	Cohesive	SCC
SESM	1.000				
Strong	.258*	1.000			
Symmetrical	.089	.233**	1.000		
Cohesive	.445*	.115*	.039	1.000	
SCC	.335**	.289**	.175*	.324**	1.000
* $p<0.05$; ** $p<0.01$					

Table 7-14 provides the correlation between patterns of interaction and SCC. All patterns of interaction are positively correlated with SCC; however, cohesive interaction has a higher correlation with SCC $r(1) = 0.324$, $p<0.01$. Conversely, symmetrical interaction has the lowest correlation with SCC $r(1) = 0.175$, $p<0.05$. All correlations are statistically significant; we can conclude that there is a linear relationship between patterns of interaction and SCC.

7.4.2. The Effects of Social Media Structure on Service Co-creation (RQ.3)

The analysis provided in this Section offers answers to research question 3 guided by research proposition 3 (as stated in Section 1.5 and indicated by Figure 5-1). We elaborate this proposition using testable hypotheses H2a to H2f as represented in Figure 5-2 and discussed in Section 5.2.2.2 of Chapter 5. In propositions 3, we argued that perceived, discovered, and actualised action possibilities of social media and the meaning and values conveyed by this technology provide the mechanisms that facilitate the co-creation of services. We, therefore, tested the effects of individual FASM and SESM on SCC in Figure 7-11.

Figure 7-11. A Structural Model of SESM, FASM and Service Co-creation

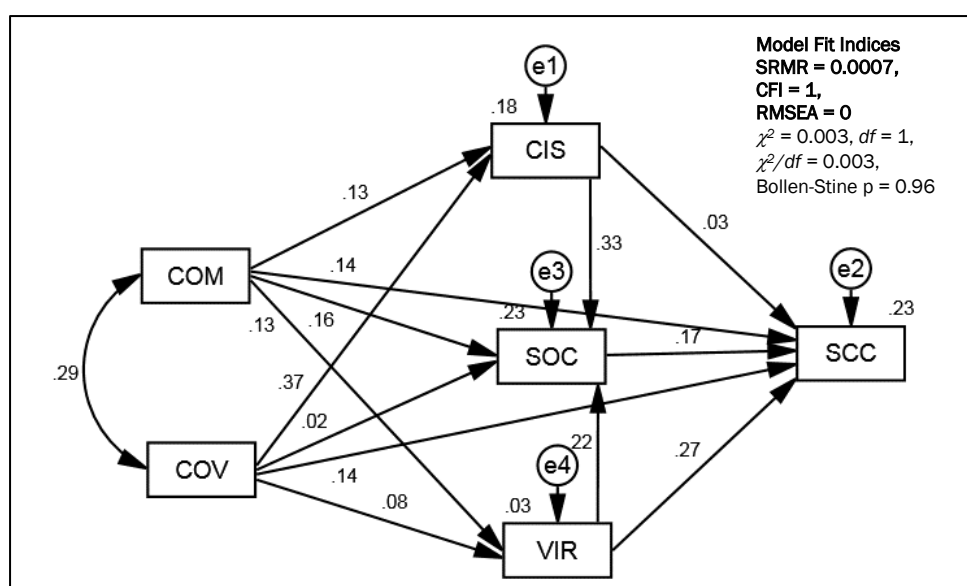


Figure 7-11 presents the results on the effects of SESM and FASM on SCC. Figure 7-11 responds hypotheses H2a to H2f, which we have summarised in Table 7-15 and Table 7-16).

Table 7-15. Results on Hypothesised Relationship between FASM and SCC

Hypothesised Relationship		β	C.R.	SE	P	Comment
H2a	CIS $\rightarrow$ SCC	.03	0.428	.059	.700	Not supported
H2b	SOC $\rightarrow$ SCC	.17	2.828	.069	.032	Supported
H2c	VIR $\rightarrow$ SCC	.27	4.866	.054	.010	Supported
H2d	CCA $\rightarrow$ SCC	...	...	...	...	CCA was dropped at CFA

We tested the effects of different functional affordances of social media on SCC. We found that socialisation affordances, as well as visibility affordances, have a positive effect on SCC. We find no evidence to suggest that information-sharing affordances affect SCC. We, therefore, accept hypotheses H2b and H2c but reject hypothesis H2a. Because the call for action affordance was

dropped at CFA, we did not test hypothesis H2d, and we consequently have no evidence to support this hypothesis.

Table 7-16. Results on Hypothesised Relationship between SESM and SCC

Hypothesised Relationship		β	C.R.	SE	p	Comment
H2e	COM $\rightarrow$ SCC	.14	2.404	.067	.016	Supported
H2f	COV $\rightarrow$ SCC	.14	2.291	.064	.016	Supported

We also tested the effect of SESM on SCC as summarised in Table 7-16. We found that both COM ($\beta=0.14$, $p<0.05$) and COV ($\beta=0.14$, $p<0.05$) have a positive effect on SCC, which supports hypotheses H2e and H2f. Overall, symbolic expressions of social media and functional affordances of social media explain 23% ($p=0.044$) of variation in SCC on social media.

7.4.3. The Effects of Social Media Structure on OPI (RQ.3)

This Section presents tests for hypotheses discussed in Section 5.2.2.3 in Chapter 5. These findings provide the answers to research question 3. Proposition 4 offers plausible explanations for question 3. First, we present the relationship between symbolic expressions and functional affordances (P4a) (effects depicted by the structural model in Figure 7-11). Second, we explain the relationship between functional affordances and type of relationships (P4b) (effects depicted by the structural model in Figure 7-9). Third, we present the relationship between symbolic expressions and patterns of interaction (P4c) (effects depicted by the structural model in Figure 7-10), and lastly, present the relationship between patterns of interaction and types of relationships (P4d) (effects depicted by the structural model in Figure 7-12).

7.4.3.1. The effects of Symbolic expressions (SESM) on functional affordances (FASM).

In proposition 4(a), we argue that the symbolic expressions of social media affect the discovered and actualised functionalities of social media in nonprofits (the functional affordances) (hypotheses H3a to H3h) (summarised in Table 7-17). In this Section, we present results on the effects SESM on FASM (Figure 7-11).

Table 7-17. Results on Hypothesised Relationship between SESM and FASM

Hypothesised Relationship		β	C.R.	SE	p	Comment
H3a	COM $\rightarrow$ CIS	.13	2.229	.054	.012	Supported
H3b	COM $\rightarrow$ SOC	.16	2.762	.063	.036	Supported
H3c	COM $\rightarrow$ VIR	.13	1.985	.061	.037	Supported
H3d	COM $\rightarrow$ CCA	...	...	...	...	CCA was dropped at CFA
H3e	COV $\rightarrow$ CIS	.37	6.456	.054	.007	Supported
H3f	COV $\rightarrow$ SOC	.02	0.276	.054	.862	Not supported
H3g	COV $\rightarrow$ VIR	.08	1.279	.068	.196	Not supported
H3h	COV $\rightarrow$ CCA	...	...	...	...	CCA was dropped at CFA

To test the relationship between symbolic expressions and functional affordances, we distinctively test the relationship between each measure of symbolic expressions, i.e., communication of meaning (COM) and communication of values (COV) and the different functional affordances of social media to nonprofits. First, COM reflects expressions of social media functionality in relation to the desired goals of nonprofits. Our findings suggest that COM has a positive effect on information-sharing affordances ($\beta=0.13$, $p<0.05$), socialisation affordances ($\beta=0.16$, $p<0.05$) as well as visibility affordances ($\beta=0.13$, $p<0.05$). Our results support hypotheses H3a, H3b, and H3c, respectively.

Secondly, COV reflects the expression of values associated with social media. Our findings reveal that COV has a positive effect on information-sharing affordances ($\beta=0.37$, $p<0.05$). However, COV does not affect socialisation affordances ($\beta=0.02$, $p>0.1$) as well as visibility affordances ($\beta=0.08$, $p>0.1$). This evidence supports hypothesis H3e but not H3f and H3g. Because the affordance of calling for action was dropped at CFA, we did not test hypotheses H3d and H3h, and we consequently have no evidence to support these hypotheses.

Symbolic expressions of social media explain 18% ($p=0.02$), 23% ($p=0.014$) and 3% ($p=0.023$) of variation in information-sharing, socialisation, and visibility affordances, respectively. Although we did not hypothesise a relationship between different affordances, in attempting to achieve an absolute model fit, we found that information-sharing affordances, as well as visibility affordances, have a significant positive effect on socialisation affordances.

Lastly, we analysed the correlation between COM, COV, CIS, SOC, VIR, and SCC to support that a change in symbolic expressions is associated with similar changes in functional affordances and SCC. Table 7-18 provides the correlation coefficients between SESM, FASM and SCC.

Table 7-18. Implied Correlations between SESM, FASM and SCC

	COV	COM	CIS	VIR	SOC	SCC
COV	1.000					
COM	.285*	1.000				
CIS	.410*	.235*	1.000			
VIR	.116*	.148*	.063*	1.000		
SOC	.221**	.272*	.384*	.266**	1.000	
SCC	.259**	.272*	.200**	.357*	.324*	1.000
*p< 0.05; **p<0.01						

According to Table 7-18, COM and COV are positively correlated with all functional affordances, and all correlations are significant. The observed correlations vary between 0.116 and 0.410. Similarly, COM and COV are positively correlated with SCC $r(1) = 0.272$, $p < 0.01$ and $r(1) = 0.259$, $p < 0.01$ respectively, and these correlations are relatively low¹¹ but significant. With these results, we expect that changes in SESM may result in positive changes in FASM and SCC.

7.4.3.2. The effects of functional affordances of social media (FASM) and type of relationships (TOR).

In propositions 4(b), we argue that the perceived and actualised functionalities of social media to nonprofits (functional affordances) are mechanisms that facilitate different types of OPR. We then hypothesised that FASM has a positive effect on TOR towards SCC. In this Section, we present results on the effects of FASM on TOR, specifically (Figure 7-9 and Table 7-19).

Table 7-19. Results on Hypothesised Relationship between FASM and TOR

Hypothesised Relationship	β	C.R.	SE	p	Comment
H3i FASM $\rightarrow$ COR	.36	6.307	.049	.005	Supported
H3j FASM $\rightarrow$ EXC	.24	4.386	.064	.012	Supported
H3k FASM $\rightarrow$ SYB	.31	5.103	.066	.019	Supported

According to the structural model in Figure 7-9 and Table 7-19, functional affordances of social media have a positive effect on communal OPR ($\beta = 0.36$, $p < 0.05$), exchange OPR ($\beta = 0.24$, $p < 0.05$) and symbiotic OPR ($\beta = 0.31$, $p < 0.05$). There is sufficient evidence to support hypotheses H3i, H3j and H3k. We found that functional affordances and OPR explain 28% of the variation in SCC ($p = 0.036$). We also noted that functional affordances explain 13% ($p = 0.005$), 29% ($p = 0.025$) and

¹¹ We interpret the magnitude of correlation coefficients as follows. $r = 1$ is perfect; $r \geq +/ - 0.7$ is very strong/high; $+/- 0.7 > r \geq +/ - 0.4$ is strong/high; $+/- 0.4 > r \geq +/ - 0.3$ is moderate, $+/- 0.3 > r \geq +/ - 0.1$ is weak/low; and $r = 0$ is none Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, 18(3), 91-93. <https://doi.org/https://doi.org/10.1016/j.tjem.2018.08.001>, Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *American psychologist*, 58(1), 78-80.

14% ($p=0.020$) of the variation in communal, exchange and symbiotic relationships, respectively. With these results, we conclude that functional affordances of social media affect OPR on social media.

According to Table 7-12, FASM and SCC are positively correlated $r(1) = 0.450$ and this correlation is significant at $p<0.05$. Similarly, FASM are positively correlated with communal OPR $r(1) = 0.361$, $p<0.01$, exchange OPR $r(1) = 0.386$, $p<0.01$ and symbiotic OPR $r(1) = 0.361$, $p<0.05$. The correlation between FASM and TOR is moderate, while the correlation between FASM and SCC is relatively high.

7.4.3.3. The effects of symbolic expressions (SESM) on patterns of interaction (POI)

In propositions 4(c), we argue that expressions of social media functionality and values (symbolic expressions of social media) are mechanisms that facilitate the patterns of interaction between nonprofits and the public on social media. We then hypothesised that SESM has a positive effect on POI. In this Section, we present results on the effect of SESM on POI, specifically (Figure 7-10).

Table 7-20. Results on Hypothesised Relationship between SESM and POI

Hypothesised Relationship		β	C.R.	SE	p	Comment
H3I	SESM $\rightarrow$ COH	.41	7.304	.044	.009	Supported
H3m	SESM $\rightarrow$ STR	.24	4.123	.055	.012	Supported
H3n	SESM $\rightarrow$ SYM	.09	1.451	.062	.139	Not supported
H3o	SESM $\rightarrow$ SIM	...	...	...	...	SIM was dropped at CFA

Results in Table 7-20 suggest that symbolic expressions of social media have a positive effect on cohesive ($\beta=0.41$, $p<0.05$) and strong ($\beta=0.24$, $p<0.05$) interaction. Symbolic expressions also positively affect symmetrical interaction, but this effect is weak and non-significant ($\beta=0.09$, $p>0.1$). The results support hypotheses H3I and H3m, but not H3n. Symbolic expressions have a stronger effect on cohesive interaction than strong interaction. We did not test the effect of symbolic expressions on similarity-based interaction (SESM $\rightarrow$ SIM) because SIM did not emerge as a potential measure of POI (See Figure 7-4. A Three-Factor Model for POI). We, therefore, have no evidence to support hypothesis H2o. The symbolic expressions of social media explain 22% ($p=0.026$), 11% ($p=0.021$) and 1% ($p=0.007$) of variation in cohesive, strong and symmetrical interaction, respectively.

According to Table 7-14, SESM and SCC are positively correlated $r(1) = 0.335$, $p<0.01$ and this correlation is moderate. SESM have a positive and strong correlation with cohesive interaction $r(1) = 0.445$, $p<0.05$. SESM is also positively correlated with strong interaction $r(1) = 0.258$, $p<0.05$

but this correlation is weak. However, the correlation between SESM and symmetrical interaction is weak and not significant $r(1) = 0.089$, $p > 0.05$. These correlation results suggest that SESM increase or decrease together with cohesive interaction, strong interaction and SCC.

7.4.3.4. Relationship between Patterns of Interaction (POI) and Types of Relationships (TOR).

The results presented in this Section respond to hypotheses H4a – H4n presented in Figure 5-3, Chapter 5, and Section 5.2.2.3. In propositions 4(d), we argue that patterns of interaction on social media are likely to shape different types of organisation-public relationships. We present the relationship between different patterns of interaction and types of organisation-public relationships in Figure 7-12 and Table 7-21 and the correlation between patterns of interaction and types of relationships in Table 7-22.

Figure 7-12. A Structural Model of Patterns of Interaction and Types of Relationships

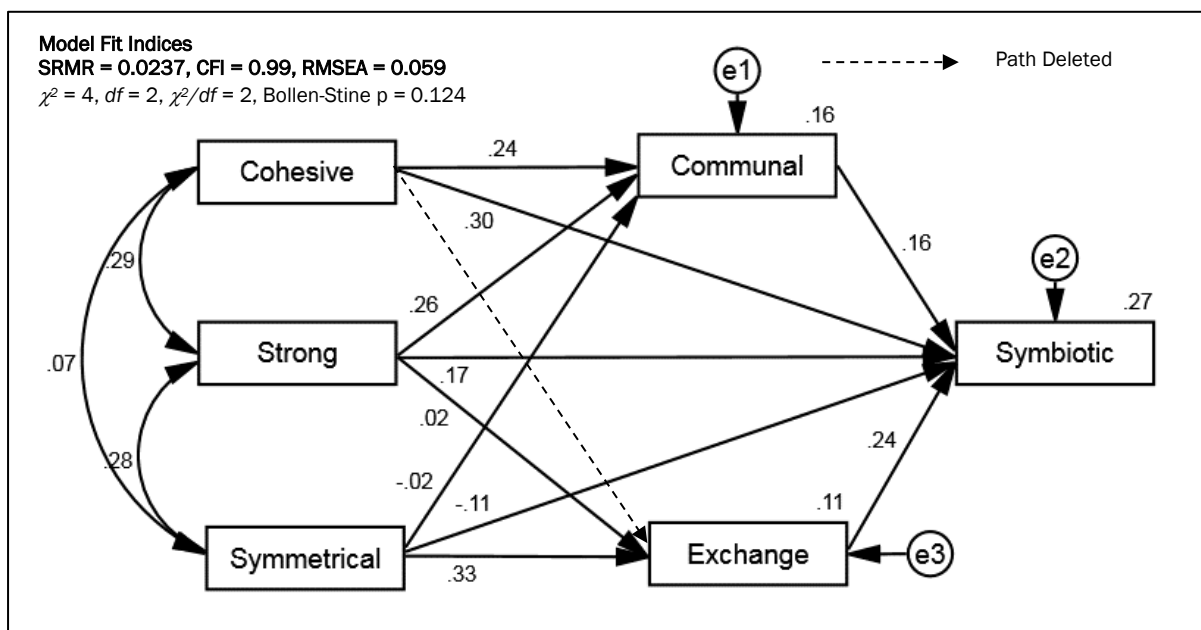


Figure 7-12 presents a structural model that tests our hypotheses on the relationship between patterns of interaction and types of OPR. We summarise our results using Table 7-21 below.

Table 7-21. Results on the Effects of POI on TOR

Hypothesised Relationship		β	C.R.	SE	p	Comment
H4a	COH $\rightarrow$ COR	.24	4.256	.063	.018	Supported
H4b	COH $\rightarrow$ SYB	.30	5.620	.079	.008	Supported
H4c	COH $\rightarrow$ EXC	-.01	...	...	...	Not supported
H4d	STR $\rightarrow$ COR	.26	4.478	.055	.006	Supported
H4e	STR $\rightarrow$ SYB	.17	2.943	.063	.012	Supported
H4f	STR $\rightarrow$ EXC	.02	0.264	.044	.783	Not supported
H4g	SYM $\rightarrow$ COR	-.02	-0.366	.056	.671	Not supported
H4h	SYM $\rightarrow$ SYB	-.11	-1.962	.066	.061	Not supported
H4i	SYM $\rightarrow$ EXC	.33	5.751	.057	.009	Supported
H4j	SIM $\rightarrow$ COR	...	...	...	...	SIM dropped at CFA
H4k	SIM $\rightarrow$ SYB	...	...	...	...	SIM dropped at CFA
H4l	SIM $\rightarrow$ EXC	...	...	...	...	SIM dropped at CFA
H4m	COR $\rightarrow$ SYB	.16	2.826	.071	.085	Not supported
H4n	EXC $\rightarrow$ SYB	.24	4.478	.075	.015	Supported

Results in Figure 7-12 and Table 7-21 indicate that cohesive interaction is positively related to communal OPR ($\beta=0.24$, $p<0.05$) and symbiotic OPR ($\beta=0.30$, $p<0.01$). The relationship between cohesive interaction and exchange OPR ($\beta=-0.01$, $p<0.01$) was negligible and therefore, not significant. We deleted this path (COH $\rightarrow$ EXC) from the structural model to achieve an adequate model fit. With this path maintained, model fit indices were $\chi^2/df = 2$, CFI = .986, and RMSEA = .101. According to the final model in Figure 7-12, we accept hypothesis H4a and H4b but reject hypothesis H4c. Strong interaction is positively related to communal ($\beta=0.26$, $p<0.01$) and symbiotic OPR ($\beta=0.17$, $p<0.05$) but this relationship is stronger with communal OPR than symbiotic OPR. Strong interaction is positively related to exchange OPR, but this relationship is not significant ($\beta=0.02$, $p>0.1$). We, therefore, accept hypotheses H4d and H4e but not H4f.

Contrary to strong interaction, symmetrical interaction is not positively related to communal OPR ($\beta=-0.02$, $p>0.1$) and symbiotic OPR ($\beta=-0.11$, $p>0.05$) but is only positively related to exchange OPR ($\beta=0.33$, $p<0.01$). We, therefore, accept hypothesis H3i and reject hypotheses H4g and H4h. We did not test the relationship between similarity-based interaction and OPR because SIM was dropped during the confirmatory analysis of the measures of patterns of interaction. Consequently, we have no evidence to support hypotheses H4j, H4k and H4l. The strong, cohesive and symmetrical interaction explains 16% ($p < 0.05$) of variation in communal OPR and 11% ($p < 0.021$) of variation in exchange OPR. On symbiotic OPR as the eventual relational state of OPR, we found that communal ($\beta=0.16$, $p>0.05$) and exchange ($\beta=0.24$, $p<0.05$) OPR are both positively related to symbiotic OPR, but the relationship between communal and symbiotic OPR is weak and non-significant. Our evidence supports hypotheses H4n and rejects hypothesis H4m. The patterns

of interaction and initial relational states such as communal and exchange OPR do explain 27% ($p < 0.05$) of the variation in symbiotic OPR.

Table 7-22. Implied Correlation between POI and TOR

	Strong	Symmetrical	Cohesive	Exchange	Communal	Symbiotic
Strong	1.000					
Symmetrical	.279*	1.000				
Cohesive	.285*	.068	1.000			
Exchange	.108	.337**	.027	1.000		
Communal	.325**	.069	.313*	.028	1.000	
Symbiotic	.299*	.050	.400**	.234**	.304*	1.000
* $p < 0.05$; ** $p < 0.01$						

On the correlation between patterns of interaction and types of relationships (Table 7-22), we observe that strong and cohesive interactions are moderately correlated with both communal and symbiotic OPR, but not exchange OPR. We, therefore, expect that a variation in strong and cohesive interaction will be associated with a corresponding variation in these two types of OPR. Conversely, symmetrical interaction is moderately correlated with exchange OPR but not communal and symbiotic OPR. Therefore, a change in symmetrical interaction is most likely associated with a similar change in exchange OPR but not communal and symbiotic OPR.

7.4.4. The Effects of Organisation Generativity on Social Media Structure, OPI and SCC (RQ4)

This Section seeks to provide answers to research question 4, proposition 5, and the research hypotheses presented and discussed in Section 5.2.3 of Chapter 5. First, we report results on the effects of incremental capabilities on renewing capabilities. Later, we present results on the effects of organisational generativity (i.e., incremental and renewing capabilities) on social media structure, OPI and SCC.

7.4.4.1. The Effects of Incremental Capabilities on Renewing Capabilities

We recognised that generativity involves both incremental and renewing capabilities such that incremental generativity such as learning (LEC) and adaptiveness (ADA) will positively affect renewing generativity such as digital spanning (DIG) and relationability (REL). This Section thus provides tests to hypotheses H5a to H5f, as discussed in Section 5.2.3 in Chapter 5. Figure 7-13 and Table 7-23 indicate results on hypothesised effects of incremental generativity on renewing generativity.

Figure 7-13. A Structural Model of Organisational Generativity

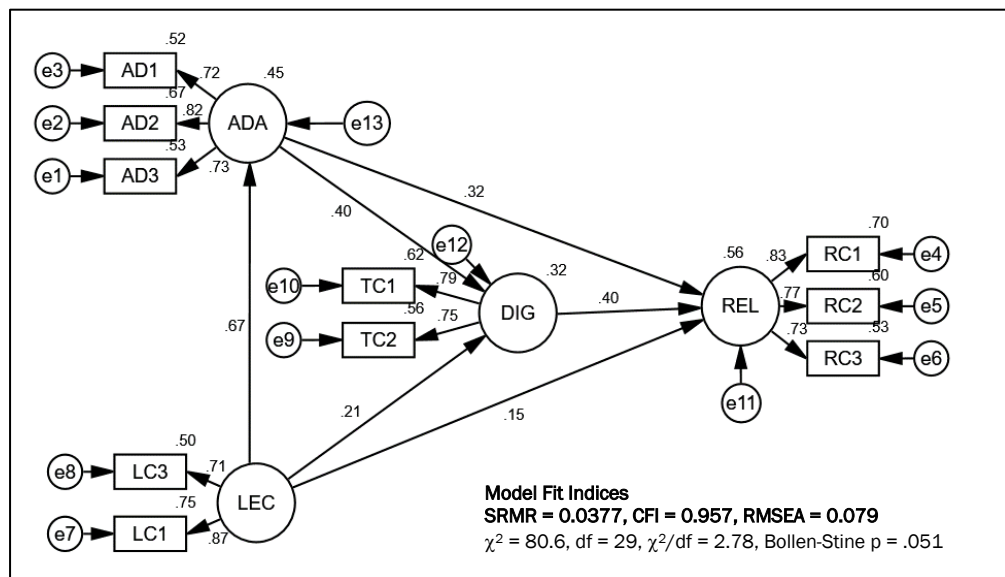


Figure 7-13 is a structural model that tests our hypotheses on the effects of renewing capabilities, particularly learning capability and adaptiveness, on incremental capabilities of digital spanning and relationability. We summarise our results in Table 7-23 below.

Table 7-23. Results on the Effect of and Renewing Capabilities on Incremental Capabilities

Hypothesised Effects		β	C.R.	p	Comment
H5a	LEC $\rightarrow$ DIG (+)	.21	2.038	.042	Supported
H5b	LEC $\rightarrow$ REL (+)	.15	1.675	.325	Not Supported
H5c	LEC $\rightarrow$ ADA (+)	.67	7.790	.021	Supported
H5d	ADA $\rightarrow$ DIG (+)	.40	3.594	.009	Supported
H5e	ADA $\rightarrow$ REL (+)	.32	3.301	.015	Supported
H5f	DIG $\rightarrow$ REL (+)	.40	4.863	.007	Supported

According to results in Table 7-23, learning capability has a positive effect on digital spanning ($\beta=0.21$, $p<0.05$) and adaptiveness ($\beta=0.67$, $p<0.05$) but not relationability ($\beta=0.15$, $p>0.1$). We, therefore, accept hypotheses H5a and H5c but reject H5b. Adaptiveness has a positive effect on social technology capability ($\beta=0.40$, $p<0.01$) as well as relationability ($\beta=0.32$, $p<0.05$), which supports hypotheses H5d and H5e. Digital spanning, in turn, has a positive effect on relationability ($\beta=0.40$, $p<0.01$), which supports hypothesis H5f. DIG posits a stronger effect on REL than ADA, while ADA posits a stronger effect on DIG than LEC. Learning capability explains 45% ($p=0.021$) of the variation in adaptiveness. Both learning capability and adaptiveness account for 32% ($p=0.028$) of variance in digital spanning, while these three capabilities account for 56% ($p=0.026$) of the variation in relationability.

Table 7-24. Implied Correlations between Incremental and Renewing Generativity

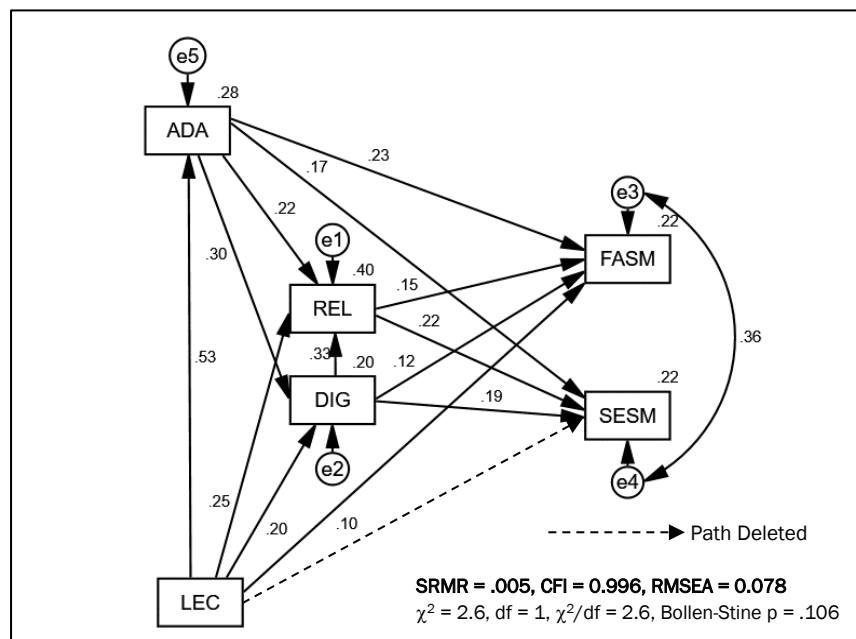
	LEC	ADA	DIG	REL
LEC	1.000			
ADA	.673*	1.000		
DIG	.482*	.544*	1.000	
REL	.564*	.644*	.651*	1.000
*p< 0.05; **p<0.01				

In Table 7-24, we summarise the correlation between LEC, ADA, DIG and REL. All correlations between the dimensions of organisational generativity are positive and strong. The strongest correlation is between LEC and ADA $r(29) = 0.673$, $p < 0.05$; while, the lowest correlation coefficient is between LEC and DIG $r(1) = 0.482$, $p < 0.05$. The correlation coefficients are large and therefore indicate a strong relationship between incremental and renewing generativity. Our results generally suggest that an increase or decrease in incremental generativity would have a corresponding change in renewing generativity.

7.4.4.2. The Effects of Organisational generativity and Social Media Structure

This Section provides findings to hypotheses discussed in Section 5.2.4.1 in Chapter 5. We proposed (proposition 5a) that organisation generativity enhances or constrains the structures of social media, public interaction and SCC. In Figure 7-14, we present a structural analysis of the hypothesised effects of generativity on social media structure.

Figure 7-14. A Structural Model of GEN and Social Media Structure (SMS)



In the structural model above, we present the effects of renewing capabilities (represented by learning capability and adaptiveness) and incremental capability (represented by digital spanning and relationability) on social media structure (represented by functional affordances and symbolic expressions of social media). We summarise our results in Table 7-25 below.

Table 7-25. Results on Hypothesised Effects of GEN on SMS

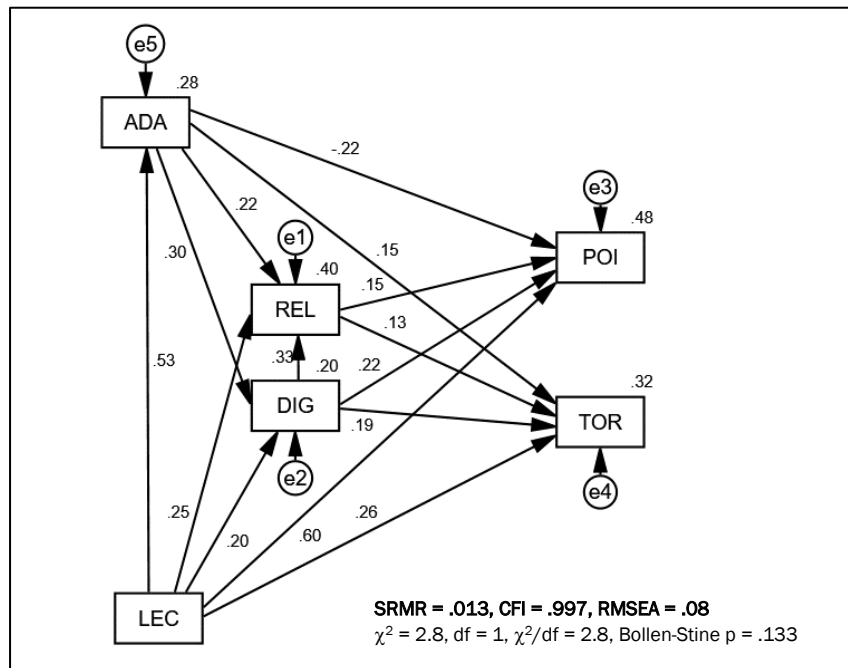
Hypothesised Effect		β	C.R.	p	Comment
H5g	LEC $\rightarrow$ FASM (+)	.10	1.602	.120	Not Supported
H5h	ADA $\rightarrow$ FASM (+)	.23	3.339	.004	Supported
H5i	DIG $\rightarrow$ FASM (+)	.12	1.863	.044	Supported
H5j	REL $\rightarrow$ FASM (+)	.15	2.170	.033	Supported
H5k	LEC $\rightarrow$ SESM (+)	.11	...	...	Not Supported
H5l	ADA $\rightarrow$ SESM (+)	.17	2.668	.044	Supported
H5m	DIG $\rightarrow$ SESM (+)	.19	3.013	.017	Supported
H5n	REL $\rightarrow$ SESM (+)	.22	3.311	.003	Supported

According to Table 7-25, learning capability has a small insignificant effect on functional affordances ($\beta=.10$, $p>0.05$) and the symbolic expressions of social media ($\beta=.11$, $p>0.05$). We reject hypotheses H5g and H5k. Adaptiveness has a positive effect on both the functional affordances ($\beta=.23$, $p<0.05$) and the symbolic expressions of social media ($\beta=.17$, $p<0.05$). We, therefore, accept hypotheses H5h and H5l. Digital spanning ($\beta=.12$, $p<0.05$) and relationability ($\beta=.15$, $p<0.05$) both posit a positive effect on functional affordances, which supports hypotheses H5i and H5j. Further still, digital spanning ($\beta=.12$, $p<0.05$) and relationability ($\beta=.15$, $p<0.05$) have a positive effect on the symbolic expressions of social media, which supports hypotheses H5m and H5n. Overall, GEN accounts for 22% ($p=.005$) of variation in FASM as well as 22% ($p=.007$) of variation in SESM.

7.4.4.3. The Effects of Organisational Generativity on Organisation-Public Interaction

In Chapter 5, Section 5.2.4.2; drawing on proposition 5, we hypothesised that GEN positively affects OPI on social media. As earlier mentioned, we investigated OPI from two points of view, i.e., the patterns of interaction (POI) and the types of relationships (TOR). This Section, therefore, provides tests for hypotheses H5o to H5r on the effect of GEN on POI, and hypotheses H5s to H5v on the effect of GEN on TOR. Figure 7-15 presents the effects of GEN on POI and TOR.

Figure 7-15. A Structural Model of GEN and Organisation-Public Interaction



In the structural model above, we present the effects of renewing generative capabilities (represented by learning capability and adaptiveness) and incremental generative capabilities (represented by digital spanning and relationability) on social media structure (represented by functional affordances and symbolic expressions of social media). We summarise our results in Table 7-26 below.

Table 7-26. Results on Hypothesised Effects of GEN on POI and TOR

Hypothesized Effects		β	C.R.	p	Comment
H5o	LEC $\rightarrow$ POI (+)	.60	10.860	.001	Supported
H5p	ADA $\rightarrow$ POI (+)	-.22	-3.924	.003	Not Supported
H5q	DIG $\rightarrow$ POI (+)	.22	4.203	.002	Supported
H5r	REL $\rightarrow$ POI (+)	.15	2.570	.006	Supported
H5s	LEC $\rightarrow$ TOR (+)	.26	4.210	.004	Supported
H5t	ADA $\rightarrow$ TOR (+)	.15	2.365	.015	Supported
H5u	DIG $\rightarrow$ TOR (+)	.19	3.140	.005	Supported
H5v	REL $\rightarrow$ TOR (+)	.13	2.011	.054	Not Supported

The evidence presented in Table 7-26 indicates learning capability ($\beta=.60$, $p<0.01$), digital spanning ($\beta=.22$, $p<0.01$) and relationability ($\beta=.15$, $p<0.01$) positively affect the organisation's patterns of interaction on social media while adaptiveness has a negative effect on patterns of interaction ($\beta=-.22$, $p<0.05$). The organisation learning capability has the strongest effect on patterns of interaction than other indicators of organisation generativity. These findings support

hypothesis H5o, H5q and H5r but not hypothesis H5p. With regard to types of relationships, we found that all indicators of organisational generativity have a positive effect on types of relationships, except relationability ($\beta=13$, $p<0.01$). Again learning capability ($\beta=26$, $p<0.01$) posits the strongest effect on TOR. We accept hypothesis H5s, H5t, H5u, and reject H5v. Overall, organisational generativity accounts for 48% ($p=0.010$) of variation in POI and 32% ($p=0.014$) of the variation in TOR.

7.4.4.4. The Effects of Organisational Generativity and Service Co-creation

Recognising that generativity is an essential organisation attribute that could enhance co-creation practices, we hypothesised that generativity has a positive effect on SCC. This Section provides tests to hypothesis H5w to H5z, as discussed in Section 5.2.4.3 in Chapter 5. Figure 7-16 presents the structural analysis of the effects of specific measures of generativity on SCC.

Figure 7-16. A Structural Model of GEN and SCC

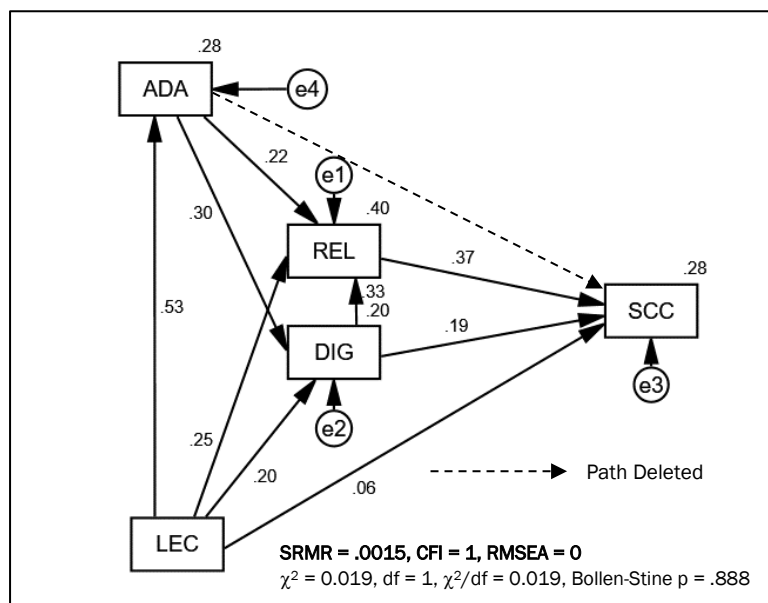


Table 7-27 below summarises these effects presented in Figure 7-16 and reports the CR and statistical significance of these effects.

Table 7-27. Results on Hypothesised Effects of GEN and SCC

Hypothesised Effect		β	C.R.	p	Comment
H5w	LEC $\rightarrow$ SCC (+)	.06	0.986	.231	Not Supported
H5x	ADA $\rightarrow$ SCC (+)	.01	...	...	Not Supported
H5y	DIG $\rightarrow$ SCC (+)	.19	3.149	.005	Supported
H5z	REL $\rightarrow$ SCC (+)	.37	5.739	.002	Supported

According to Table 7-27, learning capability ($\beta=0.06$, $p>0.05$) and adaptiveness ($\beta=0.01$, $p>0.05$) have no direct effect on SCC. We find no evidence to support hypotheses H5w and H5x. On the other hand, digital spanning ($\beta=0.19$, $p<0.01$) and relationability ($\beta=0.37$, $p<0.01$) have a positive effect on SCC, which supports hypothesis H5y and H5z. Our results also suggest that organisational generativity explains 28% ($p=0.005$) of the variation in SCC.

After looking at all the effects of GEN on FASM, SESM, POI, TOR and SCC, we summarised the correlation coefficients between the dimensions of GEN and all other variables in Table 7-28 below.

Table 7-28. Correlations between dimensions of GEN and SMS, OPI and SCC

	LEC	ADA	DIG	REL
FASM	.335**	.400**	.325**	.370**
SESM	.266**	.356**	.376**	.403**
POI	.631**	.257**	.421**	.441**
TOR	.473**	.429**	.411**	.427**
SCC	.308**	.291**	.404**	.500**
* $p<0.05$; ** $p<0.01$				

In Table 7-28, we summarise the correlation between organisation generativity, (i.e., LEC, ADA, DIG and REL), social media structure (i.e., FASM and SESM), organisation-public interaction (i.e., POI and TOR), and SCC. All correlations between the above-mentioned dimensions are positive and significant. Looking at correlations between GEN and OPI, the strongest correlation is between LEC and POI $r(1) = 0.631$, $p<0.01$; while, the lowest correlation coefficient is between ADA and POI $r(1) = 0.257$, $p<0.01$. All dimensions of GEN correlations highly correlated with TOR. On GEN and SMS, the strongest correlation is between REL and SESM $r(1) = 0.403$, $p<0.01$ as well as ADA and FASM $r(1) = 0.400$, $p<0.01$; while, the lowest correlation coefficient is between LEC and SESM $r(1) = 0.266$, $p<0.01$. When we look at GEN and SCC, we find that the highest correlation is with REL $r(1) = 0.500$, $p<0.01$; while, the lowest correlation coefficient is with ADA $r(1) = 0.291$, $p<0.01$. The above correlation coefficients indicate that an increase or decrease in organisation generativity would have a corresponding change in SCC and the mechanisms for SCC.

7.4.5. Overall Structural Analysis of the Research Model

In this Section, we conduct a general analysis of the effects of major variables on SCC when all underlying variables are taken together. To differentiate the high-level hypotheses from low-level specific hypotheses, we number them with expressions in capital letters, for example, H1A, H1B, H2A, H2B ... H4E. The observations on these hypotheses are presented in Figure 7-17 and

summarised in Table 7-29. Figure 7-17 is a representation of SEM output in the research model; otherwise, the original SEM output generated through SPSS Amos is provided in Appendix I.

Figure 7-17. Structural Model on the Effects of Organisational Generativity, SMS, and OPI on SCC

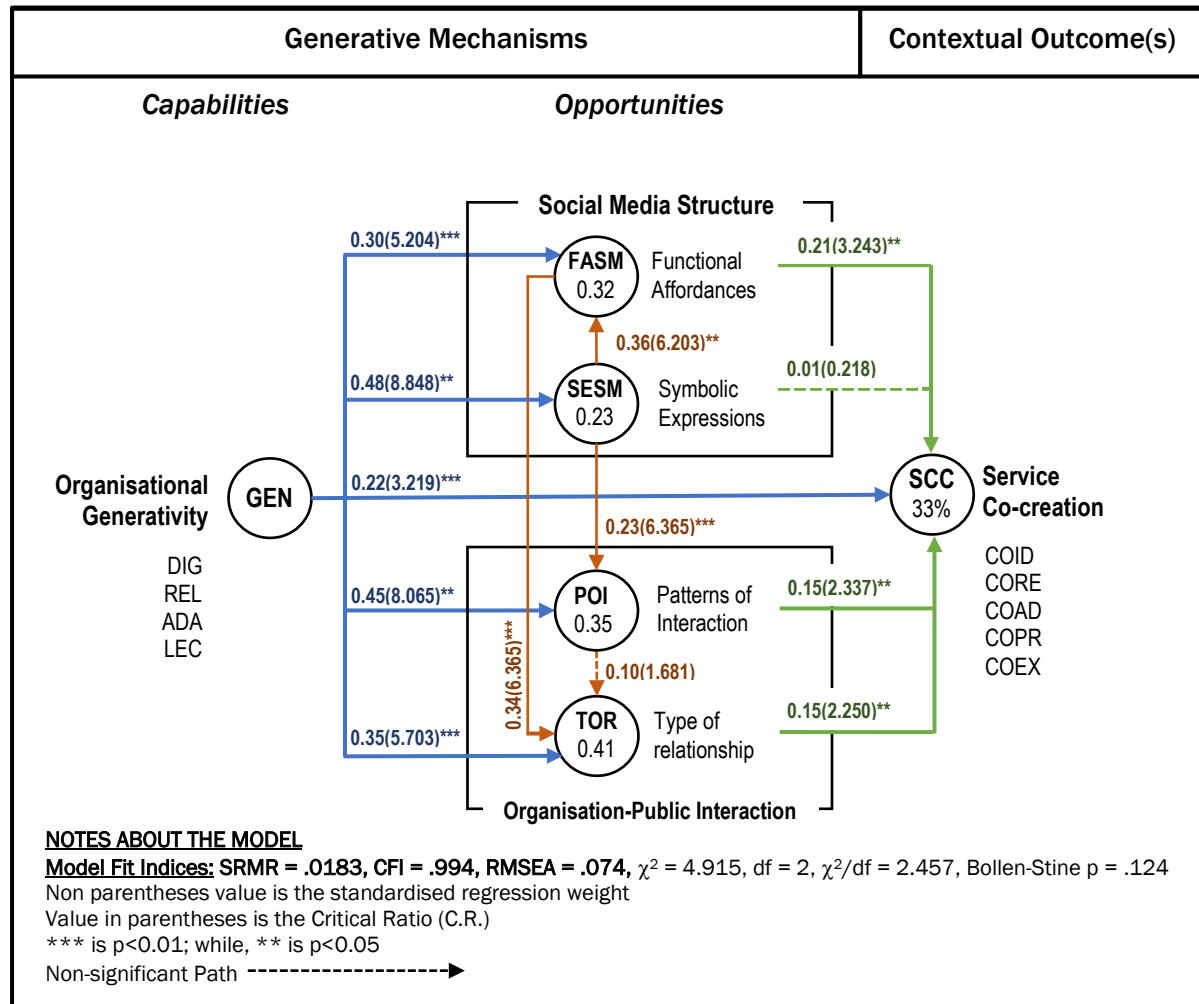


Figure 7-17 presents the structural analysis of the overall effects of GEN, SMS, and OPI on SCC. Table 7-29 below summarises these effects and reports the associated statistical significance.

Table 7-29. Results on the High-level Hypothesised Effects of Capabilities and Mechanisms on SCC

Propositions	High-level Hypothesised Effect		β	C.R.	p	Comment
P2	H1A	TOR $\rightarrow$ SCC (+)	.15	2.250	.011	Supported
	H1B	POI $\rightarrow$ SCC (+)	.15	2.337	.016	Supported
P3	H2A	FASM $\rightarrow$ SCC (+)	.21	3.242	.014	Supported
	H2B	SESM $\rightarrow$ SCC (+)	.01	0.218	.752	Not Supported
P4	H3A	SESM $\rightarrow$ FASM (+)	.36	6.203	.010	Supported
	H3B	FASM $\rightarrow$ TOR (+)	.34	6.365	.009	Supported
	H3C	SESM $\rightarrow$ POI (+)	.23	4.036	.010	Supported
	H3D	POI $\rightarrow$ TOR (+)	.10	1.681	.152	Not Supported
P5	H4A	GEN $\rightarrow$ FASM (+)	.30	5.204	.006	Supported
	H4B	GEN $\rightarrow$ SESM (+)	.48	8.848	.012	Supported
	H4C	GEN $\rightarrow$ POI (+)	.45	8.065	.010	Supported
	H4D	GEN $\rightarrow$ TOR (+)	.35	5.703	.006	Supported
	H4E	GEN $\rightarrow$ SCC (+)	.22	3.219	.007	Supported

Overall, our model explains 33% ($p=0.019$) of the variation in SCC on social media. From an overall perspective, we can conclude based on the results in Table 7-29 that OPI on social media positively influences SCC such that the types of relationships the organisations build ($\beta=0.15$, $p<0.05$) coupled with their patterns of interaction with the public ($\beta=0.15$, $p<0.05$) positively affect SCC, which support H1A and H1B. With these findings, we can say that OPI has a small but significant effect on SCC, which leads us to confirm and maintain proposition 2.

When we consider structures provided by social media, we found that while FASM positively affects SCC ($\beta=0.21$, $p<0.05$), SESM have no direct effect on SCC ($\beta=0.01$, $p>0.05$), which supports H2A but rejects H2B. We generally conclude that FASM affects SCC but not SESM. This observation leads us to refine proposition 3 to suggest that among the structures provided by social media, the action possibilities offered by this technology provide a direct mechanism for SCC while the meaning and values conveyed exist as indirect mechanisms for SCC.

Looking at how social media structures influence OPI, we found that, SESM positively affects FASM ($\beta=0.36$, $p<0.05$), while FASM in turn positively affects the organisation's state of relationships on social media (TOR) ($\beta=0.34$, $p<0.05$). Similarly, SESM positively affects POI ($\beta=0.23$, $p<0.05$); but, POI does not significantly affect TOR ($\beta=0.10$, $p>0.05$). The evidence gathered supported H3A through to H3C but rejected H3D. With these observations, we can say that the structures provided by social media influence OPI on social media; but we can only confirm P4-a through to P4-c.

Lastly, on how GEN as an enabling capability contributes to the emerging structures of social media, OPI, and the realisation of SCC on social media, we found that GEN positively affects FASM

and SESM. It also positively affects POI and TOR. Nonetheless, GEN also posits a direct positive effect on SCC. We can generally conclude that GEN enhances the discovery and actualization of the action possibilities offered by social media, and the understanding of the meaning and values conveyed by this technology. GEN also enhances OPI on social media and ultimately enables SCC. These observations confirm theoretical proposition 5.

7.5. Chapter Summary

This Chapter presented QUAN findings on realising SCC based on survey data. We provided a preliminary analysis, which included participant demographics and the assessment of bias, multicollinearity and normality. The Chapter mainly presents our findings on hypothesised relationships discussed in Chapter 5, following our research model in Figure 5-1. We presented the measurement models for all study variables and later presented the structural analyses of hypothesised relationships. First, we presented the effects of OPI on SCC. Second, we presented the effects of social media structure on OPI and ultimately SCC. Third, we presented the effects of organisation generativity on social media structure, OPI and SCC. The Chapter concludes with an overall model depicting the effects of mechanisms and enabling capabilities for SCC on social media.

Chapter 8. Qualitative Data Analysis: Theoretical Thematic Analysis & Cross-Case Analysis

This Chapter provides a qualitative analysis of the theoretical propositions in Figure 5-1 (Chapter 5). The Chapter presents a theoretical thematic analysis and cross-case analysis of our study phenomenon based on semi-structured interviews. We present the forms of SCC realised and how they relate to one another. We present the mechanisms provided by the structure of social media, OPI on social media, and organisational generativity as an enabling capability. The findings presented in this Chapter are compared, later in Chapter 9, to those reported in Chapter 7 to provide an integrated interpretation and discussion of findings.

8.1. Pre-testing Interview Questions

We pre-tested our interview questions with four pilot participants, which allowed us to refine and improve our interview protocol. We pre-tested with four executives from four nonprofits. One participant was working with an education service organisation, another participant was working with a health service organisation, and two other participants were working with social service organisations. Three participants were male and the other a female. The participants were aged 30 – 45 years. They had more than five years' experience in providing nonprofit services and using social media. From the pilot interviews, we learnt that the interview length was going to range between 35 to 40 minutes. Secondly, we learnt that questions were too broad to generate answers on the topics we wanted to cover. We, therefore, re-phrased all initial interview questions to improve clarity and generate insightful responses. We revised the interview protocol twice before applying it to the main study. During the revisions, we broke down the interview questions and generated prompt questions as well. Lastly, the pre-test did not indicate irrelevant constructs; we, therefore, retained all constructs as presented in our model (Figure 5-1).

8.2 Description of Cases

The details relating to this Section can be found in Chapter 2, where we discussed our research context, in general, including the key stakeholders surrounding nonprofits, particularly those providing health, education and training, and social services. We explored three cases which we

identified based on the categorisation of nonprofit organisations¹² including health service organisations (HSOs) (n=4; 21.1%), education and training services organisations (ESOs) (n=6; 31.6%), and social service organisations (SSOs) (n=9; 47.4%). We interviewed one key respondent per organisation gathered four interviews from HSO, six interviews from ESOs and nine interviews from SSOs, and a brief description of cases is provided in Table 8-1.

Table 8-1. A Brief Description of Cases

Cases		Key services offered by the organisation
No.	ID	
Case 1: Health Service Organisations (HSOs)		
1	H01	Improving sexual reproductive health among the youth
2	H02	Conducting scientific and social research into the treatment of HIV, TB and Malaria
3	H03	Providing services in family planning, HIV management, cervical reproductive cancer management, cancer screening and treatment, and immunisation services
4	H04	Providing services to disadvantaged young people between the ages of 10 to 24. Offers services for prevention of HIV and substance abuse, prevention of sexual exploitation of children, and offers reproductive health services among the youth
Case 2: Education and Training Services Organisations (ESOs)		
5	E01	Improving access to education for children living in rural areas. Creates resource centres and provides English, literacy and religious studies for children.
6	E02	Provides education to children with physical disabilities
7	E03	Applies music and dancing to support talent among young people
8	E04	Improving the lives of vulnerable children through teaching, feeding, playing and sports activities
9	E05	Offering modules and training programs on leadership, self-development and growth for children ages 3 years to 13 years
10	E06	Providing co-working space to train youth in IT application development and supporting individual technological innovation start-ups
Case 3: Social Service Organisations (SSOs)		
11	S01	Improving people’s livelihood through access to clean water
12	S02	Prevention of violence against women and children
13	S03	Empowering young people and creating opportunities for access to education and improved health
14	S04	Empowering the youth to overcome health, cultural, and gender challenges
15	S05	Improving the livelihood of children living in a slum
16	S06	Supports community development, women empowerment, social mobilisation and poverty eradication
17	S07	Offering rehabilitation for people with addictions
18	S08	Providing support for prison inmates, in the form of educational support and legal aid
19	S09	Transforming the lives of children and youth living in slum communities

¹² Classification of organisation was based on Salamon, L. M., & Anheier, H. K. (1996). *The International Classification of Nonprofit Organizations: ICNPO-Revision 1* (Working Papers of the Johns Hopkins Comparative Nonprofit Sector Project, Issue. 's international classification of nonprofit organisations

In the first case, we examined four health services organisations (HSO). These are nonprofit organisations offering health services, health education, awareness and skills aimed at empowering young people in the prevention and treatment of HIV as well as improved sexual reproductive health. The organisations are mainly medium to large and have been in existence for over ten years. Organisations in this category run multiple health programs in more than five regions of the country. They have online existence through an organisation website and at least two social media platforms.

In the second case, we examined six education service organisations (ESO). These are nonprofit organisations offering different training programmes all aimed at improving literacy, economic skills development, self-employment strategies, and creating ways for career development. All organisations are non-governmental. E01 and E04 were founded on a Christian background and are operated based on Christianity religious values. E02 is a large organisation; E01, E03 and E06 are medium-sized organisations, while E04 and E05 are small-sized organisations.

In the third case, we examined nine social services organisations (SSO). This case constitutes organisations that create programs for charity and giving, as well as activism for empowering and strengthening communities of women, children and people with disabilities. The services they provide include improving sanitation, access to education and health (S01, S03, and S08), empowering vulnerable groups and fighting gender-based violence (S02, S04, and S06), offering services and aid to children and persons with disabilities (S09, S05, and S04), supporting youth, rehabilitation and treating addictions (S03, S04, S07 and S09).

8.3. Interview Participants

We interviewed 19 employees were working in nonprofit ESOs, HSOs and SSOs. The interviews were audio-recorded, with the participants' consent, and later transcribed for coding and data analysis. Table 8-2 summarises the demographic information of the participants, including age, gender, job position and the participant's years with the organisation.

Table 8-2. Demographic Information of the Interview Participants

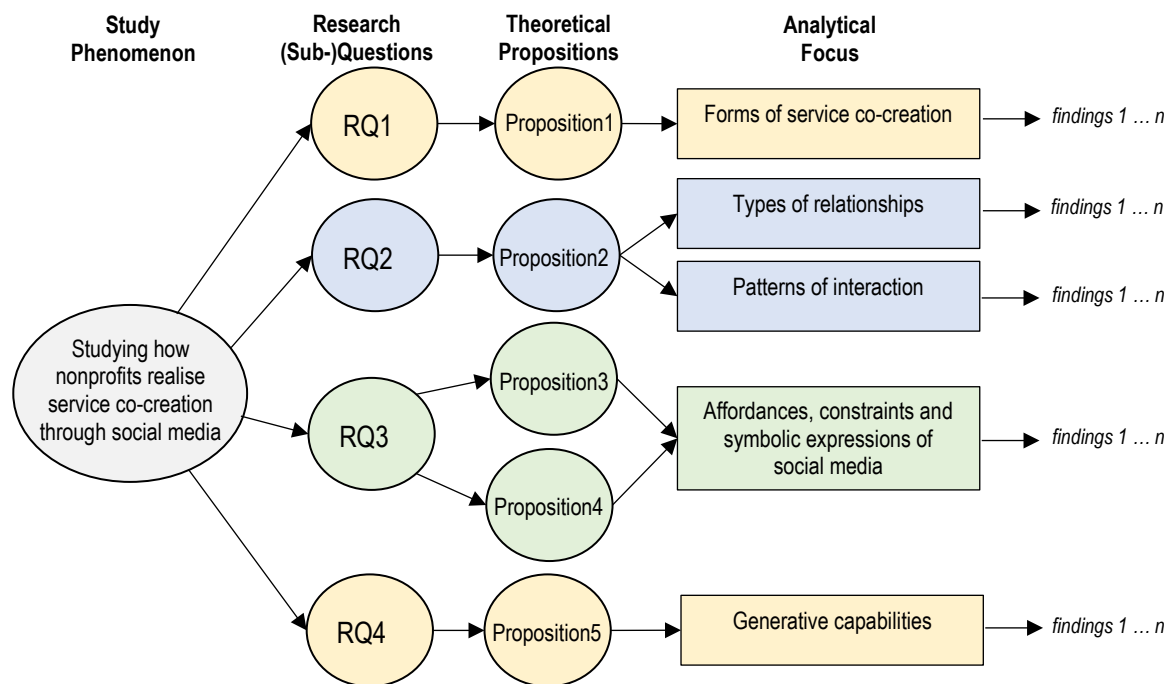
ID	Organisation Size	Participant Age	Gender	Position	Years at the organisation
H01	Large	34	Male	Head of IT and online communications	6.5
H02	Large	32	Male	M-health coordinator	2
H03	Large	37	Male	Publicist	5
H04	Medium	45	Male	Programs manager	9
E01	Medium	35	Male	Regional representative	8
E02	Large	31	Male	IT manager	3
E03	Medium	25	Female	Public relations	3
E04	Small	32	Female	Community outreach manager	7
E05	Small	27	Female	Co-founder	4
E06	Medium	36	Male	Trainer	4
S01	Small	34	Male	Founder	6
S02	Large	42	Male	Communications manager	8
S03	Medium	36	Male	Programs manager	11
S04	Large	28	Male	community communications officer	10
S05	Medium	26	Male	Founder	7
S06	Medium	35	Male	Communications manager	2
S07	Large	-	Female	Communications manager	2
S08	Small	31	Male	Co-founder and public relations	4
S09	Small	29	Male	Managing director	5

Nine participants were working in SSOs, six participants were working ESOs, and four participants were working in HSOs. Seven of the participating organisations were large-sized, seven were medium-sized, and five were small-sized organisations. Participants were aged between 25 and 45. The majority were male (n=15 of 19). Participants' roles at the organisations are communication and public relations, IT and mobile communications, and a few were executive roles. Participants have worked with the organisation from 2 to 11 years.

8.3. Analytical Focus: Themes and Categories across Cases

Figure 8-1 summarises our analytical priorities while linking them to the research questions, objectives and study variables. First, we explore the forms of SCC realised by nonprofits through the use of social media – see Section 8.4. Secondly, we analyse nonprofit-public interaction on social media – see Section 8.6. Thirdly, we explore the functional affordances, symbolic expressions and potential constraints of social media – see Section 8.7. Lastly, we explore nonprofits' generative capabilities enabling OPI and SCC on social media – see Section 8.8.

Figure 8-1. Linking Research Questions and Analytical Focus for Qualitative Analysis



In Figure 8-1 we suggest that SCC is an event realised through the actions of three actors, the organisation, which in this study is a nonprofit organisation, the public that constitutes multiple actors with differing interests in nonprofit activities, for example, nonprofit service consumers, social groups and communities, donors, and volunteers. The organisation takes an implied active role to facilitate, mediate, and moderate ongoing activities on its social media page, such as initiating and directing a conversation, calling upon contributions or reactions, and encouraging participation. The public, particularly, the organisation's followers do not necessarily play a passive role, e.g., receiving information and services or lurking, but may often play an active role by reacting to the organisation's posts and offering resources. Social media play the role of creating a space for interactive exchange and dialogue between the organisation and the public. It offers possibilities and opportunities to the organisation and different actors from the public to connect, relate and integrate resources leading to SCC.

The themes were generated theoretically as indicated by the research model in Figure 5-1 and our analytical priorities in Figure 8-1. The themes and categories presented in Table 8-3, were summarised in a codebook – See Appendix E. Representative codes under some categories were expanded inductively as new and unpredicted findings unfolded from the data. Table 8-3 presents

the number of references and sources to the themes and categories, as generated in NVivo 11 Pro.

Table 8-3. Frequency of codes in different themes and categories across all cases

High-level construct	Themes	First Order Categories	Sources	No. of Refs
Service Co-creation (SCC)	Forms of Service Co-creation	Service Co-creation (Overall)	19	201
		Co-ideating	9	26
		Co-advocating	12	36
		Co-assessing	15	34
		Co-resourcing	17	60
		Co-progressing	11	25
		Co-experiencing	9	11
		Co-diagnosing	4	9
Organisation-Public Interaction (OPI)	Patterns of Interaction (POI)	Cohesive	14	36
		Similarity-based	7	11
		Strong	14	28
		Symmetrical	12	30
	Type of Relationship (TOR)	Communal	12	22
		Exchange	2	2
		Symbiotic	5	6
Social Media Structure (SMS)	Functional Affordances (FASM)	Calling for action	10	19
		Information sharing	14	48
		Knowledge conversations	7	13
		Socialising	16	65
		Increasing visibility	16	48
	Symbolic Expressions (SESM)	Communication of meaning	17	45
		Communication of values	17	57
	Semantic Constraints (privacy-related)	Conversations and information flow	15	33
		Boundaries of interaction	6	11
Organisational generativity (GEN)	Organisational Generativity	Digital Spanning	12	32
		Relationability	6	10
		Adaptiveness	3	6
		Learning capability	6	10

In this study, the cross-case analysis involved going beyond initial impressions in the data to search for patterns across health, education and social service nonprofits. Cross-case comparison can involve one of three tactics. “One tactic is to select categories or dimensions and then to look for within-group similarities coupled with intergroup differences ... a second tactic is to select pairs of cases and then to list the similarities and differences between each pair ... the third tactic is to divide data by data source” (Eisenhardt, 1989, pp. 540-541). In this study, we followed the first tactic, where we categorised cases based on the nature of nonprofit services provided by the organisation, as shown in Table 8-1. A Brief Description of Cases. We then identify commonalities and differences in themes and categories.

8.4. Service Co-creation on Social Media

This Section responds to research question one (Chapter 1, Section 1.4), which sought to identify the forms of SCC realised on social media by nonprofits. We proposed that SCC is a contextual outcome for nonprofits on social media and that it manifests in various related forms (P1 in Section 5.2). With our research question in one hand and our proposition in the other, we present, in this Section, the qualitatively derived findings on the variations of SCC realised by nonprofits through social media.

8.4.1. First-Order Categories of Nonprofit Service Co-creation on Social Media

The findings provided in this Section provide answers to RQ1, which sought to investigate the occurrence of SCC by using social media in nonprofits. Social media are functionally interactive tools that allow integration of material and non-material resources toward co-creation of nonprofit services. Some participants suggest out rightly that social media is a potential space for co-creative activities which allows their organisations to, not only get close to the community but also work together. For example, one participant from an ESO said,

“Social media allows us to work hand in hand with the community” (E01).

The other participants from SSOs also said,

“It is not the organisation that does everything from the top, we engage the public [through social media] which gives us leadership from the grassroots” (S04),

“We also want to bring a sense of pooling people together and do things together ... appreciation ... gratefulness ... even the followers can know that even just liking our posts is a great aspect for our work as an organisation” (S07).

Our cross-case analysis generated seven categories under the theme forms of SCC, which indicate the seven forms of nonprofit SCC: co-ideating, co-advocating, co-assessing, co-resourcing, co-progressing, co-experiencing, and co-diagnosing. Table 8-4 shows the frequency of codes in each category.

Table 8-4. Frequency of Codes across Categories of Forms of Service Co-creation

First-order categories of SCC	Codes	Sources	No. of Refs	Code prevalence
Co-ideating (COID)	Gathering service ideas and needs	9	15	57.7%
	Acting on ideas	5	8	30.8%
	Selecting potential ideas	3	3	11.5%
Co-advocating (COAD)	Boosting campaigns	6	11	30.6%
	Getting promotion ambassadors	1	1	2.8%
	Getting more people involved	9	19	52.8%
	Getting people to know our services	4	5	13.9%
Co-assessing (COAS)	Recognising relevant services	5	8	23.5%
	Recognising service gaps	9	14	41.2%
	Voting on services	10	12	35.3%
Co-resourcing (CORE)	Getting volunteers	11	20	32.3%
	Getting donations	11	24	37.5%
	Alerting us when thing go wrong	1	3	4.7%
	Partnering with important others	9	13	20.3%
Co-progressing (COPR)	Aligning with what matters to the community	6	14	56%
	Using feedback to improve	4	5	25%
	Creating alternative services	4	5	25%
	Shaping target service transformations	1	1	4%
Co-experiencing (COEX)	Sharing conjoint encounters	0	0	-
	Bringing together related experiences	3	3	25%
	Sharing stories on our page	7	9	75%
Co-diagnosing (CODI)	Insight on the extent of the problem	2	3	33.3%
	People saying what they need	2	4	44.4%
	Presenting potential solutions to problems	1	2	22.2%

Most cases reported more than two forms of SCC. Each category of SCC is represented by 2 to 4 related codes, which, when interpreted together, explain each form of SCC as realised in nonprofits, see Table 8-4 above. Table 8-5 below gives a cross-case observation of categories on SCC reported.

Table 8-5. Cross-Case Analysis: First-Order Categories of Service Co-Creation

Cases		First-order categories of SCC						
		COID	COAD	COAS	CORE	COPR	COEX	CODI
Health Service Organisations	H01		●	●	●			
	H02				●			
	H03	●	●	●	●		●	
	H04		●	●	●	●		
Education Service Organisations	E01		●	●	●	●	●	
	E02	●	●	●	●	●		
	E03	●		●	●	●		
	E04	●	●	●	●	●		
	E05		●	●	●		●	
	E06	●				●		●
Social Service Organisations	S01		●	●	●	●	●	
	S02		●	●		●	●	
	S03		●	●	●		●	
	S04	●		●	●	●	●	●
	S05	●		●	●			●
	S06	●		●	●	●		
	S07		●	●	●	●		●
	S08				●		●	
	S09	●	●		●		●	
Prevalence of categories		13%	18%	17%	30%	12%	5%	5%
● means that this category was observed in this organisation COID – Co-ideating COAS – Co-assessing COAD – Co-advocating CORE – Co-resourcing COPR – Co-progressing COEX – Co-experiencing CODI – Co-diagnosing								

From the findings in Table 8-5, service co-creation is realised in seven forms, which occur at different levels in the three categories of nonprofits.

SSO: The most realised forms in SSOs are co-resourcing, co-assessing, and co-experiencing of services. The moderately realised forms in SSOs are co-progressing of services and co-advocating. Then, the least observed forms are co-ideating and co-diagnosing of services.

ESO: The most realised forms in ESOs are co-resourcing, co-assessing, and co-progressing of services. The moderately realised forms in ESOs are co-ideating and co-advocating for services. The least observed forms are co-experiencing and co-diagnosing of services.

HSO: In HSOs, co-resourcing is the most realised forms of SCC. This is followed by co-advocating and co-assessing of services. Then, the least observed forms are co-ideating, co-experiencing and co-progressing of services. Co-diagnosing of services hasn't been realised in HSOs.

Co-ideating to get better ideas of relevant services. Organisational-generated content triggers reactions of offering ideas and opinions. Social media allows nonprofits to present, gather and build ideas by creating a pool of fluid ideas, which nonprofits easily access and leverage to refine their overall ideas. Many reported incidents of co-ideating, where social media offers a platform to gather and synthesise ideas on running activities and services. There are references to co-ideation in all studied cases; ESOs (n=12), SSO (n=7) and HSO (n=2). The following codes were derived:

- gathering ideas (E02, E03, E04, E06, H03, S04, S05, S06, S09)
- selecting potential ideas (E02, E03, S05)
- acting on ideas (H03, E03, E04, E06, S05)

Participants mentioned that social media enables them to generate ideas and shape ideas towards the realisation of better and relevant services. They often gather ideas on community service needs, new problems, and community-fit or possible solutions. The public or target community can trigger the implementation of an idea based on how many recommend it. Participants stated that:

“So I believe that being here [in operation] also helps the community and it’s the people on social media that have really helped in giving us some ideas” (E02)

“We have a new service that was triggered by social media suggestions. We are starting up something. We are still planning it, but it has not been initiated” (E06)

“Like for example, one person was asking, do you have a counsellor? You can start counselling for the children, so they advise me to have a social worker. So, I hired a social worker” (S05)

Co-advocating through shares, retweets and applause. Initially, nonprofits position their services to target communities, individuals and audiences. Social media amplifies the organisation’s message through followers, shares or retweets, as well as applause such as likes. Participants indicate that social media allows communities to know what the organisation is, what it is about, and also encourage their contacts to recognise and fuel the organisation’s ideas and activities. Positioning nonprofit services and co-advocating for these services is evident in all cases studied. There are more references to co-advocating in HSO (n=14) than SSO (n=12) and ESO (n=8). The following codes were derived:

- Boosting campaigns (H01, H03, H04, E05, S02, S07)
- Getting promotion ambassadors (S07)
- Getting more people involved (H03, H04, E01, E02, E04, E05, S01, S07, S09)
- Getting people to know our services (H03, E05, S01, S03)

According to participants, functionalities such as social media shares, hashtags, contacts of their followers, and boosting, allow the organisation's services, activities, message and mission to propagate through social media crowds and networks. Social media enables positioning and co-advocating through a string of online and offline contacts and connections, which are seemingly intertwined. Participants explained that;

"Like some of our followers share our post and that how we people came on the ground to see what we do" (E04)

"Yeah [social media introduces new clients], (respondent seemed surprised) because I see that one on twitter. Like when one follows the things we post like events and the people we tag, all that attracts related people" (E05)

"For instance, [organisation name] does advocacy as one of the models, we also use our platforms to do advocacy activities and we, as [organisation name], have done a number of successful projects. For instance, I don't know if you have heard about the school health policy ... so we try to tap into trendy functions like hashtags" (H03)

Co-assessing services through comments, replies, reviews and likes. Social media creates a feedback system, which is a resource for organisations to reflect on their services based on community responses. This feedback is gathered through likes, comments, and sometimes messages. The feedback usually relates to gaps, shortcomings, emerging concerns, and recommendations about the services offered. There is a feeling of accomplishment and appreciation of services as the number of "likes" increase, which is interpreted in terms of service relevance and impact. There are more references to co-assessing of services in ESO (n=14) than in SSO (n=10) and HSO (n=9). Co-assessment of services was coded as follows;

- Recognising relevant services (H04, E02, E05, S04, S05)
- Recognising service gaps (H04, E01, E02, E03, E04, S01, S02, S06, S07)
- Voting on services (H01, H03, H04, E01, E02, E03, E04, S01, S03, S06)

Recognising the role of comments and likes as key resources for recognising service relevance, gaps and expression of approval and encouragement on services offered, participants mentioned that;

"We do get encouragement because we feel like yeah; our services are doing really good" (E05)

"We look for how many people have liked some of the posts and what are the comments on the pictures and the information posted ... that gives us a hint on how we are doing" (H04)

"They communicate to us on how they felt after working with us" (S01)

Social media enables reflection on prior service encounters and co-assessment of different aspects of nonprofit services delivery, and this is supported by a synthesis of feedback, views and impressions

Co-resourcing for service delivery. This is the most realised form of SCC in all cases. Organisations initiate services but continuously present their activities and outcomes on social media to attract community involvement in resource integration to enable the delivery of these services. We found 60 references on co-resourcing, and the majority were identified in SSO (n=28), followed by ESO (n=16) and lastly HSO (n=11). The co-resourcing category is identified using the following four codes:

- Getting volunteers (H02, H03, H04, E02, E03, E04, E05, S01, S03, S05, S06)
- Getting donations (H02, H04, E01, E02, E04, S01, S03, S05, S07, S08, S09)
- Partnering with important others (H01, H03, H04, E01, E02, E04, E05, S04, S08)
- Alerting the organisation when things go wrong (S04)

Participants attest that social media attracts hand-on participation in providing services. It offers space to solicit, gather and integrate resources and assistance such as social support, donations, material items, which are used valuably to benefit target communities or service consumers. Participants explained that;

“Social media has helped us to work hand in hand with the community ... they get involved because they know what is happening, and we also know what is happening in the community” (E01)

“Some have come to sponsor children by paying school fees ... others have come here and bought them nice lunch, some of them have come and donated clothes depends on what one feels like” (E02)

“We get partnerships, long time partnerships that work for us as an organisation” (H04)

“Am keen to say that some people [on FB] that we have not met [in person] have fulfilled their commitments, for instance, monthly commitments to sponsor a child” (S03)

Co-progressing (or co-transformation) of services by acting on social media feedback. Participants mentioned that although they initially design and provide services, they find that by gathering public feedback, views, and opinions on social media triggers service transformations and advances towards service propositions that match targeted individuals, groups and communities. Organisations are influenced by the public voice to create alternative services or expand on some activities in existing services. Co-progression of services is quite common in SSO (10), then ESO (n=7), and lastly HSO (n=6). We derived four codes to capture service co-transformation activities on social media.

- Aligning with what matters to the community (H04, E01, E02, E03, E04, S02, S04)
- Using feedback to improve services (E03, S04, S06, S07)
- Recognising alternative services (E04, E06, S01)
- Shaping targeted service transformation (E04)

Participants mention that when they design and promote services through social media, their services ultimately evolve from one set of activities and targets to another based on comments, thoughts, impressions and the support they gather from their social media community. For example, some participants have specifically mentioned that;

“We have a new service that was triggered by social media suggestions. We are starting up something. We are still planning it, but it has not been initiated. It is about homes for young girls, who get pregnant when they are under age” (E04)

“Sometimes it’s an eye-opener for us to be able to respond accordingly to the issues that come about. I think that way they are helping us to improve our services” (H04)

“Others go ahead to inform others about us, who go-ahead to tell us what’s lacking where we need to improve at the end of the day this helps us improve our services and even include other services that may not have been part of the organisation. For example, we have a new service of mental health where we want to work with individuals who are recovering from mental health” (S01)

Co-experiencing by sharing prior service encounters. On social media, organisations and individuals share and relate to the organisation’s services and how these services have benefited them or a person that they know. They also build collective experiences on familiar topics, challenges, and solutions, such as those about children, women and health. Social media not only allows actors to share their experiences but also creates a pool of shared experiences that people can relate to. We derived three codes that could be representative of this category, but only two of these codes emerged from the data.

- Sensing community experiences (*Not found*)
- Bringing together related experiences (E01, S04)
- Sharing stories on our page (E05, H03, S01, S02, S03, S08, S09)

Sensing the overall community experiences was not quite evident in the data, but most commonly, social media brings together people with related experiences, who at times share their stories or encounters with the organisation’s activities. What the organisations do is to share stories about their achievements and service delivery activities. Participants explained that;

“Other people are gaining from the organisation’s activities because social media shows the (before and after scenarios)” (E01)

“On Twitter ... I love telling people about my story and what we are doing as an organisation. People also love to be part of something that they are able to follow up” (E05)

“Of course, we usually get recognised through the interns or the youth who are associated with the organisation, through the way they interact, they share stories, they comment things, so our contribution is reflected through such people” (H03)

“Sometimes it is the sharing, when somebody has shared something about them” (S02)

Co-diagnosing issues of concern and possible course of action. The information and feedback received on social media allow the organisation to get a feel of what people have to say, or what

they would perhaps need and expect, about the organisation's activities. Social media also creates the opportunity to gain insight into, or gauge, the extent of the service benefits or limitations. Ultimately, some participants are compelled by this information to do something to improve, adjust or change their services. Information from social media may reshape nonprofit services in the effort to address the concerns raised. Co-diagnosing is evident in ESOs and SSOs but not HSOs. We coded this form as follows;

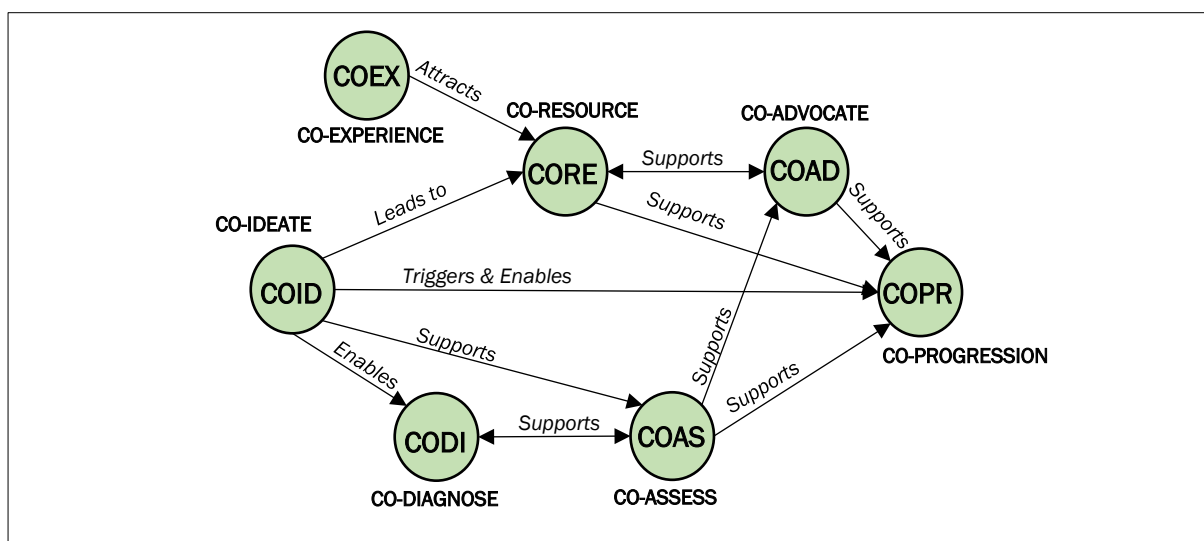
- Insights on issues and extent of the problem (S04 and S07)
- People saying what they need (E06 and S04)
- Shaping solutions (S05)

We found evidence to suggest that when organisations carefully listen to social media, they tend to diagnose community concerns and move to address some concerns by revisiting their goals and service concepts.

8.4.2. Emerging Relationship between Categories of Service Co-creation

In proposition 1, we argue that by using social media as a space for public participation and involvement in social resource integrating activities allows nonprofits to co-create services in multiple forms. Therefore, social media enabled SCC is a multidimensional activity that manifests in interrelated forms. The findings presented in this Chapter support this proposition. Figure 8-2 is a re-draw of the original NVivo output for clarity and readability – see project map 1 provided in Appendix J.

Figure 8-2. Relationships between the Categories of Service Co-creation Realised



The relationships between the forms of SCC are associative, one-way and symmetrical relationships. Some forms of SCC can support, facilitate, trigger or make it possible for other forms to occur. Figure 8-2 visualises the relationships between forms of SCC, and Table 8-6 indicates the number of references and the cases in which the relationship was observed.

Table 8-6. Relationships between the Categories of Service Co-creation

	Relationship between Categories	Observed in		Refs
1	Co-ideating tends to support co-resourcing for service delivery	HSO ESO	H03 and E02	2
2	Co-ideating supports co-assessment of services	ESO	E02	1
3	Co-ideating triggers or enables co-progression of services	ESO SSO	E04, E06, and S04	3
4	Co-advocating and co-resourcing support one another	All cases	H03, H04, E01, E02, E04, S01	6
5	Co-advocating supports co-progression of services	HSO SSO	H01 and S01	2
6	Co-advocating supports co-assessment of services	SSO	S01	1
7	Co-assessing of services supports co-progression of services	HSO SSO	H01, H04, S04 and S07	4
8	Co-resourcing for service delivery supports the designing and co-progression of services	HSO ESO	H03, H04, and E04	3
9	Co-experiencing attracts co-resourcing for services delivery	ESO	E01 and E05	2
10	Co-ideating enables co-diagnosing of emerging issues	SSO	S05	2
11	Co-diagnosing of issues and co-assessing services are closely related		S06 and S07	2

As observed in Figure 8-2, co-ideating and co-experiencing seem to be the antecedents for other forms of SCC while designing and co-progression of services seem to be the ultimate outcome.

1. Co-ideating tends to support co-resourcing for service delivery in HSOs and ESOs

Co-ideating on community needs and services leads to initiating service programs and co-resourcing for the delivery of those services. According to some participants, when they present ideas, needs and service propositions, and ultimately indulge in gathering and selecting more potential ideas, such activities could often attract voluntary community support towards the initiation and delivery of services propositions. It also seems to attract important others, i.e., individuals or groups, in some communities to pick interest in working with the organisation to kick start potential services. For instance, a participant from an HSO said,

“There are some people who come up with ideas, they share [say what they have and can do], and then we link them to the same people who are doing the same line of work” (H03).

From the ideas randomly mentioned by people on social media, organisations can gather and identify potential ideas, which seems to ignite the organisation’s response to a particular service needs or drive the organisation towards initiating certain services. A participant said,

“I think we have not yet put it into consideration because each and everything that comes up, people bring out ideas, and it’s not one of them that people have talked about” (E02).

2. Co-ideating supports co-assessment of services in ESOs

Presenting and co-ideating on community needs and services allows the organisation to *reflect and co-assess* its services. Social media feedback is a key resource in the processes of evaluating the impact and relevance of nonprofit services. Social media supports co-assessment of services because it allows the organisation to recognise relevant services, service gaps and get a sense of community vote on its services. Co-ideation, i.e., presenting and gathering ideas and service needs through social media, particularly allows the organisation to identify weaknesses and desirable improvements in its activities, i.e., recognise service gaps. One participant mentions that occasionally people on social media make suggestions about different activities that could be improved and highlight some weaknesses that the organisation may consider working on (E02).

3. Co-ideating triggers or enables co-progression of nonprofit services in SSOs and ESOs

Presenting ideas on social media and co-ideating on targets or services through interaction may trigger or facilitate the co-progression of nonprofit services. Some organisations have created new services basing on suggestions by people on social media. They listen to the social media community; they take note of potential ideas, do adequate planning and later initiate a new service. This occurred in an ESO, where a participant mentions,

“We have a new service that was triggered by social media suggestions. We are starting up something. We are still planning it, but it has not been initiated. It’s about starting a home for young girls who get pregnant when they are under age” (E04).

While in some cases co-ideating with people on social media could allow the organisation to recognise alternative services, trigger new services and enable the organisation to align with what matters in the community, the prevailing pattern seems to be that organisations gather suggestions and feedback to support service improvements. For instance, a participant said that they consider some of the ideas from social media and those ideas have helped them to improve their services (E06). Another participant also said,

“Feedback helps us in improving our services, and it particularly speeds up our response to community alerts ... secondly, some comments or responses guide us, the people guide us on what we are doing” (S04).

4. Co-advocating and co-resourcing support one another in all three cases studied

Positioning the organisation's goals and co-advocating on social media widens the organisation's prospects to work together with the public to generate resources to deliver services. When organisations position their services to target communities using social media, they attract the public attention and interest to make the organisation's efforts and services known by sharing with their contacts. Such co-advocating activities seem to attract some individuals to participate in co-resourcing by offering voluntary support, resources such as donations and collaborating with important others.

"Like some of our friends or followers share our post and people came on the ground to get involved in what we do" (E04).

While co-advocating supports public involvement in co-resourcing activities, this relationship is largely symmetrical, such that sometimes the organisation first encourages their followers to support the organisation by co-resourcing to reach service targets, which then encourages people to advocate or promote these services across their contacts. For instance, a participant said,

"They do in a way that most of the people we interact with after donating to us they communicate to their friends about what we do and they also become donors who also give us used clothes and shoes and this is the main reason as to why we continue using social media" (S01).

5. Co-advocating supports co-progression of nonprofit services in HSOs and SSOs

Similar to no. 4, above, it seems that when nonprofits interact with the public in co-advocating for services, such activities somewhat encourage the organisation to improve and advance its services while seeking to offer what really seems to matter to its target community or the needs of society. A participant from a social service organisation mentioned,

"Some people go ahead to inform others about us, who go-ahead to tell us what's lacking where we need to improve at the end of the day this helps us improve our services and even include other services that may not have been part of the organisation" (S01).

Shares and hashtags drive the organisation's message and services through social media networks, which attracts more people towards the organisation and ultimately increases the amount of feedback and the range of varied responses from the public. The organisation is able to gather more responses on community issues, alternative services and generally improve its services.

6. Co-advocating supports co-assessment of nonprofit services in SSOs

According to a participant from a health service organisation, as they interact with the public and therefore co-advocate for services through social media networks, they are able to somehow judge the progress of their services. Social media sharing and tagging, when used for co-advocacy, seem

to give the organisation an indication of the impact and reach of their services basing on the number of shares, views and associated feedback. He said,

“When people tag their friends, you get to know that your services are progressing, it is like tagging your progress” (H01).

Another participant indicates that their contacts inform others about organisation services, who also evaluate organisation services from their context and offer their feedback on what needs to be improved. The participant said,

“Some people go ahead to inform others about us, who go-ahead to tell us what’s lacking where we need to improve at the end of the day this helps us improve our services and even include other services that may not have been part of the organisation” (S01).

7. Co-assessing of services supports co-progression of nonprofit services in HSOs and SSOs

Social media feedback, likes and views are important metrics and key resources in the co-assessment of nonprofit services. Such social media engagement allows the organisation to get a sense of, and the public’s view on relevant services, service shortfalls and voting on services they provide. Co-assessment, particularly through feedback, allows the organisation to note emerging issues and alerts, thereby driving the organisation to collaborate with important others and respond accordingly. In one reference, a participant from an HSO said,

“Previously our followers were down, but now we have improved. We have more likes, and we get more feedback from the community, even donors, even from other partners. Now so many partners and other institutions that come on board are requesting us to work with them due to our online engagements” (H01)

Other participants consider social media feedback to be a revelation that enables the organisation to adjust accordingly to provide relevant and timely services. They said,

“Not so much in developing organisation services but they [social media followers] in a way give some feedback about the challenges and what we need to do better ... sometimes it’s an eye-opener for us to be able to respond accordingly to the issues that come about” (H04).

“Feedback helps us in improving our services ... it speeds up our responses basically” (S04)

Overall, it is visible that public views and feedback as gathered through continuous interaction helps organisations to improve their services.

8. Co-resourcing for service delivery supports the designing and co-progression of services in HSOs and ESOs

As nonprofits engage with the community, gather resources and work together to support the delivery of services some organisations find themselves linking with important others, individuals or organisations, that bring a special set of skills that allows the organisation to advance its services. In an ESO (E04), using social media attracted and connected them to doctors who

volunteered to assist them in addressing some emerging minor health concerns. In an HSO (H04), a participant mentioned that social media has allowed them to gather volunteers and peer educators who play an important role in bridging the knowledge and information gap between the organisation and community. As nonprofits get in touch with volunteers and important others to delivery services they access important skills which allow them to improve their services, offer complementary services as well as transform their services to target specific groups of individuals in the community.

9. Co-experiencing attracts co-resourcing for nonprofit service delivery in ESOs

Nonprofits share stories on social media, which attracts people in similar situations to come out and share their experiences as well or to come out and seek assistance. Other people are touched by these stories, which encourages them to provide support and necessary resources that they have towards supporting others. People are motivated to offer their support because they are able to see how the organisation contributes to the community. One participant mentioned that people are attracted to join and benefit from the organisation's services because social media allows us to share the before and after scenarios or stories (E01).

When the organisation uses social media as a space for co-experiencing it attracts people to participate in co-resourcing for service delivery because people prefer to participate and be part of something they know, they want to be part of something related to their own experiences, or familiar experiences or incidents. Another participant, also from an ESO, mentioned that they use Twitter to tell stories that depict what their organisation does because people love to be part of something they are familiar with and able to follow (E05).

10. Co-ideating enables Co-diagnosing of emerging issues and potential courses of action in SSOs

Co-ideating on social media often involves gathering ideas and identifying ideas that could actually support the organisation's intended goals. A participant in a social service organisation mentions that getting ideas from Facebook informed her organisation of some service aspects that they needed to add to their existing services. Such ideas allow the organisation to diagnose community issues, i.e., understand needs and potential solutions, and gradually improve their service concept. He mentioned;

“Like for us we used to ... have our prayers here [on premise], but someone on Facebook gave me an idea, oh we can pay for transport, and you take kids to that church” (S05)

“Like for example, one person was asking, do you have a counsellor? You can start counselling for the children, so they advise me to have the social worker” (S05)

Considering the participants view on the potential contribution of social media towards their services, we can see that nonprofits generally get a broad idea, in which the followers also express their needs and possible solutions. Organisations may social media feedback to reshape their services.

11. Co-diagnosing supports co-assessment of services in SSOs

Co-diagnosing and co-assessment seem to reciprocate each other, where, co-diagnosing aids the co-assessment of services, which also, in turn, supports continuous or future co-diagnosing and conceptualisation of community services. According to participants in social service organisations, their organisations seem to leverage public engagement on social media to broaden their understanding of the fit between their services and the existing and emerging public/community challenges, problems or issues. Through gathering and learning from social media feedback, some organisations are able to shape their services towards meeting community service needs, but at the same time, they are also able to evaluate the relevance of the current service programs and innervations. For example, participants (S06 and S07) seem to agree that people on social media, through their feedback, often mention something that compels the organisation to adjust some aspects of their services or delivery approaches.

8.6. Organisation-Public Interaction on Social Media

In this Section, we provide findings on RQ2, which sought to examine how nonprofit-public interaction on social media contributes to SCC. First, we identify the types of relationships that exist on social media and the embedded patterns of interaction, and later explain the observed relationship between OPI and SCC. As indicated in Figure 8-1, our analytical focus at this stage was patterns of nonprofit-public interaction (POI) and the types of nonprofit-public relationships (TOR) on social media.

8.6.1. First-Order Categories of Nonprofits' Patterns of Interaction (POI) on Social Media

Participants were asked about the ways in which they interact with public or target audiences on social media. During data analysis, we coded patterns of interaction on social media using four categories, i.e., strong, cohesive, symmetrical and similarity-based interaction. Table 8-7 presents references to four patterns of interaction across cases.

Table 8-7. Cross-Case Analysis: Categories under Patterns of Interaction

Cases		First-order Categories of Patterns of Interaction			
		Strong	Cohesive	Similarity-based	Symmetrical
Health Service Organisations	H01				
	H02				
	H03	●	●	●	●
	H04	●	●	●	●
Education Service Organisations	E01	●			
	E02	●	●		●
	E03	●	●		●
	E04	●	●		●
	E05	●	●	●	
	E06	●			
Social Service Organisations	S01	●	●		●
	S02		●	●	●
	S03	●	●	●	
	S04		●		●
	S05	●	●	●	●
	S06		●		
	S07	●	●	●	●
	S08	●			●
	S09	●	●		●
Prevalence of categories		26.7%	34.3%	10.5%	28.6%
● means that this category was observed in this organisation					

SSO: Mostly engage in cohesive interaction, and also moderately engage in symmetrical and strong interaction. Similarity-based interaction is the least emerging pattern among SSOs.

ESO: Mostly engage in strong patterns of interaction. They moderately engage in cohesive interaction and sometimes in symmetrical interaction. Like in the SSOs, similarity-based interaction is the least observed in ESOs.

HSO: All four patterns of interaction investigated were equally emergent in HSOs. HSOs seem to balance between strong, cohesive, similarity-based, and symmetrical interaction.

Strong interaction. The majority of participants (14 of 19) indicate there is strong social media interaction between their organisation and the public. Among references to strong interaction, a couple of references emerged from Strong patterns of interaction is most popular in ESOs (n=15), then SSOs (n=8) and lastly HSOs (n=3). Strong interaction was coded as follows;

- Frequent contact through posts and responses (H03, H04, E01, E02, E03, E04, E05, S01, S03, S05, S07)

- Broad, more in-depth or extended discussions during contact (E02, E03)
- Emotional connection (E01, E02, S03, S05, S08, S09)

Participants mention strong interaction as an essential part of interaction on social media. Such interaction is particularly frequent in ESOs, where a participant mentions,

“Instagram and Facebook are more about showing the activities that we do on a daily basis” (E02).

Another participant felt that besides posting daily or a couple of times a week, it is important to respond to comments frequently to reduce the time between comment and response. She said,

“My other colleagues do respond to comments frequently, and it was an issue in the audit because they said the time between comment and the response was too huge that we needed to reduce it” (E05).

However, one participant cautioned that posting daily could cause information overload to the followers. He indicated,

“We post depending on the activity we have been done, sometimes we post daily, but we post probably three times a week. We don’t post every day because we don’t want to bombard people with information because they will lose track” (H04).

Cohesive interaction. Fourteen of the nineteen (14 of 19) participants say their organisations have experienced cohesive interaction on social media. Like strong interaction, cohesiveness is an essential pattern of interaction on social media among nonprofits. There are several references to cohesive interaction, but the majority emerged from SSOs (n=18) and a few from HSOs (n=8) and ESO (n=8). We derived the following codes for cohesive interaction:

- Feeling of appreciation, morale and encouragement (H04, E04, E02, S04, S05, S06, S07)
- Sense of closeness and togetherness (H03, H04, E02, E03, E04, E05, S01, S02, S03, S04, S07)
- Sense of commitment from the community (S01, S03, S07, S09)

Several participants expressed that a feeling of appreciation, encouragement, closeness and commitment between the organisation and target communities posed a key aspect of their social media interaction and ability to work jointly with communities and public support at large. One participant indicates that they focus on organisation-individual closeness during contact. He said,

“We try to create a one on one [relationship] ... usually, when organisation accounts are talking to people they try to be very corporate, they want to finish the work. But for us, we try to be open and flexible. It’s like you’re not communicating to an organisation but an individual” (H03).

In SSOs, social media interaction not only thrives on closeness but also the continuous commitment to organisation activities from their community. The two examples below illustrate

participant statements on the sense of commitment from the community.

“Our social media followers are our real clients, so we treasure them in every project activity we take, and this is not only for donation mobilisation but also for community-related sensitisations. We always count on them because they always turn up at least in reasonable numbers ... we feel they are close no matter how far they are” (S01)

“Am keen to say that some people [on FB] that we have not met [in person] have fulfilled their commitments, for instance, monthly commitments to sponsor a child” (S03)

Similarity-based interaction. This interaction is depicted by how close the interests and values of the organisation are to those of the individuals, groups and communities they interact with. Seven of nineteen (7 of 19) participants mention that interaction on social media could be productive when their interests and values capture public attention or are closely related to their target communities or stakeholders. Although similarity-based interaction was the least observed pattern of interaction, it was somewhat evident in all cases studied, but most commonly in SSOs (n=5), then ESOs (n=5) and lastly HSOs (n=2). Similarity-based interaction was coded as follows;

- Comparable perspectives on organisation activities (H04, E05)
- Shared interests (H03, H04, S03, S05, S07)
- Community relates to the values of the organisation (i.e. similar values) (H03, S02)

Participants say that their organisations interact better when they get in contact with people who share their vision, and those who are interested in their programs. One participant says,

“The relationship is good because our followers are interested in the work am doing here; they are interested in helping people” (S05).

Such mutual interest seems to support enduring relationships, which ultimately lead to physical contact and support for the organisation. On this, one participant feels their social media contacts are continuously concerned and attracted to their organisation’s activities. He says,

“There people who think about us from time to time. These are the people we add to the group because of the mutual interest ... From day to day we have [eventually] met these people [FB followers] and absolutely attested to their interests in the organisation” (S03)

Symmetrical interaction. We observed that two-way symmetrical was represented by the bilateral flow of information and messages. This pattern of interaction was reported by twelve of nineteen (12 of 19) participants. The majority of references to symmetrical interaction were reported by SSOs (n=16), then ESOs (n=6), and lastly HSOs (n=5). We derived the following codes on symmetrical interaction:

- Dialogic exchanges (H03, H04, E04, S01, S02, S04, S08)
- Seeking mutual understanding (S02)
- Requesting and responding to information (H03, H04, E02, E03, E04, S01, S02, S05)

- Responding to questions, inquiries and queries (H03, S01, S07, S09)

According to participants, real-time dialogue and responses are relevant to productive social media interaction, especially when you shape such conversations to focus on issues pertinent to the organisation. One participant states that,

“We focus on real-time communication with our followers, friends and donors ... We read comments and respond immediately with relevant requests or demands in the comments” (S01).

Another participant emphasises that it is important to foster some kind of shared understanding, irrespective of whether or not you agree with your followers. Some participants in SS0 and HSO explained that;

“We create our own dialogue although it has to be part of what people are talking about, for us we try to take an angle what we are interested in” (S02).

“We respect the opinions of our followers when we share on social media. Sometimes we don’t agree with their views, but we don’t disagree violently. We politely disagree so that we have a meaningful dialogue” (S02).

“Some people may be asking questions while some people may be praising our work, and some people may be raising issues or probably want more information about something ... We get feedback, and we also give feedback to them” (H04).

There is undoubtedly some kind of exchange between the organisation and its followers based on questions, feedback or information requests. Some organisations lookout for such engagement when interacting on social media.

8.6.2. First-Order Categories of the Types of Relationships (TOR) on Social Media

Basing theoretical and empirical observations in public relations scholarship, we asked participants to provide a view on their organisation’s relationship to the community in the social media space. During data collection and analysis, we coded the types of relationships following three theoretically identified categories (i.e., communal, exchange and symbiotic), which we initially identified as fruitful operational measures of TOR. Table 8-8 presents references to three types of relationships across cases.

Table 8-8. Cross-Case Analysis: Categories under Types of Relationships

Cases		First-order Categories of Types of Relationships		
		Communal	Exchange	Symbiotic
Health Service Organisations	H01	●		
	H02	●		
	H03	●		●
	H04	●	●	●
Education Service Organisations	E01	●		
	E02			
	E03			
	E04	●		●
	E05	●		●
	E06			
Social Service Organisations	S01	●		●
	S02	●		
	S03	●		
	S04	●		
	S05			
	S06			
	S07	●	●	●
	S08			
	S09			
Prevalence of categories		73.3%	6.7%	20%
● means that this category was observed in this organisation				

SSO: In this case, organisations are mostly focused on building communal relationships. Rarely, SSOs use social media to build symbiotic and exchange relationships; however, the former is more observed than the latter.

ESO: Like SSOs, ESOs are mostly focused on building communal relationships. ESOs may sometimes move towards symbiotic relationships but not exchange relationships.

HSO: HSOs are more focused on building communal relationships, just like the SSOs and ESOs. Similar to ESOs, HSOs may sometimes shift towards symbiotic relationships. The exchange relationship is the least observed type in HSOs.

Communal relationship. Twelve of the nineteen (12 of 19) participants reported building communal relationships. Of the three cases studied, communal relationships are more visible than symbiotic and exchange relationship. References to a communal relationship are more common in SSOs (n=10), then HSOs (n=8), and lastly ESOs (n=4). In the coding processes, we recognised that organisations build communal relationships on social media by;

- Showing greater concern for serving the community (H03, H04, E04, S02, S03, S04)
- Co-operating with the community (E01, E05, S01, S03)

- Being more open to community interaction (H01, H02, H03, H04, E01, S01, S03, S04, S07)

Encouraging the community to work together with the organisations is pivotal to the strategic use of social media in nonprofit, but, participants also mention that their social media engagement are mainly open for all interested individuals and that showing concern to overcoming community challenges and making an impact in people's lives is vital. One participant mentions that they consider their social media community as a part of the organisation that supports them towards achieving their objectives (E05). Participants said,

"We prefer open interaction and relationships, but where necessary, we engage in groups or closed interaction (H01).

"We are open to information; we are open to learning new issues, we are open to communication" (H04).

While encouraging more open interaction and attracting the community to work with the organisation, organisations show concern for and attempt to tackle community issues. They may also portray organisational values but also uphold the opinions and views of their followers. Participants explained that,

"When we talk to our followers, we give them information, we keep in touch with them, and we try to be responsive to their issues" (H04).

"We look at things like holding the dignity of children and women. We respect others opinion when we share ... we politely disagree so that we can have a meaningful dialogue" (S02).

Exchange relationship. While communal relationships are seemingly popular in a nonprofit social media space, exchange relationships are almost non-existent. Of the thirty references (30) to nonprofit-community relationship on social media, only two references from two cases suggest there could be some exchange relationships occurring on social media. References to an exchange relationship emerged in HSOs and SSOs – see Table 8-8. We theoretically identified three potential codes for exchange relationship as measured in public relations. We, therefore, applied the following codes to our data as indicators of exchange relationships.

- Expect benefit (H04, S07)
- Expect offers from the community (*Not found*)
- Expect reciprocation (*Not found*)

We did not find evidence to suggest that organisation expect benefits from the community through social media interaction. It is also not visible in our data that nonprofits expect reciprocation from the community during these interactions. Nevertheless, we found that a few organisations expect

that posting their activities, demonstrating the impact of their services, mobilising support, and interacting with the community attracts some community participation. A few participants said,

“We try to teach a spirit of volunteerism so that people out there who are interested in volunteering with us can come and join our programs ... it’s not just about coming and volunteering, but what value are you adding to us as partners” (H04).

“We use it [social media] to tell what we do, reporting, fundraising, mobilising for events, campaigns; so we use social media for various things and to retain relationships for opportunities while keeping in touch with our virtual community” (S07).

Symbiotic relationship. A symbiotic relationship stems from the desire to support one another even when all actors seek different outcomes. We explore whether nonprofits build some kind of symbiotic relationship through OPI on social media. Six (6) participants, from all the three cases, mentioned that they often have to build symbiotic-oriented relationships to achieve a target outcome. A nonprofit-community symbiotic relationship through social media could involve interaction based on activities such as:

- Pursuit of a common goal or cause (H03)
- Resource interdependence (S01)
- Importance of transparency (H03, H04, E04, E05, S07)

The most emphasised aspect, of a nonprofit-community symbiotic relationship, is the importance of transparency. One respondent (S07) mentions that all other aspects, such as togetherness and appreciation, will depend on organisational transparency, which she describes as being open and honest in the content and during interactions. Similarly, a participant (H04) said they believe that they have to be transparent and accountable to stakeholders, and this has to come out clear even when interacting on social media. He says,

“We are telling them, yes we are receiving funding from donor A, B, C, D and this is what we have been able to do, this is what we use their money for its part of accountability, it’s part of being transparent and its part of being honest that this is what we have been able to do” (H04)

Some participants emphasise that interacting on social media is about making troubling issues known, reaching many people and putting voices together so that quick solutions are put in place for a common social good. One participant considers their relationship with followers on social media as seemingly resource-interdependent because they focus on sensitisation, putting resources together and coming together on projects to improve access to clean water.

8.6.3. Relationships between Organisation-Public Interaction and Co-creation of Nonprofit Services

In Sections 8.6.1 and 8.6.2., we presented the patterns of interaction and the types of relationships between nonprofits and the public on social media. This Section explains the link between the patterns of interaction, the types of relationships and SCC, which completes our answer to RQ2. We found, in all cases, OPI on social media facilitates SCC in some way. Table 8-9 below summarises the observed relationships from the data in comparison to our theoretically derived or predicted pattern. These relationships are presented visual in Figure 8-3 and the NVivo project map 2 provided in Appendix J.

Table 8-9. Comparing Observed and Predicted Relationships between OPI and SCC

Relationships		Refs	Observed in Cases		Observed to the predicted pattern
Predicted ^a	Observed ^b				
OPI & SCC (P2)	Organisation-public relationships based on the pursuit of a common goal, integrity and transparency, and treating the social media community as family, are more inclined to encourage continuous public support in the provision of nonprofit services (Observed Relationship 1a)	5	HSO SSO	H01, H02, H04, S02, and S08	Strong
	Organisation-public interaction based on values of building public interest in organisation activities, sense of commitment, closeness, loyalty, and recognition attract public participation in the provision of services through financial, emotional and promotion support (Observed Relationship 1b)	4	All cases	H01, E05, S03, and S07	Strong
^a theoretically proposed association ^b pattern observed in the data <i>Strong</i> – the pattern observed in the data depicts the one predicted and appears in at least 2 cases					

Some participants indicated that the way they interact with the public is centred on the public interest in certain products or services. One participant, for example, mentioned,

“We have tried to interact with most of them, especially those who are interested in our products. The auditor advised us to devise a means of winning our followers’ loyalty through different ways, including constant engagements so that they become eager to see what follows next. So this even on the side increases recognition of organisation activities” (E05).

Social media networks grow due to the fact the organisation’s followers also have friends or followers, and such networks build collaboration and partnerships, according to one participant from an HSO. He mentions,

“All those people following us also have friends so when they tag other people they are following then that’s something positive as far as we are concerned because it’s through the networks we get partnerships long time partnerships that work for us as an organisation” (H04).

Similarity-based interaction, for example, could encourage SCC. A participant expressed that some people are willing to advocate and promote the organisation because they feel the organisation is striving for something they are passionate about, or related to their interest. He said,

“I have realised that people understand what we do, they have a heart for what we do ... that they are actually willing to become ambassadors for what we do and some also show commitment” (S07).

OPI on social media can involve properties such as a sense of closeness, which are vital in attracting public support for the organisation’s services both financially and emotionally (S03). Another participant indicated that in his organisation, they use social media networks to reach out, which ultimately increases their offline contacts, and enables them to get some work done (S08).

Observed relationship 1a. In HSOs and SSOs, organisation-public relationships based on the pursuit of common goal, integrity and transparency, and treating the social media community as family, are more inclined to attract public support in the provision of nonprofit services.

Observed relationship 1b. In all cases, OPI based on values of building public interest in organisation activities, sense of commitment, closeness, loyalty, and recognition attract public participation in the provision of services through financial, emotional and promotion support.

8.7. Social Media Structure in Nonprofits

In this Section, we provide answers to RQ3, which sought to investigate the action possibilities, meanings and values conveyed by social media to nonprofits and how these contribute to the organisation’s interaction with the public and the co-creation of nonprofit services. Our findings explain the structure of social media through three aspects, first, the functional affordances (i.e., the action possibilities) and symbolic expressions of social media (i.e., the meanings and values) to nonprofits, respectively.

8.7.1. First-Order Categories of Functional Affordances of Social Media to Nonprofits

Functional affordances describe the action possibilities of social media. Our findings reveal five categories of functional affordances of social media to nonprofits, including, information sharing (CIS), calling for action (CCA), socialising with the community (SOC), visibility for reputation building

(VIR), and knowledge conversations to increase public awareness (KCO). Table 8-10 presents these categories as they appeared across cases.

Table 8-10. Cross-Case Analysis: Categories under Functional Affordances

Cases		First-order Categories of Functional Affordances				
		CIS	CCA	SOC	VIR	KCO
Health Service Organisations	H01	●				
	H02	●		●	●	●
	H03	●		●	●	●
	H04	●	●	●	●	●
Education Service Organisations	E01		●	●	●	
	E02	●		●	●	●
	E03	●	●		●	
	E04		●	●	●	
	E05		●		●	●
	E06	●	●	●		
Social Service Organisations	S01	●		●	●	
	S02	●		●		●
	S03	●		●	●	
	S04	●		●	●	
	S05	●	●	●	●	
	S06		●	●	●	
	S07	●	●	●	●	
	S08	●	●	●	●	●
	S09			●	●	
Prevalence of categories		24.9%	9.8%	33.7%	24.9%	6.7%
● means that this category was observed in this organisation CIS – information sharing; CCA – Calling for action; SOC – Socialising; VIR –Visibility; KCO – Knowledge conversations						

SSO: For SSOs, social media mostly affords them the possibility of socialising with the community. This is followed by the visibility affordances and then the information sharing affordances. Social media moderately affords SSOs the possibilities to call for community action. Uncommonly, social media may also afford possibilities for knowledge conversations.

ESO: For ESOs, visibility and calling for community action are the most common affordances provided by social media. Moderately, social media affords ESOs to socialise with the community and also share information. Rarely, social media affords ESOs to engage in knowledge conversations with followers.

HSO: In this case, social media most commonly affords organisations the possibilities for information sharing. Comparatively, social media affords HSOs the possibilities for socialising and visibility. HSOs rarely use social media to call for community action.

Information sharing. The majority (14 references from 14 participants) recognise social media as a platform for sharing information to a wide audience. The size of this audience seems to be the key driver for information sharing activities. While nonprofits seek to continuously provide information to the public, they too seek and gather information from the public. We identify the activities below as key efforts in communication and information sharing on social media.

- Giving information and receiving information (H01, H02, H03, H04, E02, E06, S01, S02, S04, S05, S07, and S08)
- Messaging and inboxing (H03, H04, S01, S03, S05, S07, and S08)
- Publishing, publicising and broadcasting (H02, E02, E03, E06, S04, S05, S07, and S08)

For HSOs, social media is more efficient for disseminating information to the public as compared to other outlets such as journals (H02), or conferences and news (H04). They find information sharing on social media as a means to exploring the utmost potential of social media such as reach out to many at the same time, increase public awareness of the organisation's, and involvement. For example, some participants said,

"It was strategic in a way because we do a lot of work, but the information on what we are doing gets published in medical journals, and not everyone reads the medical journals so putting information out in social media was a more approachable way for people to access the information" (H02)

"We always post activities that are happening for young people, the sports or life skills training anything to inform them of what we are doing, basically, other than the conventional media channels of press conferences and writing news" (H04).

Calling for action. Although references to calls for action did not emerge as commonly as information sharing, socialisation and building reputation, some participants (19 references from 10 participants) recognise, explore and actualise social media potential to call for resource contribution, support, volunteering and collaborating, participation to make a change to lives and society. We identified four activities (codes), representing a call for action on social media.

- Building team or group effort (S05)
- Calling others to join a cause (H04, S06, and S08)
- Calling for participation in events (E03, E05, E06, S07)
- Calling for help or support (H04, E01, E04, S05 and S08)

Participants mainly connected calling for action to attracting and increasing public participation and support in organisational events as well as communicating back the outcomes of these collaborative events.

“If we have a show, which is going to take place, we call upon well-wishers who can contribute or attend” (E03).

“So social media mostly comes in at the mobilisation stage and showcasing the results” (E06).

“We are trying to inculcate the spirit of volunteerism so that people out there who are interested in volunteering with us can also be able to come and join the programs come and join us and volunteer and spare few hours probably during the week” (H04)

Socialising with the community. Social media enables nonprofits to create community by socialising with the public, which supports the organisation’s goals, and mission is nearly reported in all cases (65 references from 16 participants). In most cases, socialising for community creation meant that the organisation is:

- Connecting and reaching out to the community (H03, E01, E02, E06, S01, S02, S03, S04, S05, S08, and S09)
- Gathering encouragement and motivation (E01, E02, E06, S05, S06, S08, and S09)
- Getting a sense of what the community has to say (E01, E02, S03, S04, S05, S06, S08, and S09)
- Fostering ongoing interaction and keeping the conversation going (H02, H04, E01, E02, E04, E06, S01, S02, S04, S05, S07, and S09)
- Creating and working with groups (E04, S01, S02, and S05)

According to participants, social media is quite useful for keeping their organisation connected to a broader community and reaching out to different people out there who can help in different ways. For example, two participants said,

“It’s the thing that kind of keeps us connected with the people who cannot come to the resource centre” (E01)

“It is one of the platforms where lots of people are involved, so in order to reach out to a crowd social media is the best” (E02)

Participants also find social media useful for keeping in touch with the community after physically engaging in service activities. They find social media useful for keeping the conversation going. One of the participants mentioned,

“I feel that one of the biggest benefits is that we are able to keep that conversation going even beyond our one on one engagement beyond our conferences beyond our meetings and workshops” (H02)

In addition to connecting to the community and keeping the conversation going, the participant finds that with social media, they are able to quickly get the community opinion about their

activities or get a sense of encouragement on services, activities or their contribution to the community.

Visibility for reputation building. Many participants (48 references from 16 participants) reported that social media is useful for increasing visibility and building a reputation among the stakeholders of nonprofits, such as donors. Participants mentioned that they feel accountable to the public because of the support they get, and they recognise social media to be a platform that allows them to show accountability for the support and donations received from the public. We identified the following as common activities representative of nonprofits efforts for visibility and reputation on social media.

- Increasing transparency and legitimacy (H02, H03, H04, E01, E02, S04, and S06)
- Getting people to know about us (H02, H03, H04, E02, E05, S01, S03, S04, S05, S06, S08, and S09)
- Positioning our services in people's minds (S03 and S07)
- Using imagery than text (H02, H04, E01, E02, E03, E04, E05, S01, and S03)

According to one participant, besides connecting with the right contacts, social media, particularly Twitter, is useful for creating a professional image for their organisation (S03). For some organisations, social media is the easiest way to become visible and maintain visibility (H02, E05). They said,

“We get on social media so that people can get a good picture of what we do” (S07)

“Easiest to say is we have been able to make ourselves more visible, we have gotten more visibility” (H02)

“It is a platform for visibility and letting people know about our activities and events” (E05)

While endeavouring to get people to see what the organisation does, participants say they are avoiding exaggeration and therefore keeping the conversations and posts genuine is important irrespective of how bad or good things may seem (S06). Another participant indicated that they do not have to post every day as long as they maintain integrity each time they get on social media (H02). For some participants, social media allows them to position their ideas, activities and mission at the heart of target communities.

Knowledge conversations for increased public awareness. Knowledge conversations were the least observed category, accounting for 6.7% prevalence, among the functional affordances of social media for nonprofits. Nonetheless, some (13 references from 7 participants) perceive and explore the potential for knowledge-based conversations or inspirational conversations to increase

awareness on issues such as reproductive health and youth unemployment and entrepreneurship. We coded knowledge sharing by observing two key activities

- Seeking knowledge (H02, H04, E02, E05)
- Offering knowledge (H02, H03, E03, S02)

Participants show that social media allows them to provide expertise and experiential knowledge to the public because it provides the opportunity to continually explain and clarify matters, sometimes in one on one interactions. Likewise, in a few cases, some individuals from the public tend to share experiential knowledge when they freely interact with the organisation. For example, some participants said,

“Then we give them an explanation, e.g., the signs of an STI. Maybe you need to pick a test, tell us where you are so we can tell you our nearest clinic is here” (H03)

“We are looking at coming up with fans who can be part of us and share knowledge but also joining in our cause, and we hope to do it in partnership with other entities” (E05)

8.7.2. First-Order Categories of Symbolic Expressions of Social Media to Nonprofits

Symbolic expressions are the communicative possibilities of social media. These communicative possibilities are decomposed into the communication of meaning (i.e. meaning conveyed by social media) and communication of values (i.e. values holistically conveyed by social media). These provided the two key categories of communicative possibilities of social media. In Table 8-3, 17 of 19 participants made reference to the meaning and values conveyed by social media. Table 8-3 also provides 45 references to the meaning conveyed by social media and 57 references to the values promoted by social media.

8.7.2.1. The meaning conveyed by social media to nonprofits

It was notable that social media functionality, symbols or the technology as a whole convey some meaning that informs the use of social media in pursuit of organisational goals. Participant's remarks on the meaning of social media to nonprofits revealed the following (Table 8-11).

Table 8-11. Cross-Case Analysis: Codes under the Category of Meaning Conveyed by Social Media

Cases		Codes under Communication of Meaning						
		EUV	LAU	PRO	SSF	SNT	V00	DAP
Health Service Organisations	H01							
	H02	●		●				●
	H03	●						
	H04	●		●		●		
Education Service Organisations	E01							
	E02		●					
	E03		●	●				
	E04			●				
	E05		●					●
	E06					●		
Social Service Organisations	S01	●	●	●				
	S02	●				●	●	
	S03	●						
	S04	●			●			
	S05			●	●			
	S06	●	●					
	S07							●
	S08	●					●	
	S09	●	●					
Prevalence of Codes		40%	17.8%	15.6%	4.4%	8.9%	4.4%	8.9%
● means that this category was observed in this organisation								
EUV – Easy to use, useful and valuable; LAU – A large audience; PRO – Promptness SSF – Sharing space and fun; SNT – Something new and trendy; V00 – Variation of opinion DAP – Danger perception								

SSO: For SSOs, social media mainly conveys meaning associated with the ease of use, usefulness and value to the organisation. It also conveys meaning associated with a wide or diverse audience. Occasionally, SSOs associate social media with promptness, sharing and varied opinions. Rarely do SSOs associate social media with potential danger.

ESO: For ESOs, social media conveys meaning oriented towards a diverse and wide audience. In a few instances, social media conveys meaning associated with promptness, technology trend, and potential danger. In ESOs, social media is not associated with ease of use, usefulness and value to the organisation. ESOs don't associate social media with productive sharing and variation of opinion.

HSO: Like SSOs, HSOs associate social media with the ease of use, usefulness and value to the organisation. Additionally, some HSOs associate social media with promptness, technology trend, and a potential danger for the organisation. HSOs don't necessarily interpret social media as a large audience, or space for sharing and variation of opinion.

Easy to use, usefulness and value (EUV) (H02, H03, H04, S01, S02, S03, S04, S06, S08, and S09). A number of participants refer to how easy it is for their organisations to navigate social media functions and leverage available opportunities to support the desired goal. Participants believe social media is quite useful in supporting interaction and community activities. Ultimately, they find it a valuable tool not only to their organisations but also to society because it offers useful functions that connects all involved parties together. For example, some participants said,

“Facebook is easier for everyone to use and access” (S09)

“It’s easier to keep a conversation going on twitter [because] it is precise [and] to the point” (H02)

“In my opinion, social media is a blank check. You use it for what it can benefit you. I will give a few categories; organisations use it to put work, get information and also to rally people to the cause” (S08).

A large audience (LAU) (E02, E03, E05, S01, S06, and S09). We could not miss the fact that social media is seen as a large audience which offers tremendous advantages associated with an organisation existing as part of this audience. Being a large audience, social media signals possibilities of visibility and fast flow of information. For instance, some participants said,

“It’s a way of interacting with a wider audience ... for visibility and to let people know about our activities, events” (E05).

“Social media can connect you to the whole world when you’re committed” (S09).

Promptness (in support and communication) (PCO) (H02, H04, E03, E04, S01, and S05). Participants recognise that social media offers useful functions for easy, fast, and impactful communication. Social media functionality informs nonprofit communication and promotions to the target audience, and many utilise it to achieve this goal. The underlying message is that social media is designed for quick and informal communication to a wide range of target audiences. One participant said,

“I can say social media has been valuable because, on social media, you communicate to the stakeholder out there in the shortest time possible without necessarily needing a report, handwritten report for them understanding what you’re doing” (H04).

Sharing space and fun (SSF) (S04 and S05). To some participant, social media is an environment that makes sharing of information and other content exciting, fun and rewarding. While the organisation’s audience could find their posts exciting to follow, read and watch, they get to learn more about what the organisations provide to society. According to one participant, being able to

get information to the public, as well as from the public, is what makes a sharing space (S05). Another participant said,

“Of course, when I hear about Facebook, sharing is one thing that comes to my mind. We share a lot of things, most of the things on social media are interesting, and sharing is fun yah” (S04)

Something new and trendy (SNT) (H04, E06, and S02). To some participants, social media is the trend, and for that reason, their organisations feel somewhat obligated to get on these platforms; otherwise, they lose the advantages associated with social media presence. Because social media offers a trending space, it offers nonprofits the opportunities to communicate and reach out to many people that they can support or work with. For instance, one participant mentioned

“Facebook was the first platform that we started with, and it was the trend at the time, and it has helped us to reach out to so many people” (E06).

“Social media is something new that came up, and we thought we could also embrace it at our organisation. Yah it is not the conventional media we know. This is another media, which we are able to use for communication. It’s a new way of communication” (H04).

“Social media seems to be the in-thing. It seems to be what everybody should do” (S02)

Variation of opinion (VOO) (S02 and S08). A few participants pointed out that social media is an uncontrolled space of varied opinions. To the participants, social media allows users to present varying opinion and that this is something that the organisation should expect and be prepared to embrace both the negative and positive opinion. One participant points out that it is up to the organisation to access these views and find ways to accept public opinion but also present the organisation’s views, values and mission. Another participant mentioned that it is up to the organisation to be cautious about its posts because they could be interpreted differently.

“When you engage on social media, everyone has their own opinions and interprets what you post in their own way” (S08)

Danger perception (DAP) (H02, E05, and S07). While social media is perceived generally as a platform that offers useful functions, to some participants, the signs of potential danger are also visible. To others, it is the organisation’s responsibility to anticipate, avoid, control or manage any emerging negative effects of using social media platforms. Some participants specifically mentioned that,

“It [social media] is important, despite the fact that social media can be destructive, and we have controls for that here. We do acknowledge that some work revolves around social media, so totally cutting it off is really not the most efficient way to go about it, so you need to find a balance between drawing the information that is available on social media but also avoiding destructions” (H02).

“Above all, you have to prepare yourself to deal with that moment when something goes wrong with a post. So it is both ways, prepare for the good and the bad” (S07).

Social media conveys meaning and values associated with its functionality to nonprofits, as well as other users. The above Section provides seven interpretations of social media functionality in nonprofits, with the most famous descriptions across cases being easy to use, useful and valuable, large audience and prompt communication. The Section that follows provides the values conveyed by social media to nonprofits that are influential in the use of social media by these organisations.

8.7.2.2. The values conveyed by social media to nonprofits

We asked respondents about the values portrayed by social media in its entirety. These values relate to human values but are associated with social media as a whole rather than their distinct structural features. We identified six kinds of values supported by social media platforms cross cases (Table 8-12).

Table 8-12. Cross-Case Analysis: Codes under the Category of Values Conveyed by Social Media

Cases		Codes under Communication of Values					
		ACT	ANO	CTC	PRI	ROU	OPP
Health Service Organisations	H01					•	
	H02			•			•
	H03	•		•		•	•
	H04				•	•	
Education Service Organisations	E01			•		•	
	E02	•				•	
	E03						
	E04						•
	E05						
	E06					•	
Social Service Organisations	S01	•			•		•
	S02			•	•		
	S03		•	•		•	•
	S04				•		
	S05	•					
	S06				•		
	S07	•	•	•	•	•	•
	S08	•				•	
	S09	•		•		•	•
Prevalence of codes		17.5%	3.5%	15.8%	15.8%	29.8%	17.5%
• means that this category was observed in this organisation							
ACT – Actuality; ANO – Anonymity; CTC – Controlling the conversation; PRI – Preserving image ROU – Routinisation; OPP – Opportuneness							

In Table 8-12, we summarise the values promoted by social media; but, the prominence of these values differs across cases.

SSO: In SSOs, social media conveys the values of actuality and image preservation strongly. They also moderately convey values of routinisation, opportuneness, and controlled conversation. Values of anonymity are not strongly promoted in SSOs.

ESO: In ESOs, routinisation is the most strongly conveyed value of social media in ESOs. It also weakly promotes values of actuality, opportuneness, and controlled conversation. For ESOs, social media does not convey values of anonymity or image preservation.

HSO: In HSOs, like in ESOs, social media conveys the values of routinisation strongly. It moderately promotes values of opportuneness and controlled conversation and weakly communicates values of actuality and image preservation. For HSOs, social media does not convey values of anonymity.

Actuality (ACT) (H03, E02, S01, S05, S07, S08, and S09). Although social media is a purely online environment, many participants regard social media interaction with the public almost the same as real-life interaction with the potential to yield meaningful outcome. For nonprofits there seem to be a strong feeling of social presence, which makes the values of real-life interaction quite relevant. For example, some participants said,

“I believe if you’re communicating, it’s like you’re talking to a person. I believe that it’s more of talking to someone who is around” (E02)

“Social media followers are our real clients, so we treasure them” (S01)

“So it’s almost like a physical relationship, timely communication is very important” (S07)

Anonymity (ANO) (S03 and S07). Reflecting on the type of services that the organisation provides and the target clients, some participants felt that anonymity is a key value in the social media environment. Preserving identifying information is a guiding factor in what the organisation can and cannot post on social media. To a certain extent, participants believe it is vital and therefore prefer that some posts remain anonymous, i.e., anonymity sensitivity (Correa et al., 2015). They said,

“Most importantly is the privacy of the children when putting outposts. We do not use actual names. We always get a stage name to perform the role” (S03)

“At the end of the day, you need to work out how you want the posts to be presented, so we use tactics in photography, for example, for prostitutes, we don’t show too much of their faces but take the photos from the back” (S07)

Controlling the conversation (CTC) (H02, H03, E01, S02, S03, S07, and S09). Social media conversations are generally impossible to control; however, some participants (7 of 19) believe in managing this conversation by closely observing responses, accepting public views, avoiding sensitive topics, and somehow continuously defining, elaborating, and reflecting back the organisation's goals. Participants made comments such as;

"Then we are able to keep track of (control) what happens on social media, and keep in the lines" (E01)

"It's important because social media can be destructive, so we have controls for that here" (H04).

"We keep in line with what we do. There are sensitive topics that we don't talk a lot about, e.g., abortion. People always misinterpret such a topic to indicate illegal organisation activities, yet we do post-abortion care that is legal" (H03).

Preserving image (PRI) (H04, S01, S02, S04, S06, and S07). Nonprofits are quite keen about protecting their image on social media, arguing that it is central to thriving and fruitful interaction. It is regarded as a key attribute from the moment they choose to use social media to pursue organisational goals. Participants are aware of the potential danger associated with undermining the value of preserving image, which could include a threat to reputation and legitimacy. Some participants comment that,

"On Facebook, we are looking at the issue of transparency [and] accountability because we are accountable to our stakeholders out there" (H04)

"First of all integrity and authenticity are key values that we first look at" (S04)

For nonprofits, preserving image anchors on maintaining transparency, authenticity (genuineness rather than exaggeration) and integrity.

Routinisation (ROU) (H01, H03, H04, E01, E02, E06, S03, S07, S08, and S09). In many nonprofits (in 10 of 19 cases) keeping in touch with the community. Some claim that if they do not maintain contact, keep in touch and update their community on new development and services; they risk losing their social following. Some participants claim that,

"If you don't keep the followers updated, they may think you stopped (operating). People need to be updated; even if they don't comment or like, they will see and know what is going on. You find that you are going to be posting almost every day on Facebook so that you can keep people in touch, to keep them abreast of what you are doing and what is going on" (E01).

"To keep our message fresh. It's important to be positioned in people's minds; otherwise, you might be forgotten" (S03).

“And when you keep quiet, your relationship will vanish away. The ideal is at least once a day” (S07).

Routinisation is about regularity, through posting and responding to comments, keeping in touch with the public, keeping the public updated, and positioning the organisation in the minds of people. On average, participants indicate that they usually post more than once a week.

Opportuneness (OPP) (H01, H03, E04, S01, S03, S07, and S09). One of the ideals of public interaction on social media is opportuneness, i.e., timely communication or favourable timing of communication and contact with the public, according to 7 of 19 participants. Participants indicate that this is what their followers would expect as basic conduct from an organisation. Some participants believe that if they fail promptly respond to public comments and questions, their following could reduce or they could be perceived as fraudulent, non-functional or not dedicated to the services they claim to provide. For participant H01,

“We respond immediately to keep the conversation, by the time someone comes to your platform just know he needs something from you so if you do not get back to them; first, your following will go down, second they will start like doubting you if you're real. They may doubt the legitimacy of your organisation” (H01)

Similarly, participant S07 maintains that timely and well-planned communication is vital, and they communicate when it is necessary arguing that social media relationships mimic offline relationships. There are times when followers would certainly expect some reaction, clarification or communication from the organisation. He said,

“I have also realised that being timely for whatever we do as an organisation is important because we need to respond to the reactions to our posts in a timely manner. So it's almost like a physical relationship; communication is very important” (S07).

To ensure that the organisation can maintain opportuneness, participant S01 explains that they created a schedule and allocated personnel responsible for accessing and responding to the public on social media.

Overall, participant statements showed that social media had become an important part of nonprofits' organisation life, profoundly embedded in the organisation's routines. The fulfilments and values drawn from using social media were mostly about the reality of being connected and continuously interacting with real people in a virtual space, the value of keeping in touch, preserving organisation image, and communicating in a timely way.

8.7.3. First-Order Categories of Privacy-Related Constraints on Social media

With knowledge of the challenges posed by the internal and external operational environment, organisations gathering important clues about the constraints of social media that inhibit its use and devise ways to manage these constraints. The potential danger of social media to organisational privacy is a key constraint raised by participants. We asked them to elaborate on these privacy constraints or any other constraints that render social media use a threat to their organisations. They revealed two constraints, which include the difficulties in controlling conversations and information flow, and managing boundaries of interaction. Table 8-13 provides the number of references to social media constraints across the three case.

Table 8-13. Cross-Case Analysis: Categories under Privacy-Related Constraints

Cases		First-order Categories of Categories of privacy-related constraints	
		Control of conversations & Information flow	Managing boundaries of interaction
Health Service Organisations	H01	●	●
	H02	●	
	H03	●	
	H04	●	
Education Service Organisations	E01		
	E02		
	E03	●	
	E04	●	●
	E05	●	
	E06	●	
Social Service Organisations	S01	●	●
	S02	●	●
	S03	●	●
	S04	●	●
	S05		
	S06	●	
	S07	●	
	S08		
	S09	●	
Prevalence of categories		75%	25%
● means that this category was observed in this organisation			

Managing conversations and information flow. Organisations are conscious of the inability to remain in charge of the conversation and the information shared. We found 75% (n=33) instances

in which 4 HSO, 4 ESO, and 7 SSO participants revealed concerns relating to how social media makes it difficult to control the flow and direction of information and conversations. These constraints were coded as follows;

- Disclosing information and managing the conversation that follows (H01, H02, H03, H04, E04, E05, E06, S02, S03, S04, S06, S07, and S09)
- Preserving organisation image when sharing information (H03, E03, S01, S02, and S04)

According to participants, sharing information on social media implies that the organisation's information is susceptible to misinterpretation and misuse, which could damage the organisation's identity and reputation (H03). Much as sharing and tagging on social media boost information flow through the network, what is important is how this information is interpreted and used, whether it preserves privacy and confidentiality, and whether it relates to the organisation or not. Some participants mentioned that

"Always privacy and confidentiality are key, and we consider privacy when dishing out information regarding our concerns ... privacy for us is number one" (H01).

"As I said earlier we have a couple of guidelines and protocols, so usually before something is posted out it's reviewed" (H02).

"We do observe what we post ... we do not post things which are not concerned about our organisation" (E03)

Nonprofits continuously struggle to maintain a focused conversation. One participant (E03) mentioned that when interacting on social media groups, they are prompted to warn or block contacts that post privacy-violating content; not only for the organisation but also for the people they serve. To format information appropriately and determine their suitability for sharing on social media, some organisations ensure that two or three people review the information (E04 and E05).

Managing boundaries of interaction. It is important for the organisation to know more about the people with whom they interact. We also noted 25% (n=11) instances in which 1 HSO, 1ESO, and 4 SSO participants revealed difficulties of defining the nature of their social media interactions. These constraints were coded as follows;

- How to interact (H01, E04, S01, S02, S03, and S04)
- Whom do we interact with (H01, S01, S03, and S04)

According to participants, managing the boundaries of interaction, i.e., who to connect with could enable the organisation to formulate recipient targeted conversations or information. Participants mentioned that although social media connects them to the public, it does not sufficiently allow the organisation to know their followers. This is because of the impersonations through fake social

media accounts (E04). Interaction boundary issues also emerge as organisations seek to understand the most suitable ways to interact with specific audiences. Sometimes, it is about an ongoing conversation that could potentially spin out of hand and pose potential threats to organisation image.

8.7.4. Relationship between Social Media Structure and Service Co-creation

This Section explains the link between social media structure and SCC to provide answers to RQ3. We coded 22 references from 12 cases, across all three categories that indicate social media offers possibilities for public participation and support towards nonprofit activities. While Sections 8.7.1 to 8.7.3 explain the aspects of social media structure that act as mechanisms for SCC, this Section shows the link between those mechanisms and SCC. Observed relationships are summarised in the table below and presented visually in Figure 8-3 and NVivo project map 2 provided in Appendix J.

Table 8-14. Comparing Observed and Predicted Relationships between SMS and SCC

Relationships		Refs	Observed in Cases		Observed to the predicted pattern
Predicted ^a	Observed ^b				
P3 (SMS & SCC)	Social media affords the possibility to share service information and achievements, which attracts the public to offer supportive resources to boost or enable the delivery of nonprofit services (Observed Relationship 2a)	22	HSO ESO SSO	H01, H02, H04, E01, E02, E04, E05, S01, S02, S05, S08, S09	Strong
	Routinisation values encourage people to participate in co-creating services with the organisation (Observed Relationship 2b)	2	ESO	E01	Qualified
	Social media promotes privacy concerns, preferences and ideals, which emerge as a constraint to SCC activities (Observed Relationship 2c)	1	SSO	S01	Neutral
^a theoretically proposed association ^b pattern observed in the data <i>Strong</i> – the pattern observed in the data depicts the one predicted and appears in at least 2 cases <i>Qualified</i> – the pattern observed in the data depicts the one predicted but appears in one case only <i>Neutral</i> – the pattern observed in the data does not depict a predicted pattern but appears in a case					

A participant from an HSO indicates that communicating organisation activities on social media is not an end in itself but rather links their organisation to people who can offer to support and donate to facilitate their programs. He states,

“It’s always good to communicate the work we are doing because you never know who is watching. You never know who is following your program, and you never know who is interested

in your program. Sometimes, we get well-wishers who write to us and say we are interested in supporting some of the programs can you send us your account number and maybe we donate something little” (H04)

Similarly, another participant (EO1) from an ESO explains that leveraging the opportunities offered by social media has allowed their organisation to get closer to the community and work together with the community. He indicates that this has been possible because they are able to share information with the public, and they are able to keep the public at large or their target stakeholders informed about what the organisation does.

Another participant (EO2), also from an ESO, adds that some people come up to offer school fees, buy food, donate clothes to support the education for the children under the care of their organisation just because they got information from Instagram or Facebook. She acknowledges that information sharing on social media is a means to getting public involved and working with the organisation to provide and improve their services.

Observed Relationship 2a: For all the three cases, social media affords the possibility to share service information and achievements, which attracts the public to offer supportive resources to boost or enable the delivery of nonprofit services.

Further still, a case of an education and training services organisation indicates that maintaining productive and thriving social media interactions requires one to observe routine interaction. This keeps the organisation’s followers closely informed about its activities and encourages their participation in service delivery. EO1 indicates that posting almost every day on Facebook keeps followers in touch and updated about what the organisation is doing and this

Observed Relationship 2b: For ESOs, routinisation values encourage people to participate in co-creating services with the organisation

The findings provide above, generate reasonably strong evidence to support proposition 3, which purports an association between social media structure and the co-creation of nonprofit services. However, we also find that privacy concerns and preferences also play a significant role in shaping SCC activities designed by the organisation

To a small extent, we also found that privacy concerns, preferences and ideals impede social media efforts towards SCC. One participant (SO1) mentioned that they are concerned about fake people on social media who could forge their organisation’s accounts in the replication of their activities to solicit funds from their followers and donors. In some case, therefore, organisations would prefer to minimise the use of social media for raising financial support and focus on using it for

promotions and visibility activities. We considered this observation less influential because we lacked sufficient evidence to support it.

Observed Relationship 2c: For SSOs, social media promotes privacy concerns, preferences and ideals, which emerge as a constraint to SCC activities

8.7.5. Relationship between the Social Media Structure and OPI

While the previous Section explains how social media structure contributes to SCC, this Section explains how social media structure contributes to OPI, which completes our findings to RQ3. We came across 12 references from 6 cases in all three categories of nonprofits studied which suggest that nonprofits' use social media, for example, the possibilities for visibility and information sharing inform how the organisation will interact and relate with the public. The relationship between social media possibilities and OPI are presented visually in Figure 8-3 and NVivo project map 2 provided in Appendix J and summarised in Table 8-15 below.

Table 8-15. Comparing Observed and Predicted Relationships between the SMS and OPI

Relationships		Refs	Observed in Cases		Observed to the predicted pattern
Predicted ^a	Observed ^b				
P4 (SMS & OPI)	Recognising the values of routinisation and actuality improves the organisation's opportunities for visibility, reputation and social legitimacy (Observed Relationship 3a)	2	HSO	H01 and H02	Qualified
	The perception of vulnerability triggers a strong emphasis on privacy preferences to balance between productive and destructive interaction (Observed Relationship 3b)	3	HSO SSO	H01, H02, and S07	Neutral
	Organisational privacy concerns, preferences or ideals counteract the discoverability of the opportunities & possibilities offered (Observed Relationship 3c)	15	All cases	H03, E06, S01, S02, S03, S04, S06, S07, S09	Neutral
	Social media enhances recognition, conversation, openness, which allows organisations to build a sense of togetherness, appreciation and therefore the pursuit of a common goal (Observed Relationship 3d)	12	All cases	H01, H02, H04, E02, E05, S07	Strong
	Failing to offer prompt and well-timed communication and responses create doubt about organisational legitimacy and undermine social media interaction (Observed Relationship 3e)	1	HSO	H02	Qualified
	Organisational privacy preferences (i.e., regulations and ideal confidentiality) impede social media interaction (Observed Relationship 3f)	3	HSO SSO	H01, S03, S04	Neutral

	Organisational integrity builds trust and closeness, which allows organisations to cultivate relationships embedded with a sense of togetherness, appreciation and commitment (Observed Relationship 3g)	2	All cases	E02, E05, H02 and S07	Strong
	Organisations create goal-based relationships when their social media community believes in, and is interested in their services, activities and goals (Observed Relationship 3h)	2	ESO	E02 and E05	Qualified
^a theoretically proposed association ^b pattern observed in the data <i>Strong</i> – the pattern observed in the data depicts the one predicted and appears in at least 2 cases <i>Qualified</i> – the pattern observed in the data depicts the one predicted but appears in one case only <i>Neutral</i> – the pattern observed in the data does not depict a predicted pattern but appears in a case					

One participant expressed a view that, besides the fact that social media is an online environment, it more or less observes the fundamental principle of connecting with people and treating them as a family that lives together and strives to work together and achieve a common outcome that benefits all (H02). Another participant pointed out that when the organisation fails to maintain routine interaction, it tends to cast some seeds of doubt about the legitimacy of the organisation and could deter people from interacting with the organisations (H01). We find that,

Observed Relationship 3a: In HSOs, recognising the values of routinisation and actuality improves the organisation's opportunities for visibility, reputation and social legitimacy

While organisation have indicated that social media is perceived as a useful and valuable platform, they also recognise that social media is potentially dangerous. According to H02, they have put in place measures to control the information they share as well as avoid destructive interaction. Similarly, participant S07 mentions that they have come up with proactive strategies in preparation for moments when something goes wrong. Participant H01, says they concluded that they should implement some regulations with the Facebook group run by the organisation, such as the nature of posts and replies, and if any member fails to follow the set regulations, then that member has to be blocked from the group. Our findings suggest that organisations that have perceived social media as a potentially dangerous space are kin to implement some strategies to ensure organisation privacy, irrespective of whether such strategies limit public interaction.

Observed relationship 3b. In HSOs and SSOs, the perception of vulnerability triggers a strong emphasis on privacy preferences to balance between productive and destructive interaction

Our analysis indicates that organisations have many privacy concerns, preferences or ideals that dictate the ways and the extent to which they can use social media. For instance, multiple employees may verify the information to ensure that its contents protect the organisation's

reputation (E06). Other participants (H03, S02) indicate that in most cases, they will not share some information to ensure confidentiality of the people they have served or worked within previous or ongoing projects. In other cases, the services that the organisation offers involve sensitive topics, e.g., abortion and mental health that could be easily misconstrued and the organisation could be seen as promoting illegal or immoral activities according to some cultures. A participant from an HSO points out that issues of privacy, confidentiality, integrity are key in their decisions on how to post, what to post and how to deal with young people on social media who seem to constitute the larger percentage of their social media following. She says,

“Always privacy and confidentiality are key, and as you know, young people will start dishing out information without regard to our concerns. That is why privacy for us is number one” (H01).

Many organisations often consider their privacy concerns, preferences and ideals as the initial step in the use of social media, some participants mentioned that they are actively engaging organisation staff about privacy and making them aware that the data and information shared on social media should never compromise the expected level of privacy (H02). Other participants, such as (S08), mention that their organisations will not use images and videos although they believe that such formats convey their messages better and attract conversation (through comments and replies), applause (though likes) and amplification rates (through shares and retweets).

Observed relationship 3c. In all cases, organisational privacy concerns, preferences or ideals counteract the discoverability of opportunities or possibilities social media

Some participants indicated that using social media allows them to understand the status or quality of their relationship with the public. Responses to the organisation provide a sense of what the public has to say about its activities and the organisation at large, and this somehow provides an informal assessment of the quality of relationship with the community. A participant says,

“They try to follow our activities, they believe in what we do here, and that is the reason they like our posts. I have not got any negative comment about what we post. I believe that the relationship is good” (E02).

Another participant (H01) indicates that socialising with the public requires them to provide quick responses to public enquires and that the way to keep social media conversation going. We saw that keeping the conversation going represents the need for routinisation, as this is seen as the key to holding the organisation’s social media following. The participant said,

“We respond immediately to keep the conversation, by the time someone comes to your platform just know he needs something from you so if you do not get back to them; first, your following will go down, second they will start like doubting you if you're real. They may doubt the legitimacy of your organisation” (H01)

Another participant from an SSO, says that

“So, all this [togetherness and appreciation] depends mostly on recognition, openness, honesty, commitment, and so on” (S07).

This participant somewhat concludes that the properties embedded in organisation-public relationships will depend on using social media for visibility and reputation related affordances.

The findings above lead us to the conclusions that

Observed Relationship 3d: In all cases, social media enhances recognition, conversation, openness, which allows organisations to build a sense of togetherness, appreciation and therefore, the pursuit of a common goal in social media interactions.

Observed Relationship 3e: In HSOs, failing to offer prompt and well-timed communication and responses creates doubt organisational legitimacy and undermines social media interaction

As the threat to organisational privacy takes a central role in the use of social media, it also informs the extent to which the organisation interacts with the public. We found that organisations consider things such as whom do we interact with and how to interact with different individuals. Participants have indicated that they start with open interaction but monitoring these interactions is crucial to yielding useful conversations and preserving the organisation’s image and intentions on social media. A participant said,

“They [interaction] are open at first, everybody can join the platform, anybody can become a follower on our Instagram, but if they do not follow our regulations, we block them” (H01)

Some participants suggest that efficient interaction relies on understanding your audience, for example, young people, women, or vulnerable groups. Others mention that efficient interaction starts by understanding the kind of social media platform used. With such factors considered, they can choose to engage in high or low interaction. One participant says,

“Even when we are interacting with people, we sometimes have to keep the interaction low because we want to keep it private and we treat everything with a lot of confidentiality unless otherwise” (S04)

In consideration of privacy, organisations particularly choose low interaction with the public as opposed to high interaction. They relinquish the potential benefits of high interaction with the aim of preserving privacy.

Observed relationship 3f. For HSOs and SSOs, organisational privacy preferences (i.e., regulations and ideal confidentiality) impede social media interaction

Participants E02, E05 and H02 mentioned integrity and trust as essential elements that support the organisation’s relationship with the public. S07 indicates that honesty and integrity allow the

organisation to build togetherness, appreciation and commitment. E02 and E05 continue to indicate that the public also needs to believe in what the organisation does. Commonly, the people that follow and relate with the organisation are those who are interested in the organisation's services, activities and have a similar goal to that of the organisation (E05). Capturing public interest is, therefore, crucial in enabling its interaction with the public on social media. Based on the above observations we conclude that;

Observed Relationship 3g: In all cases, organisational integrity builds trust and closeness, which allows organisations to cultivate relationships embedded with a sense of togetherness, appreciation and commitment

Observed Relationship 3h: ESOs create goal-based relationships when their social media community believes in, and is interested in their services, activities and goals.

8.8. Organisation Generativity and Service co-creation on Social Media

This Section provides findings on how organisation generativity shapes social media structure, OPI and co-creation of services on social media. We identify generative capabilities possessed or acquired for productive social media interaction and SCC, generates answers to RQ4. In Table 8-16, we summarise a cross-case analysis of generative capabilities enabling social media use for public interaction and SCC.

Table 8-16. Cross-Case Analysis: Categories under Organisational Generativity

Cases		First-order Categories of Organisational Generativity			
		Digital spanning	Adaptiveness	Relationability	Learning capabilities
Health Service Organisations	H01				
	H02	●	●		
	H03	●	●	●	●
	H04	●		●	
Education Service Organisations	E01	●			
	E02	●		●	
	E03				
	E04				
	E05	●		●	●
	E06	●			
Social Service Organisations	S01	●	●		●
	S02	●		●	●
	S03	●			
	S04				●
	S05				●
	S06				
	S07	●			
	S08	●		●	
	S09	●			
Prevalence of categories		55.2%	10.3%	17.2%	17.2%
● means that this category was observed in this organisation					

SSO: Digital spanning is the most eminent generative capability for social media interaction in SSOs, followed by the learning capabilities. They also moderately rely on their relationability and adaptiveness to successfully interact on social media and drive SCC.

ESO: Like SSOs, ESOs rely mainly on digital spanning capabilities to productively interact on social media. They also rely somewhat on their relationability and learning capabilities to manage interactions and SCC. ESOs did not exhibit organisational adaptiveness as a capability for social media interaction and SCC.

HSO: Like the preceding cases, HSOs rely vitally on digital spanning capabilities for successful social media interaction and SCC. The relationability and adaptiveness of HSOs are critical for collaborative social media interaction towards SCC. Rarely do HSOs rely on learning capabilities for social media interaction and SCC.

Digital spanning. Majority of the participants (13 of 19) mention the importance of understanding the potential social media and aligning it to what the organisation intends to achieve from using

these platforms. This is the most observed category of organisational generativity with 32 references, where, HSOs (n=7), ESOs (n=12), and SSOs (n=12). This category was created using the following five codes.

- Skills, experience and training (H02, H03, H04, E01, E02, E05, E06, S01, S03, and S09)
- Keeping track of technology trends (H02, E01)
- Providing guidelines on using social media (S03, and S07)
- Providing IT support and resources (E01, E02, S01, S02, S08, and S09)

According to participants, it is important to equip people with the skills or build their experience in using social media for organisational purposes. To achieve this, some participants indicate that the PR office in their organisations employs qualified staff to do this work and offers continuous training. Understanding social media functionality is crucial to using social media effectively to achieve the intended purpose of the organisation. Further still, some organisations also provide sufficient social media support and resources such as access to the internet and devices. For instance, some participants mentioned that,

“We have the PR and the Director who guide us on how to interact with people on different social media platforms” (E02)

“We have training, like a team from overseas like Yona and friends have trained us on how, and what to post and update” (E02)

“One, we have a PR office that employs qualified staff, they are trained, they are professional, and they know how to do the work” (H02)

In other cases, participants indicate that using social media efficiently and appropriately is supported by an organisation policy, which would normally point out the extent of operations on social media, aims and objectives.

“We also have a social media policy, so everyone knows what he or she should post and should not. It is in the form of a handbook” (S03).

Another participant (S07) indicates that they provide guidelines on how to manage social media interaction. These guidelines specify privacy protection measures aimed to protect organisational image and reputation and minimise activities that could trigger a social media crisis.

Adaptiveness. Although not commonly observed in many cases, some participants (3 of 19) are convinced that being aware of, and keep up with, the dynamics and changes on social media is critical, and therefore they ensure to keep up with social media trends as a way of getting the most of these platforms. We coded organisational adaptiveness on social media as follows;

- Sensing opportunities (H02 and H03)

- Responding to opportunities (H02, H03, and S01)

Participant (H02 and H03) mentioned that they track and tap into the trends of social media to be able to obtain the full potential that these platforms can offer. One participant (H02) explains that sensing new trends does not necessarily imply that they will adopt these trends or make changes to their social media activities. The organisation will usually evaluate if these new features, functions or trends are fit for the activities or goal at hand.

Relationability. Some participants (6 of 19) referred to the ability to make social media contacts useful to the organisation as one of the key attributes that allow their organisations to make the most of social media. The ability to manage relationships with the public in the context of social media, involves organisations being able to do the following.

- Making productive contacts (H04 and S08)
- Creating long-lasting relationships (H04, E02, E05, and S02)
- Learning from the existing relationships (H03, E05, and S08)

A participant mentioned that networking is their key capability and that they create relationships with the view of maintaining such relationships and deriving functional value in the future rather than at the point of making these contacts (E05). Another participant indicated that the key capability of his organisation is the ability to utilise existing networks to get work done (S08). Some participants suggest that continuing to engage in productive social media interactions, they often learn from previous interactions. This allows the organisation to maintain or even improve its ability to leverage public relationships on social media. Participants indicate that they always devise ways to engage, improve and increase the size of their social media networks (H04) and such ways include training (E02).

Learning capabilities. Participants (6 of 19) mentioned that they have to continuously learn how to use social media as well as learn how to use these platforms to support their operations. The ability to learn is observed through the following activities or sub-codes.

- Learning as we do (H03, S01, S02, and S04)
- Learning from experience (H03, E05, and S01)
- Learning from others (S01 and S05)

At most, organisations make the most of social media by learning during the course of using these platforms. Sometimes it takes a survey for the organisation to know about its social media engagements, the conversations and the effectiveness of its communication style (S02).

Participants mention that over the time you learn how to relate and treat different followers (S01). Therefore, some participants have emphasised the importance of learning from experience in using social media. A participant mentioned,

“We learn from experience. If you don’t learn from experiences, you can’t move any further”
(E05)

In other cases, participants learn by looking at how other organisations use social media. They are then able to obtain some techniques that enable them to improve their own. For instance, one participant mentioned,

“We also learn some techniques from other organisations basing on what they post on social media” (S01)

While we traced four indicators of organisational generativity towards OPI and SCC on social media, participants often echoed two indicators. First, the majority of the participants repeatedly mentioned that they have to understand social media and apply its functionality appropriately to support certain goals of the organisation. Therefore, the alignment of social media to the routine operations of the organisation is a key enabler of productive interaction and public support and contribution to nonprofit services. Secondly, learning while using social media or learning from what other organisations do on social media is also an important generative capability in using and surviving the dynamics of social media.

8.8.1. Organisational Generativity Augments OPI and SCC on Social Media

In this Section, we present our findings on RQ4, which sought to examine how organisation generativity contributes to the structure of social media, OPI and ultimately SCC. Evidence from our cross-case analysis suggests that organisations build certain generative capabilities to improve their perception and discoverability of social media opportunities and possibilities, as well as leverage public interaction on social media for SCC. The relationship between organisation generativity, interaction and SCC is presented visually in Figure 8-3 and NVivo project map 2 provided in Appendix J and summarised in Table 8-17.

Table 8-17. Comparing Observed and Predicted Relationships between Generativity, SMS, OPI and SCC

Relationships		Refs	Observed in Cases		Observed to the predicted pattern
Predicted ^a	Observed ^b				
P5 (OG & SMS)	Reflecting and learning from prior use of social media, identifying skilled personnel, and providing sufficient technology resources facilitates the discoverability of social media possibilities (Observed Relationship 4a)	7	All cases	H02, E01, S01, S02, S05	Strong
	Reflecting and learning from prior use of social media, advice from experienced colleagues, identifying skilled and experienced personnel and offering social media guidelines draws attention to privacy concerns, preferences and ideals (Observed Relationship 4b)	1	SSO	S02	Neutral
(OG & OPI)	Networking, creating good long-lasting relationships, learning from other organisations, and offering social media guidelines improves the organisation's interaction with the public on social media. Short of such skills and capabilities the organisation will have limited productive interaction (Observed Relationship 4c)	4	ESO SSO	E02, E05, S01	Qualified
(OG & SCC)	Networking, creating good long-lasting relationships, keeping up with technology trends, and learning from other organisations enables nonprofits to leverage social media for SCC (Observed Relationship 4d)	3	All cases	H02, E02, S01	Strong
^a theoretically proposed association ^b pattern observed in the data <i>Strong</i> – the pattern observed in the data depicts the one predicted and appears in at least 2 cases <i>Qualified</i> – the pattern observed in the data depicts the one predicted but appears in one case only <i>Neutral</i> – the pattern observed in the data does not depict a predicted pattern but appears in a case					

Five (5) participants from ESOs and SSOs relate collaborative use of social media to their organisational capabilities. According to participant (E01), they are able to use social media because the organisation provides sufficient resources specifically targeted to supporting social media activities. They also align social media to specific organisation routines and procedures and therefore, make necessary budgetary provisions to support this. Such efforts include acquiring staff with sufficient social media skills (E01), or working and collaborating with IS departments to keep track of social media trends and devising ways to share this information (H02). Other participants from SSOs say they have worked well with their social media followers because they continuously learn new ways to leverage the opportunities that emerge. One states,

“We also keep learning of new opportunities. This has greatly helped us grow and also has helped us improve our operation” (S01)

In addition, the organisation may have to gather some insights through surveys to acquire sufficient

knowledge that improves their ability to socialise better on social media (S02). The surveys inform the organisations about the nature of their conversations and how best these conversations can be managed to improve the way they interact (S02). In another organisation, the participant informs us that they compare their performance with other organisations, and they try to learn from organisations that have better social media performance (S05). There is strong evidence to suggest that acquiring knowledge and learning about social media is a key capability that supports the organisation to generate new ways and potential to use social media. These observations confirm that generative capabilities, particularly, learning capabilities and digital spanning, enhance the action possibilities of social media in nonprofits (proposition 5a).

Observed relationship 4a. In all cases, reflecting and learning from prior use of social media, identifying skilled personnel, and providing sufficient technology resources facilitates the discoverability of social media possibilities

Participants indicate that from their experience in using Social media, reflecting on prior experience in social media challenges, keeping pace with social media trends, and learning from past encounters from within the organisation and other organisations are key abilities that allow them to envision the potential threats to organisational privacy that could arise from the uncontrolled use of social media. A participant (S02) for example, mentioned that they have learnt that as social media users, organisations have minimum control over the content posted and the arising conversation, it can easily spiral out of control, be irretrievable, or some people may trivialise, inflate or deflate the issue. The organisations cannot undermine the impact of their messages on social media. Their strategy is to continuously reflect, learn and find new ways to cope with such dynamics and maintain their social media activities. Such ways also included identifying and training social media representative who can protect the organisation's image but still leverage the advantages of social media. Another participant (E01) adds that the organisational representative on social media could be the source of social media "catastrophe". Therefore, they are wary of the possible dangers of social media and have to ensure that the organisation promptly responds to potential threats and ensure to double-check content before posting to avoid triggers of viral conversations.

Observed relationship 4b: In SSOs, reflecting and learning from prior use of social media, advice from experienced colleagues, identifying skilled and experienced personnel, and offering social media guidelines draw attention to privacy concerns, preferences and ideals

Some participants relate the effective use of social media for public interaction to the fact that they

are given the opportunity to learn from senior colleagues through training and casual advice. According to participant E02, they build good relationships with the public through social media because they get training and advice on interacting with people from executives, such as their public relations officer and the director. We coded training and advice from executives as learning by doing because participants indicated that this does not occur as formal training but occurs as ongoing informal learning as they use and navigate different social media platforms. Additionally, participant S01 indicates that learning from other organisation is the key to improving their interaction with the public. She says that from other organisations, they have learnt multiple techniques and opportunities for relating with the public on social media.

“We have also learnt from other organisations basing on what they post on social media. We learnt the different techniques one can use online. We also keep learning of new opportunities. This has greatly helped us grow and also has helped us improve our operation and how other staff or other administrators relate with our social media followers because mainly every social media activity or lesson we learn we love to implement it in our own organisation” (S01)

Besides reflection and learning capabilities, another participant (E05) adds that their networking abilities have allowed them to create long-lasting relationships. She states,

“Networking is number one on our list [of capabilities], and we do create relationships that we are looking to keep for a long time, and we concentrate on the strengths that we have as an organisation” (E05)

Reflection from prior and ongoing use of social media, learning from colleagues and other organisations, as well as the organisation’s networking capabilities, are a help to improve and create long-lasting OPI and relationships.

Observed relationship 4c. In ESOs and SSOs, networking, creating good long-lasting relationships, learning from other organisations, and offering social media guidelines improves the organisation’s interaction with the public on social media. Short of such skills and capabilities, the organisation will have limited productive interaction

The organisation ability to rejuvenate, procreate and operate in new ways, technically known as generativity, through continuous reflection and learning, and sensing technology opportunities allows organisations to use such opportunities to achieve their service-oriented goals. A participant (H02) explains that keeping pace with different kinds of technology, not only social media has enabled their organisation to quickly sense emerging trends and opportunities. Adopting these trends and leveraging opportunities depends on whether or not such trends are fundamental to the operations of the organisation or offer some kind of strategic importance (H02). Another participant (S01) indicates that learning from other organisations has enabled them to identify a range of social media activities that are suitable for their organisation and those activities have

helped to adopt new ways to relate with the public and attract public attention, involvement in and support for the organisation's services.

Observed relationship 4d. In all cases, networking, creating good long-lasting relationships, keeping up with technology trends, and learning from other organisations enables nonprofits to leverage social media for SCC

Overall, we find that learning from other organisations, reflecting and learning from previous use of social media, the ability to make long-term relationships, tracking social media changes, understanding the organisation's strengths, researching, and using social media in ways that fit best to the organisation are necessary capabilities for productive use of social media. Organisational generativity allows the organisation to discover social media possibilities, interact productively with the public and attract individuals to work together with nonprofits to co-create services.

Figure 8-3. Observed Relationships between Organisational Generativity, SMS, and OPI and SCC

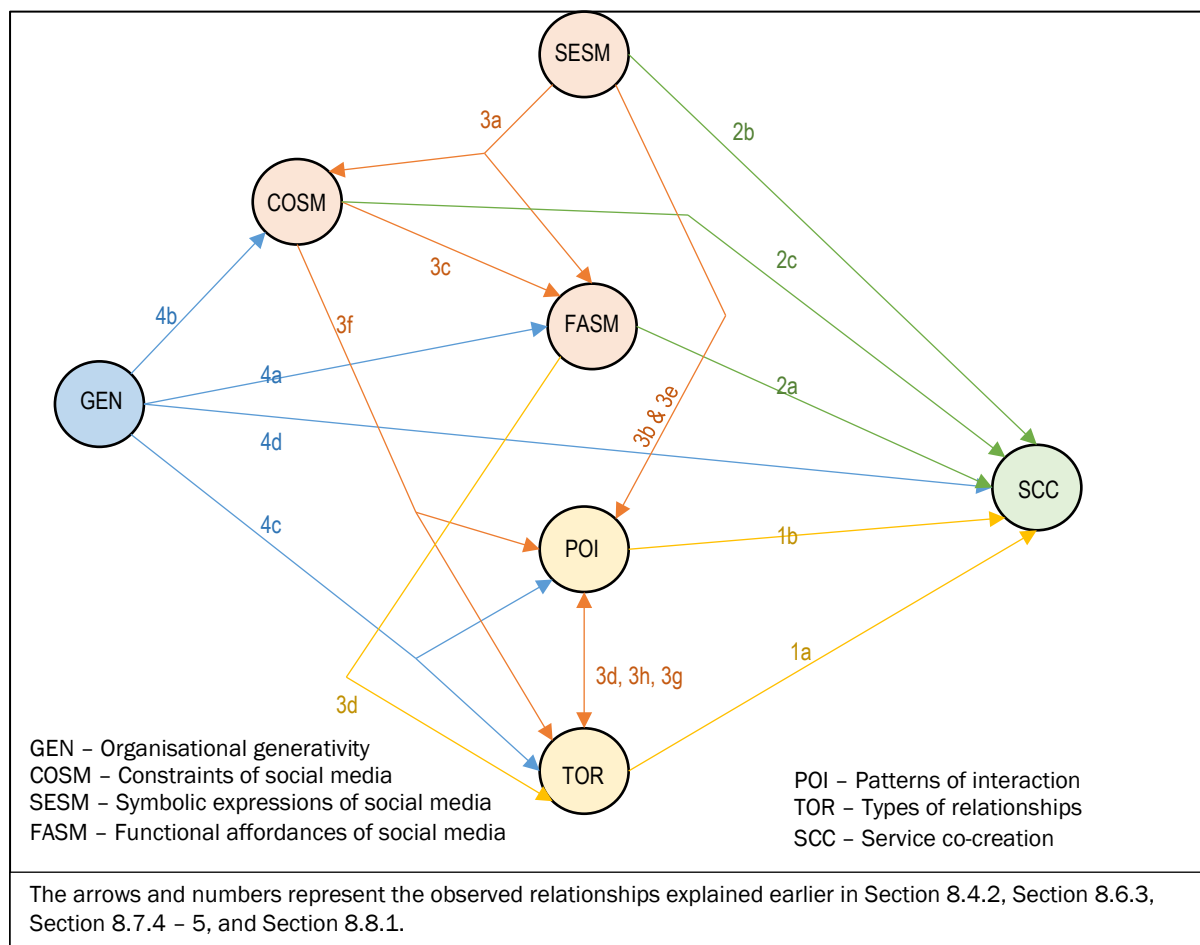


Figure 8-3 is a visual representation of the model for realising SCC based on our observations from multiple case studies conducted in this study. The relationships below are based on the NVivo output provided in Appendix J and explained in Sections 8.4.2; 8.6.3; 8.7.4 – 5, and 8.8.1.

8.9. Chapter Summary

This Chapter presented our interview data analysis. It provided a cross-case analysis of social media enabled SCC, which provided findings on the fundamental aspects of social media enabled SCC. These aspects included SCC, social media structure, nonprofit-public interaction, and organisational generativity. The Chapter explains the relationship between categories of SCC, which revealed that co-ideating on social media could support many other forms of SCC while co-progression of services is usually the resulting outcome realised by nonprofits on social media. Lastly, this Chapter explained the relationship between the mechanisms provided by social media and SCC. In this Chapter, we compared the patterns of observed relationships from the data to our predicted relationships, as stated in a priori propositions.

Chapter 9. Interpretation, Discussion and Conclusion

By conducting a convergent mixed methods study, as described in Chapter 6 Section 6.4, we gathered both quantitative and qualitative data using survey and interviews, respectively. Chapter 7 presented the measurement and structural analysis of the research model in Figure 5.1 – see (Chapter 5 Section 5.1) based on survey responses, while Chapter 8 presented a cross-case analysis of the research model based on semi-structured interviews. In this Chapter, first, we present an integrated interpretation of the results-based Chapters 7 and 8. Second, we present meta-inferences and discussion of propositions and lastly provide conclusions about the thesis.

9.1. Integrative Interpretation of Findings

This Section provides an interpretive integration¹³ of the quantitative and qualitative findings to answer the research questions presented in Chapter 1. Our aim for conducting a mixed methods study was to corroborate and complement findings; however, the inferences from the quantitative and qualitative analysis may or may not corroborate one another but may provide new insights into the phenomenon (Maxwell & Mittapalli, 2010). The integration of findings is based on the merging approach, which brings two data sets for final analysis and comparison (Fetters et al., 2013). The integration of the methods used in this study occurs through merging databases, which is a highly recommended approach for convergent mixed method studies because it enables the researcher to connect previously separate databases (Fetters et al., 2013; Guetterman et al., 2015). We merge and interpret our results using joint displays that place the quantitative results side by side with qualitative results (Fetters et al., 2013; Guetterman et al., 2015). This Section, therefore, integrates quantitative and qualitative results to answer the research question, which states that

How do nonprofits' interactions with the public on social media contribute toward service co-creation?

¹³ Also known as **theoretical integration** Moran-Ellis, J., Alexander, V. D., Cronin, A., Dickinson, M., Fielding, J., Sleney, J., & Thomas, H. (2006). Triangulation and integration: processes, claims and implications. *Qualitative Research*, 6(1), 45-59. <https://doi.org/10.1177/1468794106058870>

To answer this question, we subdivided it into four sub-questions. Each sub-question, from 1 to 4, is addressed in the Sections 9.1.1 to 9.1.4, respectively.

9.1.1 Forms of (Nonprofits) Service Co-creation Realised on Social Media

This Section presents the answers to RQ1, which sought to explore the forms of service co-creation (SCC) realised through social media by nonprofits. This sub-question states that

RQ1. What forms of service co-creation do nonprofits realise through social media?

Given that SCC will vary from one context to another depending on the nature of services provided, our findings suggest that nonprofits realise seven forms of SCC through using social media. Table 9-1 provides a side-by-side display of the quantitative measures of nonprofits SCC and the qualitative themes of nonprofits SCC.

Table 9-1. Comparing Results on Forms of Service Co-Creation

Forms of SCC Realised	Findings by Data Type		Findings by Integration		
	Quantitative Results for Survey	Qualitative Themes from Interviews	Convergent	Complementary	Divergent
Co-ideating	Factor 1 (AVE = 0.51; C.R. = 0.95). Retained two measurement items – sharing ideas ($\lambda=0.72$) and selecting useful ideas ($\lambda=0.69$) to enhance our services	Theme prevalence 13% Yielded three codes, gathering (57.7%), selecting (30.8%) and acting on ideas (11.5%).	Sharing & gathering ideas Selecting useful or potential ideas for enhancing services		“acting on ideas gathered from social media” was rejected at CFA but emerged as a child code in the thematic analysis
Co-resourcing	Factor 2 (AVE = 0.72; C.R. = 0.99). Retained three measurement items – getting in touch with people who can work with us ($\lambda=0.88$), attracting voluntary support ($\lambda=0.85$), getting donations ($\lambda=0.81$)	Theme prevalence 30% Yielded four codes getting volunteers (32.3%), donations (37.4%), partnering (20.3%) and alerting the organisation (4.7%)	getting in touch with people who can work with us attracting voluntary support getting donations	Alerting the organisation when things go wrong	
Co-advocating	Factor 3 (AVE = 0.70; C.R. = 0.97). Retained two measurement items – Co-advocating & campaigning ($\lambda=0.75$) and Getting	Theme prevalence 18% Yielded four codes, advocating (30.6%), getting ambassadors (2.8%), getting more	Advocating & campaigning on services Getting more people involved	Getting people who can speak on our services (promotion ambassadors)	“Getting people to know about our services and contributions” was rejected at CFA but

	more people to benefit or support ($\lambda=0.92$)	people involved (52.8%), and getting people to know our services (13.9%)	by benefiting or supporting		emerged as a child code in the thematic analysis
Co-progressing	Factor 4 (AVE = 0.56; C.R. = 0.93). Retained two measurement items – Aligning services to what matters to the community ($\lambda=0.69$) and Using feedback to improve services ($\lambda=0.79$)	Theme prevalence 12% Yielded four codes, Aligning with what matters to the community (56%), Using feedback to improve services (25%), creating alternative services (25%) Shaping target service transformations (4%)	Aligning with what matters to the community Using feedback to improve services	Following public voices to create alternative services	“Transforming services to target specific groups or situations” was rejected at CFA but emerged as a child code in the thematic analysis
Co-experiencing	Factor 5 (AVE = 0.49; C.R. = 0.94). Retained two measurement items – sharing experiences about the services we offer ($\lambda=0.72$) and relating stories about our services from the community ($\lambda=0.68$)	Theme prevalence 6% Yielded two codes, bringing together related experiences (25%) and sharing stories on our page (75%)	Bringing together related experiences with our services Sharing and comparing stories		
Co-assessment	Emerges as Factor 6 in the EFA with 3 measurement items but was removed at CFA	Theme prevalence 17% Yielded three codes, recognising relevant services (23.5%), recognising service gaps (41.2%), and voting on services (35.3%)		Voting on services	Co-assessing was rejected by the CFA but emerged strongly as a theme in the thematic analysis
Co-diagnosing	Not investigated and not observed as a factor in the EFA	Theme prevalence 5% Yielded three codes, getting insight on issues or extent of the problem (33.3%), people saying what they need (44.4%), discussing possible solutions to problems (22.2%)		Co-diagnosing is a potential form of SCC on social media	
λ represents the factor load of items in the measurement model AVE – average variance extracted C.R. – composite reliability EFA – exploratory factor analysis CFA – confirmatory factor analysis					

In *proposition 1*, we posited that nonprofits realise multiple interrelated forms of SCC. The findings in Table 9-1 show that nonprofits realise seven (7) forms of SCC. The organisation is a key initiator and the facilitator of nonprofits SCC on social media, and from time to time, it strategically encourages its followers to contribute towards an intended aspect of their service. The public, or followers, on the other hand, play an active, direct, indirect or passive role in SCC. The findings from the survey and multiple case studies considered together provide the following forms of nonprofits SCC, as presented in the order of most observed to least observed.

Co-resourcing for service delivery occurs as organisations leverage public interaction on social media to call for, and gather donations, which can be financial as well as material, e.g. food, housing and clothing, and support ranging from volunteering, emotional support, to recognition and appreciation as a way to facilitate the provision of existing services to target individuals, groups or communities. Most commonly, organisations post information that describes the nature of service and intended service targets. This is some kind of target-based interaction, e.g., raising a certain amount of money, and supporting a given number of children. In other cases, the nonprofits post information that describes how their services provide a solution to the needs of certain individuals, groups, or communities. The proposed solution is largely compelling and attracts people to commit resources to support activities, which emerges as solution-driven interaction.

Co-advocating as a way of promoting nonprofit services occurs as the organisation encourages and relies on its followers to use community-driven social media functions, such as tags, shares on Facebook, and retweets on Twitter to make the message known and spread the word out across their friend lists. Social media networks support the spread of advocacy messages by triggering those concerned about the issue to co-advocate for a target goal or proposed solution. Co-advocating and campaigning involve organisation-to-group advocacy, individual-to-individual advocacy, peer recommendation or referrals, which together bolster the organisation's message and opens the organisation to get more people involved either as beneficiaries or as donors/supporters/volunteers.

Co-assessing occurs as organisations rely on social media reviews and applause, i.e., number of likes, shares, views, positive/negative comments to assess public response on the contribution and relevance of their services to the communities they serve. Organisations use social media as a feedback mechanism through which the public, playing an indirect role of assessors, send feedback through direct comments, or indicators such as interpreting emoji or likes analysed as "a vote in support of" the information shared, activities presented in the posts, proposed idea, etc.

Co-ideating occurs when organisations present key ideas that drive the nature of their services and utilise public interaction on social media to gather ideas (could be random ideas)¹⁴, select potentially useful ideas, and refine ideas to create relevant services. Co-ideating requires the organisation to initiate interaction by presenting new ideas and seeking people's opinion, or request for ideas for a proposed service intervention. Occasionally, a few ideas (mostly mentioned in comments) or pointers to certain ideas (given examples from different contexts, most liked or not liked suggestions) emerge organically during the interaction. The organisation should have the potential to sense and take note of these ideas and pointers.

Co-progressing of nonprofit services involves continuously effecting service changes in response to changing needs, emerging concerns, shortfalls, public outcry on social media; these changes occur as the organisation seeks to improve the value and relevance of its services. Social media provides an alternative place that brings together different individuals, groups, communities, and other organisations to work with the organisation towards creating better interventions that can work in the context of the lives of different people they serve and improve outcomes. Organisations that leverage public engagement on social media for co-progression of services will also be using social media for co-ideating, co-assessing and co-resourcing for service delivery. Organisation focus on using social media to capture feedback that helps them align services to what really matters to the people they serve. By gathering, analysing and interpreting all sorts of social media feedback, an organisation learns from what their followers have to say and ultimately takes note of alternative activities or services that could improve their service outcomes.

Co-experiencing relates to collective service experiences shared on social media through stories. This involves sharing experiences, which starts with the organisation providing a storyline of the events before, during and after service interventions, activities or programs. The organisation's social media followers increasingly add colour to the organisation's storyline by adding their personalised experiences with the organisation's activities and services at different stages of service provision.

Co-diagnosing relates to social media providing a space for the public voice to say what is actually happening in the offline communities, offer fruitful insight into the issues surrounding the organisation's services and essentially contributing towards shaping service concepts, interventions and programs. Co-diagnosing allows the organisation to make an abstract conceptualisation of their services triggered by the conversations on social media.

¹⁴ Ideas that may not relate to the topic of discussion, question asked or issues of concern to the organisation

Figure 9-1 provides a summary of the forms of SCC enabled by social media that should attract the attention of nonprofits. The forms in Figure 9-1 are arranged from the most observed forms to the least observed forms

Figure 9-1. Co-Creation of Nonprofit Services on Social Media Mapped into Seven Forms

Co-Creation Of Nonprofit Services through Social Media Mapped Into Seven Forms			
Co-resourcing 	Co-advocating 	Co-assessing 	
1.1. Getting voluntary support 1.2. Gathering donations 1.3. Identifying and working with influencers and lead followers 1.4. Recognising the intangibles, e.g., alerts, requests & needs	2.1. Boosting online campaigns 2.2. Getting more people involved 2.3. Getting people to know about the organisation and its services 2.4. Getting promotion ambassadors	3.1. Recognising relevant services 3.2. Gathering feedback on service gaps 3.3. Reviewing (and voting) on services	
Co-ideating 	Co-progressing 	Co-experiencing 	
4.1. Gathering potential ideas 4.2. Selecting useful ideas 4.3. Listening to people and acting on ideas	5.1. Aligning with what matters to the people 5.2. Using feedback to improve services 5.3. Recognising alternative services 5.4. Shaping targeted service transformations	6.1. Gathering common experiences 6.2. Sharing stories	
Co-diagnosing 	Complementary observations		
7.1. Gathering insights on, and extent of issues 7.2. Getting people to say what needs to be done 7.3. Shaping service solutions through conversations	1] Three actors are involved in nonprofit SCC on social media a. A nonprofit organisation, as the initiator and facilitator b. The public, as direct or indirect contributors and receivers c. Social media tools, as a place of interaction and enabler 2] Forms of SCC do not occur in isolation, some forms of SCC facilitate other forms – See Figure 8.2		

We identified seven forms of SCC in nonprofits, and these do not exist in isolation of one another but are interrelated. The case studies reveal that the observed forms of SCC are not an end in themselves but occur simultaneously or influence the realisation of other forms of SCC. First, co-ideating and co-experiencing are antecedents of other forms and therefore play a central role in enabling other forms of SCC. Second, when organisations pursue other forms of SCC, they inherently achieve co-progression of services, as a key ensuing form (i.e., outcome) of SCC. Other forms of SCC, particularly, co-diagnosing, co-resourcing, co-advocating and co-assessing act as mechanisms enabling co-progression of nonprofit services through public support on social media.

Below is a detailed account of the relationship between different forms of nonprofit SCC. Organisations may expect that forms of SCC will support each other in the following ways.

1. When the organisation leverages public interaction for co-ideating on service solutions, this allows the organisation to also co-assess its services and co-diagnose service needs, where there is often a reciprocal association between co-assessing and co-diagnosing of services. Co-ideating makes the public quite familiar with the organisation's activities and therefore makes it easier for the organisation to encourage their contacts in co-resourcing for service delivery. Social media followers often provide hints that the organisation picks up by gathering random ideas and selecting potentially useful ideas, which ultimately triggers co-progression of services in response to what matters to the community.
2. Co-assessing of services also serves as a pathway towards co-advocating for the services, where many likes and shares not only indicate approval or appreciation of services but also attract attention towards the organisation's activities. As the organisation gathers and interprets what people say on social media, it learns and improves its services for better outcomes, which serves as co-progressing of nonprofit services.
3. There is a reciprocal association between the social media activities for co-resourcing and co-advocating for service delivery; for example, social media campaigns and mobilisation of donations. Increasing social media applause, i.e., likes, shares, and views, attract voluntary support and donations for delivery of services. On the other hand, as the organisation continuously works together with the public to deliver services, it receives increased applause on social media, which traverses through its social media network.
4. Co-experiencing of services through sharing on social media attracts the public to offer resources to support the delivery of nonprofit services. The organisation's storyline on the events before, during and after service provision, supported by applauses and supporting stories from others lift public support in the delivery of their services.
5. Co-progressing of services is the ultimate focus of nonprofit SCC and several other forms of SCC, particularly, co-ideating, co-assessing, co-resourcing in service delivery, and co-advocating for services, facilitate organisations efforts to improve service relevance and outcomes.

9.1.2. Organisation-Public Interaction and Service Co-creation on Social Media

This Section presents the answers to RQ2, which sought to explain how organisation-public interaction (OPI) on social media contributes to co-creation of nonprofit services by identifying the

patterns of interaction and types of organisation-public relationships involved. This research question states

RQ 2. How do nonprofits interact with the public on social media, and how does this interaction contribute to service co-creation?

To answer this question, we explain, in Section 9.1.2.1, how nonprofits interact with the public on social media, and explain, in Section 9.1.2.2, how OPI on social media contributes to SCC.

9.1.2.1. How Nonprofits Interact with the Public on Social Media

To answer the first part of this research question, we investigated the patterns of interaction and types of relationships between nonprofits and the public on social media. Table 9-2 below provides an integrated interpretation of the survey and case study findings.

Table 9-2. Comparing Results on Patterns of Interaction and Types of Relationships

Constructs	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Patterns of interaction	Cohesive (AVE = 0.60; C.R. = 0.97). Strong (AVE = 0.52; C.R. = 0.89). Symmetrical (AVE = 0.53; C.R. = 0.91).	Cohesive (34.3%) Strong (26.1%) Similarity-based (10.5%) Symmetrical (28.6%)	There are three patterns of interaction Cohesive Strong Symmetrical		The survey rejected similarity-based interaction as a measure of OPI Case studies reveal similarity-based interaction
Types of relationships (P2)	Communal (AVE = 0.49; C.R. = 0.95) Exchange (AVE = 0.65; C.R. = 0.93) Symbiotic (AVE = 0.71; C.R. = 0.94)	Communal (73.3%) Symbiotic (20%) Exchange (6.7%)	Organisations create three types of relationships Communal Symbiotic Exchange		

The interpretation provided in Table 9-2 above responds to how organisations interact with the public using social media. First, OPI on social media can be described by four (4) patterns of interaction, i.e. strong, cohesive, symmetrical, and similarity-based interaction.

1. In most cases, organisations engage in cohesive interaction, which occurs when OPI on social media revolves around a sense of commitment to a goal, closeness and togetherness between the organisation and target groups. Cohesiveness also occurs in cases where the organisation recognises appreciation, morale and encouragement from its followers.
2. Organisations tend to engage in strong interactions, which involves frequent or regular contact through posting and responding to maintain the organisation's presence on social media. Strong interaction also involves engaging target individuals in a broad, deep or extended discussion of issues and concerns. Organisations engaging in strong interactions attain some level of emotional connection and support.
3. Organisations also participate in symmetrical interaction where they seek two-way dialogic communication, by regularly responding to comments, answering or asking questions, and ensuring openness during interactions. Symmetrical relationships also occur as organisations appreciate that social media is about the exchange of ideas and differing opinion, so the organisations often seek to achieve mutual understanding.
4. Case studies show that organisations occasionally participate in similarity-based interaction where the organisations connect and interact with individuals who have an interest in the organisation's activities and are moved by their goals and values. For instance, some people follow the organisation because it fights for children, or women, supports persons with disabilities, or because it offers HIV/AIDS support. Other sources of similarity are regions, where people from a certain region interact with the organisation because it operates in their region.

On the other hand, organisations use social media to build relationships that involve the give and take of social support resources for either the organisation or the public, and such relationships are coined as communal, symbiotic or exchange relationships.

1. Most commonly, nonprofits build communal relationships by showing greater concern for the community and a drive to address community needs. In communal relationships, organisations interact more openly and work strongly to achieve organisation-public co-operation and synergy.
2. In symbiotic relationships, as the closest alternative, organisations strive to work with the community to fulfil a common interest. Such relationships are mutually beneficial for the organisation as well as the public. Organisations that strive for such relationships view social media interaction as a strategy for collective effort or supportive interaction to achieve social goals.

3. Occasionally, organisations build exchange relationships where the organisation does not necessarily expect to trade benefit with the community, i.e., reciprocation of offers, but to some extent, it expects that its interactions with the public will lead to some benefits that can support their services.

9.1.2.2. How Organisation-Public Interaction on Social Media contributes to Service Co-creation

This Section responds to the second part of RQ2. It shows how patterns of interaction and types of relationships presented in Section 9.1.2.1 above relate to SCC. Table 9-3 compares and integrates the survey and case study observations to answer RQ2.

Table 9-3. Comparing Results on the Relationship between OPI and SCC

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Organisation-public interaction and SCC (P2)	Communal & symbiotic relationships positively affect SCC (H1a & H1c) Exchange relationships do not affect SCC (H1b)	Sense of commitment, loyalty, recognition and common goal encourage SCC (OR1a) ¹⁵	Communal and symbiotic relationships attract SCC (H1a, H1c and OR1a)	Exchange relationships do not attract SCC (H1b)	
	Cohesive and strong interaction positively affect SCC (H1d-e) Symmetrical and similarity-based interaction do not affect SCC (H1f-g)	Public interaction based on values of common interest, closeness, loyalty, and recognition attract participation in SCC (OR1b)	Strong and cohesive interactions facilitate SCC (H1d-e, and OR1b)	Symmetrical interactions do not facilitate SCC (H1f) Cohesive interactions are a stronger mechanism for SCC	While QUAN results reject the hypothesis that similarity-based interaction affects SCC (H1g), QUAL results suggest that common interest attracts public participation in SCC (OR1a)
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

¹⁵ We use the acronym “OR” to indicate *Observed Relationships* from the cross case analysis. H represents Hypothesis tested with the survey data

Proposition 2 presented the argument that organisation–public interaction on social media (i.e., certain types of relationships and embedded patterns of interaction) provide the mechanisms for co-creation of nonprofit services on social media.

First, communal relationships, (i.e., building relationships based on a sense of commitment, loyalty, and recognition) and symbiotic relationships commonly based on common goals such as tackling similar social challenges are key relational mechanisms for SCC in nonprofits (H1a, H1c and OR1a); however, symbiotic relationships provide a stronger mechanism for SCC. Both types of relationships are inclined to attract SCC than exchange relationships. Although exchange relationships have been associated with dialogue, which is good for collaborative processes, such relationships have not supported SCC activities on social media (H1b).

Second, how nonprofits interact with their followers facilitates SCC, in that strong interaction (i.e., frequent interaction with a breadth of issues up for discussion) and cohesive interaction (i.e., fostering a sense of closeness, similar values and concerns) provide better mechanisms of SCC than two-way symmetrical interaction (H1d–e, and OR1b). In the above instance, cohesive interactions provide a stronger mechanism for SCC. Case studies do not explicitly suggest that symmetrical interaction directly enables SCC. However, the survey results suggested that such interaction favours exchange relationships, which could draw the organisation and the public towards common goals that would then attract SCC activities. Similarity-based interaction may or may not facilitate participation in SCC, depending on the point of common interest (OR1a or H1g).

9.1.3. Social Media Structure for Service Co-creation in Nonprofits

This Section presents the answers to RQ3, which sought to explain the functional affordances (i.e., the action possibilities afforded) and symbolic expressions (i.e., the meaning and values conveyed) by social media to nonprofits and how they relate to co-creation of nonprofit services. This Section responds to the question that,

RQ3. How does the structure of social media contribute to OPI and service co-creation in Nonprofits?

We provide integrated findings on the above question in Section 9.1.3.1, which summarises the action possibilities, meaning and values derived by nonprofits from social media. Then, Section 9.1.3.2, which summarises the relationship between action possibilities and meanings and values, and co-creation of nonprofit services. Lastly, in Section 9.1.3.3, we summarise the relationship

between action possibilities, meanings and values of social media, and the organisation's interaction with the public.

9.1.3.1. Social Media Structure in Nonprofits

Functional affordances (Action Possibilities) of Social Media. The survey in Chapter 7 and the case studies in Chapter 8 suggests that social media affords nonprofits several action possibilities to achieve their goals. Table 9-4 provides a side-by-side comparison of such action possibilities as generated from the survey and the case studies.

Table 9-4. Comparing Results on the Functional Affordances (and Constraints) of Social Media to Nonprofits

Construct	Findings by Data Type		Findings by Integration		
	Quantitative Results for Survey	Qualitative Themes from Interviews	Convergent	Complementary	Divergent
Functional affordances of social media	Retained three factors – Visibility (AVE = 0.50; C.R. = 0.96), Information sharing (AVE = 0.47; C.R. = 0.95), and Socialising (AVE = 0.47; C.R. = 0.96)	Confirm five action possibilities of social media: Visibility for reputation building (24.9%), Information sharing (24.9%) Socialising for community creation (33.7%) Calling for action (9.8%) Knowledge conversations to increase awareness (6.7%)	visibility for reputation building Information sharing Socialising for community creation	Knowledge conversations to increase awareness	“calling for action” does emerge in the survey but emerged as a theme in the case studies
Semantic constraints of social media	Not identified	Managing conversations and information flow (75.6%) Managing boundaries of interaction (24.4%)		Two potential constraints; Managing conversations and information flow Managing boundaries of interaction	
AVE – average variance extracted C.R. – composite reliability					

According to Table 9-4, social media offers five action possibilities for nonprofits to achieve their intended goals, i.e., visibility for reputation building, information sharing, socialising for community creating, knowledge conversations for increased awareness, and calling for action.

Most commonly, social media affords nonprofits to socialise and create a community of people who receive, give or support nonprofit services. Social media also affords nonprofits to communicate and share information in various formats, but the use of images is a more sought-after option than the use of text. With the ability to socialise, create community and share information, nonprofits can increase their visibility and build their reputation by tackling particular social challenges, which is essential for the organisation to achieve social approval and recognition. Visibility is central in attracting or deterring public support for nonprofits. Case studies indicate that social media creates a collective knowledge system, which affords nonprofits to share knowledge with the public to increase public awareness; while on the other hand, it allows the organisation to capture crystallised knowledge that could improve their understanding of the challenges at hand.

Although our survey findings did not indicate that calling for action is a common affordance, according to the case studies, some nonprofits call for collective action to support their goals and mission, which manifests in the form of volunteering, event attendance, advocacies, and opening discussions on emerging issues.

As organisations discover and actualise the possibilities for action on social media, their worldly knowledge of the potential dangers surrounding this technology leads many to discover and manage emerging constraints, which are commonly related to privacy. Since object constraints derived from the user's knowledge of the environment are coined as semantic constraints (Norman, 2013). Constraints such as privacy preferences and concerns are defined based on the organisation's knowledge of the potential dangers surrounding social media; therefore, such constraints can be categorised as semantic constraints. The case study findings revealed two first-order categories of privacy-related constraints of social media in SCC. First, information sharing on social media is largely surrounded by concerns about the loss of control of this information once it is out there. Major concerns relate to misinterpretation and misinformation among their social media contacts and the potential impact on organisation image, especially in the face of donors. Second, socialising and building a social media community is surrounded by concerns about managing the organisation's boundaries of interaction. Some participants indicated the fear of not

knowing who they are interacting with and the challenges of devising the best interaction strategies.

Symbolic Expressions (Meaning and Values) of Social Media. Besides the action possibilities and constraints, social media conveys meaning and values surrounding its functionality which informs its potential use for nonprofits. Table 9-5 provides a side-by-side comparison of the meanings and values of social media as generated from the survey and the case studies.

Table 9-5. Comparing Results on Symbolic Expressions of Social Media to Nonprofits

Construct	Findings by Data Type		Findings by Integration		
	Quantitative Results for Survey	Qualitative Themes from Interviews	Convergent	Complementary	Divergent
Symbolic expressions of social media	Communication of meaning (AVE = 0.61; C.R. = 0.87) with two measurement items	Yielded seven themes elaborating communication of meaning Easy to use, useful and valuable (40%) A large audience (17.8%) Prompt communication (15.6%) Sharing space and fun (4.4%) Something new and trendy (8.9%) Variation of opinion (4.4%) A potentially dangerous space (8.9%)	Interaction with a large audience Easy to use, useful and valuable to the organisation	Prompt communication Sharing space and fun Something new and trendy Variation of opinion A potentially dangerous space	
	Communication of values (AVE = 0.42; C.R. = 0.87) with two measurement items	Yielded six themes elaborating communication of values Actuality (17.5%) Anonymity (3.5%) Controlling the conversation (15.8%)	Actuality, i.e., social media interactions are similar to real-life interaction Routine interaction is necessary to thrive	Anonymity may be necessary Controlling the conversation Preserving image Timeliness in communication is essential	

		Preserving image (15.8%)			
		Routinisation (29.8%)			
		Opportuneness (17.5%)			
AVE – average variance extracted C.R. – composite reliability					

According to Table 9-5, social media conveys about seven meanings about its functionality that informs nonprofits of how they could use social media to achieve their objectives. These include; large audience, easy and valuable, promptness, sharing, varied opinion, trendy, and potential danger. To nonprofits, social media are easy to use and valuable platforms that support focused interaction with a large audience. Social media is also seen as a means of prompt communication between the organisation and target audiences. Consequently, nonprofits often turn to social media platforms for communicating and sharing information as a faster means to pass their message out to their target audience. Also, social media is recognised as a sharing space that accords freedom to participants to present and share varied opinions and views on the content posted on the platform. Social media is recognised as a trendy technology, which challenges the organisation to keep up with the trends and increase its ability to use social media more productively. Although social media can be a potential danger to the organisation's privacy and image, it can support meaningful interaction, and provide significant support and useful feedback.

Besides the meanings conveyed by social media, it also conveys values that are essential to productive use of social media in nonprofits. According to Table 9-5, social media conveys six key values, which include actuality, anonymity, routinisation, controlled conversation, preserving image and timeliness. Case studies indicate social media is very close to offline or real-life interaction and therefore, the values of real-life interaction, such as respect for others, generally apply. In some incidences, ensuring anonymity of clients is necessary to protect them from potential criticisms that can be fuelled by social media. Routinisation, i.e., consistent interaction is expected, and failure to maintain routine interaction is misinterpreted as a lack of seriousness and out of business. On social media, organisations have to observe the content or the message posted and monitor the conversation that ensues. They are challenged to devise ways to maintain focused conversations to minimise unproductive interaction and contributions. Lastly, preserving the organisation's image is an essential aspect of using social media. Failure to watch content and conversations on social media poses a potential threat. Content on sensitive topics or issues, such as abortion and prostitution as mentioned by cases from HSOs, should be reviewed by multiple

people before posting on social media because such topics and issues can be easily misunderstood.

9.1.3.2. How Social Media Structure Contributes to Service Co-Creation in Nonprofits

As part of RQ3, we investigated how social media structure, i.e., action possibilities, meanings, and values conveyed contribute to co-creation of (nonprofit) services. Again, we use a side-by-side display of the results from the survey and case studies in Table 9-6 on the relationship between action possibilities, meanings and values, and co-creation of services.

Table 9-6. Comparing Results on the Relationship between Social Media Structure and SCC

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Social media structure and the co-creation of services (P3)	Functional affordances of social media, particularly, socialising and visibility positively affect the co-creation of services (H2b and H2c)	Social media affords nonprofits the possibility to socialise, communicate and share information about their programs, work or activities, which attracts the public to offer supportive resources to boost or enable the delivery of nonprofit services (OR 2a)	Socialising encourages co-creation of services (H2b) and (OR 2a)	Visibility affects the co-creation of services (H2c)	Information sharing does not affect the co-creation of services (H2a) Sharing information attracts the public to offer supportive resources in the delivery of nonprofit services (OR 2a)
	Symbolic expressions of social media positively affect the co-creation of services (H2e and H2f)	Interacting routinely on social media encourages people to participate in co-creating services with the organisation (OR 2b)	The meanings and values conveyed by social media encourage co-creation of nonprofit services (H2e – f) and (OR 2b)	Routinisation is an example of the values conveyed by social media that supports the co-creation of services (OR 2b)	
				Social media presents threats of boundaries of interaction which constrains SCC activities (OR 2c)	
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

Proposition 3 suggested that the action possibilities offered by social media and the meaning and values conveyed by this technology provide the mechanisms influencing SCC on social media. Table 9-6 shows that possibilities of socialising for community creation and increasing visibility to build good reputation facilitate the co-creation of services in nonprofits. However, focusing on information sharing possibilities of social media in itself does not support the co-creation of services unless such information-sharing activities are designed in ways that support socialising, visibility and reputation.

Case studies reveal that while social media may offer several action possibilities, it also presents pertinent privacy-related constraints that organisations have to monitor carefully to avoid any disruptive interaction. On co-creation of services, a case revealed that the difficulties in managing boundaries of interaction create a threat to nonprofit donors and tends to limit the organisation's interaction with potential supporters. There is a level of mistrust in some social media contacts, and it becomes difficult to distinguish between fake accounts pretending to reach out from those who honestly wish to reach out and support the organisation.

On the role of meaning and values conveyed by social media, our findings suggest that appreciating the meaning and values surrounding social media functionality enhances the organisation's potential to co-create services. For instance, recognising that social media requires routinisation, e.g., regular updates, posts and response to public comments, allows the organisation to co-create services.

9.1.3.3. How Social Media Structure Contributes to OPI in Nonprofits

In this Section, we provide our integrated observation on the relationship between social media structure and OPI, which concludes our observations on RQ3. We summarise our integrated findings on this relationship in Table 9-7.

Table 9-7. Comparing results on the relationship between the structure of social media and OPI

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Symbolic expressions and functional affordances (P4a)	The meaning conveyed by social media affect information sharing (H3a), socialisation	Understanding social media as routine interaction (routinisation) and representations	The meaning of social media affects visibility (H3c) and (OR 3a)	The meaning of social media also encourages socialisation and information sharing (H3a – 3b)	

	(H3b), and visibility (H3c) The values conveyed by social media affect information sharing (H3e), but not socialisation (H3f), and visibility (H3g)	of real-life connections (actuality) improves the organisation's opportunities for visibility, reputation and legitimacy (OR 3a)		Values associated with social media such as routinisation and actuality influence visibility on social media (OR 3a)	
Functional affordances and types of relationships (P4b)	Functional affordances of social media positively affect organisation-public relationships on social media (H3i, H3j and H3k)	Social media enhances recognition, conversation, openness, which allows organisations to build a sense of togetherness, appreciation and pursuit of a common goal during interactions on social media. (OR 3d)	The action possibilities of social media allow organisations to create relationships characterised by a sense of togetherness, appreciation, and common goal (H3i & 3k) and (OR 3d)	The action possibilities of social media allow organisations to create exchange relationships as well (H3j)	
Symbolic expressions and patterns of interaction (P4c)	Symbolic expressions of social media positively affect cohesive (H3l) and strong (H3m) interaction but not symmetrical interaction (H3n)	Failure to offer prompt and well-timed communication and responses creates doubt about the legitimacy of the organisations and reduces social media following and interaction (OR 3e)	Symbolic expressions of social media influence patterns of interaction on social media (H3l – m) and (OR 3e)	The meaning of social media influences cohesive and strong interaction (H3m) Social media conveys values such as prompt communication & opportuneness which influence organisation-public interaction (OR 3e)	
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

Theoretically, the meaning conveyed and values promoted by social media shape the action possibilities afforded to organisations (P4a). According to Table 9-7, the meaning and values conveyed by social media influence information sharing possibilities, which inherently support other action possibilities of socialising (H3a – b), increasing visibility and building a reputation (H3c and OR 3a). The values conveyed by social media may promote information sharing but may not

relegate the organisation's socialisation visibility potentials (OR 3a). Unlike the values conveyed, when the meaning conveyed by social media aligns with the organisation's goals, nonprofits are more likely to discover and actualise the action possibilities of social media.

The case studies extend these findings to suggest that social media offers possibilities and impossibilities for actions. As nonprofits strive to implement measures to manage boundaries of interaction and the flow of conversations, they limit the possible actions they ought to undertake on social media, which leads us to the conclusion that social media constraints limit the possibilities for action on social media (OR 3c). Further still, social media conveys the possibilities for destructive interaction, which leads the organisation to consider it a potentially dangerous environment. Consequently, nonprofits implement privacy controls to manage their social media conversations, information shared, and the boundaries of interaction (OR 3b). This observation suggests that the symbolic expressions of social media influence the action possibilities of social media.

Perceived, discovered and actualised action possibilities of social media are mechanisms shaping organisation–public relationships (P4b). Table 9-7 shows that actualised action possibilities of information sharing, socialising and increasing visibility will normally enable the organisation to create communal and symbiotic relationships, which are commonly exemplified by a sense of togetherness and appreciation, and pursuit for a common outcome, respectively (H3i, H3k, and OR 3d). Occasionally, such action possibilities may also enable exchange relationships, where organisations openly seek benefit from interacting with the public on social media (H3j).

On the other hand, the meaning conveyed and values promoted by social media shape the organisation's patterns of interaction on social media (P4c). The survey and case studies concur that the meaning and values conveyed by social media encourage strong and cohesive interaction (H3l – m and OR 3e). Particularly, appreciating that social media connections are real-life connections (actuality) and require routine activities (routinisation) improves the organisation's interaction with the public. Additionally, nonprofits must realise that social media is inherently about promptness and well-timed communication (opportuneness), and lack of such values tends to diminish the organisation's social media connections and interaction (OR 3e).

Table 9-8. Comparing Results on the Relationship between POI and TOR

Relationship	Findings by Data Type		Findings by Integration		
	Quantitative Results for Survey	Qualitative association from Interviews	Convergent	Complementary	Divergent
Patterns of interaction (POI) and types of relationships (TOR) (P4d)	Cohesive and strong interaction positively affect communal (H4a & H4d) and symbiotic (H4b & H4e) relationships but not exchange relationships (H4c and H4f) Symmetrical interaction positively affects exchange relationships (H4i) but not communal (H4g) and symbiotic (H4h) relationships Similarity-based interaction is not a sufficient measure of the patterns of interaction on social media	Ensuring integrity builds trust, which builds closeness & allows organisations to create relationships of togetherness, appreciation and commitment (OR 3g) Organisations create goal-based relationships when their social media followers believe in, and are interested in their services, activities and goals (OR 3h)	Cohesive interaction characterised by honesty, trust and closeness supports communal and symbiotic relationships, exemplified by a sense of togetherness, commitment to common outcomes (H4a-b) and (OR 3d and 3g)	Similarity-based interactions allow organisations to create goal-based relationships (i.e. symbiotic) (OR 3h) Exchange relationships are supported by symmetrical interaction rather than cohesive and strong interaction (H4i)	Surveys reject the occurrence of similarity-based interaction at CFA Case studies indicate similarity-based interaction occurs and it supports goal-based relationships (such as communal and symbiotic relationships) (OR 3h)
	Communal relationships do not affect symbiotic relationships (H4m), while exchange relations do affect symbiotic relationships (H4n)			Communal relationships (i.e., sense of togetherness and appreciations) does not affect symbiotic (i.e., goal-based) relationships (H4m) Relationships based on value and benefit affect symbiotic (goal-based) relationships (H4n)	
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

Proposition 4d posits that the patterns of interaction shape the types of OPR on social media. Table 9-8 above shows that cohesive interaction often expressed by honesty, trust and closeness allows the organisation to build communal and symbiotic relationships, which involve a sense of togetherness and commitment to common outcomes, respectively (H4a-b) and (OR 3d and 3g). Exchange relationships, on the other hand, exemplify the aspirations of benefits and are supported by two-way symmetrical interaction, which requires nonprofits to engage the public in Q&A, discussion and dialogue rather than cohesive, and strong interaction (H4i).

Although the survey suggested that similarity-based interaction may not be a sufficient measure of patterns of interaction on social media, responses from case studies suggest that people often interact with nonprofits because they are interested in the organisation's activities or services, or when they believe in, and support the organisation's goals (OR 3h). Quite obviously, organisation-public symbiosis, i.e., a synergy that supports each other's aspirations, is the ultimate goal of nonprofit-public interaction. Our findings confirm that exchange relationships are more supportive of this synergy than communal relationships (H4m-n).

9.1.4. Organisational Generativity, Nonprofits' Interaction and Services Co-creation on Social Media

This Section presents the integrated interpretation of the survey and case studies to answer RQ4. This sub-question states that:

RQ4. How does organisational generativity contribute to nonprofits' interactions on social media and service co-creation?

The Section presents and discusses four important capabilities in organisation generativity, and explains how these measures support public interaction and SCC – see Table 9-9.

Table 9-9. Comparing Results on Organisational Generativity on Social Media

Construct	Findings by Data Type		Findings by Integration		
	Quantitative Results for Survey	Qualitative Themes from Interviews	Convergent	Complementary	Divergent
Organisation generativity	Retained four capabilities – Digital spanning (AVE = 0.60; C.R. = 0.96), Relationability (AVE = 0.61; C.R. = 0.98) Adaptiveness (AVE = 0.57; C.R. = 0.97), and Learning capability (AVE = 0.63; C.R. = 0.95)	Confirm four capabilities for social media interactions: Digital spanning (55.2%), Relationability (17.2%) Adaptiveness (10.3%) Learning capability (17.2%)	Capabilities for organisation generativity include; Digital spanning Relationability Adaptiveness Learning capability	Learning capabilities enhance organisation adaptiveness and digital spanning (H5a & H5c) Organisation adaptiveness enhances digital spanning and relationability (H5d–e) Digital spanning augments the organisation's relationability on social media (H5f)	
AVE – average variance extracted C.R. – composite reliability					

The integrated results confirm that organisation generativity for public interaction and SCC on social media would have generative capabilities such as digital spanning, relationability, organisational adaptiveness and learning capabilities.

One set of capabilities for organisation generativity are the incremental capabilities, which allow the organisation to perform the basic activities required for OPI and SCC social media. These capabilities are relatively stable and allow the organisation to manage its routine tasks, which in this case relate to public interaction and SCC on social media.

1. Digital spanning capabilities reflects the organisation's ability to leverage the opportunities availed by social technology, in particular, and information technologies in general, to support its functions and achieve its goals. For social media interactions, these capabilities are augmented by the organisation's ability to sense and respond to changes in social media, and its ability to learn by using social media, learn from prior experiences on social media or learn from the general application of social media in the sector.
2. Relationability reflects the organisation's ability to initiate relationships, maintain its relationships, learn from those relationships, and leverage resources embedded in those

relationships to improve its interaction with the public on social media. Our survey findings suggest that organisations could enhance their relationability by improving their adaptiveness to social media and building capabilities to leverage the opportunities provided by social media.

The second set of generative capabilities that organisations apply for social media interaction are renewing capabilities, which not only support public interaction and SCC but also allow the organisation to improve other capabilities that are more directly required to handle routine tasks on social media. These capabilities mainly enable the organisation to learn and adapt to the dynamics of the social media environment. Such renewing capabilities include,

3. Organisation adaptiveness relates to the organisation's ability to sense and respond to social media trends and the opportunities that emerge thereof.
4. Learning capability relates to the organisation's ability to learn from prior experience, learn by doing, and learn from other players in the sector to improve its social media activities.

As mentioned in 1 and 2, organisation adaptiveness and learning capabilities affect its current set of incremental capabilities, particularly, digital spanning and relationability. However, learning capabilities may not directly affect the organisation's ability to initiate, maintain and use its public relationships on social media. Its effect on initiation, continuation, and use of public relationships could manifest through the organisation's social media skills, alignment strategies, policies and use of social media resources.

9.1.4.1. How Organisational Generativity enhances Social Media Structure

According to theoretical proposition 5, organisational generativity enhances the structures of social media. In this Section, we provide our interpretation on how organisational generativity contributes to discovering and actualising the functional affordances, constraints, and symbolic expressions of social media. Table 9-10 provides the joint display of the survey and case study results.

Table 9-10. Comparing Results on the Relationship between Generativity and Social Media Structure

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Organisation generativity and social media structure (P5)	Unlike learning capabilities, adaptiveness, digital spanning and relationability have a positive effect on social media structure (H5h – j) and (H5l – n)	Learning capabilities and digital spanning facilitate discovery and actualisation of functional affordances (OR 4a)	Digital spanning facilitates the discovery and actualisation of functional affordances (H5i and OR 4a)	Adaptiveness and relationability facilitate the discovery and actualisation of functional affordances (H5h and H5j) All examined capabilities, except learning capability, do affect the organisation's symbolic expressions of social media (H5l-n) Learning capabilities and digital spanning support management of privacy constraints (OR 4b)	While QUAN results reject the hypothesis that learning capabilities directly affect functional affordances, QUAL results reveal that such capabilities will facilitate functional affordances
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

From Table 9-10, we generally observe organisation generativity enables organisations to discover and actualise the opportunities and action possibilities offered by social media; however, to do this, organisations focus mainly on improving its IT-spanning capabilities (H5i and OR 4a). Further still, to leverage the opportunities afforded by social media, organisations keep track of and improve their social media activities in response to emerging changes and trends on social media (H5h). They also have enhanced their ability to initiate, sustain and use relationships to support their goals (H5j). However, learning capabilities may not necessarily enhance the discoverability and actualisation of action opportunities afforded by social media (H5g and OR 4a). The case study findings, however, indicate that such capabilities allow the organisation to manage privacy-related constraints (OR 4b).

Organisation generativity also enhances the meaning and values conveyed by social media in nonprofits. Although the case studies revealed that nonprofits use social media productively when they learn by using it, learn from others, or learn from experience, such learning capabilities do not necessarily enhance the meaning and values conveyed by social media (H5k). Nonprofits understand the meaning and values of social media by initiating and maintaining productive relationships, adapting to the dynamics of social media, and digital spanning which could involve applying technology policies, employing skilled social media personnel, and aligning Social media to specific functions (H5l-n).

9.1.4.2. How Organisational Generativity enhances OPI on Social Media

Proposition 5 continues to posit that organisation generativity enhances OPI on social media. In this Section, we provide our interpretation of how organisational generativity enhances OPI on social media. Table 9-11 provides the joint display of the survey and case study results.

Table 9-11. Comparing Results on the Relationship between Organisational Generativity and OPI

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Organisation generativity and Organisation-public interaction on social media (P5)	Learning capabilities, Digital spanning, and Relationability have a positive effect on patterns of interaction (H5o, H5q, H5r) Adaptiveness negatively affects patterns of interaction (H5p) Except for relationability, learning capabilities, adaptiveness Digital spanning have a positive effect on TOR (H5s-u)	Relationability, Learning capabilities, and Digital spanning facilitate OPI on social media (OR 4c)	Learning capabilities and Digital spanning facilitate OPI (H5o, H5q-u and OR 4c)	Adaptiveness affects the types of relationships on social media (H5t), but not the patterns of interaction (H5p) Relationability affect the patterns of interaction on social media (H5r), but not the types of relationships (H5v)	While QUAL results suggest that relationability enhance OPI, QUAN results indicate that such capabilities may not affect the type of relationships
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

According to Table 9-11, the survey and case study findings, both indicate that learning capabilities and digital spanning enable organisations to interact productively with the public on social media

(H5o, H5q-u and OR 4c). The survey results particularly indicate that these capabilities posit stronger effects on the organisation's patterns of interaction than the types of relationships built on social media. Second, the organisation's adaptiveness may not support the types of relationships cultivated through social media (H5q), but it does play a crucial role in shaping the organisation's patterns of interaction on social media (H5t). Third, the organisation's ability to initiate, sustain and utilise relationships affects its patterns of interaction on social media (H5r), but not the types of relationships, per se (H5v). Overall, improving OPI on social media relies heavily on the organisation's ability to learn these technologies, by either using them, learning from prior experiences or learning from sector-wide use of social media. Based on the survey results, organisation generativity has a stronger effect on the patterns of interaction embedded in OPR.

9.1.4.3. How Organisational Generativity enhances Service Co-Creation on Social Media

Lastly, we indicated, in proposition 5, that organisation generativity enhances not only the structures of social media and OPI but also SCC. In this Section, we provide our interpretation of the results on how organisation generativity enhances SCC on social media. Table 9-12 provides the joint display of the survey and case study results.

Table 9-12. Comparing Results on the Relationship between Organisational Generativity and SCC

Relationship	Findings by Data Type		Findings by Integration		
	Observations from the Survey	Observations from the Case Studies	Convergent	Complementary	Divergent
Organisation generativity and SCC on social media (P5)	Digital spanning and Relationability have a positive effect on SCC (H5y – z) Learning capabilities and adaptiveness do not directly affect SCC (H5l – n)	Learning capabilities, adaptiveness and Relationability enable SCC on social media (OR 4d)	Relationability is the key shaper of SCC on social media (H5z and OR 4d) Digital spanning capabilities will affect SCC on social media (H5y)	Renewing generative capabilities (i.e., learning capability and adaptiveness) have no direct effect on SCC (H5w-x), but affect digital spanning (H5a and H5d) and relationability (H5e)	While QUAN reject the hypothesis that learning capabilities and adaptiveness affect SCC, the QUAL findings indicate that these capabilities are largely related to SCC
Note: OR stands for Observed Relationship from the QUAL data analysis H stands for Hypothesis tested with QUAN data analysis					

According to Table 9-12, both the survey and case study findings concur that organisations rely mainly on their relationability, i.e., initiate, maintain and utilise social media connections to achieve SCC (H5z and OR 4d). Besides, the survey results suggest that even the organisation's digital spanning capabilities will drive SCC activities on social media (H5y). Although case study findings

suggest that organisations rely on their renewing generative capabilities of learning and adaptiveness to achieve SCC (OR 4d), the survey findings suggest that such capabilities may posit only indirect effects on SCC activities (H5w – x).

9.2. Discussion of Findings

Section 9.1 presented integrated observations from the QUAN and QUAL results. This Section discusses the findings for each research question and provides meta-inferences. We discuss RQ1 in Section 9.1.1, RQ2 in Section 9.1.2, RQ3 in Section 9.1.3, and RQ4 in Section 9.1.4. We earlier explained (in Section 6.7, Chapter 6) that integrating findings and developing meta-inferences to respond to research questions is central to a mixed methods study, which is why we considered it in this study. Meta-inferences are specific, concluding statements derived from the integration of the quantitative and qualitative results with reference to literature and the theoretical foundations guiding this study. The meta-inferences provided in Sections 9.2.1 through to 9.2.7 explain how nonprofits realise SCC on social media and how their generativity and interaction with the public contribute to this outcome.

9.2.1. Forms of Service Co-creation Realised on Social media among Nonprofits

This Section discusses our observations on RQ1 as provided in Section 9.1.1 of this Chapter. For nonprofits, social media creates a place of multiple actors who intentionally, and often unintentionally, contribute and integrate resources to support a call or outcome. Nonprofits often call out for public interest and support towards their goals, activities and intended outcomes. Nonprofits recognise the depth of social support resources that the public could offer and the potential of public interest in their activities since such activities are profoundly focused on supporting others and delivering community support services. Nonprofits use of social media allows the public to get involved and participate in nonprofits activities, conveniently, through the provision of supporting resources of different kinds, such as information, ideas, skills, knowledge, and in-kind materials like donations, food, and clothing. Such resources complement existing organisational resources in the creation and provision of services.

As explained in Section 3.5, Chapter 3, resource exchange and integration among multiple actors in service contexts result in co-creation of services, either as a process, an outcome or both. Resource exchange and integration (between nonprofits and the public) are central to service provision and value co-creation (Vargo & Lusch, 2016). Nonprofit followers on social media are not merely donors, supporters or service users, but they are co-producers and co-creators of nonprofit

services given participation, involvement and engagement in nonprofit service activities on social media. Similar observations were provided by (Bovaird & Loeffler, 2012; Loeffler & Bovaird, 2016; Nabatchi et al., 2017) on the co-production of public services. Social media platforms balance the freedom between actors, which is essential in creating a sense of collectiveness in service co-design activities (WACOSS, 2016).

We found that nonprofits realise multiple forms of SCC; as also observed in business services (Frow et al., 2011; Oertzen et al., 2018; Russo-Spena & Mele, 2012) and public services (Bovaird & Loeffler, 2012; Bovaird & Loeffler, 2013; Loeffler & Bovaird, 2016). Social media offers a place that directly or indirectly supports the co-creation of nonprofits services, which emerge in seven different but interrelated forms (see Section 9.1.1 of this Chapter). Some forms are often realised than others; for instance, co-resourcing for service delivery frequently occurs through social media fundraising, donations, and support. Similarly, other studies (Lovejoy & Saxton, 2012; Zhou & Pan, 2016) also found social media to be a channel for resource mobilisation and integration in the form of donations, emotional support and volunteering. As claimed by (Saxton & Guo, 2020), we found that social media has enabled nonprofits to acquire and integrate resources from their followers and supporters as a means of SCC.

Furthermore, through social media, nonprofits work with the public to co-advocate for services or change in practices. Co-advocacy is facilitated by applause functions such as shares, retweets, views, and likes, which emerge more in the form of co-advocating as followers speak louder on behalf of the organisation. On co-advocating activities, Abedin and Babar (2018) found that digital volunteers for nonprofit activities immensely proliferate the institution's message, information or campaign because of their retweeting power. Similarly, Madden et al. (2016) noted that social media not only connects the organisation to a global audience but triggers an influx of attention to the organisation's mission and allows nonprofits to tap into key influencers who instigate and amplify the organisation's message towards a substantial impact. Sorensen et al. (2017) also observed that often follower participation occurs in the form of shout-outs and thunderclaps, which indicates some form of co-advocacy and collective effort to increase recognition for the organisation's services.

Additionally, nonprofits use social media for co-ideating, which often occurs as they gather random ideas posted by their followers through comments or messenger. Through social media, nonprofits capture, evaluate and assimilate public suggestions and views leading to co-progression of services. Gathering public suggests, views and outcry floating on social media, nonprofits can

enhance service relevance based on those public arguments. From the case studies, we could tell that nonprofits not only achieve services progression but also co-assess their service encounters based on likes, reviews, praises and criticisms provided in comments. Co-assessment of services also emerges as co-reviewing of services often triggering some changes in the services. As also experienced in offline service systems, such as residential aged facility (McColl-Kennedy et al., 2015) and educational institution (Verleye, 2015), social media enables co-experiencing of nonprofit services, which occurs as followers increasingly interact, relate and share their stories with the organisation. The least observed form of SCC, but evident according to the case studies, is co-diagnosing of emerging issues and suitable courses of action.

Evidence gathered in this thesis indicates that encouraging co-resourcing for service delivery is the most popular form of social media enabled SCC pursued among nonprofits. To create sufficient ground for co-resourcing in the delivery of services, organisations often strive to co-ideate and seek co-experiences on previous services encounters because such activities enhance followers' familiarity with the organisation's services. Organisations play the role of initiators and facilitators of social media conversations focused on specific issues and activities to which they seek public involvement, participation and support. These observations are similar to Geissdoerfer et al. (2017), who suggest that innovation processes, such as ideation, support subsequent activities in the innovation process that involves designing and launching a service/product. Oertzen et al. (2018) also indicate that co-ideation and co-valuation of services are regenerative processes and precede operative processes such as co-design, co-launching, and co-consumption. Given the observations explained in this thesis, on nonprofit SCC, we elaborate theoretical proposition 1 to indicate that;

Meta-inference 1. Nonprofits realise SCC through social media in distinct but interrelated forms, which include co-ideating, co-experiencing, co-diagnosing, co-assessing, co-resourcing, co-advocating, and co-progression of services. These forms are interrelated in such a way that, co-ideating and co-experiencing facilitate practices of co-diagnosing service needs, co-resourcing for service delivery, and co-assessment of existing services. Co-resourcing and co-assessing of services support co-advocating for services, while all other forms of SCC play a direct or indirect role in co-progression of nonprofit services through social media.

9.2.2. OPI as a Mechanism for Service Co-creation on Social Media

This Section discusses our observations on RQ2 as provided in Section 9.1.2 of this Chapter. Theoretically, social interaction and relationships are central to SCC (Lusch & Vargo, 2006; Vargo & Lusch, 2016), and appropriate social interaction will influence group outcomes (DeSanctis & Poole, 1994). Our findings on OPI reinforce, elaborate and contextualise earlier observations by (Kusumaningdyah & Tetsuo, 2017) that social networks influence co-creation outcomes in technology-enabled contexts. While earlier studies on social media use in nonprofits do not explain the nature of OPI, our study explains OPI on social media and how it influences SCC. We proposed that this interaction involves different types of relationships and patterns of interaction, which provide the mechanisms for SCC (P2).

Our study indicates that nonprofits interact with the public on social media through an exchange approach, which involves communal, exchange and symbiotic relationships that posit varying influences on SCC. These types of relationships were also identified in business-to-community relationships (Osobajo & Moore, 2017) and public relations (Hung, 2005; Johnson & Grimm, 2010). Many nonprofits find that communal and symbiotic relationships are more conducive for SCC, although Bowen and Sisson (2015) argued that exchange relationships support collective-campaigns on social media. Our findings are supported by Johnson and Grimm (2010), who noted that communal relationships influence people's attitudes towards donating, but they did not examine the influence of symbiotic relationships. Alternatively, Johnson and Grimm (2010) examined the influences of exchange relationships and noted that such relationships could also influence people's attitudes towards donations.

Contrary to Johnson and Grimm (2010), we noted that exchange relationships might not be conducive for SCC, although, donating plays a central role in SCC. This could be because exchange relationships build a sense of betrayal in service systems (Tsai et al., 2014) or simply because the exchange of benefit with the public is not characteristic of nonprofits. We conclude that when organisations adopt an exchange approach, where they focus on benefits and resources in their social media relationships, they mainly build communal relationships by showing their commitment to offering their support to the community, or symbiotic relationships by encouraging their supporters to participate in achieving a common goal. However, symbiotic relationships tend to offer greater advantages for SCC.

Besides the types of relationships, there are key patterns of interactions that shape the consequences of OPR (Broom et al., 2000). Some studies such as (Lai et al., 2017; Wyllie et al., 2016) identified patterns such as centrality, multiplexity, and embeddedness as central in the strategic use of social media in nonprofits. With this literature, our study indicates that nonprofits alternatively interact with the public through a network approach, which involves several patterns of interaction, including strong, cohesive, symmetrical and similarity-based interaction. Like the exchange approach, these patterns of interaction posit varying influences on SCC. We found that strong and cohesive interactions create a more conducive atmosphere for SCC than symmetrical and similarity-based interaction. Strong interactions support SCC because they involve frequent communication and emotional appeals, which induce active participation in, and attention to nonprofits' activities (Guo & Saxton, 2018; Smitko, 2012). Also, cohesive interaction supports SCC because such interaction is based on togetherness and pursuit of instrumental outcomes that satisfy the needs of all the actors involved (Carron & Brawley, 2012).

Unexpectedly, symmetrical interaction, which focuses on two-way symmetrical and dialogic communication, may not necessarily facilitate SCC. Some researchers (Duong, 2017; Wang & Yang, 2020) have encouraged nonprofits to practice two-way symmetrical communication strategies on social media and other web-based channels indicating that these strategies will attract symmetrical interaction, engagement and improve the attitudes and behaviours of stakeholders towards the organisation's campaigns. However, we found that when nonprofits intended to leverage social media interaction SCC, symmetrical interactions do not emerge as the best option. Alternatively, organisations initiate interactions to support information dissemination, engage stakeholders, and maintain stakeholder relations (Van Wissen & Wonneberger, 2017).

Similarly, organisations do not commonly engage in similarity-based interactions, so we did not find sufficient evidence to suggest that similarity-based interactions are mechanisms for SCC. When organisations adopt a network or structural approach, i.e., focus on the configuration of their social media ties, they focus on strong interaction such as frequent conversations and emotional appeals, as well as those for cohesive interaction, such as bonding and building a sense of belongingness, commitment and appreciation. However, cohesive interaction is a stronger mechanism for SCC than all other patterns of interaction investigated in this study.

Overall, the structural approach, rather than the exchange approach, to OPI on social media, is a dominant mechanism for SCC and also provides the basis for different types of relationships claimed by the exchange approach. This observation provides the empirical evidence that supports

Broom et al. (2000)'s claim that relationships are embedded with certain properties which could shape the outcomes of those relationships. On the influences of the patterns of interactions on different relationships, our findings reveal that engaging in cohesive and strong OPI on social media supports communal and symbiotic relationships, while symmetrical and similarity-based interactions do not support either of these relationships. When organisations chose to engage in exchange relationships, then symmetrical interactions provide the best mechanism. The empirical arguments discussed in this Section refine theoretical proposition 2, and we conclude that;

Meta-inference 2. In nonprofit–public interaction on social media, organisations can adopt an exchange or structural approach as a mechanism for SCC on social media. From an exchange perspective, organisations can build communal, symbiotic or exchange relationships to facilitate SCC; however, symbiotic relationships are a stronger mechanism for SCC than communal relationships. Also, exchange relationships will not facilitate SCC, at least not directly. A structural approach, on the other hand, is adopted through different patterns of interaction particularly, strong, cohesive, symmetrical or similarity-based interaction. Cohesive interactions are more conducive for SCC than strong and similarity-based interactions. Symmetrical interactions will not directly influence SCC.

9.2.3. Social Media Structure as a Mechanism for Service Co-creation in Nonprofits

This Section discusses our observations on RQ3 as provided in Section 9.1.3.2 of this Chapter. Drawing on the AST perspectives (DeSanctis & Poole, 1994), we can say that given the structures provided by social media and the ideal OPI (discussed in the previous Section) nonprofits will integrate resources with the public to co-create services. The structure of social media mainly arises through its *functional affordances (FASM)* and *symbolic expressions (SESM)* as was theorised by (Markus & Silver, 2008). However, people perceive not only the affordances of the object but also the constraints presented by the same object (Norman, 2013). Consequently, the structure of technology may also resonate with the *constraints* it presents to the user (Majchrzak & Markus, 2012). In line with these theoretical perspectives, our study found that these three elements emerge in the structure of social media in nonprofits – i.e., the possibilities for action, the meaning and values, and the constraints it presents to the organisation (explained in Section 9.1.3.1 of this Chapter). So far, IS scholars (Bygstad et al., 2016; Volkoff & Strong, 2013) have considered mostly the opportunities for action (functional affordances) as generative mechanisms for technology outcomes.

From our work, we found that the possibilities for action directly influence SCC, while the meanings and values surrounding the technology, and constraints presented by the technology indirectly influence SCC because they influence the possibilities for action that are discovered and actualised on social media. For nonprofits, social media offers possibilities of socialising, visibility, information sharing, and knowledge conversations. These action possibilities are greatly influenced by the meaning of social media functionality and the values surrounding this technology. Nonprofits that realise SCC consider social media as a large audience, a sharing space, a trend, a place for varied opinions, and a valuable platform with potential dangers that must be mitigated. Nonprofits that observe the values of actuality (i.e., recognising that interactions are real, though occurring in a virtual environment), routinisation, and opportuneness (timing) of interactions discover and actualise the opportunities offered by social media. According to the case studies, organisations have to develop strategies to manage some semantic constraints of social media which are mainly privacy related, particularly, managing their conversations and boundaries of interaction as another means of enabling SCC.

Similar to earlier studies (Lovejoy & Saxton, 2012; Zhou & Pan, 2016), we found that socialising is the most commonly perceived, discovered and actualised affordances of social media for nonprofits, which allows nonprofits to create supportive communities. However, the possibilities for visibility are closely associated with building a reputation amongst stakeholders and provide a stronger mechanism for SCC than socialising. While the possibilities for information sharing are presented rhetorically as common action possibilities afforded to nonprofits, for example in (Guo & Saxton, 2018; Li et al., 2018), our study found that these possibilities do not directly influence SCC, but they enhance possibilities for socialising, which then enable SCC.

Prior studies have observed the possibilities for knowledge conversations on social media (Majchrzak et al., 2013; Razmerita et al., 2014) and calling for action among nonprofits (Lovejoy & Saxton, 2012; Zhou & Pan, 2016). Contrary to their findings, our study reveals that calling for action and knowledge conversations are the least actualised opportunities provided by social media, and their actualisation could depend on the nature of the organisation, the services offered by the organisation, or the location of the organisation. Some prior studies were based on nonprofits operating in the US, for example (Lovejoy & Saxton, 2012) and explored nonprofits offering services such as disaster relief, for example (Zhou & Pan, 2016), which could explain the differences in our observations.

We initially argued, in theoretical proposition 3, that the possibilities for action, the meaning and values conveyed by social media provide the mechanisms for SCC. Our findings substantiate this proposition, and elaborate that;

Meta-inference 3. Social media offers possibilities for action (functional affordances), conveys meanings and values (symbolic expressions), but also presents some constraints enacted by the organisation's knowledge of social media (semantic constraints). These three elements constitute the structure of social media, which influences OPI and provides direct and indirect mechanisms for SCC. The key possibilities for action offered by social media to nonprofits including socialising, visibility, and knowledge conversations are a direct mechanism for SCC; however, visibility is a stronger facilitator for SCC than other action possibilities. The functional affordances of social media are a stronger mechanism for SCC than its symbolic expressions to nonprofits. Nonprofits that cognise social media as a useful and valuable tool, a large audience and a platform of prompt communication and support tend to realise SCC. Similarly, nonprofits that recognise values of routinisation, actuality, and opportuneness can leverage social media opportunities for SCC. As nonprofits discover and manage emerging constraints, particularly controlling conversations, misinformation and interaction boundaries (semantic constraints), they actualise the action possibilities offered by social media (functional affordances) and realise SCC.

9.2.4. Social Media Structure Influences OPI on Social Media

Like Section 9.2.3, this Section discusses more observations on RQ3 as provided in Section 9.1.3.3 of this Chapter. The structures of advanced information technologies (AITs), such as social media, can be described in terms of *affordances (FASM)*, *symbolic expressions (SESM)* (Cheikh-Ammar, 2018; Grgecic et al., 2015; Markus & Silver, 2008), and *constraints (COSM)* (Majchrzak & Markus, 2012), (as discussed in the previous Sections and meta-inference 3). The variations in the structures of AITs influence different forms of social interaction (DeSanctis & Poole, 1994). How AITs are appropriated in social interactions could vary depending on the groups' style of interacting (DeSanctis & Poole, 1994). Drawing on these perspectives, we proposed that the possibilities for action would influence the types of relationships, while the meanings and values associated with social media would influence the patterns of interaction (as stated in Proposition 4). We discuss the following three key observations.

Our findings suggest that social media offers possibilities for socialising, information sharing, and visibility to nonprofits, which mainly influence the exchange approach in OPI – i.e., relationships

characterised by a sense of togetherness and appreciation (communal), reciprocation of benefits between the organisation and the public (exchange), and a sense of common goal (symbiotic). However, when nonprofits actualise the action possibilities mentioned earlier, they are more likely to influence communal and symbiotic relationships rather than exchange relationships.

On the other hand, the meaning and values conveyed by social media improve the organisations' patterns of interaction with the public, especially bonding, building shared values, and pursuing a common cause (cohesive patterns). Social media values promoted include embracing social media interaction as nearly similar to offline interaction and applying the same values and norms of behaviour as in offline interaction (actuality). Also, nonprofits should note that social media interactions require prompt, well-timed, routine and regular interaction (i.e., promptness, opportuneness and routinisation) because these values influence the possibilities for visibility and reputation on social media.

Similarly, the case studies revealed that social media presents privacy-related constraints, which are conceptualised as semantic constraints because they are triggered by the organisation's knowledge of the world around them (Norman, 2013). According to the case study findings, these constraints are commonly related to privacy issues such as managing information, conversations and boundaries of interaction, and they influence OPI on social media. Our results are similar to (Nchabeleng et al., 2018)'s observation that social media posits constraints associated with information threats which counter the interactions between NGOs and the public. Similarly, the loss of control over conversations and information inflow hinders the fruitful use of social media (Wong-Villacres et al., 2017). The findings generated from this study specify some key aspects of theoretical proposition four by indicating that;

Meta-inference 4. Social media affords action possibilities of socialising, information sharing, and visibility, which facilitate communal and symbiotic relationships between the nonprofits and the public. While discovering and actualising such action possibilities influences the types of relationships on social media, the meaning and values conveyed by social media influence the organisation's patterns of interaction. Nonetheless, the semantic constraints presented by social media not only counteract the possibilities for action on social media but also shape OPI on social media. The meaning and values conveyed by social media (symbolic expressions) influence the discoverability and actualisation of action possibilities (functional affordances) as well as the discoverability and management of semantic constraints.

9.2.5. Organisational Generativity enhances Social Media Structure

The AST does not explain the shapers of the structures of AITs, but scholars (Orlikowski, 2007) have argued that social interactions involve the actors' capacities or capabilities to act in certain ways to derive their goals, which could contribute to our full understanding of these structures. Social interactions also consist of powers such as motives and capabilities as a driving force that conditions what the organisation chooses to do in order to achieve the intended outcome (Blom & Morén, 2011). Prior studies (Avital & Te'Eni, 2009; Van Osch & Mendelson, 2011) have particularly argued that generativity is a fundamental attribute for collective actors to realise affordances that occur in sociomaterial interactions. In our study, we considered organisation generativity and the structures of social media co-occur, where, generativity exists as the underlying power within the mechanisms for SCC. We argued that organisation generativity enhances the structures of social media for organisations (P5a).

We found that organisation generativity enhances the discovery and actualisation of the possibilities for information sharing, socialisation and visibility, and allows the nonprofits to grasp the meaning and values surrounding social media. Particularly, organisations need to become adaptive by sensing and responding to social media trends (adaptiveness). Second, they also need to fit social media into their operations, by working with experienced and skilled personnel, developing guidelines on social media use for routine activities, and providing dedicated support and resources to social media use (digital spanning). Lastly, organisations must develop the skills and capabilities to initiate, maintain and utilise their social media contacts towards the intended objective (relationability).

However, learning capabilities, such as learning from prior use of social media, learning from others in the sector, or learning as the organisation uses social media would enhance the organisation's social media structure, not directly but indirectly, because it improves its adaptiveness and digital spanning capabilities. Similarly, Bhatt and Grover (2005) also demonstrated that the intensity of organisation learning capabilities enhances the organisation's IT-business expertise leading to competitive advantages. Bhatt and Grover (2005) also show that learning capabilities strongly affect relationship capabilities, but our study suggests that such capabilities may not directly contribute to relationability but could do so because they improve digital spanning which ultimately improves its relationability.

Meta-inference 5. Organisation generativity through adaptiveness, digital spanning and relationability enhances the organisation's potential to perceive, discover and actualise the action possibilities for information sharing, socialising and visibility. It also improves the organisation understanding of the meaning and values surrounding social media in relation to its intended goals. Organisation learning capability may indirectly enhance the organisation's social media structure because it improves organisation adaptiveness and digital spanning.

9.2.6. Organisational Generativity enhances OPI on social media

Mechanisms for social outcomes consist of a combination of powers and social interaction (Blom & Morén, 2011). Such powers may include motives or capabilities for social interaction. Also, building and utilising social relationships requires a collective actor, like the organisation, to have the capacity or capability for effective action (Adler & Kwon, 2002). Particularly, generative capabilities are the key to goal-driven interaction (van Osch & Avital, 2010) and the transformation of social reality and social action (Gergen, 1994a). Similar to the previous Section 9.2.5, we recognise organisation generativity as an underlying power for productive or purposeful OPI on social media. Similarly, the AST posits that social interactions enabled by AITs may vary depending on the task, the organisation, or other contingencies (DeSanctis & Poole, 1994). We, therefore, argued that organisations require the generative capability to derive certain types of relationships and patterns of interaction that would be useful for SCC.

The survey and case study findings concur that organisation learning capabilities and digital spanning capabilities are core enablers of OPI on social media, whether it is the type of relationship or the embedded patterns of interaction. Organisation adaptiveness may not guide the organisation towards specific patterns of interaction, but it will generally allow the organisation to build communal, symbiotic and exchange relationships. On the other hand, however, if organisations seek to establish particular patterns of interaction, they have to improve their relationability together with the learning capabilities and digital spanning capabilities. It is important to note that organisation learning capabilities, above all capabilities, play the most central and significant role in improving the organisation's patterns of interaction and relationships with the public on social media. Learning capabilities have been found in prior studies (Bhatt & Grover, 2005) to have a strong effect on the organisation's relationship infrastructure and relationship capabilities.

Meta-inference 6. Generative organisations will leverage social media for purposeful public interaction. Generative organisations will have the capabilities of learning, digital spanning, and adaptiveness which improve organisation-public relationships on social media. Generative capabilities of learning, digital spanning, and relationability also shape the organisation's patterns of interaction with the public on social media. Organisation learning capabilities, above all capabilities, examined here, play a secondary role in the organisation's interaction with the public on social media by improving other capabilities.

9.2.7. Organisational Generativity enhances Service Co-creation on Social Media

Consistent with prior arguments in Sections 9.6.5 and 9.2.6, we maintain that organisations need enabling capabilities to realise productive interaction and collective outcomes (Adler & Kwon, 2002). Organisations not only require certain capabilities for collective outcomes but also need capabilities to manage co-creation processes and realise co-created outcomes. Organisations particularly need to build generative capabilities to achieve collective goals (van Osch & Avital, 2010) as well as leverage current innovations for future outcomes (Sun & Zou, 2018b). With the existing theoretical and empirical views, we argued that organisational generativity is a key attribute for organisations to leverage social media for SCC.

Our findings suggest that for organisations to realise SCC on social media, they will need to enhance their competences (i.e., knowledge and skills in using social media) and ability to match social media opportunities to their goals and objectives (digital spanning). This outcome reinforces Winkler and Wulf (2019)'s observation that IS-business alignment enhances co-creation and the S-D logic. It is also equally important that organisations improve their ability to initiate, maintain and utilise social media relationships with a goal-driven approach (relationability). Findings from the survey and case studies concur that relationability are the key enablers of SCC on social media.

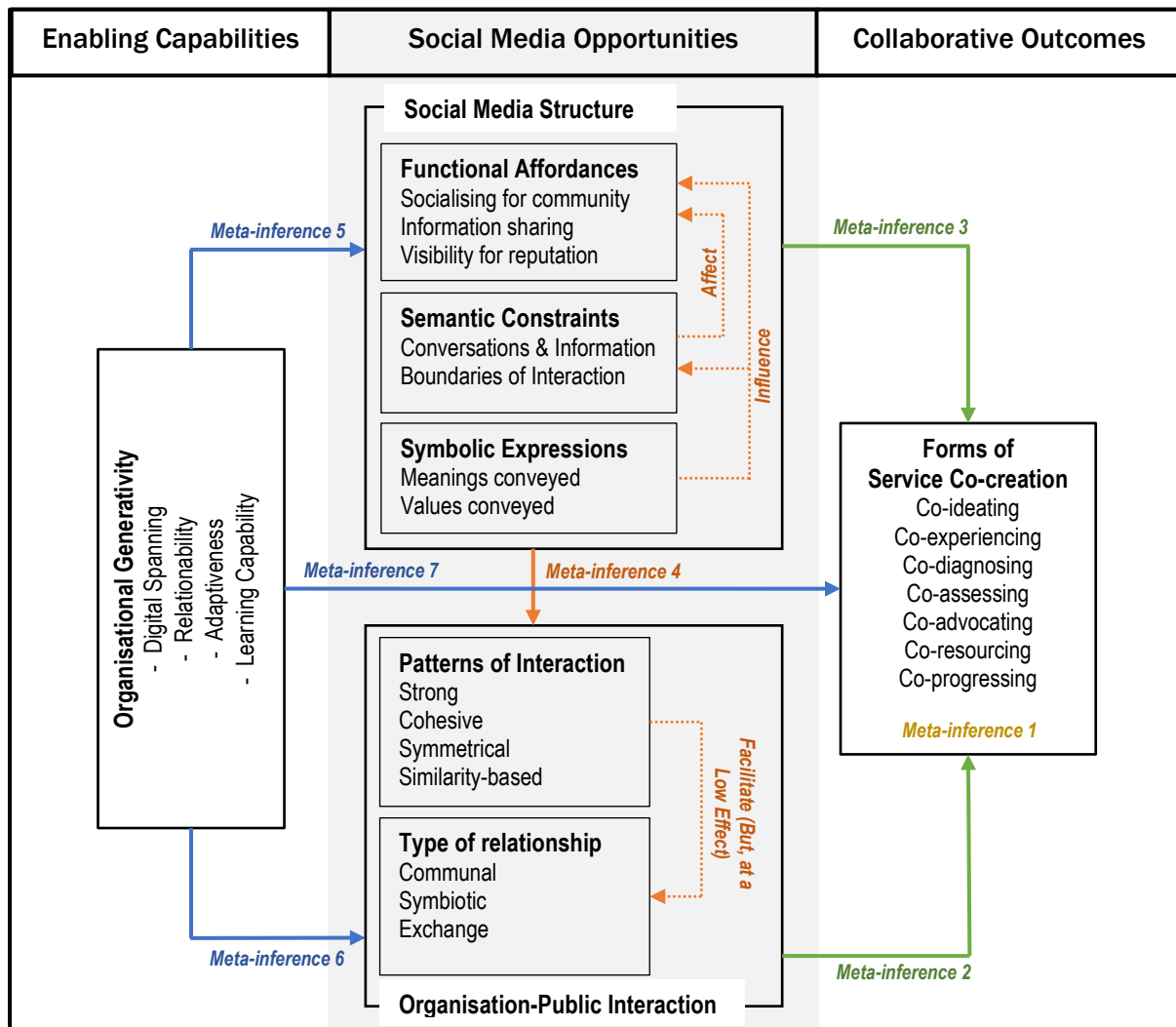
On the other hand, however, we found that learning capabilities and adaptiveness might not directly enhance SCC. Like Ambrosini et al. (2009) argued, such capabilities tend not to influence the routine operations of the organisation but shape other capabilities, which in turn shapes the routine operations of the firm. From the survey, we can conclude that learning capabilities and adaptiveness enable SCC since they enhance organisational relationability and digital spanning capabilities. Our findings seem to differ from or provide a deeper explanation on Den Hertog et al. (2010)'s proposition that learning and adapting organisations are more likely to realise new service experiences and solutions in service innovations. Moreover, generative capabilities have been

coined as “learning to learn” capabilities that generate advantages on high innovation-driven environments (Sun & Zou, 2018b). Organisation learning capabilities may not directly enhance SCC but may encourage openness and experimentation and allow the organisation to transfer and integrate new knowledge (Jerez-Gómez et al., 2005). At this point, we conclude that;

Meta-inference 7. Organisations that build sufficient relational and digital spanning capabilities are more likely to realise SCC on social media, but the former is a stronger mechanism for SCC than the latter. Organisation learning and adaptiveness, on the other hand, may enhance SCC indirectly because such capabilities improve the organisation’s relational and digital spanning capabilities.

Now that we have derived key conclusions, we visualise in Figure 9-2 below the key considerations in realising SCC on social media in the context of nonprofits.

Figure 9-2. Capabilities and Mechanisms for Realising Service Co-creation on Social Media


Type of relationship
 Communal
 Symbiotic
 Exchange

The figure above summaries the key aspects that could inform the strategies adopted by nonprofits for social media interaction and SCC. The figure presents the meta-inferences discussed in Sections 9.2.1 to 9.2.7, which posit our conclusions on; (1) what forms of SCC occur on social media and the mechanisms involved. (2) How the structures of social media (i.e., possibilities for action, potential constraints to action, and the meaning and values conveyed by social media) and OPI (i.e., types of relationships and embedded patterns of interaction) emerge as mechanisms for realising SCC on social media.

9.3. Implications of the Study

After examining how nonprofits realise SCC through interacting with the public on social media, we offer the following practical implications for nonprofit practitioners and theoretical implications for IS and service management researchers.

9.3.1. Implications for Practice

Our results have a number of implications for practice that are useful for the nonprofits sector. As a starting point, nonprofit practitioners need to recognise the variations in SCC rather than managing it as a unidimensional outcome. According to Nabatchi et al. (2017), “describing and explaining the variations in coproduction [of services, conceptualised here as SCC] may facilitate the examination and comparison of cases and experiences and contribute to improvements in evaluation, transparency, and communication” (p.766). These variations in SCC are not isolated events, but closely influence one another towards a collective service outcome.

Our work identifies seven potential forms in which SCC can be realised on social media (see Figure 9-1), which could inform practitioners of the measures of social media outcomes and the value of this technology for nonprofits. Realising SCC involves listening to social media conversations, dialogue and debates while identifying and taking note of potential ideas floating on social media. The organisation’s evaluation or service development team can later synthesise, select and develop these ideas. These activities not only allow the organisation to get ideas but also allow the organisation to diagnose emerging issues and develop potential or more suitable service concepts. Many such ideas usually refer to the relevancy of the organisation’s service initiatives or activities, the overlooked service needs, or the alternative propositions that could suit the needs of target groups and communities.

Organisations should consider creating social media content that speaks to a specific group or in favour of a particular outcome or change. They then will create a consistent story or dialogue for their followers, who through social media applause functions such as likes, shares, retweets, and views boost and proliferate the organisation’s message through their social media network. The organisation co-advocates through lead followers, supporters and key influencers to promote its services, shape its image, and get more people to not only know about the organisation but to also support its activities. Similarly, when organisations carefully analyse their social media applause, they potentially use their supporters’ responses as a basis for an abstract evaluation of whether or not their services meet the challenges. Organisations can also use public interaction on social

media to co-assess services, specifically by using it as a co-reviewing platform, running votes or by analysing and interpreting the positive and negative feedback.

While the majority of SCC systems, in offline platforms, involve co-delivery of services, social media is more of a common space for nonprofits' stakeholders to participate as co-resourcing actors in the delivery of services. Co-resourcing involves activities such as fundraising, mobilising donations, and enrolling volunteers. This form of SCC can also be realised through recognising and responding to service requests, alerts, or needs presented by the actors mentioned above. Service requests, alerts, or needs should be considered as information resources collected and accessed through comments. Practitioners should not overlook the role of intangibles, such as knowledge and information resources in favour of tangible material and financial resources. Organisations should share the "before-the-service" and "after-the-service" scenarios (in images and videos), and also encourage their followers to comment and share their experiences in both cases because such interactions create co-experiences, which support the organisation's co-resourcing endeavours. Maximising co-resourcing occurrences are closely associated with leveraging public interactions to progress. Social media conversations allow the organisation to advance its services by recognising what matters to the public, alternative approaches and services requirements, evolving towards service transformations and improved relevance of services.

With regard to understanding how social media contributes to SCC as mentioned above, practitioners should recognise that the action possibilities for information sharing, visibility, socialising, calling for action and knowledge conversations, do not represent the overall value of social media to their organisations, but rather these are avenues for enabling SCC, which contributes to their overall funding model. Information sharing, which is currently a key focus in many nonprofits, does not necessarily facilitate SCC. It only allows the organisation to improve its socialising activities and increase its visibility. Achieving SCC requires organisations to focus on their socialisation practices, e.g., connecting, maintaining ongoing conversations and building a sense of community, and increase their visibility through transparency and legitimacy, using video and pictorial content, and consistently positioning themselves. Nonetheless, realising SCC not only requires the organisation to recognise the possibilities of social media but also requires it to anticipate, plan and manage potential privacy constraints presented by social media.

To actualise the action possibilities offered by social media, nonprofits will have to understand the meaning of social media functionality, implying that organisations have to locate the usefulness of these platforms, understand the dynamics of a large audience, adjust to prompt communication

styles, understand and possibly predict the trends of social media, as well as understand the potential dangers of social media. Organisations are also tasked to learn and adhere to the key values surrounding this technology, such as routine interaction, opportuneness, preserving image, and managing their conversations. Further still, to leverage the action possibilities offered by social media, organisations have to anticipate certain constraints most commonly related to its privacy concerns, ideals and preferences. They should, therefore, plan and devise strategies to manage potential privacy-related constraints such as losing control of the information posted and the conversation at large or failing to manage or define the boundaries of interaction as the number of followers increases.

Besides the possibilities offered by social media, how nonprofits interact with their supporters or the public at large is also vital. Our findings suggest that nonprofits can leverage their social media interactions through exchange and structural mechanisms to facilitate SCC. When organisations consider network (i.e., structural) mechanisms, they are looking at the dynamics of social interactions and developing strategies to engage in different patterns of interaction on social media. According to our findings, three patterns of interaction, including strong, cohesive and symmetrical interactions, facilitate SCC. Particularly, nonprofits should focus on strong and cohesive interaction, where they not only engage in frequent interactions with emotional appeals but also engage in interactions that foster shared values or norms, a sense of collective risk, closeness, and common community.

On the other hand, organisations can adopt an exchange approach, where they focus on identifying, defining, and understanding the resources accessible in their social media relationships and devising ways to access and trade these resources and benefits with its supporters, stakeholders and the public. We encourage practitioners to recognise that trading benefits in their social media relationships can occur in diverse ways. They ought to note that these diverse ways hold the key characteristic that distinguishes between relationships. Such relationships may be characterised in three ways; (1) the organisation builds its relationships by presenting its contributions to society (communal), (2) the organisation builds its relationships by presenting a common goal (symbiotic), (3) the organisation builds its relationships by portraying the exchange of benefits with the society (exchange).

Specifically, tweeting and posting content and activities, and sparking conversations that show a common goal, benefit or cause between the organisation and the public creates relationships that are more conducive for SCC. Alternatively, as a second option, organisations can show their

commitment and contribution to societal benefit. This way, organisations should shape their social media content, conversations and image to attract relationships breeding on a sense of concern for all, transparency and openness, and common goals, i.e., the extent to which the organisation's goals communicated on social media are related to those of target stakeholders or publics. To attract symbiotic relationships, we encourage organisations to engage in strong and cohesive interaction, as explained in the previous paragraph. Understanding the diversity of OPR on social media and the ideal types in OPI provides a basis for the development of strategies for relationship management on social media.

Organisations have to identify a set of capabilities that enhance their social media interactions for SCC. Before anything else, nonprofit practitioners have to recognise that leveraging social media, because of its uncertainties and dynamic nature, require the organisation to unceasingly think in new ways, recognise and acknowledge changes or trends, and act in new ways as new opportunities emerge. First, creating a learning organisation is critical and plays a foundational role in improving other generative capabilities. This way the organisation can improve its relationship potential, digital spanning and become more adaptive to the social media environment, which directly enhances the ability to leverage the possibilities offered by social media, interact productively and achieve SCC. Nonprofits learn by using social media, they also learn from sector-wide use of these platforms and learn from the prior application of social media by tracking trends, challenges and outcomes. These learning avenues can be explorative, where the organisation gathers knowledge on prior social media experiences. Then, organisations would have to transform and exploit this knowledge by relating it to their operations and using it to continuously improve their social media operations. Other studies also noted that learning from others experiences and the organisation's own experience is a core capability for achieving intended outcomes in networked environments (Hughes et al., 2014).

Additionally, nonprofit practitioners should know that to improve the possibilities for information sharing, socialising and visibility; they need to consider three things. One is to become adaptive to the social media environment. They need to build the ability to initiate, maintain and utilise their social media contacts. They also need to ensure that they interact with a purpose and should, therefore, align their social media activities to the overall goals and objectives of their service offerings, initiatives or targets. When nonprofits develop relational, adaptive, digital spanning capabilities, they can grasp the meaning conveyed by social media functions and take note of the key values to observe when interacting on these platforms.

Lastly, organisations should realise that initiating, maintaining and utilising their social media connections and relationships is the core capability for achieving SCC through social media. Relationability not only involves initiating, maintaining and utilising contacts and relations, but it also involves the ability to learn from existing relationships and adjust when necessary to renew existing relationships and create new relationships as well (Jarratt, 2004). Other scholars (Kazadi et al., 2016; Ngugi et al., 2010) also advised that organisations would normally build relational capabilities to improve stakeholder engagement in innovation and co-creation. In addition to the relational capabilities, achieving SCC on social media requires the appropriate digital spanning capabilities, which relate to improving digital skills, experiences and knowledge of social media functionality, matching emerging trends of social media, linking social media activities to a specific organisational goal, and providing social media support and resources. We have noted that enhancing the learning capabilities and adaptiveness would improve the organisation's relationability and digital spanning capabilities.

9.3.2. Implications for Theory

A few theoretical implications emerge from our findings. *An instrument for measuring service co-creation on social media.* Our study contributes to scholarship on SCC and service ecosystems by empirically developing the measures of SCC in the context of informal social interaction in nonprofits. The measures stress the fluidity of SCC indicating forms such as co-ideating, co-experiencing, co-diagnosing, co-assessing, and co-advocating, which facilitate operative forms, such as co-resourcing and co-progressing of services. The fluid forms of SCC occur unnoticeably, spontaneously, may unpredictably crystallise, and are observed given the capacity of the organisation to observe them. The operative forms, in contrast, are sporadic and occur as the need arises but are more observed as many organisations tend to pay attention to such forms of SCC. These are parsimonious characterisations of SCC in informal social interactions, which, given the variety of cases that were empirically investigated, should be generalizable to similar contexts.

Three interrelated components are enacted in social media structure to drive collaborative outcomes such as service co-creation. Our study contributes to the literature on social media affordances and collaborative processes and outcomes. While existing literature explores, mainly, the social media affordances for different users, our work explains how the emerging structure of social media drives potential outcomes in organisations. First, we identify the three components that explain the structure of social media, i.e., the action possibilities (functional affordances), the meanings and values (symbolic expressions) and the privacy concerns and preferences (semantic

constraints). Second, we extend the AST and technology affordance perspectives, to indicate that the three components identified occur in chorus, are interrelated, and provide the mechanisms for driving collaborative outcomes. These three mechanisms are interrelated such that: (1) the symbolic expressions of social media influence the functional affordances and the semantic constraints of these platforms. (2) The privacy-oriented constraints of social media influence its functional affordances for organisations, which in turn have a direct implication on social media outcomes.

The structures of social media influence the structures enacted in social interaction (i.e., in the exchanges between the organisation and the public). As the AST posits that the structures in the technology will influence the structures in social interaction, also Mingers and Standing (2017) posit that “the activation or effects of particular mechanisms depends on the presence of, or absence of, other mechanisms” (p.186). Our work reveals that the structure of social media (i.e., mechanisms generated in the structures of this technology) shapes OPI (i.e., mechanisms generated in the structure of social interaction). In the case of nonprofits on social media, the structure of social media influences the type of relationship established and the pattern of interaction engaged in. However, the lack of attention to the nature of OPI, OPR and the associated mechanisms and outcomes could pose a serious omission in the development of theory on relationship management on social media. Our study explains the relationship between the structure of social media and OPI (i.e., different types of relationships and patterns of interaction), and the relationship between OPI and SCC, as an outcome.

Using the exchange perspective to uncover the types of OPR on social media. Nonprofit-public relationships are widely treated as homogenous, and such narrow characterisation of these relationships could create some form of relationship myopia. Our work thus advances two perspectives on OPI as mechanisms for strategic use of social media towards SCC. First, we can explore OPI on social media from an exchange perspective where we focus on organisations trading or maximising benefits from OPR built through social media. Under this perspective, we can explore the resource-based explanatory mechanisms for SCC by characterising OPR as communal, symbiotic, and exchange relationships as widely discussed in the communication and public relations scholarship. As argued by scholars in social networks and management research (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992; Kane et al., 2014), this line of thinking allows us to understand and explain whether or not focusing on access to social resources facilitates SCC outcomes.

Using the structural perspective to uncover the organisational patterns of interaction on social media. As an alternative to the exchange perspective, we can explore the mechanisms provided by OPI on social media through a network (structural) approach by characterising OPI as strong, cohesive, symmetrical or similarity-based. This approach seeks to explore the configuration of relations between the organisation and its supporters, key stakeholders and the public. Again, social networks and management researchers (Borgatti & Foster, 2003; Cook & Whitmeyer, 1992; Kane et al., 2014) argue that this perspective improves our understanding of the topological explanatory mechanisms producing SCC. This line of thinking allows us to understand and explain whether or not focusing on ‘a desirable abstract pattern of ties’ facilitates SCC (Borgatti & Foster, 2003). Other studies on nonprofits and social media (Lai et al., 2017) have so far advocated for the network thinking in the advancement of theory on relationship management arguing that such a perspective can enhance our understanding of how micro-interactions can shape large scale OPI for a particular social cause or collective action. Through the exchange and network perspectives, this work describes other sources of structure producing observed outcomes as acclaimed by the AST. Moreover, the two perspectives explain OPI as a case of multiple mechanisms rather than as a single mechanism.

Organisational generativity as a capability for social media interaction. Theoretically, social actors must possess the capacity or capability to act in sociomaterial practices (Leonardi, 2012; Orlikowski, 2007), human-computer interaction (Suchman, 2007), and in the development and utilisation of social capital (Lin, 2004). Our work draws on these arguments to introduce organisational generativity as a capability that enhances; the structure of social media, the emerging structures of OPI on social media, and collaborative outcomes like SCC. The generative capabilities: provide the power that triggers mechanisms and produces the outcome, are dynamic to support survival in social media uncertainties, are revitalising to enhance organisational resources and operations, and are transformative to allow the organisation to uncover new possibilities, exploit creativity and innovation in the social world. As we have argued in this thesis, management research denotes a number of dynamic capabilities, but our work identifies a few of such capabilities that suffice as generative capabilities for social media interaction and SCC will include but may not be limited to digital spanning, adaptiveness, relational and learning capabilities.

Overall, we generate *MBEs of how the structures enacted on social media drive collaborative outcomes*. This work contributes to understanding how the structures enacted on social enable or constrain SCC. We have explained how social media shapes OPI towards SCC. Our study provides

empirical evidence that links the structures of social media to the structures of social interaction and ultimately to a collaborative outcome. The study then highlights the underlying role of organisational capability, i.e., generative capability in interaction and realisation of the potential outcomes of social media. More broadly, the study advocates for a shift in the debate on nonprofits use of social media to what (i.e., contextual outcomes) and how (enabling mechanisms), rather than whether or not, social media provides certain functions to nonprofits.

9.4. Limitations and Future Research

There are some limitations that merit considerations. The key limitation of this study relates to the context. We collected data from Uganda, which is a developing economy in Africa. Therefore, the findings reported might differ if data is collected from a developed economy, such as Australia. Similarly, we focused on three categories, yet there are twelve categories of nonprofits. It is possible that findings may differ if data is collected from other categories, which we listed in Table 2-1. Future studies may examine how other categories of nonprofits, or those operating in other countries, realise service co-creation on social media.

Focusing on making the services happen, without looking into the aspects of realising value in use or consumption of services could limit a complete understanding of the value of social media, and SCC on social media. On this aspect, future research can advance our understanding of value co-creation in the creation and provision of nonprofit services through social media platforms. It could be useful if other studies looked into what value is realised by the organisation, service contributors and service consumers, and how these different actors realise this value. Also, while our study took an organisation perspective, further empirical studies on public perspectives based on service contributors and service consumers are required to identify the forms of SCC and the mechanisms for SCC that are recognised by multiple actors.

Looking into the mechanisms for SCC, first, we recognise that affordances of objects could emerge in different types such as cognitive, sensory, physical, and relational (Hartson, 2003; Hutchby, 2001; Norman, 2013), and therefore, social media affordances can emerge in various types, but we only zoomed in on the functional affordances. Similarly, the constraints presented by an object emerge in forms such as physical, cultural, semantic and logical constraints; however, from our case study analysis, we were only able to denote the observed semantic constraints that were related specifically to privacy issues. Future studies could explore in-depth the variations or categories of social media affordances and constraints perceived and actualised by nonprofits, as

well as other social media users. Examining the effects of different constraints on the affordances would certainly enhance our understanding of the structures provided by social media.

OPI, and SCC, are a multi-actor based mechanism and outcome, respectively. Therefore, it may be unrealistic to assume that nonprofits supporters, stakeholders, or the public will have the same experiences in SCC or desire the same types of relationships and patterns of interaction. The experiences provided in this study are based solely on the perspectives of the organisations, which are generally shaped by organisational goals, objectives, and strategies. Future studies could extend this discussion by exploring the experiences and perspectives of different nonprofits supporters, stakeholders and the public since these are key actors in nonprofits SCC through social media who are motivated by unique and personal goals and objectives.

Overall, some arguments provided in this study are based on a self-reported study, which offers greater bandwidth, i.e., a wider array of information and subject matter, but could raise concerns on reliability and common method variance (Podsakoff et al., 2012; Podsakoff & Organ, 1986). In this study, we took some steps to manage such concerns by assessing and ruling out unacceptable levels of bias (Podsakoff et al., 2012; Podsakoff & Organ, 1986) as well as conducting validity and reliability assessment of the measurement models (Cheung & Wang, 2017; Fornell & Larcker, 1981). Also, because we conducted a cross-sectional data analysis in Chapter 7, we could only argue about the correlations and effects of constructs but not causations.

Similarly, qualitative studies improve the applicability of results and implications to practice (Flick, 2009, 2014), but could limit generalisability of findings (Yin, 2018). Interviews, in particular, provide opportunities for probing and generating in-depth information on specific areas of investigation, but if the interviewer fails to probe as required, then some explanations could be left out (Kajornboon, 2005). To minimise such potential challenges, we conducted a multiple case study to improve the generalisability of our findings (Yin, 2018) and piloted the interview guide before data collection (Alsaawi, 2014).

9.5. Conclusion of the Study

This study was motivated by the ever-growing popularity of social media in the nonprofits sector amidst concerns about its strategic outcomes and relevance to nonprofits. Given the increasing nonprofit-public interaction on social media and the emerging evidence of SCC according to earlier studies, this study investigated how nonprofit-public interaction contributes to SCC by focusing on organisational *capabilities*, the *technology*, and the *interaction*. On the one hand, we explain the

variations in SCC as an observable outcome realised by nonprofits using social media. On the other hand, we identify and explain the enabling capabilities and mechanisms producing this outcome. Our argument draws, fundamentally, on the AST, which provides that the *structures of the technology* and the *structures of the social interaction* influence group processes and outcomes.

Through a convergent mixed methods design, we define the structure of social media as the function of its functional affordances (possibilities for action), symbolic expressions (meaning and values) and constraints (privacy preferences) to nonprofits and explain how these act as mechanisms for SCC. Additionally, we provide a twofold view of the structure of OPI on social media, which involves the types of relationships (exchanges) and patterns of interaction (networks) as alternative mechanisms for SCC. We conclude that the structure of social media, rather than OPI, provide the strongest mechanisms for SCC, particularly the discovery and actualisation of action possibilities. The meaning, values, and privacy issues surrounding social media will indirectly influence SCC because they shape the possibilities for action and OPI on social media.

Lastly, we introduce the role of organisation generativity in augmenting the structures of social media and OPI towards SCC. We argue that organisations require a set of generative capabilities consisting of digital spanning, adaptiveness, relationability and learning to enhance the emerging structures of social media and OPI to realise SCC. Overall, this study improves our understanding of the value of social media in nonprofits from a resource integration and SCC perspective.

The screenshot shows an Outlook web interface. On the left is a sidebar with navigation options: Favorites (Inbox: 1419, Sent Items, Drafts: 23), Folders (Inbox: 1419, Drafts: 23, Sent Items, Scheduled, Deleted Items: 46, Junk Email: 9, Archive, Conversation Hist..., Notes), and Groups (CAMGIS Students: 3). The main pane displays an email thread titled "RE Research Ethics" from Research.Ethics@uts.edu.au. The thread includes a "Send email" button and a list of messages. The selected message is dated 3/6/2018 4:12 PM and is titled "HREC Approval Granted - ETH17-1939". The email body contains the following text:

HREC Approval Granted - ETH17-1939

R Research.Ethics@uts.edu.au
Tue 3/6/2018 4:12 PM
Kyeong Kang; Fatuma Namisango; Fatuma Namisango; Research Ethics

Dear Applicant

Thank you for your response to the Committee's comments for your project titled, "A Framework of Networking and Co-creation through Social Networking Sites among Non-Profit Organisations". Your response satisfactorily addresses the concerns and questions raised by the Committee who agreed that the application now meets the requirements of the NHMRC National Statement on Ethical Conduct in Human Research (2007). I am pleased to inform you that ethics approval is now granted.

Your approval number is UTS HREC REF NO. ETH17-1939.
Approval will be for a period of five (5) years from the date of this correspondence subject to the provision of annual reports.

Your approval number must be included in all participant material and advertisements. Any advertisements on the UTS Staff Connect without an approval number will be removed.

Please note that the ethical conduct of research is an on-going process. The National Statement on Ethical Conduct in Research Involving Humans requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually from the date of approval, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

You should consider this your official letter of approval. If you require a hardcopy please contact Research.Ethics@uts.edu.au.

To access this application, please follow the URLs below:
* if accessing within the UTS network: <https://rm.uts.edu.au>
* if accessing outside of UTS network: <https://remote.uts.edu.au>, and click on "RM6 - ResearchMaster"

Appendix B: Questionnaire



Survey Questionnaire

RESEARCH PROJECT:

“A Framework of Networking and Co-creation through Social Networking Sites among Non-Profit Organisations” [UTS HREC ETH17-1939 – KANG]

BY

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School of Systems, Management and Leadership

Faculty of Engineering and IT

CONFIDENTIAL

For Authorised Personnel Only

Brief Introduction

Dear Respondent,

This questionnaire is an instrument designed to gather your response on *social media use by your organisation*. Please take some time to read, understand and respond to the questions.

Thank you

Researchers

SECTION I

PART A: About You and Your Organisation

Please tell us about your organisation. Tick the most appropriate choice

1. What is the size of your organisation? ☐ Small ☐ Medium ☐ Large

2. How long has the organisation been operating? ☐ Less than 2 years ☐ 2 – 10 years
☐ over 10 years

3. Which of the following fields of service best describes your organisation?
☐ Education & Research ☐ Sports & Recreation ☐ Social Services ☐ Health
☐ Other ...

4. Our organisation is a/an ☐ National Organisation ☐ International Organisation

5. Gender ☐ Female ☐ Male

6. Age ☐ 18 – 30 years ☐ 31 – 45 years ☐ Above 45 years

7. What is your job position in the organisation? ☐ administrative/operational ☐ supervisory
☐ senior management

PART B: Social Media Tools You Use

1. Which of the following social media platforms does your organisation use? [Tick all that apply]
☐ Facebook ☐ Instagram ☐ Pinterest ☐ Google+
☐ Twitter ☐ LinkedIn ☐ Tumblr ☐ Other specify ...

2. What language(s) do you use when interacting on social media

How to answer SECTIONS II to IV.

On a scale of 1 to 5, where 1 is 'strongly disagree' and 5 is 'strongly agree' (see table below), indicate an appropriate number – by *circling* – to indicate the extent to which you agree with the statements provided in the tables.

Strongly Disagree (SD)	Disagree (D)	Neither Agree nor Disagree (N)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5

SECTION II

PART A: Functional Affordances of Social Media for Nonprofit Organisations

Social media gives us the possibility to ...					
Socialise		SD	D	N	A SA
FA1	Connect and mingle with the public	1	2	3	4 5
FA2	Build active relationships with the public	1	2	3	4 5
FA3	Foster a sense of connection with the public	1	2	3	4 5
Share information					
FA4	Engage in conversations & receive feedback from the public	1	2	3	4 5
FA5	Create and share information about the organisation & its services	1	2	3	4 5

FA6	Communicate to a wider audience	1	2	3	4	5
Call for action						
FA7	Invite the public to participate in the organisation's activities & events	1	2	3	4	5
FA8	Specify and symbolise the organisation's course of action	1	2	3	4	5
FA9	Mobilise for social support towards organisational activities	1	2	3	4	5
Visibility						
FA10	Show the value of our services to the community	1	2	3	4	5
FA11	Portray a positive organisation image	1	2	3	4	5
FA12	Increase transparency and openness to the public	1	2	3	4	5

PART B: Symbolic Expressions of Social Media to Nonprofits

Please indicate your view of social media in relation to the activities of your organisation

Communication of Values		SD	D	N	A	SA
COV1	We generally view social media as a reliable platform for social interaction	1	2	3	4	5
COV2	We generally view social media as a platform for real-life interaction	1	2	3	4	5
COV3	We generally view social media as a platform for routine interaction with the community	1	2	3	4	5
Communication of Meaning						
COM1	Generally, I understand how social media functions fit into our activities	1	2	3	4	5
COM2	Generally, I understand how social media works for productive interaction	1	2	3	4	5
COM3	Generally, I find social media easy to use and valuable to our organisation	1	2	3	4	5

SECTION III

PART A: Types of Organisation-Public Relationship on Social Media

Indicate the state of relationship between your organisation and your social media community

Communal Relationships		SD	D	N	A	SA
COR1	We keep track of public requests and opinions posted to provide better services	1	2	3	4	5
COR2	We respond to public requests received through social media	1	2	3	4	5
COR3	We are concerned about community needs & expectations when interacting on social media	1	2	3	4	5
Exchange Relationship						
EXR1	We seek for social media interaction that benefits our organisation	1	2	3	4	5
EXR2	We expect that using social media should benefit both the organisation and the community	1	2	3	4	5
EXR3	We expect that social media interaction benefits our organisation	1	2	3	4	5
Symbiotic Relationship						
SYB1	On social media, we can see that our targets are related to those of the community	1	2	3	4	5
SYB2	Social media interactions enable us to work towards a common societal goal	1	2	3	4	5
SYB3	There is some interdependence between us & our social media community	1	2	3	4	5

SYB4	We use social media without necessarily intending to derive benefits the public	1	2	3	4	5

PART B: Patterns of interaction between the organisation and the public on social media

Please indicate your organisation's patterns of interaction with the public on social media

Strong interaction		SD	D	N	A	SA
1	We make a post on social media every day or at least a number of times a week	1	2	3	4	5
2	We have a close relationship with social media fans & followers	1	2	3	4	5
3	We offer moral & emotional support to our social media followers and the community	1	2	3	4	5
Symmetrical interaction						
1	We ask questions to initiate discussion (or dialogue) with the public	1	2	3	4	5
2	We request our social media followers to share information with our organisation	1	2	3	4	5
3	We respond to social media comments to ensure two-way communication with the public	1	2	3	4	5
Cohesive interaction						
1	We feel our followers are closely attracted to the activities of our organisation	1	2	3	4	5
2	We feel a strong sense of connection to our supporters, fans & followers on social media	1	2	3	4	5
3	We feel obligated to keep our communities informed and involved in our activities	1	2	3	4	5
Similarity-based interaction						
1	Our followers on social media give quite similar opinion to that of our organisation	1	2	3	4	5
2	Our followers on social media comment on the same values as we do	1	2	3	4	5
3	Our followers on social media show interest in the organisations' activities	1	2	3	4	5

SECTION IV

Organisation's Generative Capabilities for Social Media Interactions

Please evaluate your organisation's capability to use social media

Digital spanning capabilities		SD	D	N	A	SA
1	We are able to make social media related decisions to enhance our social media interactions	1	2	3	4	5
2	We are able to align our social media activities to the organisation's overall goal(s)	1	2	3	4	5
3	We can ably use social media to support our services	1	2	3	4	5
Relationability						
1	We are able recognise, encourage and commit time to valuable interaction on social media	1	2	3	4	5
2	We are able to generate, integrate and utilise opinion, ideas and support from social media	1	2	3	4	5
3	We are able to interact with the public on social media in order to work together	1	2	3	4	5

Adaptiveness						
1	We identify opportunities to use social media to relate and collaborate with the public	1	2	3	4	5
2	We utilise emerging opportunities to maintain continuous interaction with the public	1	2	3	4	5
3	We use the available skills and resources to keep up with social media trends	1	2	3	4	5
Learning capabilities						
1	We continuously observe & scan the environment for new knowledge about social media	1	2	3	4	5
2	New social media opportunities are quickly understood in our organisation	1	2	3	4	5
3	We use lessons learned from past interactions to make decisions on future use of social media	1	2	3	4	5
4	We easily apply new knowledge and insights to improve our social media interactions	1	2	3	4	5

SECTION V

Nonprofit Service Co-creation on Social Media

Which of the following outcomes is your organisation able to achieve through interactions on social media?		SD	D	N	A	SA
1	Connecting to a wide community of common concern	1	2	3	4	5
2	Getting together with people of similar needs	1	2	3	4	5
3	Creating an community of opinion	1	2	3	4	5
4	Recognising potential ideas from the community	1	2	3	4	5
5	Selecting useful ideas to build on our own ideas	1	2	3	4	5
6	Listening to community voices	1	2	3	4	5
7	Relating stories about our services from the community	1	2	3	4	5
8	Sharing experiences about the services we offer	1	2	3	4	5
9	Getting a sense of community experiences with our services	1	2	3	4	5
10	Gathering social media reviews to create better services	1	2	3	4	5
11	Gathering ideas to create better services	1	2	3	4	5
12	Accessing a wider community to understand community needs	1	2	3	4	5
13	Gathering social media feedback to sense service gaps	1	2	3	4	5
14	Aligning services to what matters to the community	1	2	3	4	5
15	Transforming services to target specific groups or situations	1	2	3	4	5
16	Using feedback to develop new or more services	1	2	3	4	5
17	Using social media feedback to create relevant services	1	2	3	4	5
18	Advocating through social media campaigns	1	2	3	4	5
19	Attracting more people to participate in our activities	1	2	3	4	5
20	Letting people know what we stand for	1	2	3	4	5

21	Attracting voluntary support	1	2	3	4	5
22	Getting donations	1	2	3	4	5
23	Getting in touch with people who can work with us	1	2	3	4	5

End of Questionnaire

Thank You for Your Responses 😊

Appendix C: Case Study Protocol

Section	Key Considerations	Details
Overview of the Case Study	Goal of the Study	Explore and explain how nonprofits realise service co-creation through social media. Key focus on; - Variations in forms of service co-creation, - Underlying mechanisms emerging through nonprofits interactions on social media - Enabling organisation capabilities - Linking mechanisms and capabilities to service co-creation
	Research Question(s)	How do <i>nonprofits' interactions</i> with the public on social media contribute toward <i>service co-creation</i>? - What forms of service co-creation are realised? - How do nonprofits interact with the public? (what are the different relational states and patterns of interaction) - What action possibilities does social media offer to nonprofits? What meanings and values does social media convey to nonprofits? - What generative capabilities contribute to OPI and SCC?
	Theoretical Propositions (summarised)	P1: There are variations in the forms of service co-creation realised on social media P2: OPI involves TOR and POI, which influence service co-creation P3: Social media offers action possibilities, conveys meaning and values, which influence service co-creation P4: Social media offers action possibilities, conveys meaning and values, which influence OPI in such a way that - Meaning and values influence action possibilities - Action possibilities influence TOR - Meaning and values influence POI - POI influence TOR P5: Organisation generativity enhances or constrains nonprofits interactions and service co-creation on social media
Data Collection Procedures	Data collection	Develop a semi-structured interview protocol - capture the constructs in the theoretical framework on realising service co-creation on social media (Figure 5-1) Identify multiple case studies, <u>at least 15 typical cases</u> of nonprofits on social media Select cases from; - Health, education and social services Approach organisations, explain the study aims, purpose for data collection, intention to publish findings, assurance of confidentiality, and seek <u>organisation consent</u> Request executive or manager in charge, to assist in the recruitment of potential participants. These are employees planning and running the organisation's social media presence

		Explain the study aims, purpose of data collection, assurance of confidentiality, and seek informed participant consent - Provide the information sheet to the participant, and give them time to read it - Participant has to willingly sign the consent form - Researcher also signs the form Conduct interview following the protocol questions
Protocol Questions	Semi-structured interview questions	Follow the attached interview protocol provided – See Appendix D
Data analysis	a theoretical thematic analysis	Create and edit interview transcripts, remove errors and improve clarity
	Pattern matching	Enter the transcripts into Nvivo
	Cross-case analysis	Develop a code book and test its reliability by asking fellows to go through it, and apply it to test data – use at least 2 interviews Revise the code (if necessary) and enter the final template of codes into Nvivo Start coding focusing on the analytical priorities below - Various ways in which service co-creation occurs - Action possibilities (and potential constraints) - The meanings conveyed by social media - The values conveyed by social media - Types of relationships - Patterns of interaction - Enabling capabilities, look out for - o Learning capabilities - o Adaptiveness of the organisation - o Relationability - o Aligning social media possibilities to the organisation's overall goal
Ensure Reliability and Validity	Construct validity	- Define analytical priorities based on existing literature and the AST - Analytical priorities need to match those in the QUAN study for easy comparison of findings
	Internal validity	- Develop and follow a theoretically grounded research model - Consider supporting theories (if any) and existing evidence when developing theoretical propositions - Match observed relationships to the predicted relationships - o Confirm the theoretical propositions - o Falsify the theoretical propositions - o Refine the theoretical propositions
	External validity	- Conduct a multiple case study - Select cases from different classifications of nonprofits
	Reliability	- Follow the study protocol - Maintain and store all data, i.e., - o the theoretical framework and propositions - o this protocol and interview protocol - o the audio files - o participant information

		○ the transcripts (both in Nvivo and MS. Word)
Reporting	Corroboration and Complementation of QUAN findings	Report case study findings in a separate Chapter Merge findings with the QUAN findings - use joint display - identify convergence, divergence or complementarity between the two sets of findings

Appendix D: Semi-structured Interview Protocol

Semi-structured Interview Questions

The study: Social media, organisation-public interaction and co-creation of nonprofit services (UTS HREC Ref. ETH17-1939)

Request participant for permission to audio record interview

Signing consent forms

*** Start recording ***

Warm up questions

- 1) What is the name of your organisation?
- 2) What does your organisation do?
- 3) What is your position in the organisation, and how long have you worked for this organisation?
- 4) What social media does your organisation use?

Interview questions on the functional affordances of social media (RQ 3)

- 5) Why did your organisation decide use social media?
- 6) What do you use it (social media) for?
- 7) Could you tell me what you do whenever you open your organisation's social media page?
- 8) After using social media for some time ... Has social media been valuable to your organisation?
 - a. *If yes, then ask*, how has it been valuable?
 - b. *If no, then ask*, why has social media has not been valuable?
 - c. What constraints do you encounter?

Interview questions on the symbolic expressions of social media (RQ3)

- 9) What comes to your mind when one talks of social media? What is your understanding of social media in relation to using it for organisation activities?
- 10) What values do you associate with using social media?
- 11) How do you maintain these values on social media?

Interview questions on the types (state) of relationships with the public (RQ2)

- 12) Do you have a social media group or groups? *If yes then ask*, Is it closed or open to the public?
- 13) How would you describe the relationship between your organisation and its social media group (or followers from the public)?

- 14) Do you view your social media followers the same way you view people in a real world community where you operate? *For any answer the interviewee gives, ask* why?

Interview questions on patterns of interaction with the public (RQ3)

- 15) How often do you post? ... Why?
16) What kind of content do you post on social media?
17) Do you read comments on your social media page? ... Why?
18) How often do you read these comments
19) How often do you respond to these comments? ... Why?
20) When you read the comments, what do you normally gather from those comments?
21) Do you feel close to your followers?
a. *For any answer, the interviewee gives ask*, how close, on a scale of 1 to 10 (1 being not close at all and 10 being very close) *For any number they choose, ask*, why do you feel that way?

Interview questions on the organisation's generative capabilities for social media interactions (RQ4)

- 22) Do you think your organisation has adequate technology capabilities to use social media?
a. *If yes, then ask*, Can you tell me more about those capabilities?
b. *If no, then ask*, what do you think is lacking?
23) Do you think your organisation has adequate relational capabilities to interact with the public on social media?
a. *If yes, then ask*, Can you tell me more about those capabilities?
b. *If no, then ask*, what do you think is lacking?
24) Could you tell some lessons that your organisation has learnt through using social media? How have you used this knowledge to operate better on social media?

Interview questions on resource mobilisation, integration and co-creation of services (RQ1)

- 25) Do your social media followers contribute to promoting your services or activities? *If yes, ask*. How?
26) Do your social media followers contribute to improving your services? *If yes, ask*. How?
27) Do your social media followers contribute to delivering your services? *If yes, ask*. How?
28) Do your social media followers in some way contribute ideas? *If yes, ask*. How? How do such ideas influence the work you do?
29) Do your social media followers offer any useful feedback? *If yes, ask*. Can you please explain what kind of feedback you get? How do you use this feedback?
30) Generally, do you think interacting with people on social media enables you to create new or improve your services?
a. *If yes, ask*, can you describe those experiences?
b. *If No, ask*, why do you think using social media does not contribute towards improving or creating new services?

Thank you for participating in this study

***** End Recording *****

Appendix E: Code Book

Second-order Theme 1: Service co-creation	
Description	The organisation involves individuals in the community, be it service consumers, donors, volunteers, supporters, to gather their contribution, opinions, ideas, views, experiences, towards creation, improvement, delivery, or evaluation of services
Category 1.1: Co-ideating	
Description	Social media interaction allow the organisation to identify, select and put ideas into action to meet community needs, deliver value and provide relevant services
Codes (Code Description)	Code 1: Gathering community ideas (Gathering ideas on services and expectations) Code 2: Selecting ideas based on community insights (Identifying and selecting community problems and needs to address) Code 3: Putting ideas to action (Anticipating and identifying how services can be provided)
Category 1.2: Co-advocacy	
Description	Social media interaction allows the organisation to precisely express its services and contributions towards a specified community development need while aiming at increasing service recognition and outreach
Codes (Code Description)	Code 1: Increasing community outreach (Getting more people and increasing our following, shares and invites) Code 2: Increasing recognition of services (Increasing recognition and interest in organisation services) Code 3: Advocacy and campaigns (online advocacy and campaigns for organisation mission, values and services)
Category 1.3: Co-assessment	
Description	Social media feedback supports the appraisal of organisation services, in terms of value and relevance to community, community/service user satisfaction, service processes, and outcome or impact on community
Codes (Code Description)	Code 1: Recognising service relevance (Providing feedback, gratitude or displeasure on service outcomes) Code 2: Recognising service gaps (Speaking up – whether you like it or dislike, whether it's good or bad) Code 3: Voting on services (Assessing votes for services through likes, shares, views)
Category 1.4: Co-resourcing	
Description	Social media interaction enables the organisation to tap into resources invested in their community towards providing services
Codes (Code Description)	Code 1: Co-resourcing (Accessing community resources such as knowledge, funds and material items contributed through fundraising and donations) Code 2: Access to voluntary community support (Tapping into and recruiting volunteers to participate in providing services, offering emotional support) Code 3: Partnering with important others (Partnering with influencers, groups and other organisations)
Category 1.5: Co-progression	
Description	Social media interactive activities that allow the organisation to develop, reshape and gradually advance its services to become more relevant and valuable
Codes (Code Description)	Code 1: Recognising alternative services (Recognising alternative services based on social media feedback) Code 2: Aligning with what matters to the community (Aligning with what the community say matters to them) Code 3: Targeted service transformation (Transforming services to target a specific need, group or community)
Category 1.6: Co-experience	

Description	Social media interaction brings individuals' independent service experiences together thereby influencing each other's response and interpretation of the service (Jaakkola et al., 2015; Yoo et al., 2012)
Codes (Code Description)	Code 1: <i>Conjoint encounters</i> (Recollecting key events and experiences) Code 2: <i>Sharing stories</i> (Sharing experiences, feelings and incidences) Code 3: <i>Educing service experiences</i> (Inferring from information shared on organisation page)
Second-order Theme 2: Organisation–Public Interaction	
Description	A connection, link or association between the organisation and community publics or actors, i.e., people who are of interest to the organisation
Category 2.1: Communal relationship	
Description	A relationship where the organisation shows greater concern for community needs
Codes (Code Description)	Code 1: <i>Concern</i> (Concerned about community welfare) Code 2: <i>Co-operation</i> (Co-operation with the community) Code 3: <i>Assistance</i> (Assist the community)
Category 2.2: Exchange relationship	
Description	A relationship where the organisation shows greater concern to reciprocation of benefits with the community
Codes (Code Description)	Code 1: <i>Benefit</i> (Expectation of benefit) Code 2: <i>Offer</i> (Offers from the community) Code 3: <i>Reciprocation</i> (Need something in return)
Category 2.3: Symbiotic relationship	
Description	A relationship where the organisation and community supplement each other's efforts for mutual interdependent goals
Codes (Code Description)	Code 1: <i>Resource interdependence</i> (the organisation and community need each other's resources to reach ultimate goal) Code 2: <i>Common goal</i> (there is a sense of common goal) Code 3: <i>Transparency is important</i> (the organisation perceives transparency as an important part of their relationship with the public)
Category 2.4: Strong interaction	
Description	A relationship involving frequent interaction and intensified discussion of broad and deep topic or issues of concern
Codes (Code Description)	Code 1: <i>Frequent contact</i> (Post on social media every day or at least a number of times a week) Code 2: <i>Broad discussions</i> (Discuss a wide range of issues on social media) Code 3: <i>Emotional connection</i> (Offer moral & emotional support through social media)
Category 2.5: Cohesive interaction	
Description	A relationship involving feelings of togetherness to pursue an instrumental objective that could benefit target communities
Codes (Code Description)	Code 1: <i>Obligation</i> (Obligated to keep our communities informed and involved in our activities) Code 2: <i>Sense of closeness & togetherness</i> (Community close to organisation) Code 3: <i>Feelings of morale</i> (the community appreciates and encourages the organisation) Code 4: <i>Sense of commitment</i> (the community is continuously supportive of the organisation's cause)
Category 2.6: Symmetrical interaction	
Description	A relationship that involves two-way dialogic communication and interaction between the organisation and community
Codes (Code Description)	Code 1: <i>Requesting and responding to information</i> (relationship involves information requests and responses with the public) Code 2: <i>Dialogic communication</i> (relationship involves negotiations on ideas and opinion with the public)

	Code 3: Mutual understanding (relationship involves striving to reach a mutual understanding with the community)
Category 2.7: Similarity-based interaction	
Description	A relationship that involves shared interests about the organisation activities and services to the community
Codes (Code Description)	Code 1: Similar values (there is a perception of similar values to those of target communities) Code 2: Comparable perspectives (Similar opinion and views on the organisation's service) Code 3: Shared interest (community shows a lot of interest in the organisations' activities)
Second-order Theme 3. Functional affordances of Social media (FASM)	
Description	The actions that social media enables nonprofits to achieve in relation to their intended goals
Category 3.1: Socialising	
Description	Social media enables the organisation to maintain closeness with its community as well as attract individuals and groups towards shared membership, experiences and commitment to common issues, problems, change or goals
Codes (Code Description)	Code 1: Working with groups (creating groups, offering in-group support and comfort, fostering a sense of community or belonging) Code 2: Connecting to the community and reaching out (connecting to the world, connecting to specific individuals, groups, organisations, donors and community influencers) Code 3: Sociability and ongoing interaction (keeping in touch with the community, start conversation, fast responses, personalising responses)
Category 3.2: Information sharing	
Description	Social media enables the organisation to exchange information in different forms with the public
Codes (Code Description)	Code 1: Accessing and exchanging information (sharing and receive crucial information on organisation services) Code 2: messaging and inboxing (transmit messages in multiple forms to their target individuals, groups or the community at large, chatting) Code 2: Publishing, publicising and broadcasting (communicating organisation activities to a large audience)
Category 3.3: Increasing visibility	
Description	Social media enables the organisation to advertise its services and promote its self to potential service consumers and supports
Codes (Code Description)	Code 1: Getting people to know about us (Getting people to know about the organisation and its activities) Code 2: using imagery (posting images and videos) Code 3: ensuring transparency and legitimacy (Increasing transparency and show organisation contribution to the community)
Category 3.4: Calling for action	
Description	Social media enables the organisation to harness or mobilise resources from the community to support service provision
Codes (Code Description)	Code 1: Influencing others Code 2: calling for participation in organisation events Code 3: seeking for help and support
Category 3.5: Knowledge sharing	
Description	Social media enables the organisation to give and receive knowledge through opinion, ideas, experiences, perceptions, perspectives, interpretation etc.
Codes (Code Description)	Code 1: giving knowledge (donate knowledge to the community through public education, creating awareness on community problems, offering solutions and advise, explaining unclear issues)

	Code 2: seeking knowledge (collect knowledge from the community by learning from community feedback and opinions, picking advice from the community)
Second-order Theme 4. Symbolic expressions of social media (SESM)	
Description	The meaning and values conveyed by social media to nonprofits
Category 4.1: Communication of Meaning	
Description	The meaning that social media, as a bundle of features, conveys to nonprofits
Codes (Code Description)	Code 1: Easy, useful and valuable (social media is generally easy to use and it supports the organisation's activities) Code 2: Large audience (social media has brought the world together, there are lots of people on social media) Code 3: Potential danger (social media possess threat to the organisation so one has to be careful)
Category 4.2: Communication of Values	
Description	The values associated with social media
Codes (Code Description)	Code 1: Actuality (gives a feeling of real life interaction, real communication, real existence) Code 2: Recognition (Induce feeling of support and recognition) Code 3: Control (Remember to control interaction, try to direct conversations) Code 4: Anonymity (maintain some level of secrecy)
Second-order Theme 5. Enabling Capabilities (Organisational Generativity)	
Description	the ability of the organisation to revitalise, procreate, and act in new ways to leverage the available opportunities
Category 5.1: Digital spanning	
Description	Organisation abilities for leveraging social media features, functionality and technology landscape towards productive social media interaction
Codes (Code Description)	Code 1: Understand functionality (Understanding of social media functionality) Code 2: social media alignment (Matching social media to organisation operations) Code 3: Knowledge, experience and training (Experience and knowledge of social media)
Category 5.2: Relationability	
Description	The organisation's ability to acquire and utilise social media relationships
Codes (Code Description)	Code 1: maintain SM relationships (Understanding scope of social media community and keeping social media community alive) Code 2: Relationship learning (Recognising the opportunity embedded in a social media community and know how to acquire resources from relationships social media) Code 3: Make productive contacts (Identifying potential contacts and productive connections)
Category 5.3: Adaptiveness	
Description	The organisation's ability to sense, respond, and seize new opportunities offered by social media
Codes (Code Description)	Code 1: Sensing new opportunities and changes on social media (Sensing opportunities) Code 2: Responding and adjusting to changes quickly to changes on social media (Responding to opportunities)
Category 5.4: Learning capability	
Description	The organisation's ability to reflect, acquire and use information and knowledge to improve its social media activities and performance
Codes (Code Description)	Code 1: Learn by using social media Code 2: Learn from others in the industry Code 3: Learn from prior experiences

Appendix F: SPSS Output for Harman Single Factor Test

Factor	Total Variance Explained			Extraction Sums of Squared Loadings		
	Total	Initial Eigenvalues % of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.782	19.451	19.451	14.026	18.456	18.456
2	5.484	7.215	26.666			
3	3.641	4.791	31.457			
4	3.191	4.198	35.655			
5	2.999	3.947	39.602			
6	2.754	3.624	43.226			
7	2.437	3.207	46.433			
8	2.308	3.037	49.470			
9	2.138	2.813	52.283			
10	1.960	2.579	54.862			
11	1.897	2.497	57.359			
12	1.849	2.432	59.791			
13	1.615	2.125	61.916			
14	1.531	2.015	63.931			
15	1.409	1.854	65.784			
16	1.319	1.735	67.519			
17	1.306	1.718	69.237			
18	1.242	1.635	70.872			
19	1.197	1.576	72.448			
20	1.127	1.483	73.931			
21	1.039	1.367	75.298			
22	.995	1.309	76.607			
23	.983	1.294	77.901			
24	.915	1.204	79.105			
25	.892	1.174	80.279			
26	.868	1.142	81.421			
27	.819	1.078	82.499			
28	.775	1.019	83.518			
29	.700	.921	84.439			
30	.689	.907	85.346			
31	.651	.856	86.202			
32	.617	.811	87.013			
33	.604	.795	87.809			

34	.545	.717	88.526			
35	.499	.657	89.183			
36	.492	.647	89.830			
37	.472	.621	90.451			
38	.463	.610	91.061			
39	.451	.593	91.654			
40	.395	.519	92.173			
41	.382	.502	92.675			
42	.365	.481	93.156			
43	.360	.474	93.630			
44	.324	.427	94.056			
45	.318	.419	94.475			
46	.304	.400	94.876			
47	.271	.357	95.232			
48	.261	.343	95.576			
49	.248	.327	95.902			
50	.231	.304	96.206			
51	.225	.296	96.502			
52	.203	.266	96.768			
53	.194	.255	97.024			
54	.192	.252	97.276			
55	.181	.239	97.515			
56	.170	.224	97.739			
57	.154	.202	97.941			
58	.147	.194	98.135			
59	.144	.190	98.325			
60	.129	.169	98.494			
61	.122	.161	98.655			
62	.111	.146	98.801			
63	.106	.139	98.941			
64	.100	.131	99.072			
65	.092	.121	99.193			
66	.086	.113	99.306			
67	.081	.106	99.413			
68	.075	.099	99.511			
69	.066	.087	99.598			
70	.060	.079	99.677			
71	.058	.076	99.753			

72	.051	.067	99.821			
73	.044	.058	99.879			
74	.034	.045	99.924			
75	.031	.041	99.966			
76	.026	.034	100.000			

Extraction Method: Principal Axis Factoring.

Appendix G: SPSS Output for Skewness and Kurtosis Test

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
FASM	289	100.0%	0	0.0%	289	100.0%
SESM	289	100.0%	0	0.0%	289	100.0%
OG	289	100.0%	0	0.0%	289	100.0%
TOR	289	100.0%	0	0.0%	289	100.0%
POI	289	100.0%	0	0.0%	289	100.0%
SCC	289	100.0%	0	0.0%	289	100.0%

Descriptives

		Statistic	Std. Error
FASM	Mean	4.3464	.02047
	95% Confidence Interval for Mean	Lower Bound	4.3061
		Upper Bound	4.3867
	5% Trimmed Mean	4.3453	
	Median	4.3333	
	Variance	.121	
	Std. Deviation	.34805	
	Minimum	3.33	
	Maximum	5.00	
	Range	1.67	
	Interquartile Range	.50	
	Skewness	.162	.143
	Kurtosis	-.468	.286
SESM	Mean	4.2803	.02333
	95% Confidence Interval for Mean	Lower Bound	4.2344
		Upper Bound	4.3262
	5% Trimmed Mean	4.2880	
	Median	4.2500	
	Variance	.157	
	Std. Deviation	.39659	

	Minimum		2.75	
	Maximum		5.00	
	Range		2.25	
	Interquartile Range		.50	
	Skewness		-.237	.143
	Kurtosis		1.304	.286
OG	Mean		4.2106	.02407
	95% Confidence Interval for Mean	Lower Bound	4.1633	
		Upper Bound	4.2580	
	5% Trimmed Mean		4.2089	
	Median		4.1250	
	Variance		.167	
	Std. Deviation		.40920	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		.50	
	Skewness		.213	.143
	Kurtosis		-.469	.286
TOR	Mean		4.0927	.03018
	95% Confidence Interval for Mean	Lower Bound	4.0333	
		Upper Bound	4.1521	
	5% Trimmed Mean		4.1027	
	Median		4.0000	
	Variance		.263	
	Std. Deviation		.51314	
	Minimum		2.40	
	Maximum		5.00	
	Range		2.60	
	Interquartile Range		.60	
	Skewness		-.094	.143
	Kurtosis		-.254	.286
POI	Mean		4.0067	.02632
	95% Confidence Interval for Mean	Lower Bound	3.9549	
		Upper Bound	4.0585	
	5% Trimmed Mean		4.0140	
	Median		4.0000	

	Variance		.200	
	Std. Deviation		.44743	
	Minimum		1.57	
	Maximum		5.00	
	Range		3.43	
	Interquartile Range		.57	
	Skewness		-.657	.143
	Kurtosis		2.627	.286
SCC	Mean		4.2630	.02378
	95% Confidence Interval for Mean	Lower Bound	4.2162	
		Upper Bound	4.3098	
	5% Trimmed Mean		4.2652	
	Median		4.1250	
	Variance		.163	
	Std. Deviation		.40430	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		.63	
	Skewness		.139	.143
	Kurtosis		-.403	.286

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FASM	.127	289	.000	.959	289	.000
SESM	.196	289	.000	.890	289	.000
OG	.181	289	.000	.953	289	.000
TOR	.139	289	.000	.967	289	.000
POI	.138	289	.000	.957	289	.000
SCC	.142	289	.000	.952	289	.000

a. Lilliefors Significance Correction

Appendix H: SPSS Output on Factor Analysis for the Measures of SCC

```
FACTOR
/VARIABLES CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8 CC9 CC10 CC11 CC12 CC13 CC14 CC15 CC16 CC17 CC18
CC19
      CC20 CC21 CC22 CC23
/MISSING LISTWISE
/ANALYSIS CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8 CC9 CC10 CC11 CC12 CC13 CC14 CC15 CC16 CC17 CC18
CC19
      CC20 CC21 CC22 CC23
/PRINT INITIAL CORRELATION DET KMO AIC EXTRACTION ROTATION
/FORMAT SORT BLANK(.40)
/PLOT EIGEN
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION PROMAX(4)
/METHOD=CORRELATION.
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- - - - - F A C T O R   A N A L Y S I S - - - - -
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Correlation Matrix^a

		CC1	CC2	CC3	CC4	CC5	CC6	CC7	CC8	CC9	CC10	CC11	CC12	CC13	CC14	CC15	CC16	CC17	CC18	CC19	CC20	CC21	CC22	CC23
Correlation	CC1	1.000																						
	CC2	.557	1.000																					
	CC3	.346	.487	1.000																				
	CC4	.164	.406	.297	1.000																			
	CC5	.338	.433	.375	.450	1.000																		
	CC6	.363	.406	.393	.385	.562	1.000																	
	CC7	.172	.324	.312	.269	.252	.391	1.000																
	CC8	.240	.285	.248	.217	.294	.305	.485	1.000															
	CC9	.026	.225	.298	.037	.046	.068	.398	.446	1.000														
	CC10	.254	.371	.392	.197	.355	.360	.316	.326	.260	1.000													
	CC11	.465	.456	.372	.254	.501	.361	.410	.306	.083	.501	1.000												
	CC12	.409	.316	.303	.231	.389	.360	.197	.221	.111	.434	.565	1.000											
	CC13	.213	.382	.367	.224	.321	.264	.291	.253	.128	.476	.383	.361	1.000										
	CC14	.232	.201	.151	.217	.213	.081	.176	.233	.154	.346	.188	.199	.400	1.000									
	CC15	.259	.116	.090	.071	-.024	.001	.180	.245	.191	.199	.231	.203	.128	.510	1.000								
	CC16	.155	.049	.113	.129	.146	-.054	.163	.269	.292	.090	.091	.139	.240	.546	.533	1.000							
	CC17	.072	.106	.189	.209	.160	.020	.096	.070	.237	.281	.125	.180	.229	.282	.091	.420	1.000						
	CC18	.356	.228	.148	.208	.444	.292	.320	.378	.104	.263	.407	.290	.314	.217	.268	.258	.231	1.000					
	CC19	.269	.308	.123	.125	.267	.192	.250	.300	.278	.171	.306	.349	.224	.223	.320	.304	.246	.691	1.000				
	CC20	.335	.256	.200	.225	.412	.186	.315	.094	-.002	.373	.405	.310	.264	.326	.348	.233	.198	.502	.406	1.000			
	CC21	.032	-.011	-.048	.171	-.032	-.033	.059	.009	.061	-.003	.016	-.024	-.083	.237	.218	.279	.322	.221	.246	.092	1.000		
	CC22	.056	-.055	-.110	.142	-.053	-.068	-.142	.067	.065	.012	-.021	-.085	-.095	.240	.132	.332	.312	.193	.241	.127	.685	1.000	
	CC23	-.067	.005	.016	.112	-.037	-.089	-.081	.032	.101	-.022	-.079	-.074	-.120	.251	.193	.322	.309	.114	.223	.039	.748	.711	1.000

a. Determinant = 1.08E-005

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.722
Bartlett's Test of Sphericity	Approx. Chi-Square	2944.432
	df	253
	Sig.	.000

Communalities

	Initial	Extraction
CC1	1.000	.683
CC2	1.000	.644
CC3	1.000	.569
CC4	1.000	.485
CC5	1.000	.629
CC6	1.000	.600
CC7	1.000	.589
CC8	1.000	.646
CC9	1.000	.736
CC10	1.000	.561
CC11	1.000	.589
CC12	1.000	.473
CC13	1.000	.601
CC14	1.000	.686
CC15	1.000	.772
CC16	1.000	.664
CC17	1.000	.659
CC18	1.000	.808
CC19	1.000	.714
CC20	1.000	.590
CC21	1.000	.764
CC22	1.000	.761
CC23	1.000	.801

Extraction Method: Principal Component

Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.292	27.355	27.355	6.292	27.355	27.355	5.031
2	3.244	14.106	41.461	3.244	14.106	41.461	2.954
3	1.639	7.125	48.586	1.639	7.125	48.586	4.087
4	1.487	6.464	55.050	1.487	6.464	55.050	3.219
5	1.309	5.692	60.742	1.309	5.692	60.742	2.389
6	1.050	4.564	65.306	1.050	4.564	65.306	2.988
7	.979	4.255	69.561				
8	.833	3.623	73.183				
9	.753	3.275	76.459				
10	.699	3.040	79.498				
11	.622	2.704	82.202				
12	.577	2.509	84.710				
13	.557	2.422	87.132				
14	.516	2.243	89.375				
15	.453	1.970	91.345				
16	.392	1.705	93.050				
17	.342	1.486	94.536				
18	.312	1.356	95.891				
19	.281	1.220	97.112				
20	.228	.989	98.101				
21	.176	.767	98.868				
22	.144	.626	99.494				
23	.116	.506	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



Component Matrix^a

	Component					
	1	2	3	4	5	6
CC11	.693					
CC18	.647				-.445	
CC5	.644					
CC2	.633					
CC10	.633					
CC12	.600					
CC20	.591			-.446		
CC19	.586				-.469	
CC13	.577					
CC1	.576					.488
CC7	.559					
CC3	.553					
CC8	.549					
CC6	.547					
CC14	.522				.413	
CC4	.484					
CC15	.429					
CC23		.802				
CC22		.788				
CC21		.767				

CC16	.436	.538				
CC9			-.570	.470		
CC17		.405				-.467

Extraction Method: Principal Component Analysis.^a

a. 6 components extracted.

Pattern Matrix^a

	Component					
	1	2	3	4	5	6
CC2	.857					
CC6	.763					
CC4	.712					
CC3	.703					
CC1	.680					
CC5	.581					
CC11	.473					
CC12						
CC23		.897				
CC21		.874				
CC22		.860				
CC18			.920			
CC19			.819			
CC20			.600			
CC15				.876		
CC14				.687		
CC16				.613		
CC9					.826	
CC8					.689	
CC7					.607	
CC17						.737
CC13						.590
CC10						.500

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.^a

a. Rotation converged in 8 iterations.

Structure Matrix

	Component					
	1	2	3	4	5	6
CC2	.777					
CC6	.721					
CC5	.708		.534			
CC11	.696		.592			
CC1	.672		.447	.476		
CC3	.655					
CC12	.577		.506			
CC4	.571					
CC23		.883				
CC22		.852				
CC21		.851				
CC18			.883			
CC19			.788			
CC20	.408		.699	.426		
CC15				.854		
CC14				.754		.507
CC16				.697		.432
CC9					.842	
CC8					.737	
CC7	.445				.663	
CC17						.732
CC13	.472					.671
CC10	.550					.634

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Component Correlation Matrix

Component	1	2	3	4	5	6
1	1.000	-.229	.491	.266	.191	.335
2	-.229	1.000	.003	.110	.066	.074
3	.491	.003	1.000	.365	.153	.257
4	.266	.110	.365	1.000	.170	.284
5	.191	.066	.153	.170	1.000	.218
6	.335	.074	.257	.284	.218	1.000

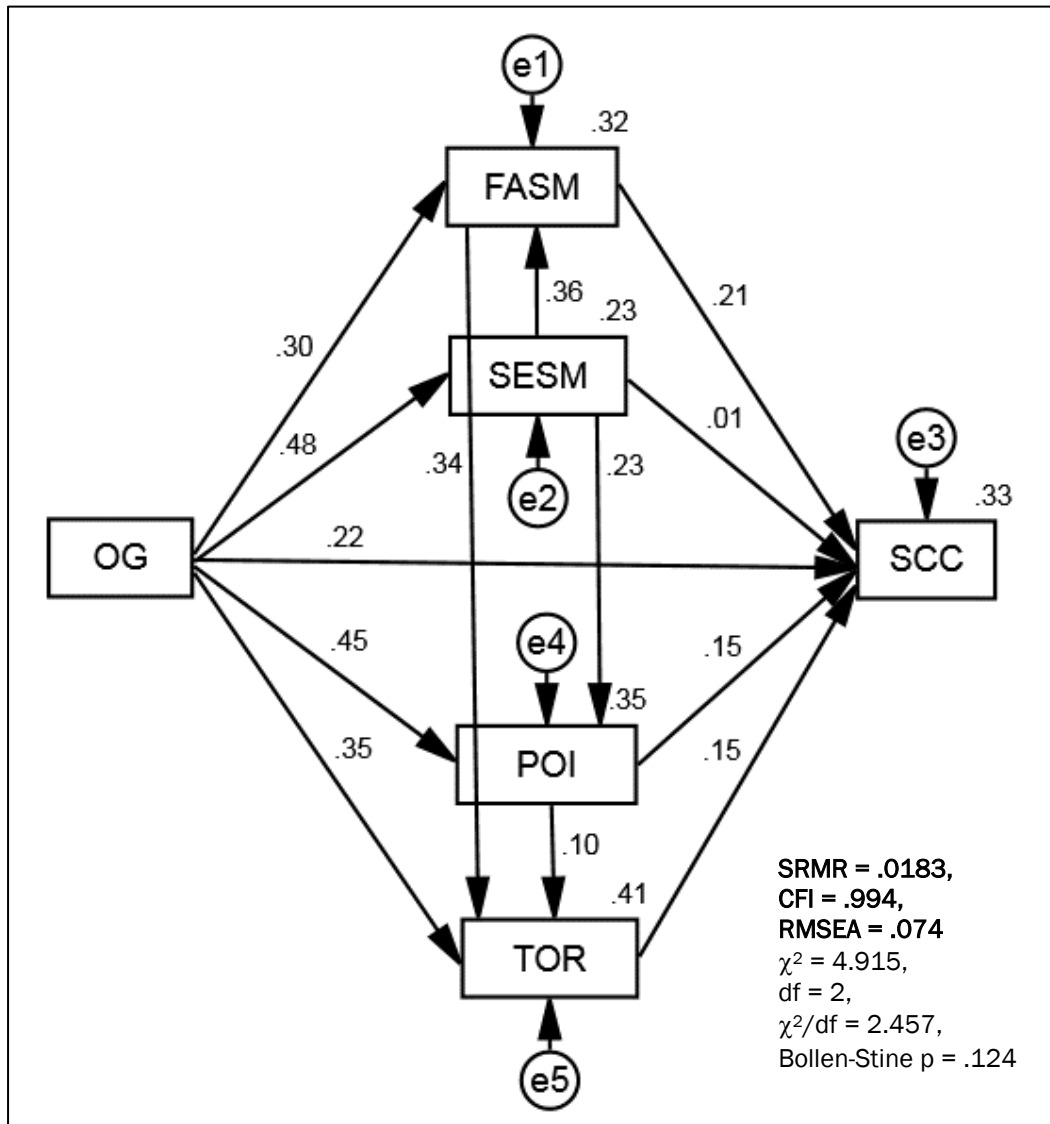
Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

		CC1	CC2	CC3	CC4	CC5	CC6	CC7	CC8	CC9	CC10	CC11	CC12	CC13	CC14	CC15	CC16	CC17	CC18	CC19	CC20	CC21	CC22	CC23
Anti-image	CC1	.427	-.211	-.086	.123	.035	-.076	.051	-.037	.059	.069	-.043	-.109	.095	-.055	-.029	-.034	-.003	-.082	.070	-.041	-.031	-.062	.095
Covariance	CC2	-.211	.381	-.041	-.154	-.040	.009	-.014	.005	-.062	-.043	-.044	.093	-.103	.013	.010	.053	.021	.093	-.115	.011	.020	.050	-.065
	CC3	-.086	-.041	.560	-.063	-.012	-.074	.008	.018	-.128	-.038	-.042	.021	-.092	.050	.009	-.016	-.039	.023	.038	-.028	.031	.074	-.092
	CC4	.123	-.154	-.063	.582	-.103	-.050	-.065	-.032	.084	.075	.049	-.085	.014	-.033	-.051	.027	-.082	-.012	.070	.000	-.035	-.089	.055
	CC5	.035	-.040	-.012	-.103	.338	-.168	.118	-.058	-.021	.012	-.119	.005	.051	-.062	.158	-.102	.021	-.077	.031	-.126	-.007	.087	-.026
	CC6	-.076	.009	-.074	-.050	-.168	.458	-.152	.014	.074	-.079	.096	-.070	-.011	.036	-.051	.080	.036	.003	-.028	.114	.020	-.061	.016
	CC7	.051	-.014	.008	-.065	.118	-.152	.396	-.147	-.143	.033	-.135	.083	-.005	-.024	.081	-.061	.021	-.018	.016	-.159	-.105	.130	.019
	CC8	-.037	.005	.018	-.032	-.058	.014	-.147	.494	-.115	-.070	.017	-.016	-.001	-.004	-.056	-.023	.081	-.090	.011	.153	.086	-.069	-.019
	CC9	.059	-.062	-.128	.084	-.021	.074	-.143	-.115	.517	-.087	.084	-.028	.064	.027	-.037	-.046	-.072	.054	-.097	.095	.019	-.051	.029
	CC10	.069	-.043	-.038	.075	.012	-.079	.033	-.070	-.087	.453	-.084	-.078	-.092	-.091	-.034	.103	-.122	-.012	.083	-.099	.007	-.029	.012
	CC11	-.043	-.044	-.042	.049	-.119	.096	-.135	.017	.084	-.084	.389	-.156	-.029	.059	-.092	.053	.005	-.019	.009	.042	.006	-.072	.034
	CC12	-.109	.093	.021	-.085	.005	-.070	.083	-.016	-.028	-.078	-.156	.498	-.062	.019	.013	-.024	-.027	.077	-.124	-.026	-.018	.088	-.021
	CC13	.095	-.103	-.092	.014	.051	-.011	-.005	-.001	.064	-.092	-.029	-.062	.518	-.152	.084	-.085	-.017	-.085	.013	.019	.008	.013	.058
	CC14	-.055	.013	.050	-.033	-.062	.036	-.024	-.004	.027	-.091	.059	.019	-.152	.474	-.134	-.089	-.004	.053	-.002	-.015	-.006	-.019	-.032
	CC15	-.029	.010	.009	-.051	.158	-.051	.081	-.056	-.037	-.034	-.092	.013	.084	-.134	.410	-.176	.119	-.020	-.029	-.121	-.053	.108	-.028
	CC16	-.034	.053	-.016	.027	-.102	.080	-.061	-.023	-.046	.103	.053	-.024	-.085	-.089	-.176	.389	-.160	.019	-.007	.035	.039	-.074	-.013
	CC17	-.003	.021	-.039	-.082	.021	.036	.021	.081	-.072	-.122	.005	-.027	-.017	-.004	.119	-.160	.606	-.033	-.020	-.013	-.051	.002	-.019
	CC18	-.082	.093	.023	-.012	-.077	.003	-.018	-.090	.054	-.012	-.019	.077	-.085	.053	-.020	.019	-.033	.322	-.201	-.063	-.041	.003	.013
	CC19	.070	-.115	.038	.070	.031	-.028	.016	.011	-.097	.083	.009	-.124	.013	-.002	-.029	-.007	-.020	-.201	.364	-.049	.007	-.027	-.018
	CC20	-.041	.011	-.028	.000	-.126	.114	-.159	.153	.095	-.099	.042	-.026	.019	-.015	-.121	.035	-.013	-.063	-.049	.448	.065	-.091	.020
	CC21	-.031	.020	.031	-.035	-.007	.020	-.105	.086	.019	.007	.006	-.018	.008	-.006	-.053	.039	-.051	-.041	.007	.065	.319	-.101	-.149
	CC22	-.062	.050	.074	-.089	.087	-.061	.130	-.069	-.051	-.029	-.072	.088	.013	-.019	.108	-.074	.002	.003	-.027	-.091	-.101	.296	-.115
	CC23	.095	-.065	-.092	.055	-.026	.016	.019	-.019	.029	.012	.034	-.021	.058	-.032	-.028	-.013	-.019	.013	-.018	.020	-.149	-.115	.294
Anti-image	CC1	.687 ^a	-.523	-.175	.246	.091	-.171	.124	-.081	.125	.156	-.106	-.236	.202	-.121	-.070	-.084	-.007	-.222	.178	-.093	-.083	-.175	.269
Correlation	CC2	-.523	.732 ^a	-.089	-.328	-.112	.022	-.037	.011	-.139	-.102	-.114	.214	-.232	.030	.026	.139	.045	.265	-.310	.026	.057	.150	-.193

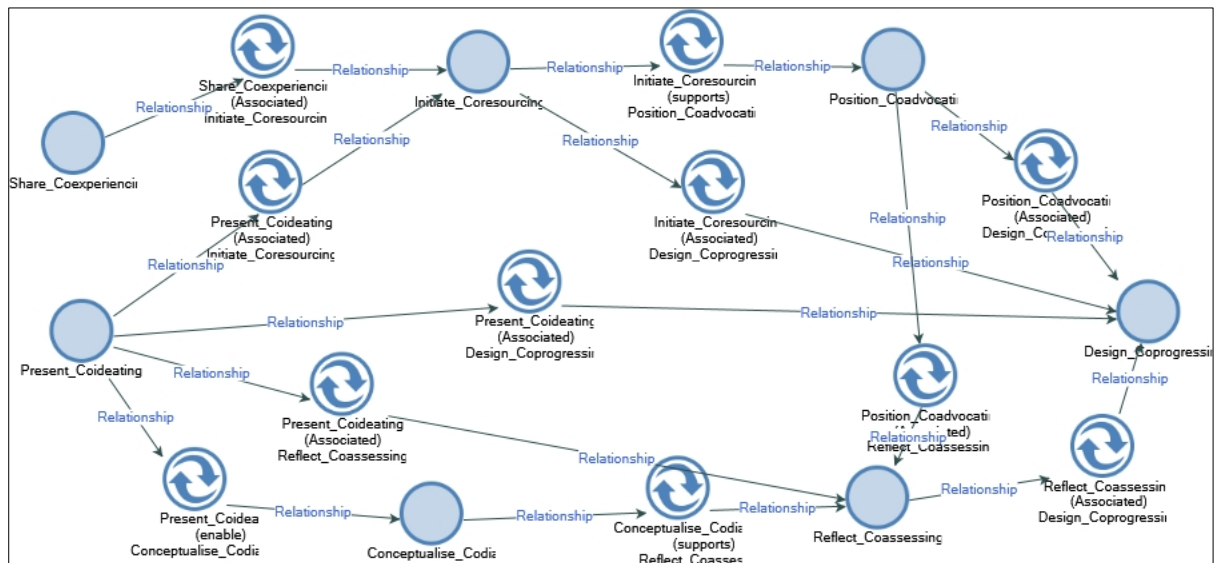
CC3	-.175	-.089	.851 ^a	-.111	-.027	-.147	.016	.035	-.238	-.076	-.090	.040	-.170	.098	.018	-.033	-.067	.053	.084	-.057	.072	.182	-.226
CC4	.246	-.328	-.111	.722 ^a	-.231	-.096	-.136	-.060	.153	.147	.104	-.158	.025	-.063	-.104	.057	-.139	-.027	.151	-.001	-.082	-.213	.132
CC5	.091	-.112	-.027	-.231	.686 ^a	-.427	.322	-.142	-.051	.030	-.328	.013	.123	-.156	.424	-.282	.047	-.234	.089	-.324	-.021	.274	-.083
CC6	-.171	.022	-.147	-.096	-.427	.732 ^a	-.358	.030	.152	-.173	.227	-.146	-.022	.077	-.118	.189	.069	.008	-.069	.252	.052	-.166	.043
CC7	.124	-.037	.016	-.136	.322	-.358	.610 ^a	-.331	-.316	.077	-.344	.186	-.011	-.055	.201	-.154	.043	-.049	.043	-.377	-.296	.381	.056
CC8	-.081	.011	.035	-.060	-.142	.030	-.331	.764 ^a	-.227	-.147	.040	-.032	-.002	-.008	-.125	-.052	.148	-.225	.026	.325	.217	-.180	-.050
CC9	.125	-.139	-.238	.153	-.051	.152	-.316	-.227	.627 ^a	-.180	.187	-.055	.123	.054	-.081	-.103	-.129	.133	-.224	.197	.046	-.130	.075
CC10	.156	-.102	-.076	.147	.030	-.173	.077	-.147	-.180	.801 ^a	-.199	-.164	-.190	-.197	-.080	.245	-.232	-.032	.206	-.221	.018	-.078	.032
CC11	-.106	-.114	-.090	.104	-.328	.227	-.344	.040	.187	-.199	.787 ^a	-.354	-.065	.138	-.232	.136	.010	-.053	.023	.101	.017	-.213	.099
CC12	-.236	.214	.040	-.158	.013	-.146	.186	-.032	-.055	-.164	-.354	.775 ^a	-.122	.038	.029	-.054	-.050	.193	-.291	-.054	-.044	.229	-.054
CC13	.202	-.232	-.170	.025	.123	-.022	-.011	-.002	.123	-.190	-.065	-.122	.798 ^a	-.307	.181	-.190	-.031	-.209	.030	.039	.020	.033	.149
CC14	-.121	.030	.098	-.063	-.156	.077	-.055	-.008	.054	-.197	.138	.038	-.307	.816 ^a	-.304	-.207	-.007	.135	-.004	-.033	-.015	-.050	-.086
CC15	-.070	.026	.018	-.104	.424	-.118	.201	-.125	-.081	-.080	-.232	.029	.181	-.304	.589 ^a	-.441	.238	-.056	-.076	-.283	-.147	.309	-.081
CC16	-.084	.139	-.033	.057	-.282	.189	-.154	-.052	-.103	.245	.136	-.054	-.190	-.207	-.441	.693 ^a	-.329	.054	-.019	.084	.111	-.219	-.039
CC17	-.007	.045	-.067	-.139	.047	.069	.043	.148	-.129	-.232	.010	-.050	-.031	-.007	.238	-.329	.773 ^a	-.074	-.042	-.025	-.116	.004	-.046
CC18	-.222	.265	.053	-.027	-.234	.008	-.049	-.225	.133	-.032	-.053	.193	-.209	.135	-.056	.054	-.074	.750 ^a	-.588	-.166	-.129	.011	.043
CC19	.178	-.310	.084	.151	.089	-.069	.043	.026	-.224	.206	.023	-.291	.030	-.004	-.076	-.019	-.042	-.588	.727 ^a	-.123	.021	-.082	-.055
CC20	-.093	.026	-.057	-.001	-.324	.252	-.377	.325	.197	-.221	.101	-.054	.039	-.033	-.283	.084	-.025	-.166	-.123	.705 ^a	.173	-.327	-.486
CC21	-.083	.057	.072	-.082	-.021	.052	-.296	.217	.046	.018	.017	-.044	.020	-.015	-.147	.111	-.116	-.129	.021	.173	.711 ^a	-.327	-.486
CC22	-.175	.150	.182	-.213	.274	-.166	.381	-.180	-.130	-.078	-.213	.229	.033	-.050	.309	-.219	.004	.011	-.082	-.251	-.327	.592 ^a	-.388
CC23	.269	-.193	-.226	.132	-.083	.043	.056	-.050	.075	.032	.099	-.054	.149	-.086	-.081	-.039	-.046	.043	-.055	.056	-.486	-.388	.699 ^a

Appendix I: AMOS Output of the Overall Structural Model

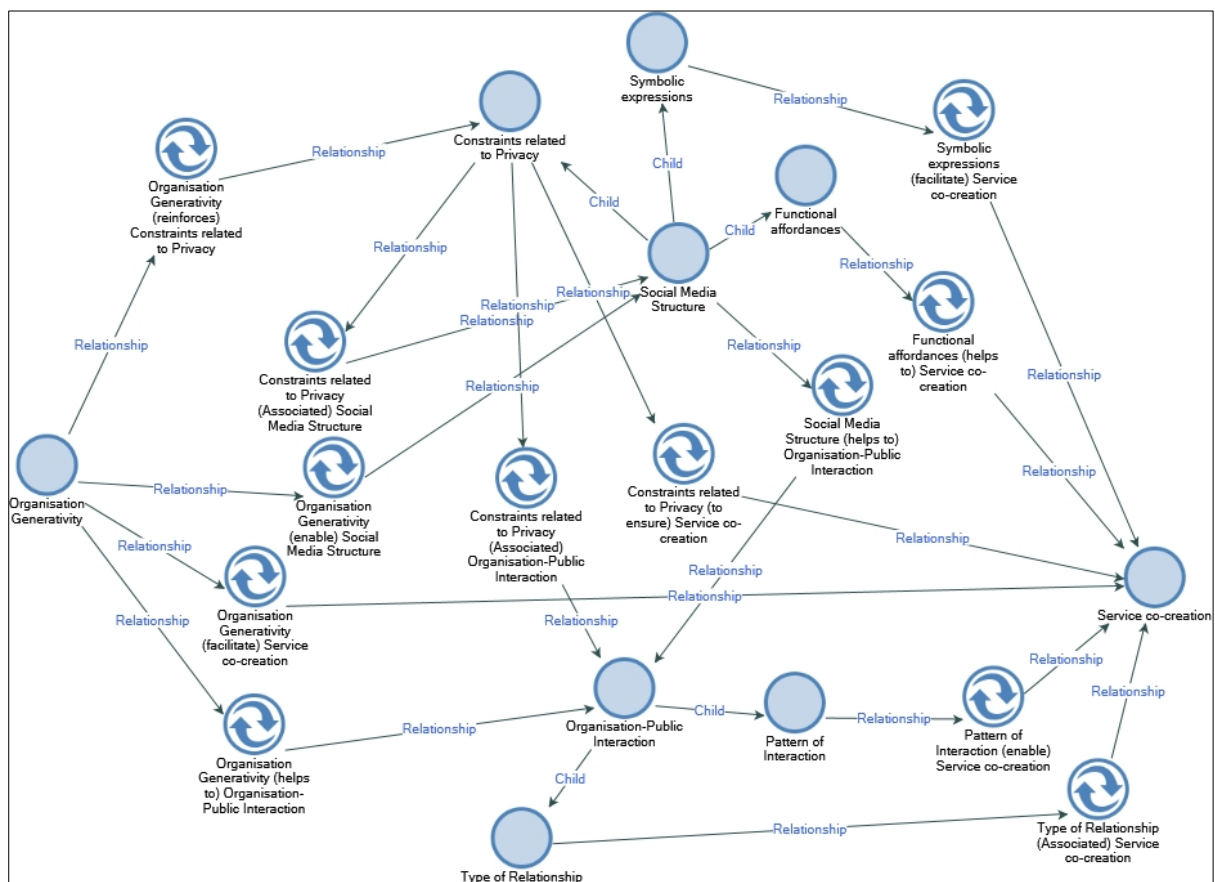


Appendix J: Nvivo Output for Project Maps

NVivo Project Map 1. Relationships between different forms of service co-creation



NVivo Project Map 2. Relationships between major themes and categories in the study



Appendix K: Detailed List of Social Technology Affordances

Affordances	Description	Sources
Accountability	Enables users to engage in self-reporting activities while keeping a record of statements or comments	(Postman, 2009; Zheng & Yu, 2016)
Agenda-setting & Framing	Enables users to define, specify and symbolise a cause for collective action	(Zheng & Yu, 2016)
Broadcasting	Enables users to communicate to a wide audience in unilateral flow of information and live streaming	(Schlagwein & Hu, 2017)
Collaboration	Enables users to work together for a common cause through chat groups or social media communities. Also known as <i>collective action/effort or resource mobilisation</i>	(Abhari et al., 2016, 2017; Ang, 2011; Mathiesen et al., 2013; Vuori, 2011; Zheng & Yu, 2016)
Communication	Enables users to publish content, information, experiences and opinions	(Abhari et al., 2016, 2017; Vaast et al., 2017; Vuori, 2011)
Connection	Enables users to engage in social networking with others	(Ang, 2011; Mathiesen et al., 2013; O'Riordan et al., 2012; Postman, 2009; Vuori, 2011)
Content Aggregation	Enables users to link to other web sources to gather, mix and match content to suit their needs and goals. Also seen as <i>combining content</i>	(O'Riordan et al., 2012; Stern, 2016; Vaast et al., 2017; Vuori, 2011)
Content Categorisation	Enables users to label and describe content through social tagging	(O'Riordan et al., 2012; Stern, 2016; Vaast et al., 2017)
Content creation	Enables users to create content. Also referred to as <i>authoring</i>	(Ang, 2011; Stern, 2016)
Conversation	Enables users to engage in synchronous-exchange of messages leading to dialogue and rapport. Also known as <i>interactivity</i>	(Ang, 2011; Kietzmann et al., 2011; O'Riordan et al., 2012)
Dialogue	Enables users to engage in dialogic communication and exchange	(Schlagwein & Hu, 2017)
Editability	Enables users to add and update content. Also referred to as <i>completing</i>	(Treem & Leonardi, 2013; Vuori, 2011)
Expert/expertise locating	Enables users to identify people with relevant expertise or the relevant piece of information. Also known as the <i>emergence of pools of knowledge</i>	(Jarrahi & Sawyer, 2013; Mathiesen et al., 2013)
Group	Enables users to form online communities – i.e. open or closed groups. Also seen as <i>participant enrolment</i>	(Kietzmann et al., 2011; Zheng & Yu, 2016)
Ideation	Enables users to obtain broader perspectives on their interests, ideas and activities. Also known as <i>Horizon broadening</i>	(Abhari et al., 2016, 2017; Jarrahi & Sawyer, 2013)
Identity	Enables the users to reveal themselves in particular ways they deem suitable. Also known as <i>profile management</i>	(Kietzmann et al., 2011; O'Riordan et al., 2012)
Immediacy	Enables users to convey information or messages quickly to target audiences.	(Postman, 2009)
Information Sharing	Enables users to circulate content published by others. Also known as <i>content sharing</i>	(Ang, 2011; Kietzmann et al., 2011; O'Riordan et al., 2012; Vaast et al., 2017)
Knowledge sharing	Enables users to store, share, and retrieve knowledge	(Schlagwein & Hu, 2017)
Mobilising	Enables users to gather others in support of a common cause	(Zheng & Yu, 2016)
Notification	Enables users to know about content changes across their connections	(Stern, 2016)
Participation	Enables users to take part in activities initiated by others on the platform. Associated with <i>co-creation</i> and <i>value addition</i>	(Mathiesen et al., 2013; Postman, 2009)
Persistence	Enables users to continuously access content in the same form without expiring or disappearing	(Treem & Leonardi, 2013)
Presence	Enables users to mimic reality by allowing them to know if others are available	(Kietzmann et al., 2011)
Relationships	Enables users to relate to one another (cultivate social ties). Also known as <i>association or socialising</i>	(Kietzmann et al., 2011; Treem & Leonardi, 2013)
Reputation	Enables users to attest their status as well as that of others and the content accessed. Also seen as <i>authenticity</i>	(Kietzmann et al., 2011; Postman, 2009)
Transparency	Enables users to portray aspects of their activities to public scrutiny for better relationships	(Mathiesen et al., 2013; Postman, 2009; Zheng & Yu, 2016)
Visibility	Enables users to locate information or persons through the use of keywords. Also referred to as <i>searching or content discovery</i>	(O'Riordan et al., 2012; Stern, 2016; Treem & Leonardi, 2013)

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