An exploration of the emotional network in donation activity in local crisis scenarios

by Mitchell Howard

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under the supervision of

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, *Mitchell Howard*, declare that this thesis is submitted in fulfilment of the requirements for the award of *Doctor Of Philosophy*, in the Business School/Management Department 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.

This document has not been submitted for qualifications at any other academic institution.

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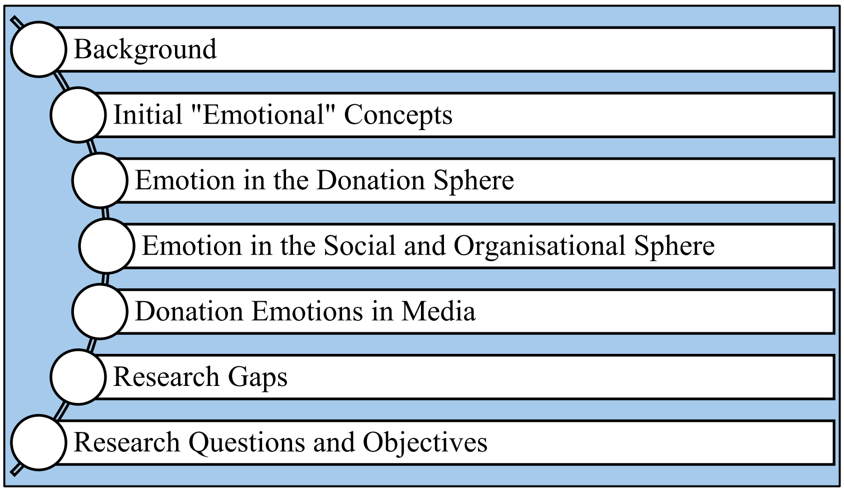
Chapter 1. Introduction

When natural disasters strike, what truly governs how communities respond? Is it the logistics of aid, or the emotions that surge in the aftermath? Fear, grief, and shock may dominate initially, yet empathy, compassion, and solidarity soon drive support. Other emotions moderate or redirect these responses: frustration with delays, suspicion toward institutions, or gratitude that reinforces continued giving. Do these emotions simply coexist, or do they interact as part of a broader system shaping the effectiveness of recovery?

If emotions drive, moderate, and reciprocate throughout the crisis response, then donations cannot be seen as purely financial or transactional. They form one channel within a wider emotional network, flowing between individuals, communities, and organisations, and carrying as much influence as the aid itself. It is within this context that the following discussion begins, examining the interplay of emotional forces underpinning donors, intermediaries, and recipients in disaster-affected communities.

Figure 1-1: *Outline of Chapter 1: Introduction*



1.1. Background

The incidence of significant natural disasters across the globe has increased in recent years, including events such as fire, flood, cyclone, etc. (*Institute for Economics & Peace. Ecological Threat Register 2020: Understanding Ecological Threats, Resilience and Peace*, 2020). The National Oceanic and Atmospheric Administration in the United States recorded 2020 as a record year, in a pattern of record years (*2021*

U.S. billion-dollar weather and climate disasters in historical context, 2022). Notwithstanding claims that the increase is purely an increase in the reporting of events (Alimonti & Mariani, 2024), there is sufficient evidence to demonstrate the increasing levels of damage and loss incurred as a result of these events (EM-DAT, 2024; Hannah Ritchie, 2022).

Against this global backdrop of natural calamity, we see a social phenomenon wherein donations from local and further reaching individuals and communities become pivotal to the short-term sustaining and initial recovery of the affected communities and individuals (Chapman et al., 2023). A press release from the Victorian Premier (Australia) highlights the status and relevance of donations in crisis events.

> More than $5 million raised through the Victorian Bushfire Appeal is being made available immediately to those most affected by the bushfires that have devastated East Gippsland and North-East Victoria, including families who have tragically lost a loved one.
>
> With further funds rolling out in the coming days and weeks, this immediate support will go towards meeting the most urgent needs of local families. (Allan, 2020)

Similar scenarios are evident in the global context (*Crisis and Emergency Response*, 2025). Amid the growing frequency of natural crises and the community’s willingness to aid victims, this research reframes the donation discussion to commence with the emotional factors that inspire and result from donation activities. A contribution to the **Australian Senate Select Committee on the Impact of Climate Risk on Insurance Premiums and Availability** underscores the emotional volatility that is often more demanding than the financial crisis: “We know we can fix our roads and our water infrastructure, but repairing the social trauma and mental health impact is a much longer journey” (Select Committee on the Impact of Climate Risk on Insurance Premiums and Availability, 2024).

The emotionally charged environment of natural crisis, with its incumbent loss and devastation, demands collective societal efforts to restore normality, with individuals and families playing a central role. Motivated by emotions like empathy, compassion, and generosity, donors engage in various aid activities, including financial contributions, often in the face of personal financial challenges (Cross, 2024). These donations, in turn, elicit diverse emotional responses in recipients, such as gratitude, humility, or even embarrassment, that can either support or complicate their recovery process.

In a society with proximity between the donor and the recipient these socially centred emotions are expressed directly and concurrently when giving physical gifts or financial assistance. Equally, the responses will be immediate and direct. The need for an intermediary does not exist. When that proximity is disrupted by distance or scale, the practicality of direct emotional expressions is challenged, and a third-party intermediary becomes necessary.

These intermediaries perform many functions, including providing information, fundraising, aggregating funds, and performing needs analysis and distribution. In many cases, these intermediaries are discretionary agents or brokers for the donor and the recipient, facilitating the flow of dual commodities, namely the donated funds and the emotional expressions. The intermediaries exercise that discretion in the management decisions related to the donated funds. They also choose to either accept responsibility for the conveyance of emotion, or simply conduct the transactional process of collecting and distributing donated funds.

As the network's proximity between the donor and the recipient grows and the complexity of the network increases, additional emotions generated by the performance of the network begin to appear. These, in turn, can impact the flow of the original emotions between the donor and the recipient, and the flow of donation funding (Trivellato et al., 2023). Emotional expressions in donation networks cross organisational and social boundaries. Emotions that are not directly exchanged between donors and recipients may be encountered, reflecting the sentiment of actors towards the social and organisational performance of the network. This secondary level of emotional activity also influences the successful flow of primary emotions through the network. This research explores these interdependencies of emotional flows through the network perspective of donors, recipients and intermediaries, examining how those relationships impact the initial flow of emotions and the accompanying donated funds.

Recognising the network, focuses attention and effort on providing optimal connections between donors and recipients. Recognising this network also enhances understanding of how emotional flows impact the effectiveness and resilience of donation activities and their outcomes. In doing so, it highlights a novel supply environment of physical and non-physical commodities coexisting in the same supply channel but with potentially diverse dynamics.

Initial "Emotional" Concepts

The seemingly straightforward flow of economic support from donor to beneficiary masks a complex network of actors and influences facilitating the donation process. A significant factor shaping these activities and the network is the individual and collective experience and expression of emotions. Notwithstanding the uncertainty around a complete and accurate definition of the concept and examples of emotion (Blankstein & Pliner, 1980), Rime and Plutchik (Plutchik, 1982; Rimé, 2009) nonetheless, individually address the communicative and action generating function of emotions, highlighting their social, rather than an individualistic role. This argument extends the understanding of emotions in a number of dimensions.

As Plutchik (1982) argues, emotions cannot be self satisfying but require a response from the environment including society, that addresses the expressed or felt emotion. Rime (2009) argues, that given the need for emotional satisfaction, or compensatory action, the emotional incident requires duration, without which they may fall short of their social purpose. With these dimensions of expanse, duration and dependence upon emotional satisfaction, there is justification for emotions to be considered as key triggers and variables in the behaviour of the donation network. This justification exists in spite of unresolved definitions and categorisations of emotion. A brief review of this theoretical complexity highlights the challenge.

1.1.1. Emotion in the Donation Sphere

The literature review on donations returned a significant volume of articles addressing the motivational relevance of emotions in the initial activity of donating funds (D'Souza et al., 2021; Dickert et al., 2011; Homer, 2021a). The findings from these articles and others show merit and rigour in establishing emotions as legitimate and significant variables in generating the donation transaction between the donor and the first receiver. It affirms that emotions exist within at least one relationship connection in the broader donation network.

Bonati (2015) considers “emotion” as a variable in the strategic marketing of crisis-based fundraising, while the emotions attached to nostalgic donations represent the subject matter of Merchant et al. (2011). Other emotion-laden motivators are discussed (Chapman et al., 2023; Martin, 2013), including elements of blame (Labban et al., 2022), issues of proximity (Denis et al., 2022) and association (Roohi, 2018), among others. In contrast, with a more positive and responsive perspective, the emotion of gratitude is discussed as a trigger for “paying it forward” (Shiraki & Igarashi, 2018). Sacrifice is recognised as a variable contributor to donation propensity (Bogdanova, 2018). Beyond this introductory precedent, it is further demonstrated that emotional expressions are evident in the mindset and behaviour of the donation participants across the entire donation environment (James, 2018; Jiao et al., 2021). This is only limited in clarity by the extent to which the entire network and its participants are known.

From the social rather than operational perspective, emotions not only assist in facilitating the flow of financial donations, but they also constitute the normalising or homeostatic instruments of society (Montgomery, 2018; Plutchik, 1982; Scherer, 2022). Mordka (2016), as quoted below, sympathetically identifies the functions of emotions as providing a source of reliability against the challenges of cognitive reasoning in complex scenarios.

Emotions fulfil informative, calibrating, identifying, existential, and motivating functions. Emotions capture the world as either positive or negative, important or unimportant, and are used to determine and assign weightings (to set up a kind of hierarchy) (Mordka, 2016, p.38)

1.1.2. Emotion in the Social and Organisational Sphere

The influence of an emotion on a network and the subsequent impact on an organisational function is supported by various interconnected theories. Network Leadership Theory (Trivellato et al., 2023) distinguishes the leader as the origin of emotion from the formalised leadership role, enabling transformational leadership to emerge from any actor in the network (Crosby & Bryson, 2018).

This dynamic links to social outcomes such as collective and shared emotions (Sanchez-Burks & Huy, 2009; Sullivan, 2015) or the transformation of emotions across network bridges (Hermans et al., 2013; Sanchez-Burks & Huy, 2009). These shifts engage concepts like emotional contagion (Elfenbein, 2014) and affective processes (Hinsz & Bui, 2023; Yun, 2023). The cumulative effect of these emotional dynamics can lead to developing an entire multiplexed emotional layer within a network (Lomi et al., 2016).

1.1.3. Donation Emotions in Social and Broadcast Media

From a view of publicly available media sources (examples cited below), we can observe glimpses of the donation network and the inherent emotional interactions attributed to those network participants. These extracts from the media are evidence of those emotional functions beyond the initial motivating emotions and the accompanying relationships. Some of these emotions are directed at other actors within the network, highlighting the relationship profile between those respective actors, while others are undirected expressions simply demanding voice. In each case, they show a small representation of the larger network.

News broadcasters report the anger expressed by threatened homeowners demanding more efficiency and accountability in the flow of donated funds (Burke, 2020). Anger is also directed at politicians for alleged inaction (Ross, 2023). At the same time, we witness heartbreak from the extent and intensity of loss by crisis victims, responded to with kindness and generosity (Edwina Seselja, 2020). We see compassion being extended to victims by charitable organisation workers (*Help children cope and recover from devastating bushfires*, 2020; Ross, 2023). In the same article (Ross, 2023), we see raw emotional outpourings as an uncontained expression of grief and frustration, while the same victims are reported to experience tears of gratitude for the kindness of others.. Social media also provides an array of social expressions generated through the donation environment. Some are critical of charitable organisations (*Twitter Extract1*, 2020), while expressions of helplessness, generosity and hope are found frequently in social media postings (*Twitter Extract 2*, 2020). A fundraising website lists expressions of love and concern, and from another donor, expressions of humility when donating to unknown recipients (Sohini Chakrabarti, 2020).

The literature review delves deeper into these and other emotional dynamics, exploring their intersections and relevance to the donation environment.

1.2. Research Gaps

Emotion is widely acknowledged in both scholarly and public discussions on donations. However, these dialogues often lack clarity and completeness regarding emotional representations, leaving gaps in understanding the network's structure, mechanics, and collective impact on emotional transmission. This research focuses on the extent and form of the emotional network and its intersections with donation funding activities, echoing similar interests in understanding causal influences in complex networks (Bezuidenhout et al., 2012).

Existing literature, while extensive, tends to focus narrowly on motivational emotions within the donor-fundraiser or donor-charity relationship. This donor-centric perspective risks bias, limiting a comprehensive understanding of the broader donation environment. This research addresses these gaps by expanding the scope to include the balance of emotional dynamics across donating and receiving functions, aiming for a more holistic view of emotional activity and its participants.

Scherer (2022) emphasises the importance of examining emotions within their relational contexts. This research builds on this by adopting a network perspective, exploring the stimuli, movement, and impact of emotional activity on all actors within the donation environment. It posits that a network facilitates emotional and financial relationships between donors and recipients, supporting donation activities and contributing significantly to normalising functions in crisis scenarios.

Previous sections identified key barriers to a comprehensive understanding of the donation network. Addressing these gaps offers twofold benefits: enhancing knowledge of donation phenomena and improving the delivery of respective resources to crisis victims.

1.2.1. Specific Gaps:

a) Limited literature covering all actors and activities within the donation environment.
b) Insufficient exploration of relationships between actors.
c) Lack of focus on emotional participation across all actors.
d) Imbalance in attention to the full range of emotions within the network.
e) Gaps in correlating the emotional network with other donation activities.

Addressing these gaps in the literature by exploring the following questions and objectives will provide evidence-based insights into network phenomena, highlighting the role of emotional relevance as both a positive moderator of financial donations and a vital social interaction within localised natural crises. Failing to close this gap promptly risks further marginalising the relational value of emotions in an ecosystem already dominated by financial considerations. As natural crises become more frequent, neglecting these gaps will not only weaken social connections but also reduce the opportunity and effectiveness of interventions.

1.3. Research Questions and Objectives

Considering the range and extent of gaps found, the following exploratory question is prompted:

1. What is the interdependent relationship between the transmission of emotions and the donation network in localised crisis scenarios?

The following contributory questions support this principal question.

2. Who are all the actors that constitute the donation activity network?
3. What are the emotional dynamics within the donation activity network?
4. How do those dynamics influence the flow of emotions and financial donations through the donation activity network?

A satisfactory response to these four questions is designed to achieve the following research objectives:

1. Identifying, describing, and categorising of the form (network) and participant actors of the donation phenomena in the localised crisis context.
2. An exploration of the emotional relationships between the identified actors in the context of the donation phenomena.
3. A determination of those relationships on the behaviours of the actors.
4. A determination of the impact of those relationships on the behaviour of the network in delivering social outcomes and donated funds.

1.4. Theoretical Framework

This research is grounded in a cross-disciplinary theoretical landscape, drawing on Network Theory, Management Theory, and Emotion Theory and assorted theories that relate to motivational aspects of charitable giving, grouped as Donation Related Theories. While each offers distinct insights into donation phenomena, none independently captures the full complexity of the donation environment. As such, this study adopts an integrative theoretical foundation to address this gap.

Network Theory serves as the central framework, offering both conceptual clarity and methodological flexibility. Network Theory provides a framework for viewing donations as part of a dynamic web of interconnected relationships rather than isolated transactions, with Social Network Theory (Granovetter, 1973; Wasserman & Faust, 1994) offering both the conceptual grounding and analytical tools (e.g., SNA) to map and interpret these interactions. Within this framework, Donation Related Theories and Emotion Theory are treated as specialised lenses. Donation Related Theories, while informative regarding donor motivations, tend to focus narrowly on dyadic interactions, typically between donor and fundraising organisation, thus overlooking broader relational and emotional dynamics. Emotion Theory, though underutilised in this context, offers valuable tools for examining affective exchanges across the network. In response to calls to expand beyond dyadic models, this study incorporates the full spectrum of actors involved in donation activity, including donors, intermediaries, and recipients. Charitable Triadic Theory (Chapman et al., 2022) provides an important stepping stone by recognising the interdependence of donor–organisation–beneficiary relationships. However, this research advances a more expansive perspective that conceptualises the donation system as a complex, multi-actor network.

As the network expands, encompassing all actors influencing or affected by the donation process, its structure begins to resemble that of a supply chain. Although this study does not prematurely nor explicitly adopt Supply Chain Theory (Mentzer et al., 2001) nor its management, the parallels offer useful analytical leverage, especially in relation to the coordination, flow, and transformation of resources within the donation environment.

SNA provides methodological tools to map these relationships, examine sub-networks, and visualise the evolution of donation interactions. This facilitates the integration of micro-level emotional exchanges with macro-level structural patterns.

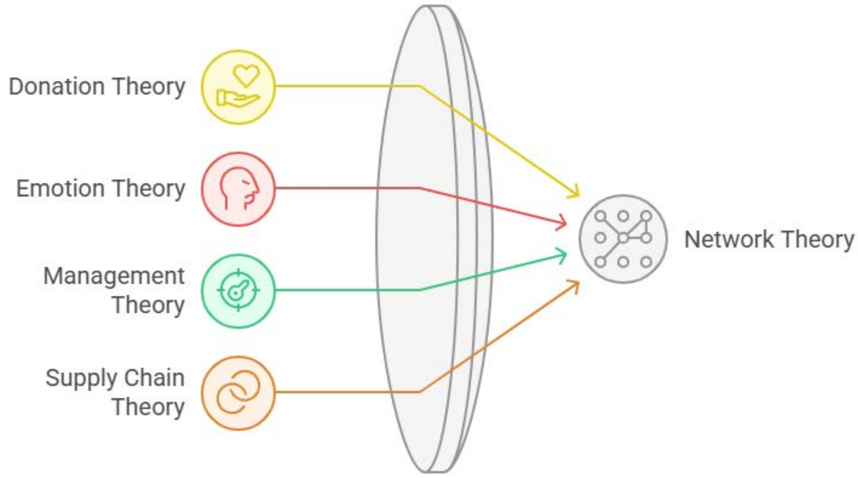


Figure 1-2: *Theoretical Intersections and Convergence*

Given the lack of a singular theory capable of fully capturing the emotional, relational, and structural dimensions of the donation environment, this research adopts an exploratory and adaptive theoretical approach that results in a intersecting convergence of theories towards the central hub of Network Theory (Figure 1.2). By synthesising insights from existing theories while addressing their limitations, it aims to build a more inclusive and dynamic theoretical model. This approach contributes to both academic understanding and practical insights into donation as a complex, evolving social system.

1.5. Significance of research

Extending Theory into Non-Physical Domains

The work expands existing supply chain, value network, and service theories by applying them to non-material commodities like emotions, advancing our understanding of intangible exchanges.

Reframing Donation Through Emotion and Networks

It brings together donation, emotion, and network theories to show how emotional drivers influence donation behaviour, supporting historical views of donation as emotionally driven, and offering new uses for these theories.

Contributing to Broader Social and Organisational Understanding

It enriches social, management, and organisational theories, contributes to a more inclusive theory of donation, and deepens our understanding of social behaviour in complex societies and crisis scenarios.

The intended beneficial output from these objectives can be stated as:

a) It enables the construction of the donation emotion network triangulated from several perspectives. It positions this network as a unique social phenomenon that exhibits distinctive attributes.
b) A theoretical model of the donation ecosystem focusing on emotional implications as inputs, outputs, and moderators of donation activity.

Contributions to Practice:

a) This research finds relevance to the development of policy and practice in managing victim support initiatives in crisis scenarios.
b) It prompts the consideration of more engaging and resilient models and structures in delivering donation funds to final recipients.
c) It develops a set of proposals for strengthening inter-actor relationships upon the incidence of crisis scenarios.

1.6. Methodology Overview

Aligned with a constructivist ontology, this qualitative research adopts a mixed-methods approach (Creswell & Creswell, 2023). The study explores how donation behaviours and emotional dynamics operate within a hypothetically constructed donation network, developed through an extensive literature review. Primary data was then sought on the basis of that hypothetical network. Fourteen semi-structured interviews were conducted with purposively selected participants, identified through media outputs and public records. Open-ended questions were used to draw out rich, descriptive, and emotive insights into the network's nature and dynamics.

In parallel, an online questionnaire was distributed to a unique randomly selected group, yielding 124 responses with one respondent participating in the semi-structured interviews. This provided broader contextual insights and supported methodological triangulation, as well as opportunities for follow-up interviews. The questionnaire was a condensed version of the interview guide, with branching questions that adapted to respondents' input.

Two analytical tools guided the data analysis. Structural coding was examined using social network analysis software to map relationships and network behaviour. Thematic coding was conducted through content analysis software to uncover recurring patterns and themes. These outputs were then integrated to provide a holistic understanding of the data. Figure 1.3 presents the overall methodological framework.

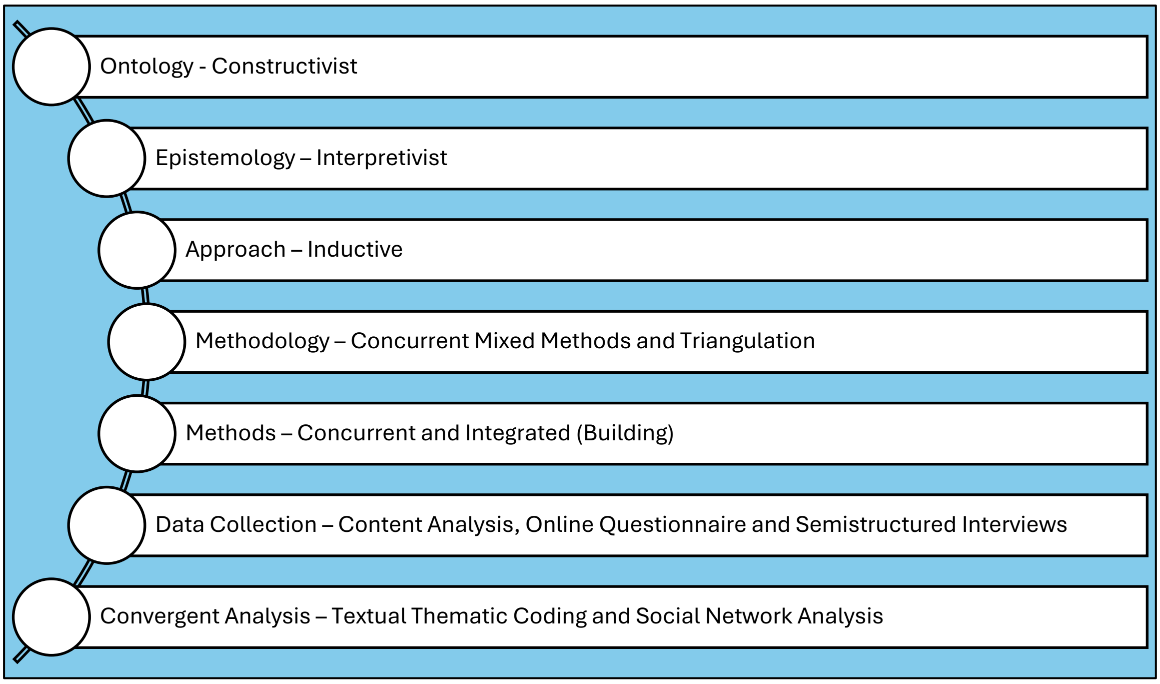


Figure 1-3: *Methodology Outline*

1.7. Thesis Outline

Chapter 2. Literature Review

The literature review intends to, within practicality, examine the available literature for evidence of the specific context and theme of the research, recognising the absence of such literature as a significant gap. Beyond that initial intent, its objective is to collect from the literature fragments that can contribute to a conceptual description of the donation network in the given context.

Chapter 3. Methodology and Research Framework

As informed by the literature review, this chapter provides a design and justification for collecting and analysing primary data addressing the research questions. It presents this, commencing with philosophical positioning, through to the research approach, selection and design of tools, and finally, the analysis methods.

Chapter 4. Data Collection and Analysis

This chapter chronicles the activities associated with data collection. Using both qualitative and quantitative analysis tools, it commences the construction of the conceptual and evidence-based donation models including contributions from the literature review and the primary data collection.

Chapter 5. Discussion

From the data collection and analysis results, this chapter undertakes a discussion to understand the nature of those results as they relate to and satisfy the research questions. This chapter provides a qualitative discourse on the results of the semi-structured interviews.

Chapter 6. Conclusion and Research Recommendations

This concluding chapter reports on the nature of the discussion chapter and presents the case for the success or otherwise of the research findings in answering the research questions and achieving the research objectives. It details that success and identifies potential shortcomings and further research opportunities.

Chapter 2. Literature Review - Introduction

2.1. Background

Chapter 1 introduces a rising social phenomenon: a dynamic, cross-disciplinary network that moves both money and emotion during local crises. This chapter argues that understanding this network more deeply can improve how physical and emotional support is delivered to those affected.

By exploring this both externally and internally, we can examine what drives donors, how recipients feel, and how emotion flows between them. The act of giving and receiving reveals powerful traits; trust, empathy, generosity, but also difficult realities like loss of dignity, privacy concerns, and judgment. These tensions sit alongside organisational values, power dynamics, and conflicting motivations, adding layers to the donor-recipient relationship. Together, these journeys create an intricate, emotionally charged space that demands closer attention. This research explores how emotions move through the donation process, testing these ideas against existing literature. Figure 2-1 outlines the review framework.

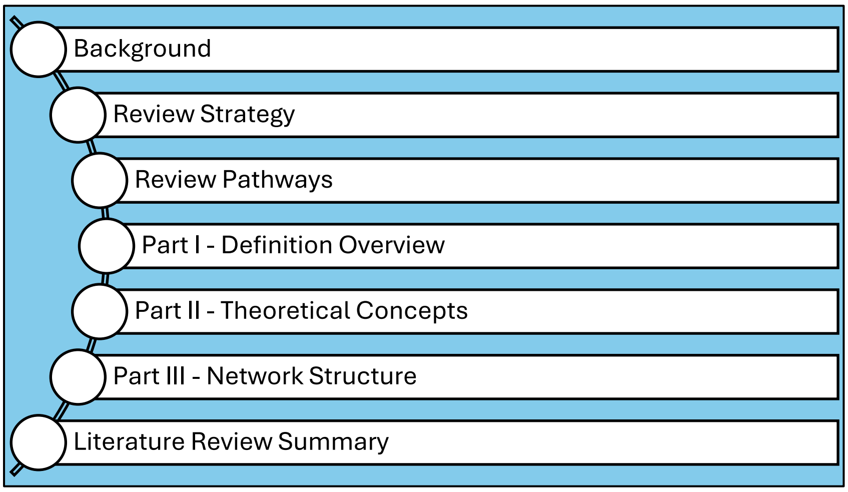


Figure 2-1: *Outline of Literature Review*

2.2. Review Strategy

The selection of a literature review method depends on several factors, including the research area, the specificity of the research question, review objectives, and the maturity and availability of existing literature (Arksey & O'Malley, 2005). Munn et al. (2018) provide a useful comparison of systematic and scoping reviews to guide this decision.

A systematic review rigorously evaluates the quality of selected literature and requires a narrowly defined research question. Its primary purpose is synthesising findings, establishing the research's position within existing debates, and informing future research directions. However, despite its methodological rigour, systematic reviews inherently involve some degree of subjectivity (Mak & Thomas, 2022). In contrast, a scoping review maps the breadth of literature without assessing its quality, making it suitable for complex or emerging research areas (Munn et al., 2018; O'Brien et al., 2016). This approach provides a comprehensive overview of conceptual content while avoiding subjective interpretations (Provoost et al., 2017).

Beyond these approaches, the Integrative Review offers greater flexibility in framing research questions and incorporating diverse sources (Whittemore & Knafl, 2005). On a continuum of specificity, systematic reviews validate existing theories and practices through rigorous quality assessment (Munn et al., 2018), scoping reviews map conceptual landscapes (Colquhoun et al., 2014), and integrative reviews enable holistic, phenomenon-level analysis, fostering theoretical development (da Silva et al., 2020).

Given the exploratory nature of this research, a scoping review initially appears appropriate. However, broad research questions and limited theoretical foundations present challenges that necessitate an approach able to capture the phenomenon's breadth whilst refining the conceptual understandings gleaned from diverse literature.

The Integrative Review is determined to be the most suitable method for this research based on the following considerations:

a) The phenomenon spans multiple disciplines and theoretical frameworks, requiring a comprehensive synthesis.

b) The research domain and questions represent an emerging theme, limiting specificity in literature selection and outcomes.

c) The absence of clear definitions and structures precludes qualitative assessments of individual studies.

By allowing for a holistic exploration of the topic, the Integrative Review facilitates the identification of relevant theoretical concepts, advancing the field and guiding future research.

2.3. Review Pathways

Three pathways of literary exploration are presented:

a) Part I - Conceptual Boundaries: The first pathway examines the limitations of *key definitions* essential to conceptualising the phenomenon. By refining these definitions, the subsequent pathways can be pursued more clearly. Specifically, the two definitions referred to in **Chapter One: Section 1.4** are a) donation and b) emotion.

b) Part II - Theoretical Discovery: The second pathway explores a number of *theoretical concepts* that surface witihn the phenomenon. This process highlights findings and gaps in the literature and serves as a foundation for theoretical development or refinement. Specifically, Emotion Theory is examined for its intersection with a) Management Theory literature, b) Supply Chain literature and c) Network Theory literature.

c) Part III – Network Empirical Validation: The third pathway seeks *evidence of the phenomenon, its structure, and its key components*. This approach enables the construction of a unique contextual framework for social and organisational concepts and visualisation.

Together, these pathways offer an inductive approach to theoretical development (Figure 2-2).

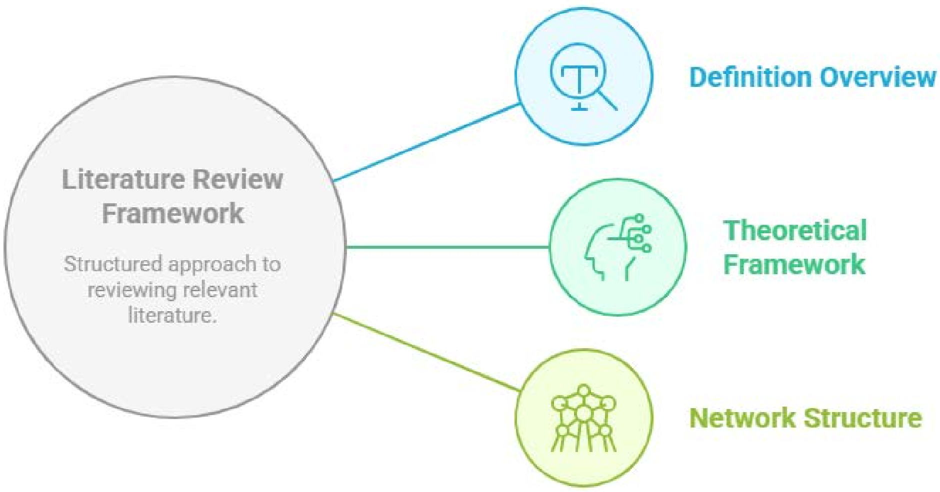


Figure 2-2: *Literature Review Framework*

2.4. Literature Review Part I - Definition Overview

Two key terms form the backbone of this research: donation and emotion. Both terms encompass broad meanings and interpretations, influenced by the relative immaturity of literature in these disciplines and the casual application or appropriation of these concepts.

The term “donation” is understood differently by various actors within a given context and is defined in diverse ways across industries and environments.

Similarly, “emotion” lacks a singular definition or universally accepted framework (Rimé, 2009), which is unsurprising given its complex nature. This section does not seek to resolve these definitional challenges but instead provides conceptual guideposts for both the researcher and the research audience. These guideposts serve as a foundation for understanding the phenomenon, and a reference point for evaluating existing literature.

2.4.1. Donations—A Social Construct

The term “donation,” as traced in sources like the Online Etymology Dictionary[1] and studies by Zizka and Chen (2023), originates from Proto-Indo-European dialects, where it consistently emphasizes “giving” and the presence of a recipient. Unlike “transacting” (Weiner & Simpson, 1989), which suggests a reciprocal exchange, historical uses of “donation” align more with altruism and social grace. This thesis

[1] Online Etymology Dictionary, https://www.etymonline.com.

argues that the concept of donation is fundamentally emotional, reflecting the original "other-regarding" (Blumberg, 2013) definition of "giving."

As a "gift," a donation excludes motivations driven by obligation, self-interest, or coercion. However, this view was challenged during the Victorian era when emerging economic rationalism introduced "self-first" justifications for giving, departing from Christian ideals of self-sacrifice and other-regarding behaviour (Blumberg, 2013). Modern discussions, such as the webinar "Regular Giving Strategies That Work" (Ashmore, 2023), reflect this shift toward a transactional view.

This shift highlights a key divergence in the literature, where the focus often centres on the donor's initial action rather than the full donor-recipient relationship. Research typically frames donation as a donor-centric activity, emphasising the motivations behind the donation and the relationship with fundraising organisations while giving little attention to the recipient (Pitt et al., 2001). Even studies on altruism, discussed hereafter, tend to neglect the broader relational context beyond the donor and fundraising entity.

Economic Theory and Its Implications for Donation

Economic theory provides one lens for examining donation behaviour, suggesting that individuals engage in exchanges to maximise returns through resource transactions (Richardson, 2003). In the context of donations, these returns may include increased social status (Kumru & Vesterlund, 2010), enhanced personal wellness (Woodyard & Grable, 2014), or the "warm glow" effect (Tonin & Vlassopoulos, 2014). Even mutually rewarding relationships, where fundraisers offer tokens of gratitude to donors, align with this economic perspective, reinforcing the transactional nature of the exchange (Newman & Jeremy Shen, 2012).

However, this economic framing does not fully capture the altruistic or actual relational dimensions of donation. For instance, Van de Vyver and Abrams (2015) highlight emotional motivations like “elevation” or “outrage,” which drive pro-social behaviour but focus primarily on the donor’s emotions rather than extending empathy or connection to the recipient. Similarly, Wiepking &Mass (2009) discuss the societal benefits of charitable giving but limit their analysis to the donor’s immediate social context.

Social Exchange Theory and the Role of Reciprocity

Social Exchange Theory (SET) broadens the perspective by introducing a third dimension: the social exchange, which acts as input and output in the giving process (Simmel, 2011). This framework emphasises reciprocity, trust, and obligation in fostering social relationships (Blau, 1964). Unlike economic theory, SET allows for delayed reciprocity and considers emotional exchanges legitimate transactions (Homans, 1958; Lawler & Thye, 1999), aligning with the emotional aspects of donation explored in this thesis.

However, SET still requires an exchange, which may limit its applicability to purely altruistic giving. Despite this, it offers valuable insights into the relational dynamics of donation, especially when emotions play a central role in sustaining social ties.

Beyond Economic and Exchange Theories: Altruism and the Existential Gift

Moving beyond economic and exchange theories, altruism offers a contrasting perspective. As explored by Radovanović (2019), behavioural altruism suggests that some forms of giving are motivated purely by the recipient's benefit, without consideration of personal gain. As theorised by Ottoni-Wilhelm et al., (2017), pure altruism views donation as a source of utility independent of economic value or social constructs.

In this context, the existential gift emerges as a model of giving that transcends economic or reciprocal expectations (Frémeaux & Michelson, 2011). This form of giving emphasises the unconditional, non-transactional nature of donation, challenging traditional reciprocity frameworks. However, Mauss et al. (2016) complicate this view by arguing that even altruistic acts may ultimately contribute to a broader, cyclical system of social reciprocity.

Implications for a Donation Theory

Exploring these theories underscores the complexity of donation as a multi-dimensional phenomenon. While economic and exchange theories shed light on the motivations and mechanics of giving, they do not fully capture the emotional and relational dynamics involved. Altruism and the existential gift offer alternative frameworks that better align with the emotional foundations of donation presented in this thesis. Further research is needed to integrate these perspectives and develop a more comprehensive understanding of the donation process moving towards the creation of a donation framework and theory.

2.4.2. Emotions—An Alternative Construct

Existing donation theories are limited by their focus on the giver's perspective, where reciprocity or exchange is viewed as either an obligation on the giver or a benefit to the receiver (Blau, 1964). This narrow view fails to account for the behaviours of all participants within the donation network or address the complexities of this atypical social context. For instance, a crisis victim, whose emotional expression often triggers the donation process, is unlikely to act based on economic rationale. Instead, their response is driven by deeper, value-based motivations, even in the face of personal economic loss.

An alternative perspective frames donation behaviours as emotional responses rather than cognitive acts of self-interest or social obligation. This shift moves beyond traditional donation theories to the broader field of emotion theories. Although this transition introduces diverse opinions (Smith & Schneider, 2009), "Differential Emotions Theory" (DET) (Carey et al., 1997; Izard, 1977; Panksepp, 2015) provides a robust framework for understanding how emotions drive cognition and behaviour. DET highlights the complexity of internal and external emotion as motivators of social actions, offering practical utility for collecting and analysing emotional data in this context.

While debates on emotion classification persist (Nábrády, 2005; Zinck & Newen, 2008), emotions are widely recognised as significant influencers of human behaviour. For example, Geoffard and Luchini (2010) argue that emotions shape social behaviour, while appraisal theory (Miller, 2011) suggests that emotions precede social constructs in influencing behaviour. This view frees donors from the expectation of reciprocation, and recipients from the burden of obligation (Frémeaux & Michelson, 2011), fostering a fluidity of emotional expression beyond traditional social constructs of donation motivation. This emotional fluidity aligns with the "Social Sharing of Emotion Theory" (Rimé et al., 2020), which posits that emotions precede behaviour and facilitate subsequent emotional expressions within social networks.

Plutchik's "Psychoevolutionary Theory of Emotions" (PTE) (1982) further supports the idea that emotions, rather than obligation, drive reciprocity and exchange. Emotions, as evolutionary tools for maintaining homeostasis, challenge the assumption of obligation inherent in economic and social exchange theories. In localised crises, where emotions are heightened, the connection between emotion and behaviour becomes especially evident.

Literature on donation motivations often highlights persuasive strategies used by fundraisers and charitable organisations (Bernard et al., 2018). Emotional motivators such as altruism (Stefano et al., 2012), empathy (Kim & Kou, 2014), and the interplay of emotions like sadness and hope (Homer, 2021a, 2021b) are frequently explored. Other studies examine neural responses to emotional and transactional triggers (Kuss et al., 2013), the coercive framing of donation amounts (Cartwright & Mirza, 2021), and communication strategies for persuasion (Jeong et al., 2011). Philosophical concepts like karma, linked to guilt as a pro-social motivator (Chen et al., 2022), add further nuance to these discussions.

Socially oriented studies focus on topics such as inequity aversion (Xu et al., 2020), egocentric relevance in donating (Elster, 2011), and demographic factors like generational, gender, and geopolitical differences in charitable intentions (Fairbairn, 2021; Li et al., 2020; Showers et al., 2011). Operational perspectives include decision-making variables for selecting recipient organisations (Stinson & Howard, 2010) and emotional returns from donation options (Null, 2011). Trust is also a critical variable that influences donors' willingness to contribute and confidence in an organisations' ability to deliver aid effectively (Ferrara & Missios, 2020).

2.4.3. Summary of Definition Overview

A review of the literature reveals a predominant focus on donor-centric perspectives, with an emphasis on the initial transaction between donors and charitable organisations. This contemporary focus reflects a shift away from earlier, more socially embedded understandings of “giving,” resulting in a progressive erosion of both the conceptual richness of donation and the broader opportunities it can yield. The literature tends to foreground donor motivations, often at the expense of recognising the full scope of the donation network, including recipients, intermediaries, and the interrelationships among them. Moreover, it commonly adopts an event-centric lens, which overlooks the longitudinal, evolving nature of donation behaviours, especially during times of crisis.

One significant gap is the failure to conceptualise donation as a networked system, leading to minimal exploration of emotional dynamics beyond the initial donor interaction. This narrow framing constrains the discussion of emotion to the donor's experience, typically tied to motivation and reward, and neglects the emotional dimensions present in the wider web of relationships. As a result, a contracted view of donation persists, one that underrepresents the emotional and relational complexity inherent in the broader system. These gaps (Figure 2-3) highlight substantial opportunities for further research, closely aligned with the aims of this thesis.

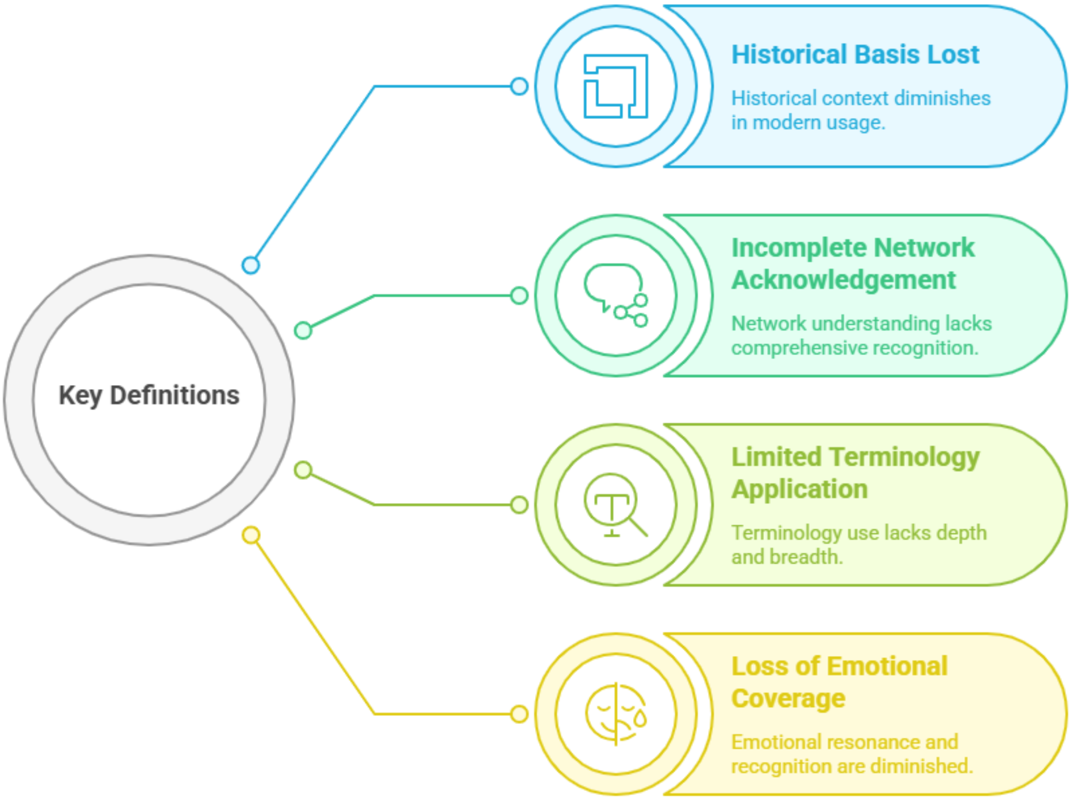


Figure 2-3: *Gaps from Definition Overview*

2.4.4. Opportunities for Research (Definition Overview)

Reconceptualising Donation: Develop broader, interdisciplinary definitions of "donation" that integrate altruistic, transactional, and emotional dimensions.Examine recipient perspectives and relational dynamics to counterbalance the prevailing donor-centric focus.

Emotion as a Driver of Donation: Investigate how emotions (e.g., empathy, outrage, guilt, elevation) shape donation behaviours in both crisis and non-crisis contexts. Apply and adapt emotion theories (e.g., Differential Emotions Theory, Appraisal Theory, Psychoevolutionary Theory) to understand emotional motivations in giving.

Beyond Exchange Models: Explore the concept of the "existential gift" and non-reciprocal giving beyond economic and social exchange frameworks. Analyse emotional reciprocity and fluidity within donation networks as alternatives to transactional models.

Communication and Influence: Study how emotional appeals and messaging strategies influence donor decisions, including ethical considerations. Evaluate how recipients' emotional expressions (e.g., during crises) affect donor engagement and fundraising outcomes.

Demographic and Cultural Variations: Examine how generational, gender, and cultural contexts influence emotional responses and donation behaviours. Explore culturally embedded beliefs (e.g., karma, moral obligation) that inform emotional motivations.

Trust and Organisational Perception: Investigate the emotional role of trust in donor decision-making and perceptions of organisational effectiveness. Assess how emotional confidence in institutions impacts donor retention and giving patterns.

2.5. Literature Review Part II - Key Theoretical Concepts

The previous section highlighted gaps in the literature that relate to key definitions which in turn are critical in the intentions of this research. However, these gaps can be compensated for by adopting alternative perspectives. Rather than focusing solely on the subject matter of existing literature covering those definitions, there is an opportunity to explore the functional dimension of the donation phenomena. Several concepts emerge from the phenomena, each offering potential theoretical support for the research. These concepts generalise the dynamics that occupy the phenomena and align with the integrative approach (Figure 2-4). In each of the respective theories, emotion is identified as a key variable and potential point of contribution.

While this figure adopts the same visual format as Figure 1-2 i.e. multiple elements processed through a central “lens” to yield a unified outcome, the conceptual role is different. In Figure 1-2, the model illustrates the convergence of diverse theories into an overarching theoretical framework (Network Theory). Here, however, the same visual structure is used to represent the commonality of independent variables in the characterisation of Emotion Theory.

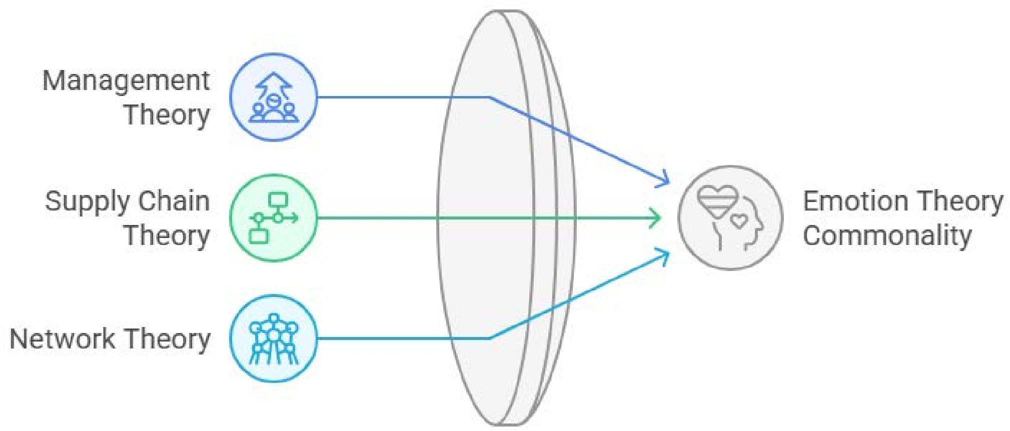


Figure 2-4: *Contribution of independent theoretic variables to Emotion Theory*

2.5.1. The Intersection of Emotion and Management Theory

This research examines how the emotions experienced and expressed by actors in a donation network influence the movement of funds from donors, through intermediaries, to recipients. This network spans both the formal management framework and the broader social environment. We identify intersections between management and emotion theories to explore these dynamics, providing a theoretical foundation for understanding their impact on donation activities.

2.5.1.1. Literature Search—Emotion and Management Theory

Using consistent selection and filtering criteria, a comprehensive literature review was conducted, with Scopus as the primary database and supplementary searches in ProQuest, Web of Science, and Google Scholar. Table 2-1 presents an overview of the selection filtering process. The initial search focused on article abstracts to ensure relevance.

Despite efforts to refine the selection, some articles meeting the search criteria were manually excluded due to a lack of relevance to the research theme or an appropriate theoretical framework. Additionally, literature focused solely on internal organisational dynamics, without addressing cross-boundary emotional influences (i.e., closed-system discussions), was omitted. The key thematic discussions identified are outlined below.

Table 2-1: Search Protocol for Emotion & Management Theory

Search Phrase combined databases: management *and* theory *and* emotion	N=2059
Bibliographic filter: *publication date* 2000 to 2024, English language, source type = article	N=956
Elimination of duplicates conducted in Endnote. Count of unique articles.	N=726
Node creation on proximity (~50~) query of keywords conducted in NVivo 12: 1. (emotion/performance) 2. (emotion/behaviour)	1. N=51 2. N=21

2.5.1.2. Themes from Selected Literature (Emotion & Management Theory)

Within the body of documents returned from this search several themes emerged which have relevance to the convergence of Emotional Theory and Management Theory. These themes represent neither gaps, nor do they completely fill the gaps identified in the previous section. They do however provide, as discussed previously, a theoretical environment or landscape that can be used to conceptualise the donation environment, and inform the development of existing and subsequent theory.

Koontz (1980) described management theory as a "jungle" of diverse schools of thought; a complexity that continues to evolve. This study uses the term "management theory" to encompass relevant scholarship. Similarly, emotion theories are diverse, as exemplified by Plutchik (1965), who identified behavioural responses to emotions influencing managerial functions. Mordka (2016) emphasises the functional role of emotions in decision-making, arguing that emotions balance cognitive reasoning in complex scenarios.

The paradoxical nature of emotions, in which opposing feelings like attraction and aversion drive contrasting actions, further underscores their influence on behaviour. Plutchik (1965) describes these as bipolar tendencies, highlighting their relevance to organisational management. Understanding these dynamics assists in analysing how emotions affect decision-making and relational interactions within donation networks.

Emotional Aggregation

The role of management is to facilitate initiatives that deliver organisational outcomes. A key competency in achieving these outcomes is the transmission of commodities, both internally and externally, across organisational boundaries. These commodities include leadership and operational elements. This research focuses on emotions as a subset of these transmitted commodities.

The first theme emerging from the literature is the aggregated network effect in transmitting emotions within a management environment. Literature partially addresses this query. One key theme is recognising emotion as an individual and collective agency element. Articles either focus on the response to collective emotion or the collective process of group emotion. Cognitive Appraisal Theory (Sinkovics et al., 2011) and Affective Events Theory (Sinkovics et al., 2011) emphasise the significance of emotion as a variable in corporate engagement, such as during mergers. These theories set the stage for exploring the impact of collective emotion. Agency

Theory (Fink & Yolles, 2015) then extends this idea, moving from singular to collective agency theory, influencing normative behaviour in organisational functions.

Fink et al. (2015) argue that smaller, embedded collective agency groups can exert a normative influence on existing cultural patterns. The capacity of organisational leadership to adapt to fluctuations in both individual and collective emotion (Pescosolido, 2002) serves as a potential metric for organisational performance. This establishes a direct link between the management of collective emotions and overall organisational function.

This collection of articles suggests that emotions impact intraorganisational functions and can aggregate to a higher level of influence. It further argues that managing individual and collective emotions benefits organisational objectives. These conclusions are supported by theories such as Cognitive Appraisal Theory and Affective Events Theory, which emphasise emotions' impact on organisational activity, and Agency Theory, which highlights the collective nature of emotions.

Additionally, discussions on the communication process feed into this emotionally constructed base of organisational performance.

Inter and Intra Organisations Communication

How parties communicate and respond to communication serves as a tool within the Collective Agency process mentioned earlier (Li et al., 2023). Social Information Theory (Lv et al., 2022) examines how voice is applied and interpreted at management and worker levels. In this context, voice represents the leadership's ability to gain insight into employees' emotional drivers. These discussions focus on the vertical nature of organisational hierarchy, which may limit their applicability to emotion management outside organisational boundaries. Shifting away from this internal focus, Hou et al. (2018) explore emotional interventions in management-employee relationships within organisations.

Beyond these internal/external distinctions, the principles of communication, rather than their specific applications, may be relevant in broader social or cross-boundary contexts. For example, communication's impact on behaviour during crises (Adamu et al., 2023) or the underutilised "corporeal" traits of emotions in cognitive management processes (Hujala et al., 2014) highlight this potential. Further, studies on social media posting titles demonstrate their emotional impact on virtual audiences (Li et al., 2021).

Customer Focus

A few articles from a customer relationship perspective present similarities to the cross-boundary emotional network discussed in this research. Despite the limited number of citations in this subsection, there is a notable parallel between the emotional dynamics within donor networks and customer relationships (Pitt et al., 2002). There is a collective emotional voice and influence without authority in both cases.

Engagement theory, as proposed by Pansari and Kumar (2017), suggests that relationship satisfaction generates emotional concern for both partners. In the context of this research, this theory applies to the primary emotional triggers and responses associated with donor satisfaction. At an operational level, Altman et al. (2021) explore organisational theory by examining how customer emotions influence service timeframes.

While both Engagement Theory and Organizational Theory extend beyond the immediate research context, their inclusion helps enrich the theoretical framework, offering valuable insights into cross-boundary relationships and power dynamics.

Normative Influence and Change Management

In a previous discussion, we reviewed literature demonstrating the impact of collective emotion on management and its associated challenges. This section examines specific management functions that may necessitate individual and collective emotions within and beyond the organisation.

Moore (2021) highlights emotionally driven resistance to change, drawing on Psychoanalytic Theory to explain such behaviours. In contrast, Goss (2008) takes a more direct approach, exploring the entrepreneurial mindset within organisations. His work presents a conjectural framework that offers an innovative perspective on external emotional influences as drivers of organisational change.

Contextual Implications

The reviewed literature also includes independent discussions that, while tangential to the central review parameters, offer valuable insights into the emotional implications within the research context.

Terror Management Theory (Higgins et al., 2020) informs the impact of external emotions on organisational decision-making. This theory suggests a sequential flow of emotion from the social subset to the organisational framework, which assimilates the emotion and communicates it back, modified by this process. Additional studies explore the positive response time continuum, highlighting expressed emotions as a variable influenced by the crisis type (Dewall & Baumeister, 2007). Appraisal theory also applies to employee responses in disruption scenarios (Barclay et al., 2022).

2.5.1.3. Summary of Emotion/Management Literature

Despite growing interest in the role of emotion in organisational behaviour, current theoretical engagement with emotion remains largely confined to intra-organisational, hierarchical contexts, primarily focusing on leader–follower dynamics. This narrow scope fails to capture the distributed, cross-boundary nature of emotional interactions within donor or humanitarian networks.

Emotional theories, though diverse, are often applied in isolation, resulting in a fragmented understanding that lacks a unified, systemic framework. Concepts such as collective emotional agency are underdeveloped, particularly in socially driven or voluntary environments where shared emotional experiences shape group norms and actions. Communication-related theories, including Social Information Theory and the literature on 'voice,' have not been sufficiently adapted to reflect lateral, inter-organisational emotional exchanges.

While donor relationships share emotional characteristics with customer engagement (such as trust, satisfaction, and loyalty), the reviewed literature seldom draws on established customer management models to theorise donor behaviours. Additionally, crisis-focused emotional frameworks like Terror Management Theory and Appraisal Theory are discussed in isolated cases but are not systematically integrated into broader models of emotional influence in complex donation environments.

Finally, emotion has yet to be fully recognised as a component of Supply Chain Theory, either as a distinct supply flow or as a dynamic that modulates performance, despite its observable role in shaping organisational resilience, responsiveness, and collaboration under emotionally charged conditions. Collectively, these conceptual gaps highlight a lack of interdisciplinary theorisation that could bridge emotional, structural, and behavioural elements within donation ecosystems. These findings are summarised graphically in Figure 2-5.

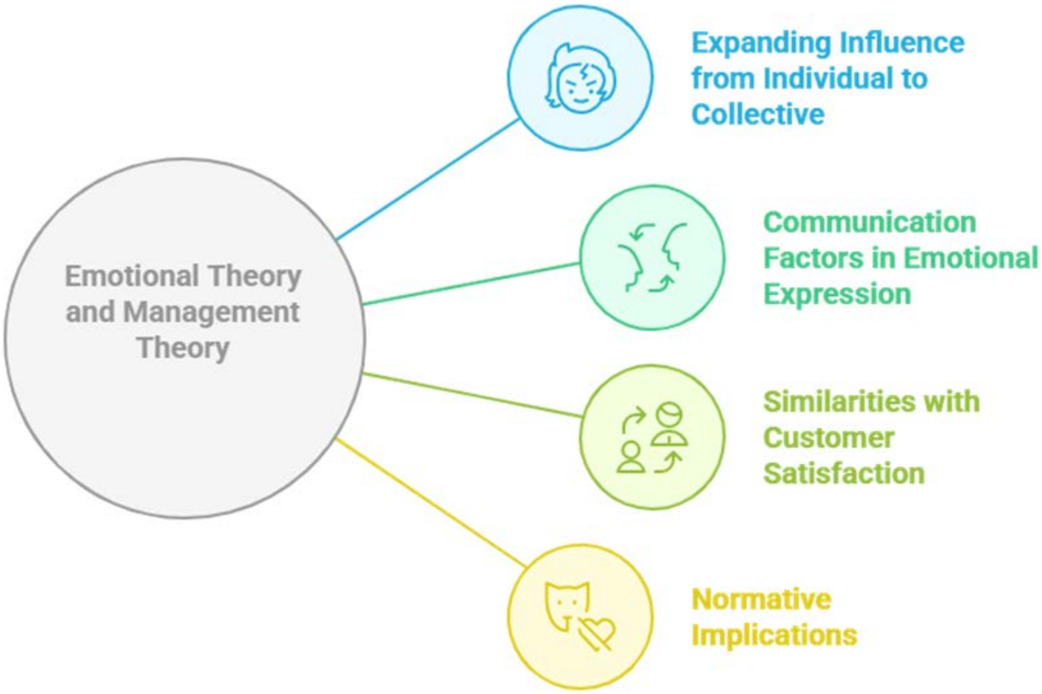


Figure 2-5: *Emotion/Management Theory Gaps and Opportunities*

2.5.1.4. Additional Opportunities for Research (Emotion/Management Theory)

- **Expanded Theoretical Applications:** Expand emotional theory applications beyond hierarchical structures to include distributed, peer-based systems like donor networks, capturing the nuanced influence of emotion in less formalised environments.
- **Systems Oriented Models of Emotion:** Develop a systems-oriented model of emotional flows across all key management functions, enabling more holistic theorisation applicable to humanitarian and voluntary ecosystems.
- **Application of emotional theories to donor context:** Apply and adapt collective emotional theories (e.g., Agency Theory (Shapiro, 2005) , Affective Events Theory(Weiss et al., 2005)) to donor contexts, particularly to examine how shared emotions shape trust, behaviour, and normative alignment across participants. Systematically apply crisis-related emotional theories to donation networks to investigate how emotions influence behavioural adaptation, systemic coordination, and emotional contagion during emergencies.
- **Adoption and application of customer service theory to donation environment:** Leverage customer engagement and relationship Management Theories to conceptualise donor satisfaction, emotional reciprocity, and sustained involvement, recognising donors as emotionally active stakeholders.
- **Introduction of Emotion to Supply Chain Theory:** Introduce emotion as a recognised component of supply chain theory, either as a fourth supply flow or as a moderating influence, opening up new perspectives on non-material exchanges in emotional supply networks.

2.5.2. The Intersection of Emotion with Supply Chain Theory.

Supply Chain theory, in a similar way to Management theory, presents itself as a concoction of theories that address elements such as structure, strategy, resourcing, power and others (MacCarthy et al., 2016). The inclusion of supply chain theory in this theoretical framework gives initial credence to the linear flow of funding from a donor to a recipient that exhibits characteristics consistent with the application of accepted supply chain evolution, diversity and practice (MacCarthy et al., 2016).

2.5.2.1. Literature Search – Emotion and Supply Chain

Applying the same selection protocol and criteria as "emotion and management theory", the following output resulted from the literature search of "emotion *and* supply *and* chain *and* theory" (Table 2-2)..

Table 2-2: *Search Protocol—Supply Chain*

Search phrase combined databases: supply *and* chain *and* theory Search phrase combined databases: network *and* theory *and* emotion Bibliographic filter: publication date 2004 to 2024, English language, Source type = article Elimination of duplicates conducted in endnote. Count of unique articles	N=53
Imported to NVivo and coded.	N=41

2.5.2.2. Themes from Selected Literature (Emotion/Supply Chain)

Historical Transition

The concept of exchange between supplier and consumer has existed "since the dawn of commerce" (Blanchard, 2010). Efforts to manage these exchanges are well-documented, particularly in the works of Lummus and others. (Lummus et al., 2001; Lummus & Vokurka, 1999). A significant historical distinction in supply chain management (SCM) is the framing of the "focal firm" perspective. Ferrer and Mullins (2014) and Ballou (2007) argue that the primary goal of supply chains has historically been to meet logistical needs, measuring success by the delivery of goods and services to the consumer. However, Blanchard (2010) contrasts this with a narrower view, focusing on benefits to the focal firm itself rather than a holistic supply chain perspective (Ponomarov & Holcomb, 2009).

This creates a dichotomy: the 'focal firm' view (Chen & Paulraj, 2004) versus the non-commercial perspective, which encompasses any supply chain not driven by a commercial agenda. It's important to clarify that "non-commercial" here does not equate to "non-profit". This distinction has led to evolving frameworks, notably attempts to expand the focal firm view to encompass broader supply networks, as seen in the work of Lambert & Enz (2017).

Contemporary literature suggests that this polarity is transforming into a continuum driven by a changing business environment and the emergence of diverse supply chain models. In the past two decades, we've seen the rise of independent models, like Service Value Networks (Basole & Rouse, 2008; Carroll et al., 2010), which adopt elements of focal firm practices but also present unique characteristics, constraints and parameters. Additionally, traditional supply chain models have been deconstructed into individual flows of products, finance (Gupta & Dutta, 2011), and information (Shuang & Yen; Sun & Yen, 2005)

Emotion as a Supply Chain Influence

The role of emotion in supply chain execution is unsurprising, given the significant human involvement that persists in an increasingly automated industry. For those highlighting the importance of emotion in this domain, its impact on retail supply chain performance is well-documented (Guo & Li, 2023). The literature identifies several areas where emotion influences supply chain activities. For instance, in the manufacturing phase, emotions play a role in remanufacturing decisions and customer sensitivities (Abbasi et al., 2022; Gao et al., 2021). A broader perspective of the supply chain reveals the influence of emotions such as anger in enhancing responsiveness to errors and supply chain activities (Olson et al., 2023).

Within the focal firm context, emotionally astute leadership is increasingly recognised as a key element of modern management methodologies (Lankton & Mukherjee, 2021). Emotions also contribute to the resilience of supply chain relationships, especially in dynamic and volatile environments (Mitrega et al., 2012). However, negative emotions can harm relationships in crisis situations, marked by episodes of conflict and weariness (Gao et al., 2017). Conflict resolution and emotional exposure are crucial for resolving supply chain issues and building trust (Li et al., 2005; Pulles & Loohuis, 2020).

Emotions also play a key role in innovation and diffusion within supply chains, particularly when applied externally to the focal firm. This is especially relevant to the research context, as information supply chains must rapidly diffuse within communities engaged in donation activities (Carmagnac & Naoui-Outini, 2022).

2.5.2.3. Summary of Emotion/Supply Chain Literature

The intersection of emotion with supply chain theory is a nascent yet increasingly relevant area of study. Traditionally focused on logistics, structure, and commercial outcomes—often from a "focal firm" perspective—supply chain theory has only recently begun to recognize broader network models and non-commercial applications such as donation networks. While emotions are acknowledged in specific areas like leadership, conflict resolution, and innovation, they are generally treated as secondary influences rather than core components of supply chain design or execution. This limited view neglects emotion's vital role in enhancing responsiveness, resilience, and the flow of information, particularly in dynamic and high-stakes environments.

Significant theoretical and practical gaps remain. Emotion is rarely conceptualized as a distinct flow within supply chains, on par with product, finance, or information. Emotional leadership and conflict resolution are not deeply examined beyond focal firm contexts. Emotion's influence on supply chain performance and resilience is under-theorized, especially in socially driven or donation-based systems. Furthermore, the role of emotion in innovation diffusion, particularly in rapidly changing environments like disaster response, is largely overlooked. Few frameworks adequately address how emotional dynamics function across complex, distributed supply networks. Addressing these gaps (Figure 2.6) offers a valuable opportunity to advance both supply chain and emotion theory by integrating them into a more holistic, systemic understanding, one that recognizes emotional processes not just as background variables but as active drivers of performance, trust, and adaptability across the entire supply chain.

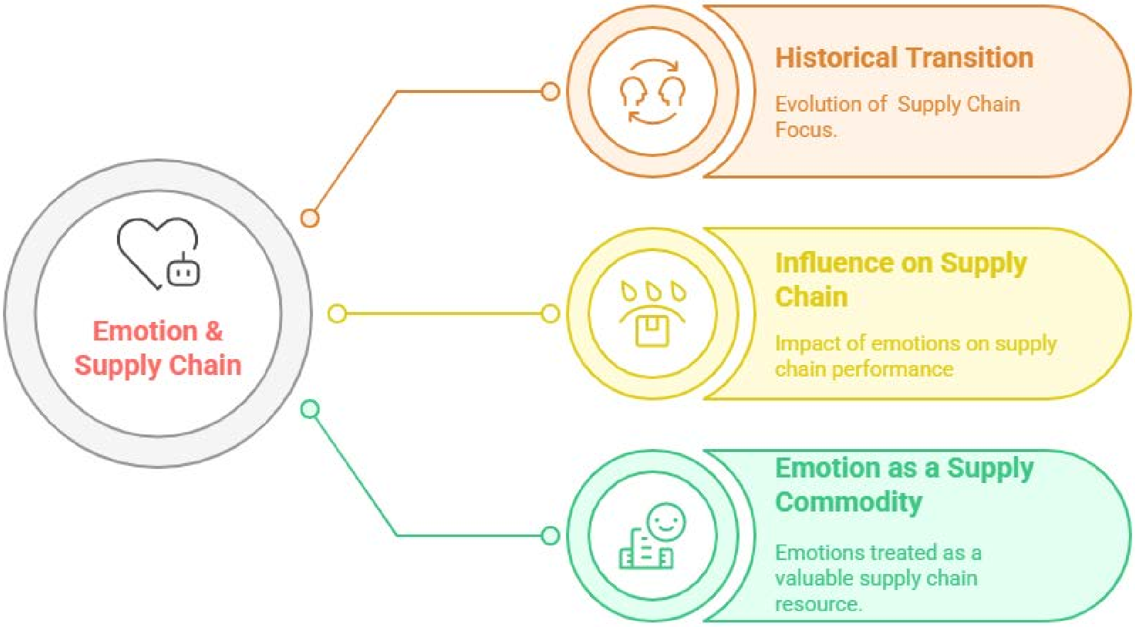


Figure 2-6: *Emotion/Supply Chain Gaps and Opportunities*

2.5.2.4. Additional Opportunities for Research (Emotion/Supply Chain Theory)

Reframing Emotion as a Supply Chain Input: Emotion could be treated as a supply and demand commodity, offering a novel dimension to supply chain theory—particularly valuable in non-commercial or crisis contexts.

Expanding Network Models: Incorporating emotional dynamics into broader, socially oriented supply chain models (e.g. donation or information supply chains) can provide a richer understanding of network behaviours and outcomes.

Bridging Theory and Practice: There is a unique opportunity to integrate emotion into interdisciplinary supply chain frameworks, enabling more accurate modelling of performance and flow in complex, real-world systems.

2.5.3. The Intersection of Emotion and Network Theory.

Estrada et al. (2015) define a network as a collection of items and the connections between them. Theoretically, this is quite nebulous, but nonetheless relevant in imagining how actors involved in the donation activities may connect physically, transactionally and emotionally in the execution of the individual roles and functions.

An introduction to this section is best served by acknowledging the philosophical contribution of Balkwell (2008) in furthering research on Network Theory. This author argues for the continuance of research and its intentions to provide further development of the theory. The author cautions, however, that a wiser approach might be to de-clutter the current understanding by testing and applying a falsifiable hypothesis incrementally rather than attempting to clarify the core of the theory directly. The wisdom of this is revealed when we integratively examine the literature returned. It is difficult to identify a central thematic core from the literature that attaches Network Theory to the transmission or experiencing of emotions between network actors. What is noticed is a range of sub-themes or tangential treatment of themes that have a network and emotion intersecton.

Literature Search – Emotion and Network Theory

Applying the same selection protocol and criteria as "emotion and management theory", the following output resulted from the literature search of "network *and* theory *and* emotion" (Table 2-3).

Table 2-3: Search Protocol—Emotions to Networks

• Search Phrase combined databases: network *and* theory *and* emotion. • Bibliographic filter: *publication date* 2000 to 2024, English language, source type = article • Elimination of duplicates conducted in Endnote. Count of unique articles.	N=476
• Attachment to theory	N=113

2.5.3.1. Themes from Selected Literature (Emotion & Network Theory)

Within this body of reviewed literature (Table 2-3*)*, we find a strong contingent of research output addressing the social and affective processes and dynamics contributing to individual and group emotions.

Networks and Individual Emotions

The search phrase allowed for literature using "network" in its broadest sense. However, this inclusivity made it difficult to filter out irrelevant material. Articles focusing on internal physiology, psychology, or neural networks (Gentili et al., 2015; Kanske et al., 2016) were excluded in favour of those more directly related to the core discussion. Similarly, studies on the psychological and biogenetic aspects of self-construction (Abrutyn & Lizardo, 2020) and the processing of emotions within self-identity (Leventhal, 1984) were omitted due to their peripheral relevance. One exception, Löckenhoff & Carstensen (2004), examined time as a constraint on emotional stimulus and experience. These examples illustrate but do not exhaust, the range of studies addressing networks as internal individual characteristics.

Reference to Specific Emotions

A key challenge in reviewing this literature is its focus on individual emotions rather than the networks through which they are transmitted and received. However, fundamental emotions function as commodities exchanged between network actors and sustain the network's structural integrity.

To illustrate, in a traditional supply chain, the nature of a product has minimal impact on actor relationships. In contrast, when emotional commodities circulate, the literature suggests a degree of osmosis between the emotion and its influence on the network.

Among these emotions, trust is particularly significant. Palmer and Huo (2013) identify trust as a reinforcing mechanism that strengthens emotional flows within the network. Similarly, gratitude enhances network performance and emotional exchange (Chang et al., 2012). Beyond being an emotional commodity, gratitude reinforces network structure (Algoe et al., 2020). Algoe et al. (2020) further demonstrate how expressions of gratitude between first and second parties influence third-party observers' behaviour.

Empathy is explored at both micro and biological levels. Ho et al. (2023) examine how emotional maturity affects the subjective experience of emotional contagion, while Yang et al. (2017) analyse its biophysiological underpinnings.

Demographic Influence on Networks

A less prominent but noteworthy factor in collective or shared emotions is the demographic influence on network growth and dimensions. Specifically, an actor's age is considered a key determinant of network size, which has implications for expanding networks within this demographic. One cited consequence of this constraint is an increased focus on emotional gratification within the network. This suggests that positive emotions are more readily accepted, increasing the willingness to expand network exposure (English & Carstensen, 2014; Krendl et al., 2022; Rolison & Lamarche, 2023).

Regarding how individuals receive emotions generated by others or existing networks, Goss (2010) explores this dynamic through Network Theory. He identifies scenarios where network dynamics play a constructive role in expansion via emotional channels and the application of agency theory.

Recognition of Emotion in Others

The competencies of emotional intelligence (MacCann et al., 2011; Winton, 2022) are almost de rigueur in today's management world. Emotional intelligence models incorporate the requirement to be able to recognise and attribute the emotional state of others (Haas et al., 2015; Koster-Hale et al., 2017; Salovey & Mayer, 1990). Several authors within the reviewed literature focus on this portion of the model as a key to strengthening organisational network ties (Kanske, 2018; Winton, 2022).

The small subsection within the reviewed literature is tangential to the main research areas, and while it appears underexplored, it provides no relevant gaps for the proposed research.

The Growth and Impact of Emotions in Networks

When shifting focus from individual emotion processing to social structures, neural networks and internal mechanisms recede, and the literature takes on a more structural, socially oriented perspective. References to groups and emotions become common, explored from two primary angles: the influence of individuals on groups and the reverse; how groups shape individual emotional pathways.

From a group perspective, studies examine network characteristics facilitating expansion through opinion dissemination to non-network actors (Bae et al., 2013; Xiwei et al., 2021). While many of these studies focus on social media, their broader relevance to social networks remains significant. Group influence on emotional networks is further analysed through impact assessments and behavioural models (Bin & Sun, 2020). Zerback & Wirz (2021) apply content analysis at a micro level, examining how recipients respond emotionally to expressions within a network. Their findings highlight increased participation and predictable emotional expressions in response to heightened emotional content. Han (2023) operationalises these analytical approaches into a five-step process for expanding networks around a shared emotion.

Case studies illustrate the organic growth of social networks driven by audience mimicry of selectively communicated (often negative) emotions (Lee & Colautti, 2022). Social media plays a central role in amplifying emotions, particularly in crisis scenarios, where short videos generate emotional responses(Wang et al., 2023), and networks influence individuals experiencing negative emotions, such as bullying (Wen et al., 2023). Memes have also emerged as a technologically driven emotional stimulus, contributing to network growth and influence (Yang et al., 2021).

Memes further align with discussions on emotional contagion tools. Language plays a key role in shaping public opinion and shared emotions (Yang et al., 2023). A qualitative study of social media tweets found that affective language significantly drives emotional contagion (Bojic, 2023).

Facial expressions also stimulate similar expressions in others, reinforcing emotional inclusion in networks. However, the valence of received emotions does not always align with the original contagious emotion (Lee et al., 2008). Facial mimicry can also trigger recall of previous emotional responses (Senderecka et al., 2021). The impact of physical mimicry was studied through musicians' emotive behaviour (Cespedes-Guevara & Dibben, 2022), while related research explores music as a mechanism of emotional contagion (Gray, 2020; Ma et al., 2017).

Emotional Contagion

Emotional contagion and its accompanying "affective" theories give rise to an expansion of the network but also underscore the power of that network as a social entity engaging elements such as collective or shared emotions and the range of tools that facilitate those outcomes. Some of these have been discussed previously.

2.5.3.2. Summary of Emotion/Network Theory Literature including Gaps

The reviewed literature on emotion and network theory reveals a broad engagement with social and affective processes influencing both individual and group emotions within various types of networks. However, the term "network" is often used broadly, leading to challenges in filtering out studies that do not directly address the transmission of emotions between actors.

Much of the existing research focuses primarily on individual emotions rather than how these emotions propagate and influence networks. Emotions such as trust, gratitude, and empathy are identified as important "commodities" that flow between actors, reinforcing network cohesion and performance. Demographic factors, particularly age, also play a notable role in shaping network size and emotional dynamics, with older individuals showing a preference for emotional gratification that affects network expansion.

While emotional intelligence, particularly the ability to recognize emotions in others, is acknowledged as vital for strengthening organizational networks, this remains an underexplored aspect within network theory. At the group level, studies often emphasize how emotions influence network growth and behaviour, especially through social media platforms that amplify emotional content during crises or negative events. Tools for emotional contagion, such as memes, language, facial expressions, and music, are recognized as important mechanisms driving shared emotions and network expansion.

Despite these insights, significant gaps remain, including a limited focus on the pathways of emotional transmission across networks, insufficient exploration of emotional commodities beyond trust and gratitude, and a lack of detailed understanding of demographic influences on emotional networks. Furthermore, emotional intelligence's role within network dynamics is still nascent, and many studies are confined to social media contexts without adequate attention to more specific settings such as donation or disaster networks.

Empirical research on emotional contagion tools is sparse, and there is a clear need for multi-level models that integrate individual emotional processes with group -level network dynamics to better capture the complex interplay of emotions within networks. These respective gaps are presented graphically in Figure 2-7.

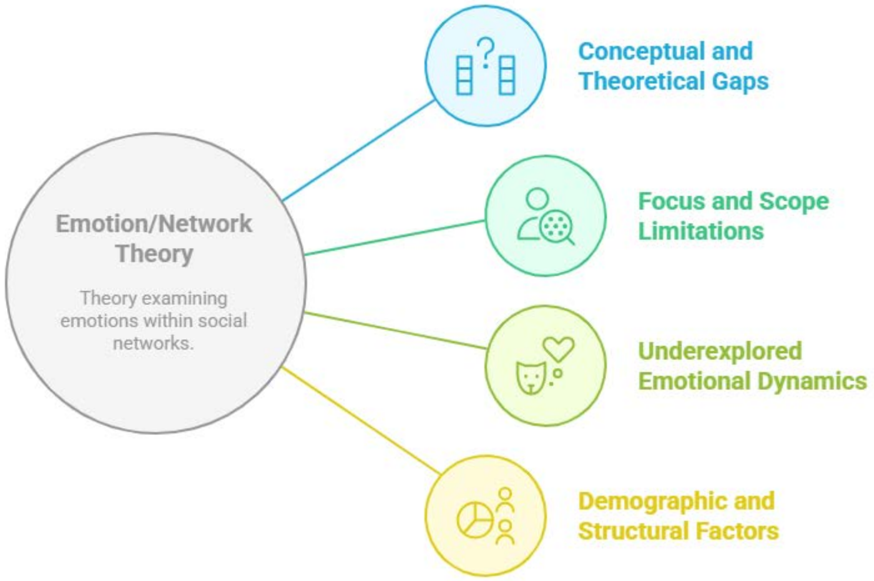


Figure 2-7: *Emotion/Network Summarised Gaps and Opportunities*

2.5.3.3. Additional Opportunities for Research (Emotion/Network Theory)

Central Integration of Emotion in Network Theory: Future research could develop and test frameworks where emotions (like trust, empathy, and gratitude) are modeled as dynamic inputs and outputs of network interactions.

Emotion as a Structuring Element in Non-Traditional Networks: Traditional supply chains are seen as structurally rigid, but emotion-driven networks (e.g., donation ecosystems, mutual aid networks) may exhibit more fluid, trust-based structures. Research could explore how emotional variables shape governance, coordination, and resilience in such "softer" networks.

Comparative Emotional Dynamics in Commercial vs. Non-Commercial Networks: A comparison between emotional exchange in commercial (corporate) networks vs. non-commercial (donation, volunteer, crisis-response) networks remains largely unexamined. This could include how emotional currencies (gratitude, empathy, moral obligation) function differently across network types.

Network Formation and Emotion-Driven Entry/Exit Decisions: What emotions drive individuals to join or leave networks? How does emotional satisfaction or burnout affect network stickiness or volatility? Longitudinal studies on volunteer networks could yield valuable insights.

Demographics and Emotional Network Behavior: While demographic factors like age are mentioned, their implications remain underdeveloped. Further work could investigate how age, gender, and cultural context mediate emotional preferences and responsiveness within networks.

Emotion Recognition as a Network Competency: Emotional intelligence and recognition are framed as managerial or interpersonal tools. But what if these are seen as collective competencies of a network? Research could explore how distributed emotional competencies affect network resilience, conflict resolution, and adaptation.

The Role of Emotion in Network Contagion and Virality: There's strong evidence of emotional contagion via digital content (e.g., memes, social media). Future work could examine the thresholds or triggers for viral emotional diffusion and how these affect network shape and function (e.g., density, clustering, fragmentation).

Negative Emotions and Network Degeneration: Most literature highlights positive emotions like trust and gratitude, but the destructive role of emotions like envy, resentment, or fatigue is underexplored. Investigating how negative emotions corrode ties or trigger cascades of disconnection could offer valuable balance.

Emotion-Driven Innovation in Networks: How do emotions like hope or urgency drive innovation within networks, particularly in crisis or resource-scarce environments? This could be especially useful for understanding donation-based or grassroots movements.

Emotions and Network Ethics: Ethical questions arise when networks use emotional manipulation (e.g., via targeted emotional content or design). Research could examine the normative boundaries of emotional influence in networks — especially in humanitarian or charitable sectors.

2.5.4. Stakeholder Theory: Context and Limitations

Among the major theoretical approaches to organisational relationships, stakeholder theory occupies a central position. Since Freeman's (1984) foundational work, it has been widely applied in management, strategy, and business ethics as a way of conceptualising the firm in relation to the diverse groups that affect and are affected by its actions. Its emphasis on moving beyond a shareholder-centric model and recognising interdependent stakeholder claims has made it one of the most influential lenses for understanding organisational responsibility and performance. Nevertheless, despite its significance in the broader literature, stakeholder theory is less suited to the focus of this thesis. The following section outlines its contributions and key critiques, highlighting why, although it provides useful background, it cannot serve as a primary supporting theory for analysing the dynamics of donation networks.

Stakeholder theory, as first articulated by Freeman (1984), positions the focal firm as responsible for recognising, prioritising, and managing both internal and external stakeholders in order to align their interests with organisational objectives. Its strength lies in acknowledging that organisations operate within a broader web of interdependencies, moving beyond a narrow shareholder perspective. Yet in the context of donation networks, this framework is limited. One of the central weaknesses is that the focal organisation does not control the key decision points; rather, it is itself a stakeholder among others, with limited capacity to reconstitute or prioritise the network to achieve desired outcomes. Critics have long noted that stakeholder theory suffers from vagueness and a lack of operational clarity (Key, 1999; Phillips, 2003), as well as an implicit managerial bias that privileges the firm's perspective over that of other actors (Stieb, 2009). Corazza and Cisi (2017) further highlight that in networked contexts, stakeholder identities are fluid and situational, while attributes such as power, legitimacy, and urgency are relational rather than fixed. This dynamism makes it difficult for a focal organisation to perform the very functions stakeholder theory assumes—stable recognition, prioritisation, and control. Moreover, complexity theory suggests that donation networks operate as complex adaptive systems characterised by non-linearity, emergent behaviours, and dispersed agency (Byrne & Callaghan, 2014). These insights underscore that engagement is dynamic, decision pathways are multiple, and outcomes cannot be managed solely through firm-centric models. Thus, while stakeholder theory remains useful in illustrating the breadth of relationships, its assumptions about focal control and stable stakeholder attributes limit its capacity to serve as the primary theoretical foundation for understanding or guiding engagement in donation networks.

2.5.5. Consolidated Gaps in Key Theoretical Concepts

The literature reviewed highlights the growing recognition of emotion as a significant, yet still under-theorized, factor in supply chain theory, organisational behaviour, and network dynamics. Traditionally, supply chain research has focused on tangible flows such as products, finances, and information, typically from a "focal firm" perspective. However, emerging studies suggest that emotion plays a critical role in shaping responsiveness, resilience, communication, innovation, and trust, especially in dynamic, high-stakes environments such as donation and crisis networks. Despite its relevance, emotion remains marginalised as a secondary variable rather than a core structural element within networked systems. This creates a rich landscape for research that integrates emotional theory with supply chain and network models in a holistic, cross-boundary way.

Identified Gaps

a) **Shared vs. Collective Emotion**: Lack of integration between emotional contagion and network evolution; distinction between shared vs. collective emotions remains conceptually vague.
b) **Emotional Communication Structure:** Insufficient analysis of how emotional communication structurally shapes or sustains networks, especially across organisational boundaries.

c) **Normative Crisis Dynamics:** Minimal research on normative influence in emotional networks during crises, leaving behavioural reinforcement mechanisms underexplored.

d) **Emotion as Supply Flow:** Emotion remains a secondary element in supply chain models; not yet treated as a distinct flow (like finance or information) influencing performance.

e) **Organisational Crisis Emotion:** Organisational emotional responses to crises are under-theorised, particularly in donation and humanitarian contexts.

f) **Key Emotions in Networks:** Literature on individual emotions (e.g., empathy, trust, gratitude) is present but rarely connected to systemic network performance.

g) **Demographic Network Influence:** Demographic influences on emotional network success are inconsistently addressed, particularly in relation to crisis-driven mobilisation.

h) **Emotion in Supply Innovation:** Sparse empirical attention to emotional leadership, conflict management, and innovation diffusion in non-commercial or donation-based supply chains.

i) **Multi-Level Emotion Models:** Lack of multi-level frameworks that link individual emotional experiences with group and network-level behaviours and outcomes.

A consolidated summary of the gaps and research opportunities identified from the key theorectical concpets in the literature review is presenmted graphically in Figure 2-8.

Gap	Description
Shared vs. Collective Emotion	Unclear distinction
Emotional Communication Structure	Lacking definition
Normative Crisis Dynamics	Insufficient understanding
Emotion as Supply Flow	Under-explored concept
Organisational Crisis Emotion	Limited research
Key Emotions in Networks	Unidentified emotions
Demographic Network Influence	Unclear influence
Emotion in Supply Innovation	Missing Link
Multi-Level Emotion Models	Scarce models

Figure 2-8: *Consolidated Gaps/Opportunities in Theoretical Concepts*

2.6. Literature Review Part III - Network Framework

The third pathway of inquiry in this literature review is designed to clarify and conceptualize the structure of the donation network. The primary objective is to identify and describe network participants and their interrelationships. Given the integrative and exploratory nature of this review, it is essential to determine which elements constitute a data point (Babbie, 2017) to meet its descriptive aims.

Unlike traditional frameworks that begin with a clearly defined model, the donation network lacks an established structure, rendering conventional deconstruction inappropriate. In response, this review adopts a constructive and aggregative methodology: gradually assembling a literature-based model through content analysis (Haggarty, 1996; Seuring & Gold, 2012). This method allows the network's structure to emerge inductively from the literature rather than being imposed deductively.

A useful analogy can be drawn from Semantic Segmentation in digital imaging (Sehar & Naseem, 2022), which isolates individual pixels to understand adjacent relationships and build a composite image. Similarly, this review identifies and categorizes textual data points, action, entity, and relationship words, to create "word snapshots" of the donation network. When these co-occur, they construct virtual dyadic and triadic structures (Choi & Wu, 2009), which, when aggregated, contribute to a holistic framework of the network.

It is acknowledged that the resulting network image reflects a conceptual model derived from the literature rather than an exact mirror of real-world configurations. While it may diverge from patterns identified through empirical observation or case studies, this de facto model is essential for achieving the descriptive and theoretical goals of the study. It serves as a foundation for subsequent phases of data collection and analysis.

The source material for this structural pathway review matches that of the 'Definition Overview' section. From an initial pool of 8008 articles imported into EndNote, 7047 were selected for content analysis and exported to NVivo 12.

This review adopts a three-part, mixed-methods approach. Part III emphasizes inductive qualitative synthesis using content analysis, implemented through the technique of text condensation (Malterud, 2012). This method, originally developed for analyzing qualitative data such as interviews, is increasingly applied to literature-based inquiry to extract conceptual and theoretical insights (Zahlender et al., 2024; Holmberg et al., 2022). The process follows a categorical data approach (Bazeley, 2013), allowing for systematic coding, thematic grouping, and progressive abstraction using NVivo as the analytical platform.

The objective is not merely to summarize existing work but to inductively construct a theoretically grounded understanding of the donation network through emergent themes and interdomain linkages. The review thus functions as a primary site of analysis and theory generation. The culminating output, a visual network map, synthesizes key actors (nodes), their relationships (edges), and the exchange of emotional and material commodities (flows). This picture-building process enhances transparency, traceability, and interpretive depth, aligning with evolving understandings of the literature review as a tool for theory construction in qualitative research (Borgatti et al., 2018; Charmaz, 2014). The output from this literature review phase serves as the basis for stage I of the mixed methodology approach to data collection.

Function

The "Function" coding is designed to capture the general range of activities referenced within the reviewed donation literature. The initial coding of "Function" was carried out by identifying the active words from a word frequency exploration of the files using NVivo. This search was expanded to include stemmed words. Forty-eight (48) functions were manually identified. Variations of those results were aggregated into a reduced listing of thirty-three (33) "Function" categories. That word frequency search generated a spread of results across the "Function" categories from three thousand, two hundred and seventy-seven (3277) coded references for "analysis" to a single (1) coded reference for the "observation" function. The relative distribution of that function coding is shown in Figure 2-9.

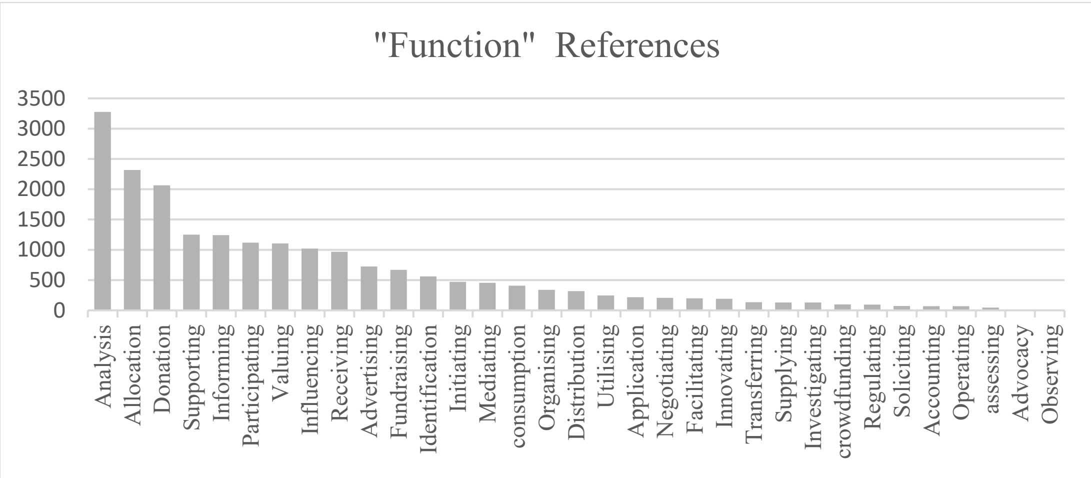


Figure 2-9: *"Functions" identified in selected literature*

The bar chart in and of itself is not necessarily informative regarding the form of the donation network. As indicated earlier, the identification of the functions is not the intended outcome of the review. The purpose of isolating and distinguishing the functions is to provide an instrument or mechanism for the subsequent identification of actors, relationships and commodities participating in those functions. This is consistent with the four-phase model of binti (2014).

What we can observe at this stage, however, is a diversity of functions that gives some insight into the complexity of the network activity without necessarily identifying the participants within those activities. Although not necessarily contextually aligned with donations in a crisis scenario, we see an acknowledgement in the literature of activity beyond, or at least overlapping with, the flow of physical commodities within a general "donation" discourse.

A review of the functions on the X axis of Figure 2.9 reveals some functions that can be directly linked to organisational physical activities, e.g. Allocation (Pham & Septianto, 2020), Distribution (Atia, 2013) in contrast to other functions which have a more distinctive social or emotional sense, e.g. Influencing (Wright, 2018) and Advocacy (Riegel & Mumford, 2022).

Within this analysis, a range of functions that do not suggest a mutually exclusive status remains but could refer to physical and non-physical functions. Figure 2-10 shows the same data expressed in the previous chart, with the subjective categorisation of those functions to either a) physical, b) non-physical or c) indeterminate.

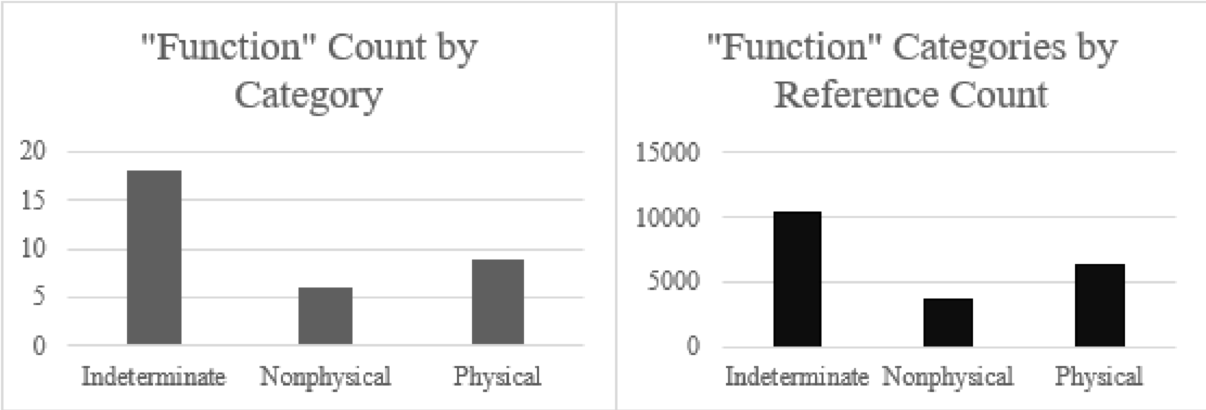


Figure 2-10: *Comparative "Function" categories*

It is clear from the graphic that "indeterminate" functions represent the largest range of functions and the largest volume of coded references. This is unsurprising given the lack of subject specificity in the literature selection design. What is more interesting, however, is the early indications of an imbalance between physical and non-physical functions from within the donation literature, resulting perhaps from the relative maturity of the discourse on the physical donation activity. It is, however, supportive of the need to research further the proposed social and emotional flows throughout a network.

Not all the functions identified and listed contribute directly to forming relationships. Some are administrative, general, or indeterminate functions. The remainder can be seen as engaging at least two roles within some form of transfer or exchange, thereby supporting the notion or creation of a relationship.

We now look to those functions to identify the specific roles, while simultaneously reducing the volume of articles, showing only those that have a degree of utility in the creation of the donation network.

Roles

The analysis for **Roles** followed a similar approach to the analysis of **Functions**, aiming to identify actors involved in these functions. This step is essential for understanding relationships between roles. From the original body of articles, 14 consolidated roles were identified. The total coding references for each role are presented in Figure 2-11.

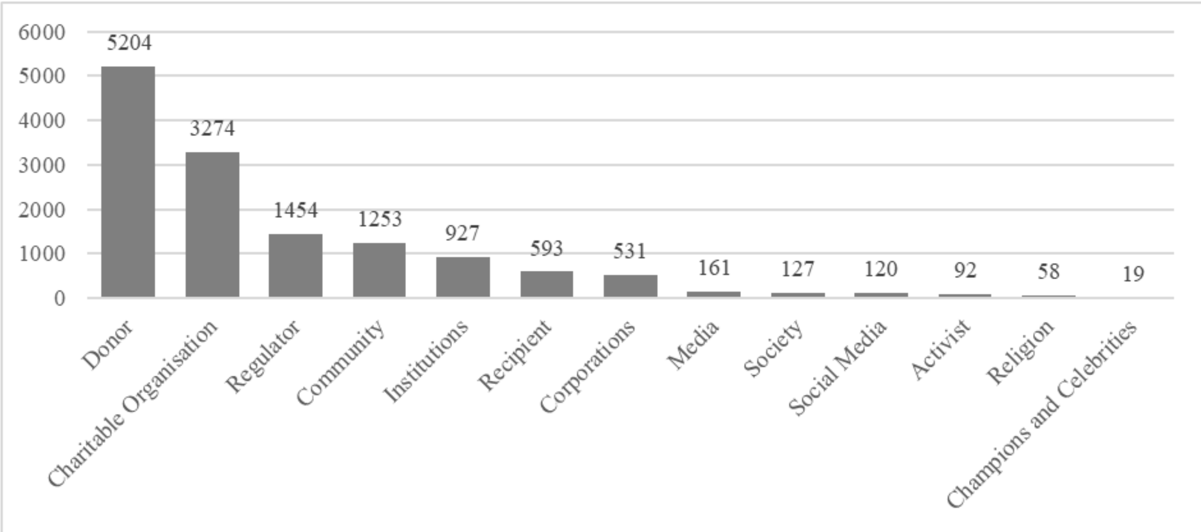


Figure 2-11: *Summarised "Role" coding*

A basic coding volume comparison highlights the dominance of **Donors**, which is expected given their primary role in donations. The significance of references to **Charitable Organisations**, e.g., (Ilicic & Baxter, 2014) suggests their perceived research importance in managing funding and social interactions between **Donors** and

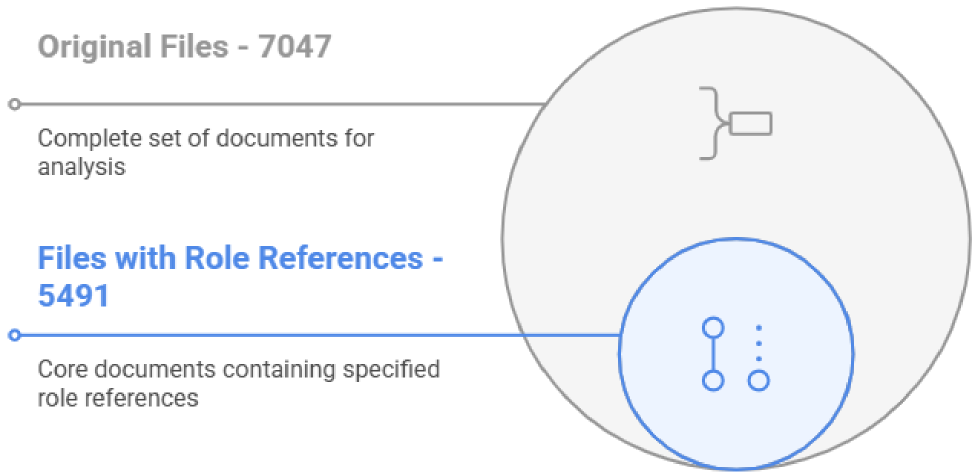


Figure 2.12: *"Role" based reduction*

Recipients. Other roles, including **Recipients** (Muñoz-Ocaña et al., 2022), appear less emphasised in research outputs and collectively do not match the reference volume of **Donors** and **Charitable Organisations**.

Filtering for explicit role identification reduced the dataset from 7047 to 5491 relevant files (Figure 2-12). The first two filtering outputs, **Functions** and **Roles**, are relatively objective, refining the dataset and establishing broad parameters for later subjective filtering under **Contexts** and **Commodities**.

To examine relationships between **Roles**, an NVivo 12 matrix (Table 2-1) and network (Figure 2-13) were created to track intersections between **Roles**. While self-contact between roles (e.g., one charitable organisation interacting with another) is possible, such instances were excluded from representation in the table.

The strong focus on relationships at the supply end, between **Charitable Organisations** and **Donors** (2070 references) versus **Charitable Organisations** and

Recipients (348 references), suggests an imbalance in research coverage. This literature gap raises questions about adequate representation of all role interactions.

This coding association approach does not validate relationships, but it serves two key purposes:

a) Provides an overview of literary focus on specific roles and their interactions.
b) Offers a relative weighting of research attention on each role and relationship.

During coding, articles lacking multiple roles were naturally excluded from relationship analysis. The matrix reveals a concentration of references around charitable organisations, with notable mentions of community, donors, recipients, and regulators.

Table 2-1: *Role Relationship Matrix by Reference. Source: Literature review*

	Activist	Champions and Celebrities	Charitable Organisation	Community	Consumers	Corporations	Donor	Institution	Media	Recipient	Regulator	Religion	Social Media	Society
Activist		0	50	17	1	8	31	1	3	9	18	0	2	0
Champions and Celebrities			17	7	0	3	15	0	2	1	3	0	0	4
Charitable Organisation				638	11	280	2070	55	94	348	670	50	70	110
Community					16	104	617	18	41	121	253	9	37	29
Consumers						1	12	0	0	4	1	0	0	0
Corporations							281	19	13	34	126	1	6	8
Donor								72	85	391	606	37	79	85
Institution									6	18	33	2	2	1
Media										18	32	1	0	6
Recipient											101	4	8	8
Regulator												2	8	26
Religion													0	12
Social Media														0
Society														

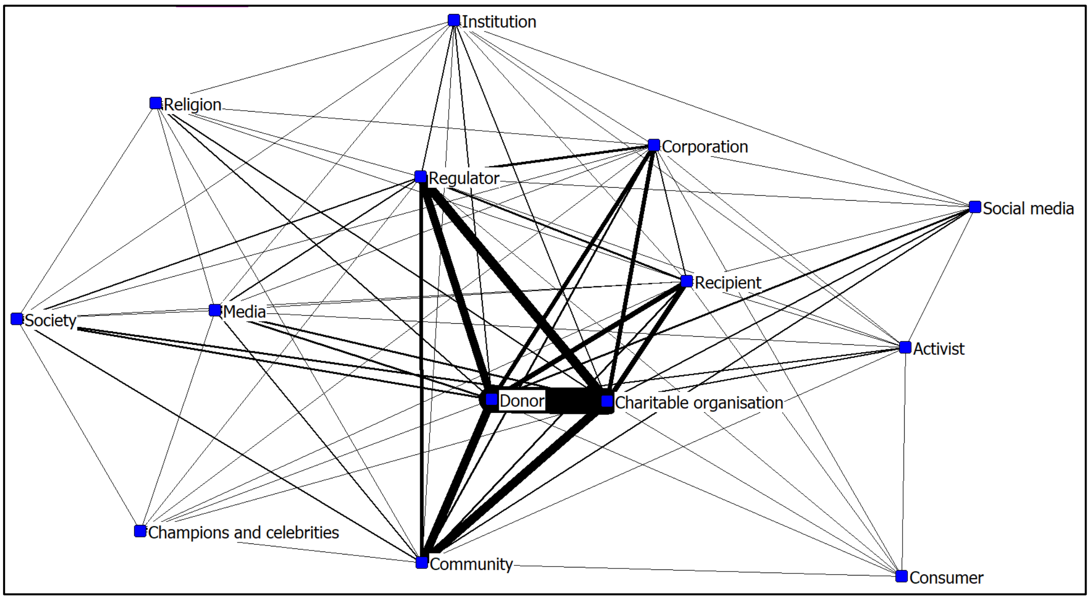


Figure 2-13: *Role Relationship Network. Souce: Literature Review*

Relationship Flows

From initial media and social media sources (Burke, 2020; Edwina Seselja, 2020; Twitter Extract1, 2020; Twitter Extract2, 2020; Ross, 2023; Sohini Chakrabarti, 2020), **Chapter 1** identified a range of emotions that occurred within the donation phenomena. These emotions were directed within a relationship or undirected as a self-expression. It is not expected that all emotions in this domain will be cited in media reports or social media. Therefore, the literature will be reviewed for all incidents of emotions with an effort to align those incidents with available theoretical concepts.

As shown in Figure 2-12, the reviewed literature reveals a range of commodity categories. A commodity is interpreted as the nature of value or flow (Álvarez & Serrato, 2013; Borgatti, 2005) that is transferred between parties in a relationship.

The commodity spread centred in this observation represents, in most cases, non-physical elements that are transferred between parties or actors and are exclusive of the financial flow. These non-physical commodities represent an exchange that may behave independently or interdependently as a moderator of the primary social gestures between the donor and the recipient or between participants. The approach used to identify the commodity does not allow for any directionality to be placed on the respective commodities (Goldman & Kane, 2014).

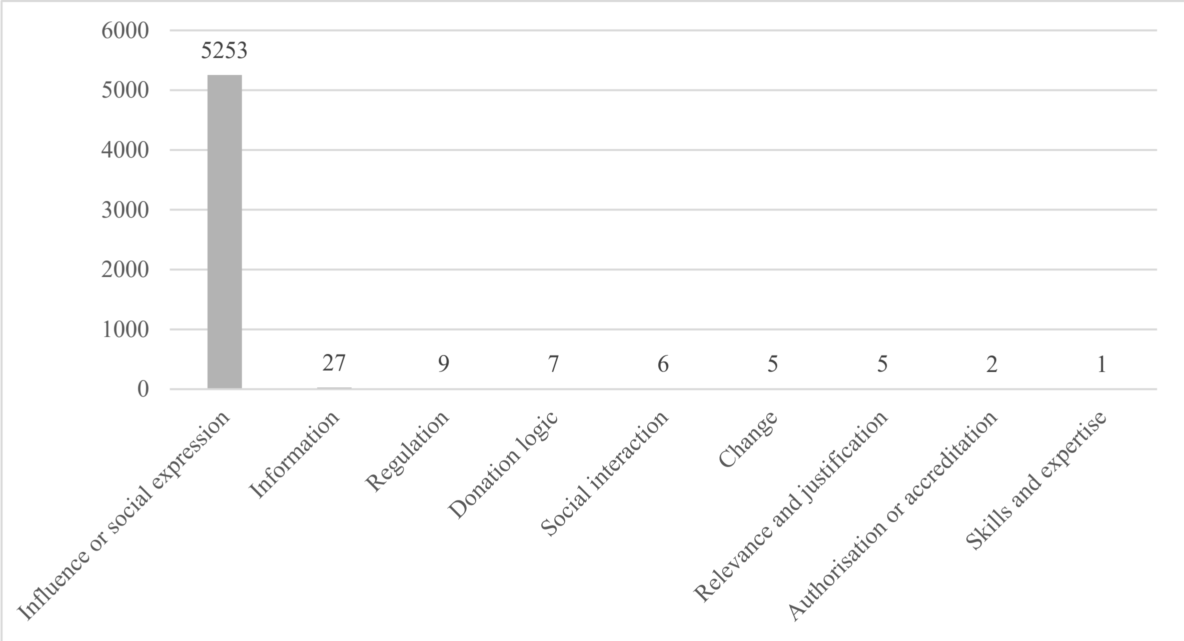


Figure 2-12: *Commodity "Flow" coding in literature by reference count*

Our area of interest lies within this range of commodities, specifically those coded as **Influence or Social Expression**. The literature demonstrates the significant imbalance of codes in relation to the hypothetical commodities expressed in the literature. **Influential and Social Expressions** are heavily present within the donation discourse, representing 99% of the total coding.

Possible explanations suggest that the donation network is replete with discussion addressing the intention to influence financial donations, or it may show the intent to construct a separate non-financial dialogue based on social dynamics. This impression is broadened when we view the range of subsets within the dominant category of "Influence and Social Expression" (Figure 2-13).

The emotions, listed as a series in Figure 2-13, constitute the entire emotional phrasing searched for within the literature. The first two series within the breakdown of "influence" are compiled on the basis that the coded reference includes a reference to social engagement without specifically identifying the nature of that social engagement. This is similar to the fourth series, i.e., "direct reference to emotion", where a specific emotion is not identified. The series labelled "social influence" and "emotional" are constructed on the basis of specific social or emotional elements being identified.

An initial reading of this could perhaps point towards strong social and emotional content within the literature. However, without correlating this with other category listings, i.e., roles, contexts, et cetera, the relevance is not clear. When we pursue our research subject further into this coding category, we see the reference to "Emotional" with the reference volume of 858 coded references. To provide some basis for this coding category, a standard must be applied to assist the manually subjective coding exercise.

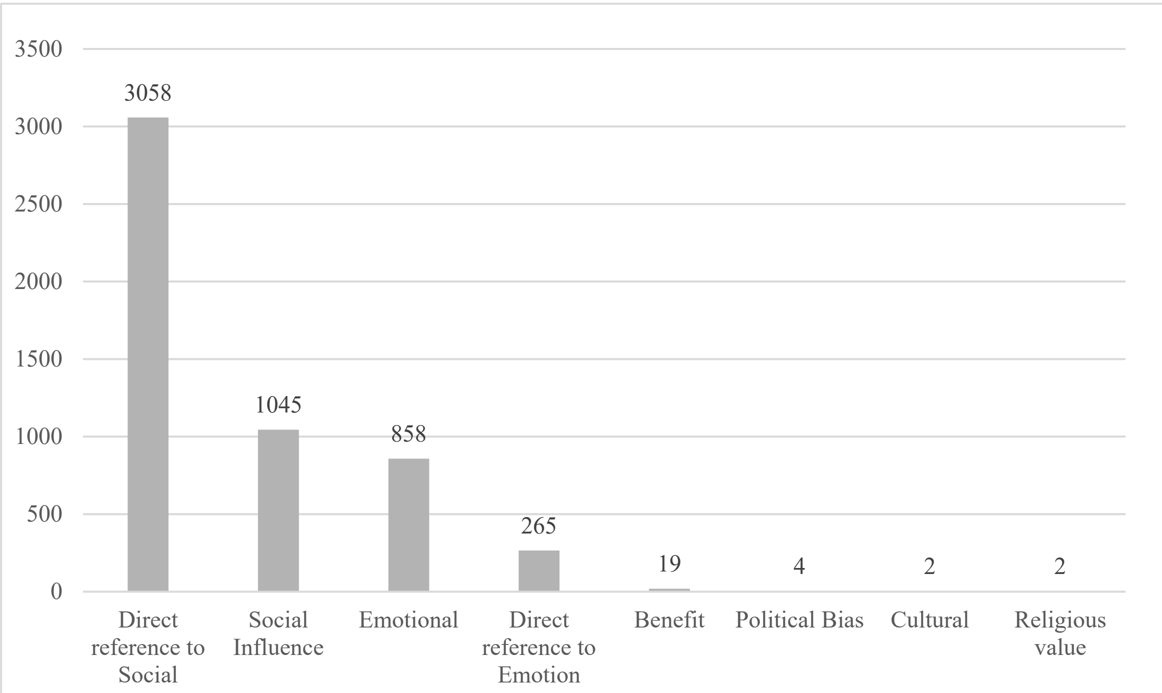


Figure 2-13: *Influence and Social Expression (count by coded reference)*

In identifying the emotions referenced in the reviewed literature, it is understood that the range and subtlety of emotions expressed in any discourse are not easily identifiable through a connection with another word, as might be found when considering other elements within the literature, such as those found under the heading of social, e.g., social action, social justice, social pressure et cetera. Extracting the "emotions" from the literature requires a manual review of the language used throughout the literature and a standard against which to validate any reference. To satisfy this, the broad listing of emotions provided by Plutchik (1982) (Figure 2.14) was used as a guide or catalogue of acceptable emotional descriptors.

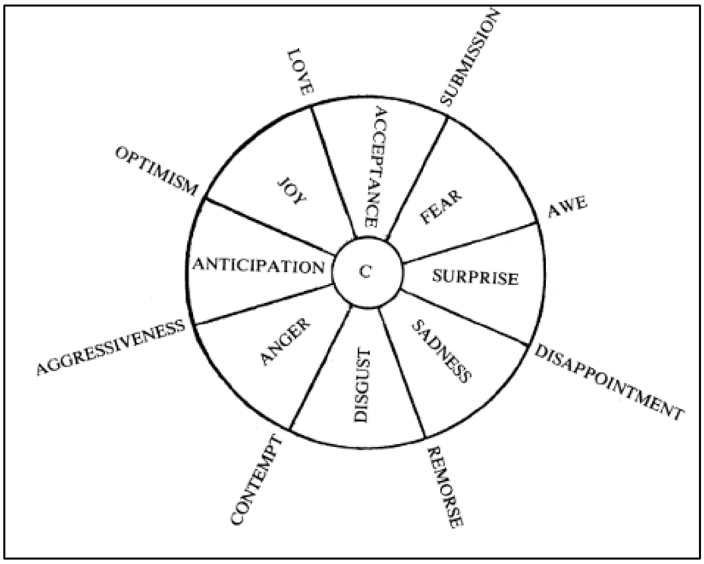


Figure 2-14: *Basic emotions showing primary dyads.*

Source: Plutchik, 1982.

In adopting this typology, it is important to acknowledge Plutchik's (Plutchik, 1982) repeated circling of the ambiguity between emotions, behaviours and personality, as well as the general description of emotions provided earlier (Trivellato et al., 2023).

The use of emotions as variables within the donation network is not intended to clarify this ambiguity but to demonstrate the extent to which the donation network conveys these accepted emotional elements. Further, the full range of words associated with emotions, or representing the varying intensity of emotions, exceeds the practicality and utility of this research. This subjective filtering produces a resultant volume of 858 files from the original 7047 (Figure 2-15)

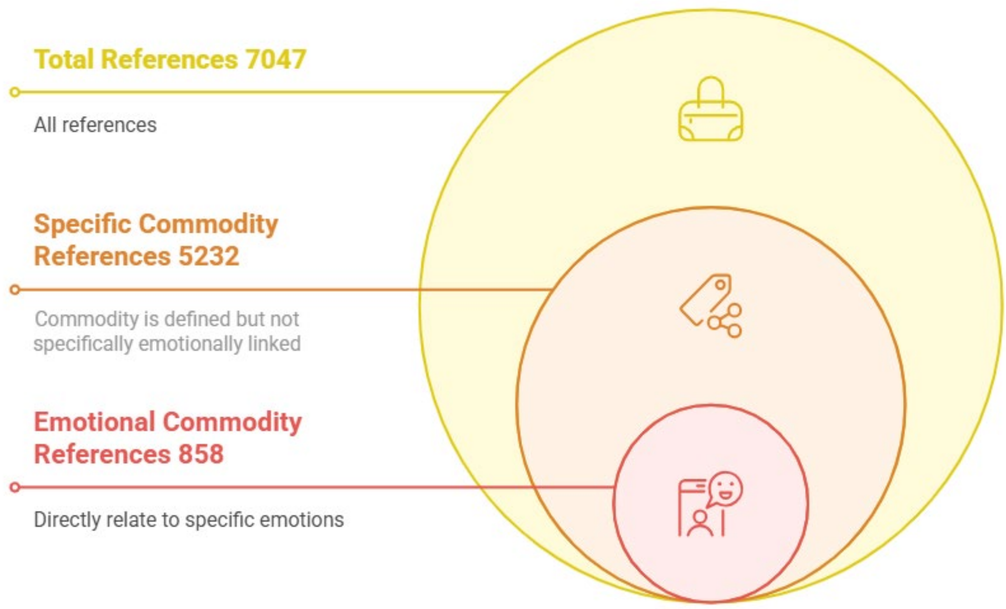


Figure 2-15: *"Commodity" file reduction*

The first impression from the "emotional "subset (Figure 2-16) is that the literature includes a broad range of emotions at play within the network that, in some way, are either directly related or juxtaposed to financial flows. This impression remains unqualified until these coded references are mapped to the relationships to which they have proximity in the literature.

It is important to note that these are topical references, not necessarily positively expressed emotions; therefore, as an example, "trust" could refer to either the evidence of trust or distrust. What is also not evident is the trigger for these respective emotions or the direction or subsequent behaviours. At this point, it is also not evident as to which roles are experiencing these emotions, and to which roles the emotions are transmitted, if indeed they are transmitted directionally.

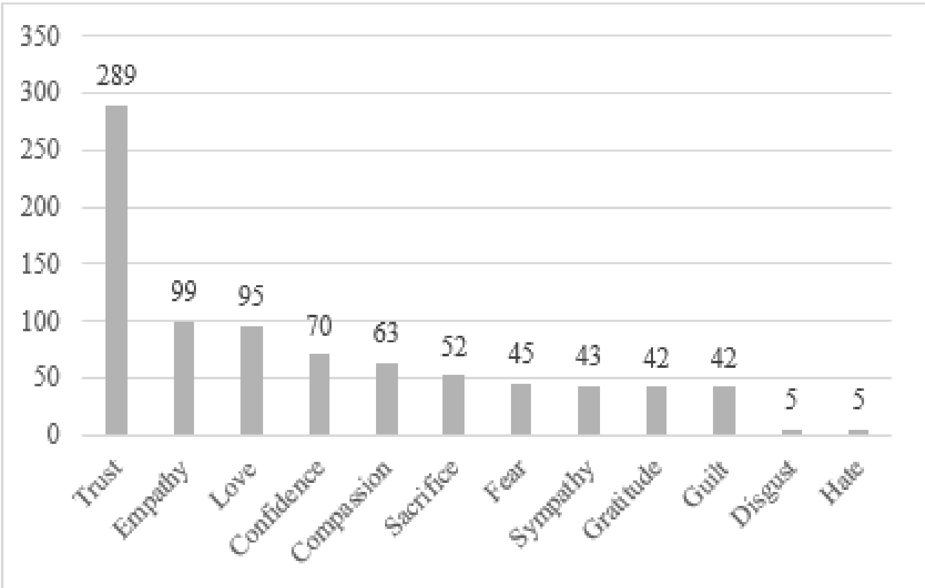


Figure 2-16: *"Emotional" commodity flow (count by reference)*

Context

This section examines evidence specific to the research context rather than the thematic content of the literature. The approach involved identifying key terms within articles that addressed the context category (e.g., crisis or disaster) and relevant contextual variables. This combination served as a "context" reference within each article, facilitating the development of a taxonomy. Article abstracts were analysed as they concisely summarised each study's context.

Although donation literature is well-documented across various themes—including philanthropy (Doan, 2017; Liu et al., 2018; Neumann, 2019; Wymer et al., 2014), political donations (Kalla & Broockman, 2016), marketing (Duclos & Barasch, 2014; Dunn, 2010; Klucarova & He, 2022; Park & Yoon, 2022), fundraising performance (Yue & Zhu, 2019; Zheng et al., 2016), and medical donations (Durand et al., 2018; Kõiva, 2020), a critical gap remains. The broader donation system has not received the same attention, and research on the interdependent relationships between funding flows and emotional networks is similarly underrepresented.

Of the 200 articles addressing a disaster or crisis context, 10 categories were identified and aggregated (Figure 2-17). This research aligns with the "Natural Crises or Disasters" category, which included 28 articles.

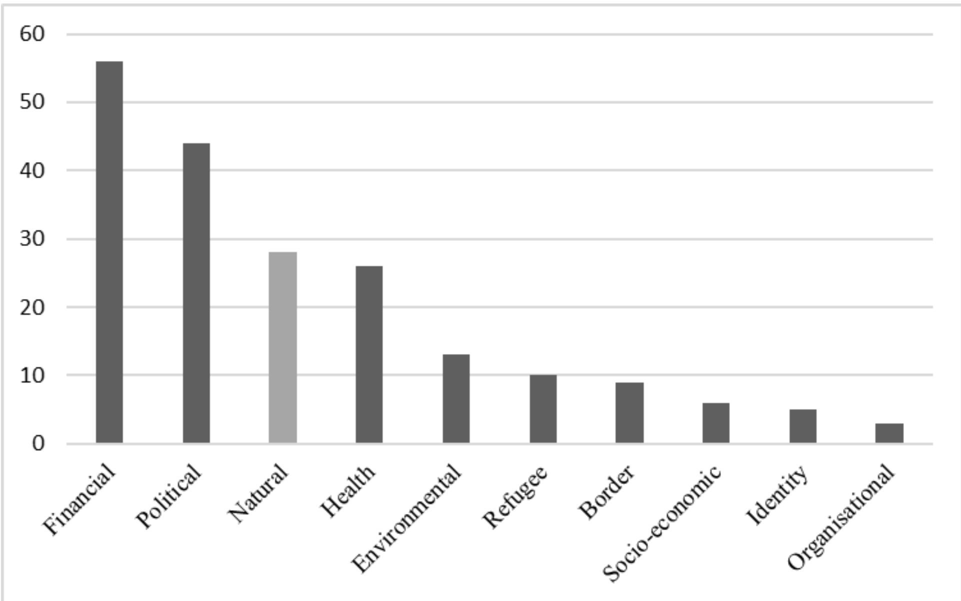


Figure 2-17: *Articles by "Crisis or Disaster" Context (Count by Article)*

The final output of the filtering process identified two articles that address direct or peer-to-peer relationships between donors, recipients and other donation entities. This finding further demonstrates the scope of the gap within the existing body of literature, particularly in relation to how such relational dynamics are conceptualised (Table 2-6).. Pantti (2015) argues that social media, specifically YouTube, facilitates solidarity, which builds trust between donors and charitable organisations, enhancing donor willingness. Similarly, Verduzco (2010) discusses solidarity in the context of community-driven pro-social behaviour, bound by shared membership.

Table 2-6: Articles coded at "Natural" disaster or crisis

Main discussion point	Perspective	Citation
Community-based charity	Statistical review of community support in crisis.	(Verduzco, 2010)
Social media as a donor to recipient relationship builder	Solidarity as an outcome of peer-to-peer relationships.	(Mervi Pantti, 2015)
Suicide incident rate localised crisis scenarios	victim centric	(Matsubayashi, Sawada, & Ueda, 2013; Verduzco, 2010)

While both articles focus on donor motivation, they also offer insights into the donation network's non-physical flows and relationships. Another article (Matsubayashi et al., 2013) examines crisis-induced stress and depression, particularly the incidence of suicide following a disaster.

The scarcity of literature addressing these issues underscores a gap in existing research (Figure 2-18). While this confirms the novelty of the observed donation phenomena, it does not fully explain the structure or behaviour of the donation network.

Without a direct model derived from context coding, selected literature can still be evaluated for underlying network components applicable to the research focus. Given the increasing frequency of localised natural crises, greater scholarly attention to donation networks in such contexts is warranted.

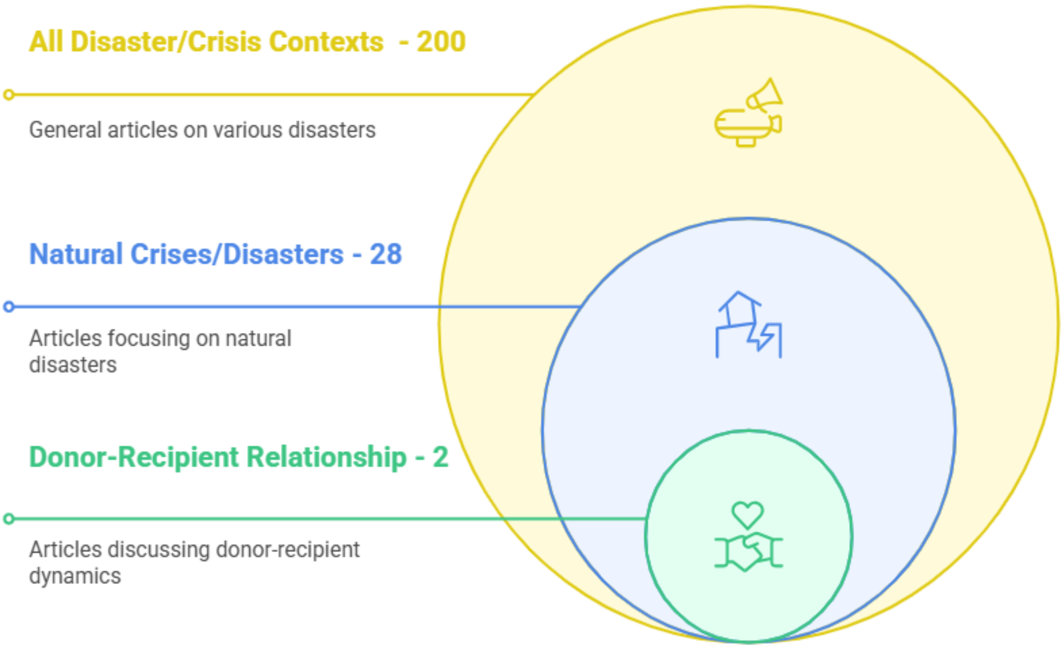


Figure 2-12: *Reduction of "Context" articles*

2.6.1. Intersection of Network Elements

Thus far, we have focused on reducing the volume of articles by applying independent filters of context, function, commodity, and role. In summary, we have reduced the volume of articles from 7047 to only two representing emotional flows within a natural disaster context. Independent of that, we have reduced the same initial volume to 3227 by applying a “function” filter. We have further independently evaluated the initial volume and reduced it to 5491 by applying a “role” filter. Finally, we reduced the original volume of files to eight hundred and fifty-eight files based on a filter of emotional content.

These four reduction filters constitute the variables most likely to establish the parameters of the donation network in a natural crisis scenario. On the one hand, the resulting volume of articles addressing functions and roles across the general donation literature provides little direction in isolating a subset of roles and functions that might relate to the research context. On the other hand, we find only 28 articles that directly reference to natural disasters and 782 articles referencing specific emotional expressions. This presents a dichotomy of over-generalisation and under-specialisation.

To move beyond the attempt to reduce the volume of articles or to find sufficient value in the specifically relevant articles, this review now moves to a process of reviewing the intersection or ovelapping of code categories using a matrix technique. The intersection of codes allows us to see, within the literature, the emergence of network elements within the broad body of donation literature that may be reflected in the real world. This uncertainty pivots on the constructed, rather than actual, relationmships in the literature. The matrix identifies the intersection of two coding categories within the same article. It does not show the nearness or semantic connection between the coded references.

It is recognised that with a multivariate environment, several sophisticated approaches could be taken to visually construct and present the model and the behaviours within the model. While Structural Equation Modelling (Thakkar, 2020) presents itself as a potential method of understanding the multivariate environment being examined, I see its value more in confirming the structural and behavioural hypothesis of the model than in providing a descriptive response (Xue et al., 2018). For that reason, its application has been regarded as premature.

Like the reasonings presented for SEM, this literature review will not apply SNA to its fullest capacity as a feature of understanding the relationship weightings and metrics derived from the literature. This also seems premature and unwarranted. SNA will be used, however, to present visual support for the findings of the literature review in describing the donation network. The filtered code listings were used as the basis for the cross-code matrices. The following cross-code matrices will be evaluated and reported:

a) **Commodity to role.** This intersection produces a direct outcome between the flow of a relationship, and the roles that might participate in those relationships. This intersection matrix forms the basis of the network structure.
b) **Context to Commodity.** This intersection produces a direct outcome aligned with the research theme and, therefore, addresses the volume of literature that is specifically relevant. It lists literature that shares emotional references in articles that demonstrate a specific context.
c) **Context to Roles.** This intersection shows the presence of roles within respective contexts. It returns evidence of the range of emotions that might exist in the research context

Emotional Commodity to Role

This intersection highlights the presence of both an emotion and a role in the reviewed articles, suggesting that these emotions may have been experienced by, or caused by, the respective roles listed in the matrix. The dominance within this matrix (Table 2-5) focused on selective roles and emotions. Charitable organisations, community and donors are recognised as the highest frequency of roles, while a more even spread of references is identified across the range of emotions, with the highest frequencies evident in "trust" and "empathy". The highest intersections are found in the intersectgion between Trust and Donor, and Trust and Charitable Organisations.

Table 2-5: Emotional Commodity to Role Intersection (Counted by reference)

	Activist	Champions and Celebrities	Charitable Organisation	Community	Consumers	Corporations	Donor	Institution	Media	Recipient	Regulator	Religion	Social Media	Society
Compassion	3	0	41	11	0	4	29	0	0	8	10	0	0	0
Confidence	1	0	42	17	0	5	47	0	1	4	16	1	0	1
Disgust	1	0	4	1	0	0	3	1	0	1	1	0	0	0
Empathy	1	0	76	18	0	1	79	0	8	17	8	1	9	1
Fear	1	0	24	11	1	3	26	1	3	4	13	0	0	0
Gratitude	0	0	18	7	0	1	19	0	1	3	4	0	0	1
Guilt	0	0	27	8	0	4	36	1	0	9	2	1	1	0
Hate	0	0	3	1	0	0	2	0	0	2	0	0	1	0
Love	3	0	32	13	0	3	26	0	2	2	7	1	1	0
Sacrifice	0	0	23	9	0	0	24	0	1	10	4	1	0	0
Sympathy	0	0	33	5	0	2	29	0	2	8	5	0	1	0
Trust	2	0	181	73	0	22	188	10	6	30	77	2	10	10

Context to Commodity

This matrix shows the intersection between references to identified commodities within the literature and the incidence of natural disasters (Table 2-3). The graphic demonstrates the weakness of the literature in addressing donations across a broad range of contexts, as well as highlighting the perceived importance of influence and social expressions in contrast to the other listed commodity alternatives.

When compared to the context and commodities relevant to the research, we find two articles that address emotions within a natural disaster context. Within those articles, we find two references to specific emotions, i.e., compassion, empathy and fear.

Thunstrom (2020) delivers an interesting article that addresses an emotional, or in this case specifically, a spiritual outreach to recipients, demonstrating empathy but still positioned from the perspective of its impact on financial donations rather than an extension of that emotion designed to reach the recipient.

The other article (Jasparro & Taylor, 2011) addresses the nature of geopolitical influence in the donation environment for natural disasters. The graphic shows a very thin relationship between a range of emotional commodities associated with specific donation contexts, suggesting that emotions are discussed outside the context and more towards a process-based discussion, i.e., the donation process.

Table 2-2: *"Context" to "Commodity" Matrix* (Counted by reference)

	Benefit	Cultural	Direct reference to Emotion	Direct reference to Social	Emotional	Political Bias	Religious value	Social Influence
Border Crisis	0	0	1	7	3	0	0	2
Environmental Context	0	0	0	8	0	0	0	3
Financial Context	1	0	4	47	7	0	0	10
Health Context	0	0	1	22	8	0	0	7
Identity Context	0	0	0	3	2	0	0	4
Natural Context	0	0	2	24	2	0	0	3
Organisational Context	0	0	0	2	1	0	0	1
Political Context	0	0	0	18	4	0	0	6
Socio-economic Context	0	0	0	5	1	0	0	1

Context to Role

If we continue to use context as an independent variable for understanding the donation network, we can look at the relationship between context and the other variables. The following table (Table 2-4) shows the matrix intersection between "Context" and the respective "Role/s" identified from the literature.

Table 2-3: "*Context" to "Role" Matrix (Counted by reference)*

	Activist	Champions and Celebrities	Charitable Organisation	Community	Consumers	Corporations	Donor	Institution	Media	Recipient	Regulator	Religion	Social Media	Society
Socio-economic Context	0	0	6	2	0	0	5	0	0	1	4	0	0	0
Political Context	0	0	16	14	0	1	16	0	2	5	15	0	3	1
Organisational Context	0	0	2	0	0	0	1	0	0	0	1	0	1	0
Natural Context	0	0	20	11	0	2	27	0	2	6	9	0	4	1
Identity Context	0	0	5	3	0	2	4	1	0	0	1	0	0	0
Health Context	0	0	19	16	0	6	16	5	0	3	14	0	2	0
Financial Context	2	0	33	19	1	8	38	7	2	8	28	0	2	2
Environmental Context	0	0	6	2	0	1	6	1	0	1	4	0	1	0
Border Crisis	0	0	6	3	0	0	2	0	0	1	3	0	1	0

In contrast to the previous table (Table 2-3), we see a strong spread of representation across both axes of the matrix. An observation could be presented here that beyond the strength shown in the financial context, there is a degree of homogeny in their respective roles as applied to the remaining range of contexts. There is value in this as it suggests that these recurring intersections may be used as the basis for a) a literary constructed model and b) the basis of a data collection instrument.

2.6.2. Summary of Gaps in Network Structural Framework

The following section synthesises key findings from the literature the network structural framework focusing on gaps identified across the areas of actor roles, the nature of their relationships, and the dynamics between emotional and financial flows.

Actors in the Donation Network:

The literature identifies a comprehensive set of roles within the global donation ecosystem, with sufficient consistency across different contexts to support research design and data collection. The strongest correlations between roles and contexts appear in health, finance, and natural crises, suggesting structural similarities in these networks. Notably, the literature disproportionately emphasises supply-side roles (donors and charitable organisations) over demand-side roles (recipients). While references to recipients exist, they are far less prevalent, indicating a gap in research on donation receipt. The role of community emerges primarily in fundraising and administrative functions rather than in donation distribution, reinforcing its relevance in generating and managing funds.

Connections Between Entities:

Beyond roles, the literature identifies a diverse but unevenly distributed range of emotion-based relationships that shape donation supply networks. These relationships provide insight into network structure and inform the design of data collection instruments. Additionally, they reveal embedded theories and disciplines within donation phenomena.

Relative Weighting of Network Actors and Relationships:

Literature weightings confirm a strong focus on donors, particularly in emotional and financial exchanges. Across all roles, donors consistently receive more attention than recipients, reinforcing donor-centric research. Interestingly, community roles receive more references to emotions than recipients, highlighting an opportunity to explore emotional transmission from donor to recipient. Consistent correlations between charitable organisations, donors, and community actors suggest these as central relationships in donation networks.

Emotional Expressions vs. Financial Flows:

The literature extensively discusses emotions in donation motivation but fails to establish clear interdependencies between emotional and financial flows beyond this initial dyadic connection. Existing methodologies do not enable detailed analysis of this relationship, underscoring the need for empirical data collection to explore the behavioural dimensions of donation networks.

Application to Localised Natural Disasters:

Assessing these findings in disaster contexts would either validate the presence of research gaps or refine research objectives. A focused analysis could clarify how emotional and financial flows operate in crisis-driven donation networks and identify key variables for further study.

2.6.3. Opportunities for Research (Network Structural Framework)

Recipient-Focused Research:

The literature shows a strong donor and charitable organisation focus but comparatively little on recipients. Investigating recipients' roles, experiences, and emotions in donation networks would address this notable gap.

Community's Role Beyond Fundraising:

Since communities are mainly studied in fundraising and administrative contexts, exploring their involvement in donation distribution and emotional transmission within networks could reveal underexplored dynamics.

Emotion-Based Relationships Across Network Actors:

While emotional exchanges involving donors and communities receive attention, the pathways and impacts of emotion flowing from donors through communities to recipients remain under-investigated.

Linking Emotional and Financial Flows:

Existing research acknowledges emotions in motivating donations but does not deeply analyze how emotional dynamics and financial transactions interrelate across the entire network. Empirical work to map and quantify these interactions would advance understanding.

Methodological Development:

The gap in detailed behavioural data suggests a need for novel or improved methods to capture the complex interplay of emotion and finance within donation networks, such as mixed-methods, network analysis incorporating emotional metrics, or real-time data collection.

Context-Specific Dynamics in Natural Disaster Donations:

Focused studies on donation networks in localised natural disasters could clarify how emotional and financial flows differ or align with general donation networks, improving crisis-specific models and interventions.

Cross-Context Comparisons:

Investigating if and how donation network structures and emotional-financial relationships differ between crisis types (health, finance, natural disasters) could refine theoretical models and practical strategies.

Emotional Transmission Mechanisms:

More work could examine how emotions are transmitted, transformed, or amplified within donation networks, including the role of intermediaries like community actors and the impact of digital/social media platforms.

2.7. Literature Review Summary

The literature review adopted a three staged approach in order to provide a thorough testing of the literature in relation to a somewhat complex convergence of contributing factors. While the initial volume of literature in each of the respective approaches was significant, the intersection between them, which represents the research theme, was minimal as demonstrated in the body of the literature review. Key limitations emerge in understanding the emotional, theoretical, and structural dimensions of donation networks. These gaps are identified through analysis of the key definitions, theoretical framing and intersection, and structural framework sections of this review. The convergence of these independent as discussed in this section.

Emotional and Relational Limitations (Definition Overview)

The literature reviewed in the definition overview reveals a dominant donor-centric narrative, centred on initial donor-organisation transactions. Emotional engagement is typically framed around individual donor motivations, with minimal attention to networked emotional processes such as contagion as explored in blood donations (Schröder et al., 2023), shared emotions, or the evolution of emotional relationship influence over time during Covid (Li et al., 2021). This narrow focus obscures the emotional complexity and longitudinal nature of donation behaviours, particularly in crisis contexts.

Theoretical Blind Spots (Theoretical Framing Section)

From a theoretical standpoint, while emotion is acknowledged in communication and normative influence, its structural role in emotional networks remains underdeveloped. For example, Elmer, Boda, and Stadtfeld (2017) demonstrate how emotional well-being can co-evolve with network ties, but their work is limited to small-scale, homogeneous settings rather than complex, cross-organisational dynamics. Similarly, Klein and Kozlowski (2000) highlight the persistent difficulty of linking micro-level emotional processes with meso-level structural models, which reinforces how often emotion is decoupled from theoretical constructs relevant to network behaviour in crisis. These limitations constrain the development of robust explanatory models that capture how emotional dynamics inform network formation, adaptation, and diffusion, particularly across organisational boundaries.

Structural Imbalances and Network Blind Spots (Structural Framework Section)

Structurally, the literature disproportionately emphasises supply-side actors (donors and organisations), with recipients and community actors underrepresented in both conceptual and empirical accounts. Comparative analyses of aid allocation (Hennessy et al., 2023) confirm that donor preferences dominate, while beneficiary perspectives remain marginal. As a result, donor–community–emotion links are only partially mapped, and emotion–finance interdependencies are not systematically examined. The limited application of these findings to localised crisis scenarios further constrains understanding of how donation networks function under stress or in dynamic conditions. Collectively, these gaps underscore the need for a more integrated, empirically informed framework that captures the emotional, theoretical, and structural complexity of donation networks.

A matrix of the respective gaps and categories is presented in Figure 2-18.

Characteristic	Conceptual/Theoretical	Actor Representation	Emotional Communication	Methodological /Structural	Crisis-Specific/Contextual
Key Gaps	Supply chain flow	Recipient role	Emotional pathways	Behavioural data	Disaster dynamics
Other Gaps	Emotional networks	Donor-centric research	Contagion tools	Real-time metrics	Cross-crisis comparisons
Further Gaps	Multi-level models	Community role	Relationship data	Emotion-driven network	Normative crisis emotion
Additional Gaps	Shared vs. collective	Actor interconnections	Feedback mechanisms	Empirical tools	Innovation in crisis
Finance Link	Emotion-finance link	None	None	None	None

Figure 2-13: *Summary of Gaps/Opportunities from Three-part Literature Review*

Chapter 3. Methodology and Research Framework

3.1. Introduction/Overview

Building on the identified gaps in the literature, particularly the limited conceptualisation of donation as a networked system and the underrepresentation of emotional and relational complexity, this study adopts a methodological approach designed to capture the dynamic, multi-actor nature of donation ecosystems. The following chapter outlines the research design, data collection strategies, and analytical frameworks employed to investigate emotional and structural dimensions within donation networks, especially in crisis contexts.

Specifically it aims to:

a) Establish and justify a methodology aligned with the research objectives, building on insights from the literature review.

b) Respond to and/or infrom the Research Questions

c) Describe the framework for operationalising the methodology, including data collection instruments and analysis methods (Figure 3-1).

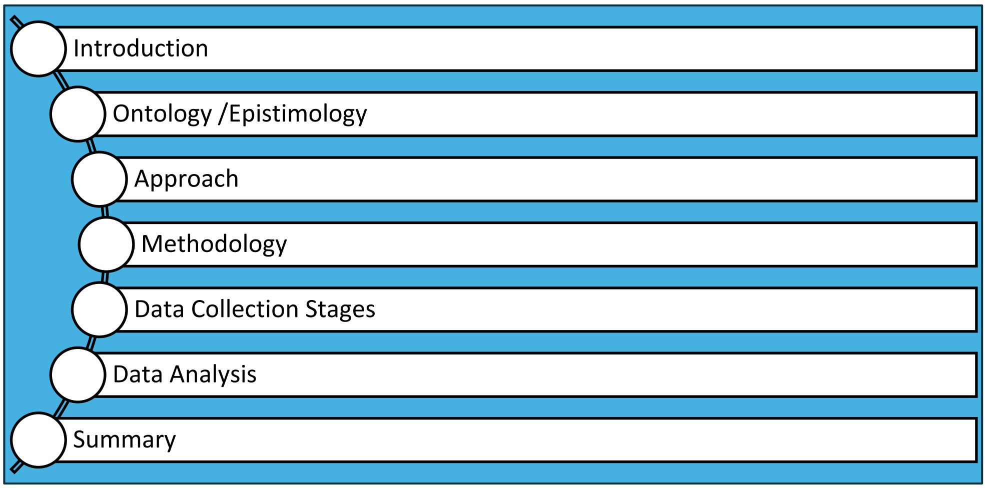


Figure 3-1: *Outline of Chapter 3: Methodology and Research Framework*

This chapter provides a structured approach to achieving the Research Objectives while ensuring methodological rigour.

The Research Objectives from **Chapter 1 Introduction** are restated below:

a) The identification, description, and categorisation of the form (network) and participant actors of the donation phenomena in the localised crisis context.
b) An exploration of the emotional relationships between the identified actors in the context of the donation phenomena.
c) Determination of the impact of those relationships on the behaviours of the actors.
d) Determination of the impact of those relationships on the behaviour of the network in delivering social outcomes and donated funds.

Those objectives are achieved through the satisfaction of the research questions restated from **Chapter 1 Introduction**

> What is the interdependent relationship between the transmission of emotions and the donation network in localised crisis scenarios?

This following contributory questions support this principal question.

1. Who are all the actors that constitute the donation activity network?

2. What are the emotional dynamics within the donation activity network?

3. How do those dynamics influence the flow of emotions and financial donations through the donation activity network?

3.2. Ontology/Epistemology

In selecting the most suitable research tradition, I initially considered a positivist approach, viewing human relationships through physical laws (Barbour, 2014; Crotty, 2020). However, I am drawn to an approach that emphasises individual experience within a social context, positioned between phenomenology and ethnomethodology (Barbour, 2014). This perspective grounds knowledge and theory development in everyday experience, aligning with a constructivist ontology (Crotty, 2020; Teddlie & Tashakkori, 2003).

To navigate these contrasting perspectives, I adopt critical realism, which acknowledges individual agency within structured constraints (Archer, 2013; Galletta, 2013; Mutch, 2007) and balances positivist and atheoretical perspectives (Prasad, 2018). However, rather than committing to a single philosophical stance, this research recognises that participants' belief in their experiences collectively shapes their actions. Whether the phenomenon conforms to a positivist or realist framework of objective rules remains an open ontological question (Thyer, 2012).

This study does not adopt hybrid ontologies such as qualitative positivism (Prasad, 2018) or causal realism (Barbour, 2014) but instead embraces a traditional constructivist ontology. Accordingly, it follows an interpretivist epistemology, valuing individual and collective experience as foundations for understanding and change.

3.3. Interpretivism to Induction

Saunders et al. (Saunders et al., 2015) present interpretivism as a framework that facilitates discovery by embracing demographic diversity, multiple perspectives, varied interpretations, and temporal differences at the data source level. Recognising this variation is essential and inevitable, given the diverse participants within the donation ecosystem. Interpretivism's strength lies in balancing subjectivity with the rigour necessary for theory development while maintaining a degree of objectivity in the research process (Hesse-Biber & Johnson, 2016; Leitch et al., 2010).

Carminati (Carminati, 2018) acknowledges the challenges of generalizability in qualitative research but argues that it remains achievable when explicitly targeted and supported by appropriate methodological safeguards. This principle has informed the research design strategy.

Accordingly, this study adopts an interpretivist epistemology, alligning with an inductive approach. This epistemological stance guides data collection and informs the potential for theory generation.

3.4. Mixed Methods Research

Mixed methods research (MMR) bridges qualitative and quantitative paradigms, integrating "viewpoints, data collection, analysis, and inference techniques" from both to enhance research rigour (Creswell & Creswell, 2023; Schoonenboom & Johnson, 2017). Creswell (2023) asserts that MMR is not a compromise but an opportunity for deeper insights through integration rather than segregation (Fetters, 2020; Mertens, 2023). Mertens (2023) further highlights its applicability across diverse research paradigms, including interpretivist, constructivist, positivist, pragmatic, and transformative approaches.

By incorporating diverse data sources, MMR enhances confidence in research conclusions, offering flexibility in assessing causality and magnitude—particularly valuable in analysing social networks in charitable activities (Fetters et al., 2013; D. Froehlich et al., 2020; Inoue et al., 2018). McKim (2017) argues that MMR's true value lies in its ability to improve researchers' data synthesis and understanding, prompting reflection on whether a single-method approach would suffice or if MMR provides more comprehensive insights. Evaluating whether MMR enhances flexibility without compromising validity is essential (Schoonenboom & Johnson, 2017).

Hammersley (2013) advocates for a flexible, data-driven approach to social science research, distinct from natural sciences, emphasising subjectivity, detailed case studies, and verbal analysis over statistical methods. A literature review revealed theoretical gaps in the donation ecosystem, with fragmented references to organisational (Cordery, 2013; Cornforth & Mordaunt, 2011) and sociological theories (Dogan & Tiltay, 2020; Woodyard & Grable, 2014). This review facilitated the development of a taxonomy of donation functions and roles, later analysed using social network analysis to create a baseline model for guiding data collection. While not based on primary data, this model establishes connections between broader donation literature and collected data through coding.

Before analysis, a data-driven model must be developed to support hypothesis testing. Given the absence of an established theory and the expected subjectivity of the data, this research aligns with Hammersley's (2013) social science paradigm. The objective is to construct a donation network and hypothesise its social and emotional dynamics. This study posits that even without empirical data, qualitative-driven research can generate predictive and directional hypotheses (Thyer, 2012).

Following Prasad's (2018) perspective on the adaptability of qualitative research, this study acknowledges the need for methodological flexibility. Naturalistic inquiry must evolve organically rather than adhere to rigid experimental designs (Beuving & de Vries, 2015). Given the lack of a clear model of the donation ecosystem, MMR is justified in exploring its structure and behavioural dynamics.

This research is both exploratory and explanatory, seeking to describe the network's form, understand its behaviour, and investigate its dynamics. A combination of semi-structured interviews and online questionnaires is proposed as the most effective data collection strategy (D. Froehlich et al., 2020). The use of MMR is further justified by the need to integrate diverse data sources to comprehensively understand the donation ecosystem.

3.5. Stage 1 – Literature Based Model

The foundation for the literature based data collection Stagec ommences in **Chapter 2: Literature Review.** Part III of the literature review was based on content analysis of literature identified in the previous searches and returned eight thousand and eight (8008) articles. As discussed in Chapter 2, the selection was reduced to seven thousand and forty-seven (7047) articles that were imported into NVivo for content analysis.

Text condensation (Malterud, 2012; Miles et al., 2020) is employed in this mixed methods study as a robust qualitative technique for systematically analyzing large volumes of unstructured textual data, in this case, academic literature. Originally developed for use in clinical and interview-based qualitative studies, text condensation has since been validated and adapted across diverse disciplines, including health sciences (Malterud, 2012), educational research (Holmberg et al., 2022), disaster response studies (Zahlander et al., 2024), and social systems modeling (Bazeley, 2013). Its application to secondary sources, such as published literature, is increasingly recognized as a legitimate method of inductive theorization and concept generation (Malterud, 2012; Miles et al., 2020).

The process involves iterative stages of close reading, decontextualization through open coding, condensation of meaning units, and recontextualization into higher-order themes and conceptual categories. This allows for abstraction without detaching from source integrity, supporting theoretical sensitivity and enabling the discovery of latent patterns within large textual datasets (Charmaz, 2014).

In the context of this thesis, text condensation supports the construction of a visual and theoretical model of the donation network, extracted from a corpus of 7,047 scholarly articles. It bridges the qualitative depth of grounded interpretation with the systematic rigor expected in content analysis. This aligns with emerging methodological precedents, such as Holmberg et al. (2022), who used condensation to map knowledge structures in patient-care systems, and Zahlander et al. (2024), who applied it to crisis communication networks.

The integration of text condensation into a mixed methods design aligns with the broader methodological goal of triangulation. It positions the literature not merely as background context but as a data source, enabling data-driven model building that complements and informs subsequent empirical phases. This enhances validity, fosters transparency, and deepens insight across the qualitative-quantitative continuum.

3.6. Stage II - The Qualitative Questionnaire

Braun et al. (Braun et al., 2021) advocate for online qualitative surveys as a legitimate standalone method, challenging the traditional reliance on qualitative interviews. While this perspective is gaining traction, its suitability depends on specific research objectives. In this study, the questionnaire and interviews are used complementarily rather than as competing methods.

The questionnaire serves two key functions: constructing the network model and triangulating findings alongside semi-structured interviews (Carrington, 2014; Carter et al., 2014; Creswell & Miller, 2000). Concurrent triangulation, a mixed methods strategy, is particularly effective when a phenomenon encompasses both measurable structures and subjective interpretations (Alexander, 2020). This study employs method triangulation (Carter et al., 2014; Yin, 2016) by integrating semi-structured interviews, which explore subjective themes, and questionnaires, which capture structural aspects of the network. Since both methods incorporate qualitative and quantitative elements, the study aligns with Mixed Methods Research principles (Hesse-Biber & Johnson, 2016). Concurrent data collection enhances reliability through mutual validation and cross-referencing (Lunsford & Brown, 2019).

Furthermore, this approach establishes a tiered framework, wherein theoretical saturation may be achieved more efficiently at the interview level (Hennink et al., 2016; Jain, 2021), while thematic saturation is pursued on a broader scale. The structured correlation between interviews and questionnaires is reinforced by designing questionnaire items as condensed versions of interview questions. Incorporating scaled responses that reflect key discussion points from interviews facilitates data extension, triangulation, and the delineation of theoretical and thematic layers within the mixed methods process.

3.6.1. Sampling

Qualitative online questionnaires do not require strict statistical sampling. However, prior studies (Braun et al., 2021) suggest sample sizes range from 22 to over 500 respondents, with key characteristics often emerging during data collection. Given this study's descriptive approach, the questionnaire aimed to map and characterise the network rather than define a prescriptive audience.

Random sampling maximised reach while maintaining feasibility and objectivity for potential generalizability. A response threshold of 100, positioned at the higher end of qualitative guidelines, was set to enhance validity and complement interview data.

3.6.2. Participation

The questionnaire was distributed via email and social media (Facebook, LinkedIn, Twitter, Outlook) using an anonymous link and QR code from October 2022 to June 2024. Direct sharing and public links facilitated reposting and snowball sampling with no predefined targeting.

A total of 147 responses were collected. Validity-based reductions were applied based on metadata (e.g., "preview" responses) and response status (e.g., "spam"), resulting in a final dataset of 124 validated responses.

3.6.3. Design and Administration

As a complementary mixed-methods component to the semi-structured interviews, an online questionnaire was developed using Qualtrics (*Qualtrics*, 2020). This approach served three key purposes:

a) Expanding participant reach beyond the researcher's network.
b) Clarifying role strength and relationships in the semi-structured interview data.
c) Inviting respondents to participate in follow-up interviews.

The questionnaire was presented in five question blocks (Figure 3-2). The questionnaire featured response-based conditional sequencing to ensure brevity while allowing participants to elaborate on their experiences. It included various question formats such as image selection, heat maps, slider scales, checklists, and open-text responses to maintain engagement and minimise fatigue.

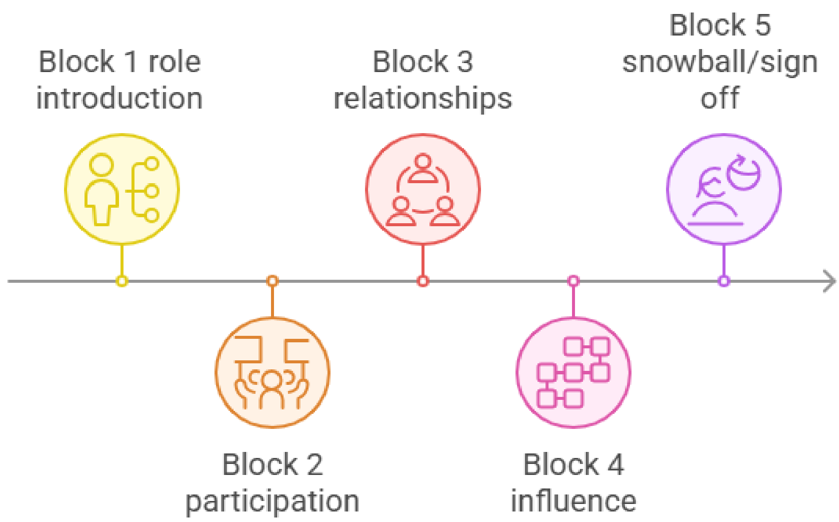


Figure 3-2: *Questionnaire Flow Chart*

The initial question was intended to identify the range of roles with which people identified as they performed various functions within the donation environment.

Beyond the initial role introduction (Block 1), the next question (Block 2) relates to the individual respondent's participation in donation activity. This question allowed the respondent to select multiple options from a pre-populated list of donation functions. The pre-populated list was derived collectively from functions identified from Stage I and social media content (*Twitter Extract1*, 2020; *Twitter Extract 2*, 2020) using the NCapture functionality of NVivo 12. The respondents were also able to nominate functions that were not included in the pre-populated list.

The next block of questions (Block 3) allowed the respondent to identify other functions from the pre-populated list with whom they had some connection or relationship in carrying out their function.

From the subsequent block of questions (Block 4), based on a slider response format, the respondents could measure the impact of those relationships across a number of relationship flows or variables expressed as BQ1 – BQ4 (Figure 3.3). Those relationship flows were again pre-populated from Stage I and social media content. Four categories of relationship flow were applied, i.e. the actual flow of donated funds, the flow of information in relation to the donation scenario,
the flow of motivation and support for donation, and the flow of social expressions or emotions generated between the respondent and the other connected functions.

The final block of questions (Block 5) allowed for snowballing, progression to involvement in semistructured interviews, and signing off. The question blocks and respective questions can be found in Appendix H

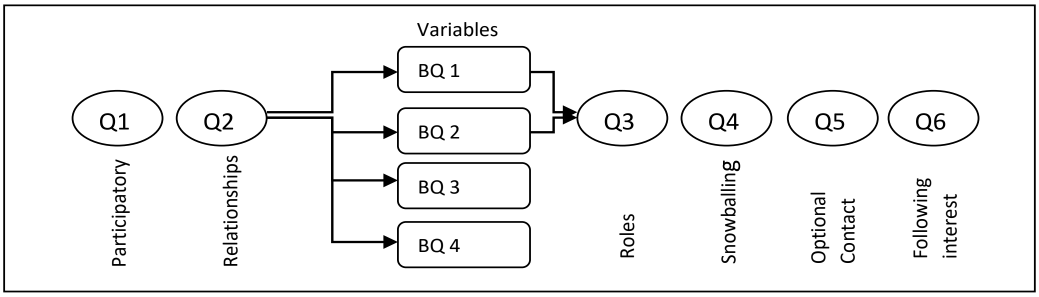


Figure 3-3: *Questionnaire flowchart showing divergence across variables BQ1-BQ4 in the relationship*

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3.7. Stage III - Semi-structured Interviews

> I love listening to people. It is labour-intensive work. It's not the easiest work to do in terms of time, but I consider the stories that I hear from people gifts that I get from them. I think one of the really important mandates of sociology for me, is the idea of giving voice to the experiences of people whose voices and experiences might otherwise not be heard, marginalised, or shunted off to the side. And I'm trying to bring their voices and experiences to centre stage, you might say. It's an instance of what, I think, C. W. Mills meant when he talked about "translating private troubles into public issues. David Karp, Ph.D. Sociologist (private communication) (Hesse-Biber & Johnson, 2016)

When conducted correctly, semi-structured interviews provide fresh insights and revelatory findings relevant to the donation phenomenon. This "lived experience" (Barbieri et al., 2011; Galletta, 2013) is best captured through direct engagement with participants, making semi-structured interviews the most effective approach. Justification for this strategy is drawn from a literature review consolidating the role of semi-structured interviews in qualitative research (Jain, 2021; Kallio et al., 2016), particularly within related studies (Jain, 2021). Key concepts from these sources qualify and direct the use of this method.

Semi-structured interviews balance consistency and flexibility, accommodating a diverse participant pool while ensuring coherence in data collection (Kallio et al., 2016). Given the variation in participants' perspectives, interpretations, and responses to similar questions, this approach identifies commonalities without disregarding diversity. This flexibility is essential in constructing a dynamic and responsive "lived" model of the donation ecosystem.

The appropriateness of semi-structured interviews is further reinforced by their effectiveness in capturing opinions, perceptions, and emotional dimensions (Kallio et al., 2016). A core focus of this research is the social and emotional relationships that shape the donation ecosystem. This aligns with the inductive approach in voluntourism studies to explore actors' organisational relationships (Conran, 2011). However, not all aspects of the donation ecosystem are subjective. Where possible, additional data will be collected for quantitative analysis (Schensul & LeCompte, 2013), reducing reliance on high interview volumes (Vasileiou et al., 2018).

The justification for semi-structured interviews is further strengthened when the interviewer possesses prior knowledge of the subject, allowing for reflexivity in both application and analysis (Barbour, 2014). Expanding the understanding of the donation ecosystem beyond a donor-dominated perspective, identified in the literature review, risks introducing biases or advocacy for less dominant actors. Similarly, a victim-oriented context may encourage a value-laden stance over a value-free approach (Barbour, 2014). The research will maintain critical awareness throughout data collection and analysis to mitigate these reflexive vulnerabilities.

A literature review that previews the topic also provides a strong foundation for high-quality semi-structured interviews (Galletta & Cross, 2013). In this study, the literature review in Chapter 2 has served this purpose, ensuring an informed and structured approach to the interview process.

3.7.1. Participation and Saturation

To ensure consistency, rigor, and transparency in the data collection process, a clearly defined protocol for semi-structured interviews was developed and followed throughout the study. The protocol outlines the key themes and guiding questions aligned with the research objectives, while allowing flexibility for participants to elaborate on relevant experiences. It includes procedures for participant recruitment (Appendices A, B), informed consent (Appendix C), ethical safeguards (Appendix B,D), and interview logistics such as setting, format (e.g., in-person, online), and duration..

Participants in this study were sourced from personal contacts, media sources, organisational information, and referrals, guided by insights from the literature review. One participant interview resulted from the invitaion extended in the online questionnaire. All other participants are uniqe. An initial set of 14 interviews was conducted with a diverse cross-section of individuals, including personnel from charitable organisations, local service agencies, public media commentators, academics, and referred interviewees (Table 3-1). This participant profile reflects a range of actor roles relevant to the research questions and aligns with established guidelines for semi-structured interviews. While not exhaustive, the selection represents a purposive and theoretically informed sample expected to provide meaningful insights. The volume of interviews was deemed manageable for initial coding and analysis.

While the merits of semi-structured interviews for this research are well established, it is essential to acknowledge the practical and theoretical limitations related to participant volume and diversity. The validity of the developed model and observed relationships depends on achieving sufficient theoretical saturation (Glaser & Strauss, 1967). However, ongoing debate within the qualitative research community highlights challenges in determining the appropriate number of interviews required for saturation (Hennink & Kaiser, 2022). This issue is further complicated by the subjectivity in categorising "meanings" related to emotional themes within the data (Hennink & Kaiser, 2022; Kerr et al., 2010).

Scholars widely recognise the lack of empirical standards for defining and measuring saturation in qualitative research (Hennink & Kaiser, 2022; Saunders et al., 2018). Saturation occurs when additional data collection no longer yields new insights, rendering further interviews redundant. The concept has evolved into distinct applications, primarily theoretical saturation (Saunders et al., 2018) and thematic or coding saturation (Lowe et al., 2018), with emerging hybrid approaches. Glaser and Strauss (1967) define theoretical saturation as follows:

"The criterion for judging when to stop sampling the different groups pertinent to a category is the category's theoretical saturation. Saturation means that no additional data are being found whereby the sociologist can develop properties of the category."

Qualitative researchers face two key challenges: (a) selecting an appropriate approach to saturation for determining the necessary extent of data collection and analysis; and (b) establishing the required sample size. Unlike probabilistic sampling in quantitative research, which follows well-defined thresholds, qualitative research, particularly when using purposive sampling—lacks universally agreed-upon sample size guidelines (Guest et al., 2006; Hennink & Kaiser, 2022; Vasileiou et al., 2018).

In this study, additional complexities arise due to the heterogeneity of the population, which is expected to generate a wide range of themes, perspectives, and attitudes. Given these conditions, the principle of "maximum variation" (Yin, 2016) is more relevant than homogeneous representation. Moreover, since the study population cannot be fully defined prior to data collection—beyond conceptual structures identified in the literature review—sampling remains inherently exploratory.

As an initial guideline, this study follows Hennink and Kaiser's (2022) recommendations, suggesting a sample size of 9 to 17 interviews for a purposive, homogeneous population. Additionally, Deterding and Waters (2021) report that sample sizes in grounded theory research range from 12 to 208 interviews, depending on supplementary data collection methods. Studies incorporating multiple data sources often require fewer interviews.

Adopting a flexible approach to sample size determination in this study ensures methodological rigour. At a minimum, the sample will meet or exceed the lower threshold of 9 to 17 interviews. Data collection will proceed iteratively, with ongoing analysis guiding further sampling decisions. Thematic saturation will serve as a control measure, ensuring that theoretical saturation is reached within specific categories while achieving broader thematic saturation across multiple dimensions. This approach enables the exhaustion of category properties while maintaining a comprehensive exploration of key themes.

Table 3-1: *Initial Semi-structured Interview Participants*

Interview Code	Interviewee Actor Category
001.KT	Donor (Dual Categories)
001.KT	Advocate (Dual Categories)
002.JM	Observer and analyst
003.DB	National charitable organisation
004.AC	Goods brokers
005.AF	Local council needs and assessor
006.MJ	Localised charitable organisation
007.GJ	National regulator
008.AT	Localised charitable organisation
009.ML	Religious-based charitable organisation
010.ST	Peer-to-peer online platform
011.GM	Metropolitan news reporter
012.PD	Local community coordinator
013.KS	Observer and academic
014.KP	Localised charitable organisation (Dual Categories)
014.KP	Recipient (Dual Categories)

3.7.2. Interview Structure

The literature on semi-structured interviews presents conflicting perspectives on the necessity of prior knowledge of the research environment and its variables. Some scholars advocate for familiarity to inform question development (Rabionet, 2011), while others caution that such knowledge—particularly in grounded theory research—may introduce bias (Charmaz, 2006). While this debate is partly philosophical, justifying the chosen approach remains essential.

This thesis adopts a reflective approach. As an active participant in various donation network roles, I evaluated potential interview questions against personal experiences and insights from close family and friends. Observations of social phenomena, including participant behaviours, social media discussions, and professional and educational perspectives on organisational relationships, further informed this process.

The interview questions were derived from the research objectives, which informed the formulation of research questions within a structured typology of themes. The principal research question encompasses both exploratory and explanatory elements. Research Questions 2 and 3 address the exploratory aspects, while Research Question 4 focuses on explanatory requirements (Table 3-2).

To ensure alignment between research objectives and interview questions, I considered how responses would be analysed (Galletta, 2013), creating a structured pathway from objectives to outcomes. This process identified key discussion areas, reinforcing the need for a semi-structured rather than an unstructured interview format (Rabionet, 2011). The resulting typology of question categories includes:

a) Personal participation recollections
b) Role identification
c) Relationship dynamics between roles
d) Motivational factors linked to roles

e) Functional relevance of interactions

f) Personal values associated with participation

g) Social values observed and desired in donation activities

Drafting interview questions within this framework required balancing structured guidance with open-ended exploration. Priority was given to experiential, aspirational, and value-based inquiries rather than strictly factual ones. While such questions tend to be longer to provide necessary context, the principle that "leaner is better" (Galletta, 2013) was applied, with detailed explanations deferred to follow-up questions when needed.

The finalised interview guide consists of two levels of questions—initial inquiries and first follow-ups. Additional follow-up questions, designed to deepen responses and explore third-party relationships, are included in Appendix H. The questions are sequenced to progress from personal involvement to broader relational and systemic considerations.

The semi-structured interview program was initiated during the COVID-19 pandemic, which created uncertainty in accessing interviewees. These conditions were acknowledged in the ethics application and influenced the practical approach to remote engagement. Recognising that the absence of face-to-face interactions could reduce the richness of data (Galletta, 2013; Irvine et al., 2013), the research design balanced electronic communication's practicality against potential limitations in relationship-building, response depth, and interview duration sensitivity (Irvine et al., 2013).

An optimal interview duration of 45 minutes was established, with a 75-minute schedule allowance to accommodate unplanned but relevant discussions. Zoom was the primary platform, though some interviewees preferred Microsoft Teams. Participants were contacted via email (Appendix A) and a formal invitation (Appendix B) and a consent form (Appendix C, Parts I & II) were extended before the interview. These forms were signed, returned, and securely stored. In most cases, interviews were conducted and recorded with cameras on.

Zoom and Microsoft Teams recordings were transcribed using multiple platforms, primarily Otter (Crumley, 2018). Transcripts were subsequently edited against manual playback to ensure accuracy. Original recordings are stored in MP4 format, while transcribed interviews are archived in Microsoft Word.

Table 3-2: *Research Objectives/Questions*

Research Objective	Research Question No.	Research Question	Research Approach
RO4	RQ1	What is the interdependent relationship between the transmission of emotions and the donation network in localised crisis scenarios?	Exploratory/Explanatory
This principal research question is satisfied through the following supporting research questions.			
RO1	RQ2	What are the constituent parameters of the donation ecosystem?	Exploratory
RO2, RO3, RO4	RQ3	What are the emotional dynamics within those parameters?	Exploratory
RO2, RO3, RO4	RQ4	How do those dynamics influence the purpose of the ecosystem?	Explanatory

Authors Note: After the semistructured interviews, Research Questions 4 and 5 have been consolidated into a single question, i.e. RQ 4

3.8. Data Analysis

> Once someone enters the field, there is simply too much data, too many potential directions the research can take; the most punctilious ethnographer studying the most bounded field site cannot record and analyse everything. (Jerolmack & Khan, 2017).

Jerolmack and Khan (2017) highlight the overwhelming complexity researchers face in qualitative studies, emphasising the need for a deliberate and structured approach to analysis. They argue that identifying an appropriate analytical "lens" is crucial, as researchers cannot possibly capture and interpret every detail within a field. While some studies naturally suggest optimal analytical techniques, others require careful deliberation.

To address this, Jerolmack and Khan (2017) outline key analytical lenses based on the level, subject, and location of explanation. Campbell et al. (2013) further emphasise the significance of defining the unit of analysis, a challenge compounded by the subjective nature of semi-structured interviews and the variability of meanings attributed to analytical units (Belotto, 2018; Charmaz, 2014; Deterding & Waters, 2021).

In mixed methods qualitative research, this complexity is embraced rather than avoided. Consistent with an interpretivist epistemology and convergent analysis, effective data interpretation extends beyond surface-level observations to multiple layers of meaning viewed from diverse perspectives (Yin, 2016). This requires a structured framework of analytical techniques, enabling data to move between tools for validation through triangulation or, conversely, the identification of contradictions (Galletta, 2013; Yin, 2016).

3.8.1. Analysis Techniques

Content analysis is described broadly as the technique for making inferences based on the systematic and objective identification of messages or characteristics of messages (Haggarty, 1996). The use of social network analysis for understanding social phenomena has a wide and growing acceptance compared to the emerging opportunities presented by content analysis (Ogan & Varol, 2017). Ogan contrasts the two methods, one being able to identify what people do and the other being able to analyse what people say. In conjunction, they provide a powerful set of tools for analysing structural and relationship elements (Williams & Shepherd, 2017). Williams argues that these two methods, when combined, have a high inductive effectiveness for understanding network-based scenarios (Williams & Shepherd, 2017).

3.8.1.1. Literature Review Content Analysis – Stage I

We now look at how content analysis contributes to the research being undertaken.

The analysis for this research requires not only the identification of the actors within the network but also the commodities or flows that are transmitted. The level of analysis of these data sources needs to match and justify why semi-structured interviews were chosen as an appropriate data collection instrument. This highlights how the analysis techniques are integrated (Fetters et al., 2013). Achieving a reductionist attribute-based network form and a higher-order relationship-based understanding of the relationships is possible and desirable when analysing complex systems (Schipper & Spekkink, 2015). This research adopts that premise by allowing micro-behaviours to be observed and coded within each transcript to develop the emerging network form (Schipper & Spekkink, 2015).

Qualitative coding features an interpretive, hermeneutic approach to arrive at indigenous conceptions and meanings via close, constitutive interactions with the text. Though such reading is to different degrees guided by the researcher's theoretical frameworks and sociocultural conditions, coding in qualitative research aims to uncover themes and ideas from the data, inductively create categories, and develop theoretical concepts. (Sun, 2017)

Several indications regarding the limited literary coverage of the research themes have been given in this literature review chapter. Notwithstanding that low incidence, it is important to use that literature as a sounding board for any emerging concepts from the data collection (Galletta, 2013). For this reason the initial coding taxonomy has the theoretical coding generated through the literature review as its reference base. This is progressively developed to reflect the emerging concepts and patterns beyond the descriptive network form. Both the descriptive network codes and the qualitative thematic codes will be generated initially in NVivo.

The approach used in reviewing the literature contained strong elements of open coding (Corbin & Strauss, 1990; Valde, 2017), which limits itself to a granular view of the data rather than a correlated or integrated view. Not only was this suitable for the nature and content of the sources being reviewed and supportive of structural analysis, i.e., SNA, but it also presented a common platform within the analysis phase for a beginning point with the primary data collected through the interviews and questionnaires. Valde (Valde, 2017) presents "open coding" as the first of three coding protocols aligned with the interpretation of qualitative data. The second protocol, "Axial Coding", which can overlap open coding, allows for connections to occur across codings and coding categories and subcategories (Simmons, 2017; Valde, 2017). This can occur relatively early in the analysis process and fosters the integrative and induction processes (Simmons, 2017).

As each transcript was reviewed using NVivo, coding taxonomies were updated and allocated based on a range of predetermined but unfixed categories of interest. These categories loosely corresponded to a) the constructed themes from the literature review, b) the interview question categories and c) the range of emerging codes that had initial relevance to the research objectives. The roles, relationships, and relationship content (flows) were coded for inclusion in the developing network model at each reading. Memos were taken concurrently and mind-mapped in NVivo for progressive axial coding. These memos recorded thematic patterns, theoretical insights, counterintuitive observations, contradictions, and other curiosities that could provide insight.

The third and final coding protocol prescribed in qualitative analysis is Selective Coding (Corbin & Strauss, 1990; Valde, 2017). This protocol consolidates the coding around the principal research themes and moves coding towards achieving research objectives. As Corbin et al. (Corbin & Strauss, 1990) suggested, this protocol has greater value when conducted later in the research process.

3.8.1.2. Social Network Analysis – Stages I, II and III

The fundamental concept presented in the introductory chapter of this research is that the donation phenomenon engages a range of actors in a complex system of physical, social and emotional interactions. That simple description of the research domain could be used as a descriptive statement of social networks (Borgatti et al., 2009). It is quite consistent then that the research utilises the visualisation opportunities of social network analysis to express the form of the network (Pow et al., 2012). The form of the network will be developed using NetDraw and Ucinet software. This contributes directly to the achievement of the initial research objective.

While this range of SNA metrics can assist in understanding the structure and macro dynamics of the network and produce a level of descriptive output, it is important to understand that the data collected, which contributes to this network and addresses further research objectives, is far richer than the simple presentation of nodes and edges on a graph. Borgatti et al. (2014) argue this point specifically when contesting the "confusions, criticisms and controversies" regarding the understanding of social network analysis. Borgatti et al. (2014) presents the clarifying concept of Network Theory rather than the statistically anchored Social Network Analysis as an instigator of social theory development.

Several authors (Bolibar, 2016; D. E. Froehlich et al., 2020; Längler et al., 2020), aligning with Borgatti, present the case that social network analysis has a history of being utilised through a singular lens of structural relationships, ignoring elements of agency, disposition and intention, dyadic effects. These authors (Bolibar, 2016; D. E. Froehlich et al., 2020) further discuss social network analysis in enriching the opportunity in mixed method research for analysis through a range of lenses. Bolibar (2016) identifies those lenses as micro, macro and meso. Lazega et al. (2007) apply the same framework when addressing multilevel network analysis.

The introduction to this thesis presents the structure of the donation phenomena as a network. As such, there is good reason to adopt this full scope of opportunities presented within the range of social network analysis. This research, therefore, commits to the broader range of network analysis and theory concepts outlined above to achieve the exploratory and explanatory elements of the donation network.

Across all stages, Network Analysis techniques will identify network structures, descriptive elements, and dynamics. Findings will be presented using Ucinet and NetDraw. Each introduced network metric will be briefly explained, and its meaning and relevance will be consistently applied throughout subsequent stages.

For Stage III, network analysis will complement thematic analysis of qualitative interview data, linking themes to network elements. These findings may inform additional network analysis.

3.8.1.3. Thematric Analysis – Stage III

Stage III of this study employed semistructured interviews to capture the qualitative and nuanced responses from the participants. To respect the challenges often associated with diverse interview participation, this study employed thematic analysis to examine data collected through semi-structured interviews, guided by the six-phase framework proposed by Braun et al. (Braun & Clarke, 2006). This method was chosen for its flexibility and its capacity to identify, analyse, and report patterns (themes) within qualitative data. Thematic analysis was (Braun & Clarke, 2006)particularly suitable for capturing the richness and variability of participant narratives in this study, which explored complex emotional and behavioural dimensions within donation networks.

NVivo qualitative data analysis software was used to facilitate the coding and analysis process. Interview transcripts were first imported into NVivo, where the process of familiarisation involved repeated reading and note-taking to establish initial impressions. Preliminary coding was conducted using both inductive and deductive approaches; inductive to allow themes to emerge organically from the data specifically around attitudes and emotions, and deductive to align with theoretical constructs identified in the literature review, more aligned to network structure and elements..

Coding was operationalised through NVivo's "nodes" feature, which enabled the systematic categorisation of textual data. Free nodes were created during open coding, and later organised into tree nodes to reflect thematic hierarchies and relationships.

Themes were iteratively refined through cross-checking coded data and returning to the original transcripts to ensure contextual accuracy and internal consistency. Notwithstanding this approach, interview transcripts were not edited from the automated software versions. NVivo's memo and annotation functions were used throughout to record analytic decisions and reflections.

In sum, NVivo-supported thematic analysis provided a rigorous and adaptable method for identifying patterns in participants' experiences, enabling the study to explore how emotional, structural, and behavioural elements interact within donation networks.

3.9. Methodology Summary

This research is undertaken on a constructivist ontology. Through an interpretivist lens it pursues an inductive approach to the collection of data and the development of theory. To achieve this outcome, it embarked on a mixed methods research strategy applying semi-structured interviews and qualitative online questionnaires.

The design of these tools was informed by the outputs of the literature review. Analysis of the collected data was affected through the principles and techniques of Social Network Analysis integrated with software aided Content Analysis of the semi-structured interview. Figure 3-4 provides a visual representation of this methodology.

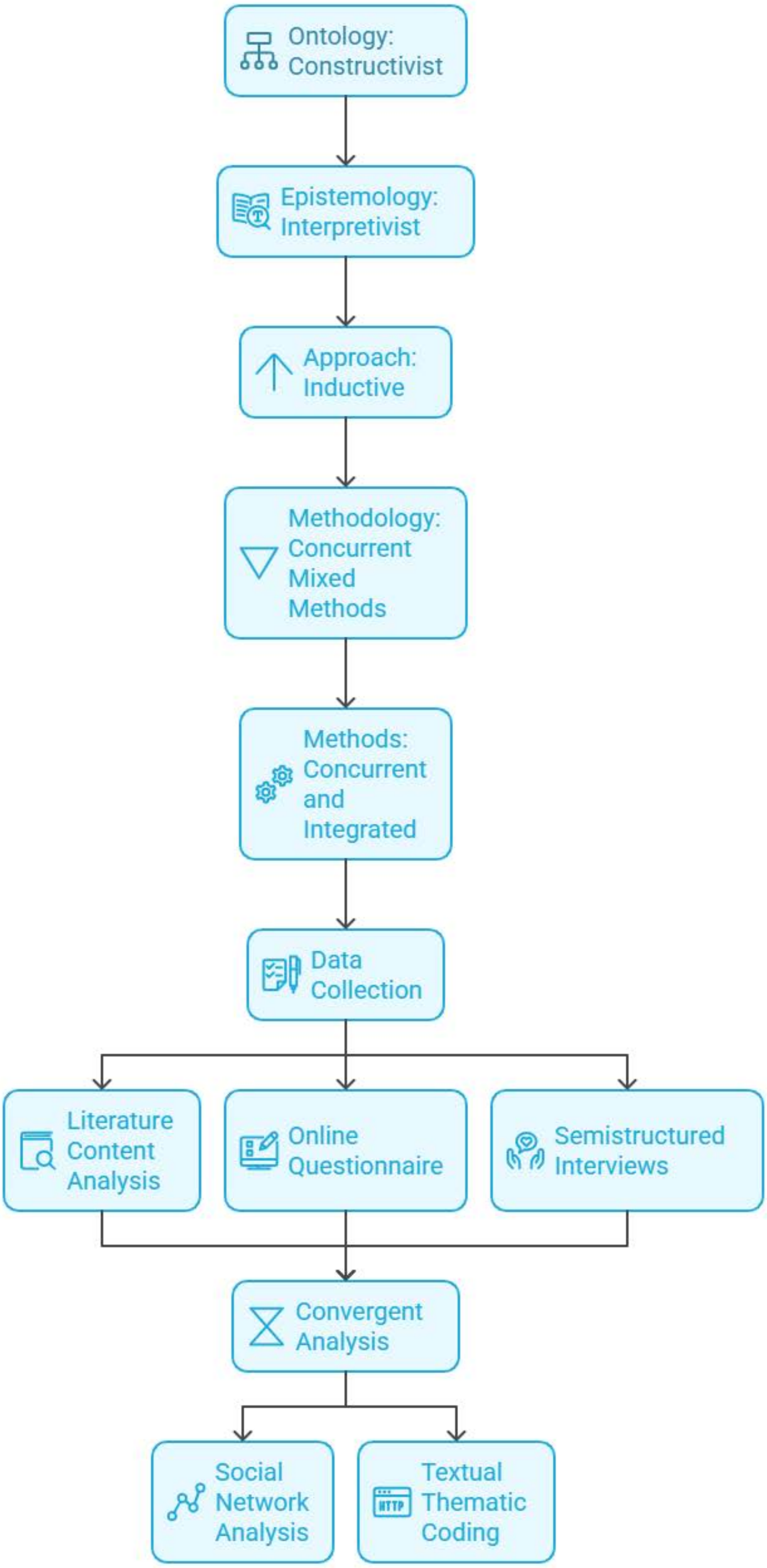

Figure 3-4: *Methodology Flowchart*

Chapter 4. Data Collection and Analysis

4.1. Introduction and Objectives

This chapter, building on the objectives outlined in previous chapters, aims to present data from multiple sources to substantiate the existence, or lack thereof, of a network comprising actors engaged in various donation-based activities (Figure 4-1).

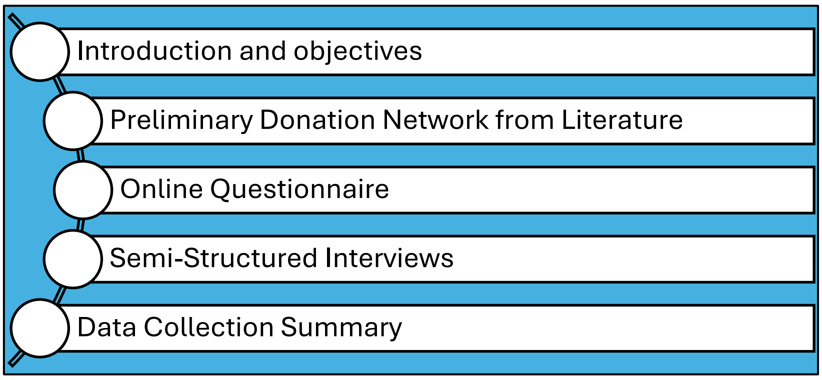

Figure 4-1: *Outline of Chapter 4: Data Collection and Analysis*

Additionally, this chapter seeks to identify and analyse the exchange or transfer of emotions among these actors. Ultimately, the chapter evaluates the data to address the central research question:

What is the interdependent relationship between the transmission of emotions and the donation network in localised crisis scenarios?

To uncover the presence of this emotional network, it is essential to differentiate between the transfer or expression of emotions and other flows or commodities, such as the movement of donation funding. While these flows will be identified and observed progressively, they will be excluded from further analysis to maintain focus on the emotional dimensions.

The findings are derived from three distinct data sources, presented sequentially in alignment with the exploratory nature of the research (Figure 4-2).

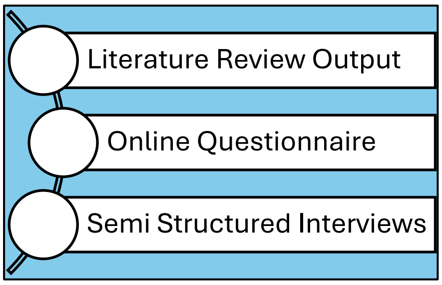

Figure 4-2: *Sequential Data Source*

Each stage addresses supporting research questions to provide a comprehensive exploration of the emotional network:

1. Who are all the actors that constitute the donation activity network?
2. What are the emotional dynamics within the donation activity network?
3. How do those dynamics influence the flow of emotions and financial donations through the donation activity network?

This structured approach systematically evaluates of the emotional network's role and impact on donation activities during local crisis scenarios.

Stage I: Literature-Based Model

A preliminary model will be developed based on word proximity connections identified in the literature reviewed in Chapter 2. While these findings do not represent real-world behaviour or primary data, they establish a prima facie case for role categories and emotional dynamics in donation scenarios.

This model will depict identified actors as nodes and inferred relationships as network edges, forming an undirected network. The analysis will focus on demonstrating the presence of emotional interactions, addressing the first supporting research question.

Stage II: Questionnaire-Based Model

The second data source is an online questionnaire, capturing firsthand participation in donation activities. Respondents identify relationships and assign values to these connections across various categories. These values indicate the significance of relationship flows, which are treated as directed, moving from the nominated other toward the respondent.

This stage enhances the validity of the literature-based model by identifying relationships and quantifying flow values. Network dynamics within the donation context will be analysed, specifically addressing the second supporting research question. The analysis will remain within this scope. Supporting analysis will be undertaken using point to point network performance techniques to identify additional relevant node level performance.

Stage III: Interview-Based Model

The final and most in-depth data source consists of semi-structured interviews with participants representing diverse roles in the donation ecosystem. These interviews allow for network building, flow differentiation, and triangulation with Stage II data. Additionally, they provide qualitative insights into emotional experiences, refining the understanding of emotional layers within the network.

Flows in this stage will be treated as directional. Stage III addresses all three supporting research questions and is central to answering the principal research question.

4.2. Stage I. Donation Network Interpolated from Literature Review.

The relationships discussed in **Chapter 2 Literature Review**, among various roles, provide a foundation for constructing the emotional network, or the network of emotions, drawn from the literature. The analysis focuses on a subset of the donation literature, where the subset criterion is defined as any article that references emotional content and includes word connections suggesting a relationship between two roles. This approach is elaborated in **Chapter 3 Methodology**.

The results presented do not account for the specific context of the donation environment in each article. The analysis conducted in NVivo reveals minimal overlap between articles that meet the contextual criteria and those that display emotional relevance. Therefore, the findings forming the initial model from the literature are based on both contextualised and non-contextualised donation activities across a wide range of donation scenarios that reference specific emotions or emotions in general. Two sets of data are returned: (a) the Consolidated Network – unfiltered, and (b) the Filtered Network – filtered by emotion.

4.2.1. Consolidated Network

The consolidated network was submitted to Ucinet (S. P. Borgatti, Everett, M.G. and Freeman, L.C. 2002. , 2002) as a nondirected adjacency matrix (Hanneman & Riddle, 2005) (Table 4-1).

Table 4-1: *"Consolidated" Adjacency Matrix*

	Society	Social Media	Religion	Regulator	Recipient	Media	Institution	Donor	Corporations	Consumers	Community	Charitable Organisation	Champions and Celebrities	Activist
Society		0	13	26	8	6	1	85	8	0	30	110	4	0
Social Media			0	8	8	0	2	80	6	0	37	70	0	2
Religion				3	4	1	2	37	1	0	9	50	0	0
Regulator					106	32	36	668	132	1	276	704	3	25
Recipient						17	18	409	35	4	120	347	1	9
Media							6	91	13	0	40	93	2	3
Institution								77	19	0	18	55	0	1
Donor									298	12	681	2112	15	41
Corporations										1	107	283	3	8
Consumers											16	11	0	1
Community												639	7	18
Charitable Organisation													17	50
Champions and Celebrities														0
Activist														

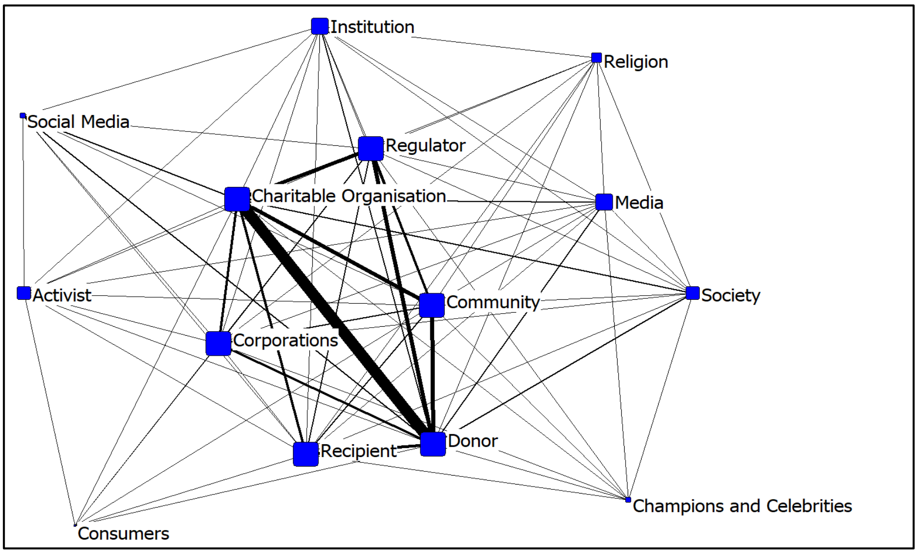

Figure 4-3: *"Consolidated" network map—weighted*

A visual representation of the weighted consolidated network produced in NetDraw (S. P. Borgatti, 2002) (Figure 4.3) reveals an undirected network of 14 nodes, identified as active participant categories, and 76 ties, identified as relationships, within the donation environment.

The following sections discuss the returned findings.

4.2.1.1. Network Centrality

Density: Network density is a global measure of connectivity among all nodes, where higher density indicates greater interconnectedness. “Average Network Density” is a comparative metric for assessing cohesion across multiple networks (e.g., Network A vs. Networks B and C). Greater density typically correlates with stronger cohesion, leading to more resilient networks and multiple alternative pathways. However, excessive density may also introduce redundancy and flow overload (“Network Density,” 2024).

Table 4-2: *“Consolidated” Network Metrics*

Number of nodes	14
Number of ties	76
Connectivity measured as "density"	0.418
Reachability	Incomplete 0.484
Degree centralisation	0.192
Average degree	5.429
Network profile	Closed-loop

Within a single network, cohesion is calculated as the ratio of observed links to the total possible links (McCulloh et al., 2013). In this study, the unfiltered network exhibits a connectivity rate of 0.418 (see “Density” in Table Figure 4-2), meaning approximately 42% of all potential ties are established, while 58% remain unformed.

Reachability: Notwithstanding the levels of connectivity, the network experiences incomplete “Reachability” (Hanneman & Riddle, 2005), wherein not all nodes can successfully reach every other node across an unprescribed number of steps or intermediaries. The Reachability score for the consolidated network is shown as 0.484 (See "Reachability" in Table 4-2).

Degree Centralisation: Degree Centralisation provides a measure of the extent to which the overall network is subjected to the effect of nodes with relatively higher influence, "the extent to which only a few nodes have a large number of ties" (Schoen et al., 2014). At the global level, Degree Centralisation is used to compare networks, demonstrating the average influence of influential nodes in the network.

The consolidated network exhibits significant weighting across several adjacent relationships, demonstrating a higher level of influence based on a small number of nodes (Table 4-3). This finding corresponds with the Eigenvector metric, which identifies relationships between nodes of higher degree centrality (Bonacich & Lloyd, 2001).

Table 4-3: *Consolidated Network—Eigenvector Ranking*

Actor	Eigenvector
Donor	0.61
Charitable Organisation	0.61
Regulator	0.32
Community	0.31
Recipient	0.18
Corporations	0.15
Media	0.05
Society	0.04
Social media	0.04
Institution	0.03
Activist	0.02
Religion	0.02
Champions and celebrities	0.01
Consumers	0.01
Average	0.17

Average Degree: Where degree centralisation focuses on the influence of influential nodes, average degree evaluates the extent to which power is distributed across the network (Hanneman & Riddle, 2005). "Average degree is simply the average number of edges per node in the graph". (Omar Lizardo, 2023). The consolidated network has an average degree of 5.429 (Table 4.2).

4.2.1.2. Network Topology

Network profiles: The network displays a low level of readily identifiable network profiles, i.e. hubs, brokers or bridges (Zygmunt, 2015).

Cut-points: Cut-points are recognised as actors who function as a broker between otherwise disconnected groups**.** The Consolidated Network contains nil "cut-points"(Hanneman & Riddle, 2005), indicating the availability of multiple pathways between nodes.

4.2.2. Filtered Network

In contrast, the "Filtered" network (Table 4-4) and map (Figure 4-1) show only 12 nodes with a relatively open and uncongested architecture of 41 ties. The filtered network exhibits the loss of "Social Media" and "Champions and Celebrities" as nodes within the network.

Table 4-4: *"Filtered" Network Adjacency Matrix*

	Activist	Charitable Organisation	Community	Consumer	Corporation	Donor	Institution	Media	Recipient	Regulator	Religion	Society
Activist	0	8	2	0	2	4	0	1	2	2	0	0
Charitable Organisation		0	113	0	29	322	6	19	62	78	5	0
Community			0	1	9	0	1	2	20	27	1	0
Consumer				0	0	1	0	0	0	0	0	0
Corporation					0	27	2	1	4	13	0	1
Donor						0	7	10	65	64	3	7
Institution							0	1	0	3	0	0
Media								0	1	2	1	0
Recipient									0	11	0	0
Regulator										0	0	0
Religion											0	0
Society												0

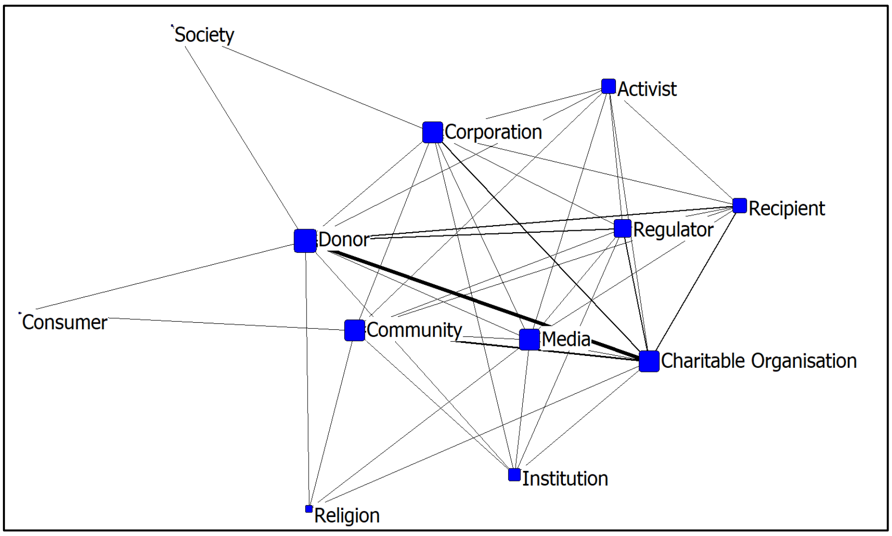

Figure 4-1: *"Filtered" network map—weighted—degree*

As a subset of the consolidated network, the filtered network maintains its validity as a viable network. The comparable metric characteristics of the filtered network are addressed in the following sections.

4.2.2.1. Network Centrality

The comparative metrics in the following table (Table 4-5) are discussed under the respective headings

Table 4-5: *Comparative Network Metrics*

	Consolidated	**Filtered**
Number of nodes	14	12
Number of ties	76	41
Connectivity measured as "density"	0.418	0.311
Reachability	0.484	0.439
Degree Centralisation	0.192	0.345
Average Degree	5.429	3.417
Network Profile	Closed-Loop	Star or Hub-Spoke

Density: The filtered network connectivity is rated slightly lower than the consolidated network, with a density index of 0.311 across the network. This suggests lower cohesion and connectivity exist when the network is filtered for "emotions".

Reachability: The filtered network demonstrates a slightly lower "Reachability" status than the consolidated network.

Degree Centralisation: The filtered network shows higher dominance or weighting of relationships across the core nodes and an increase in the number of dominant relationships. In the filtered network, the "Donor" to "Charitable Organisation" remains a pre-eminent relationship.

Average Degree: The filtered network returns an average degree reading of 3.417, lower than the consolidated reading of 5.429, suggesting that in the emotional flow of the network, there is lower distribution of influence.

4.2.2.2. Network Topology

Network Profile: The filtered network is typified visually as having a central, well-connected nucleus with various outlying nodes with multiple connections back to the nucleus. This typology is often referred to as a "star"(Tsao, 1984) or "hub and spoke"(Toh & Higgins, 1985).

Cut points: The filtered network contains no cut points. As in the consolidated network, the level of connectivity in the absence of clusters mitigates the need for brokerage.

4.3. Stage II. Online Questionnaire.

The first objective of this research is to identify the existence and form of the hypothesised donation network. As discussed in **Chapter 3**, the twofold purpose of the online questionnaire is a) "as a potential construction approach for the network form"; and, b) "a supporting role to Semi-Structured Interview in triangulating the network model". These evidence-based outcomes provide clarification of the preliminary model constructed in Stage I. Upon completing that twofold purpose, the questionnaire makes it further possible to explore key network characteristics aligned with Research Question 2.

4.3.1. Questionnaire Results

4.3.1.1. Respondent Roles

The online questionnaire returned 124 responses that were evaluated as legitimate. The findings from this point reflect that volume of participants. The role of respondents was collected from Block 5 - Question 3 (Appendix H) as a demographic attribute of the network nodes, as shown below in Figure 4-2.

The data reveals a significant concentration of respondents identifying as individuals or household members when engaging in their nominated donation function.

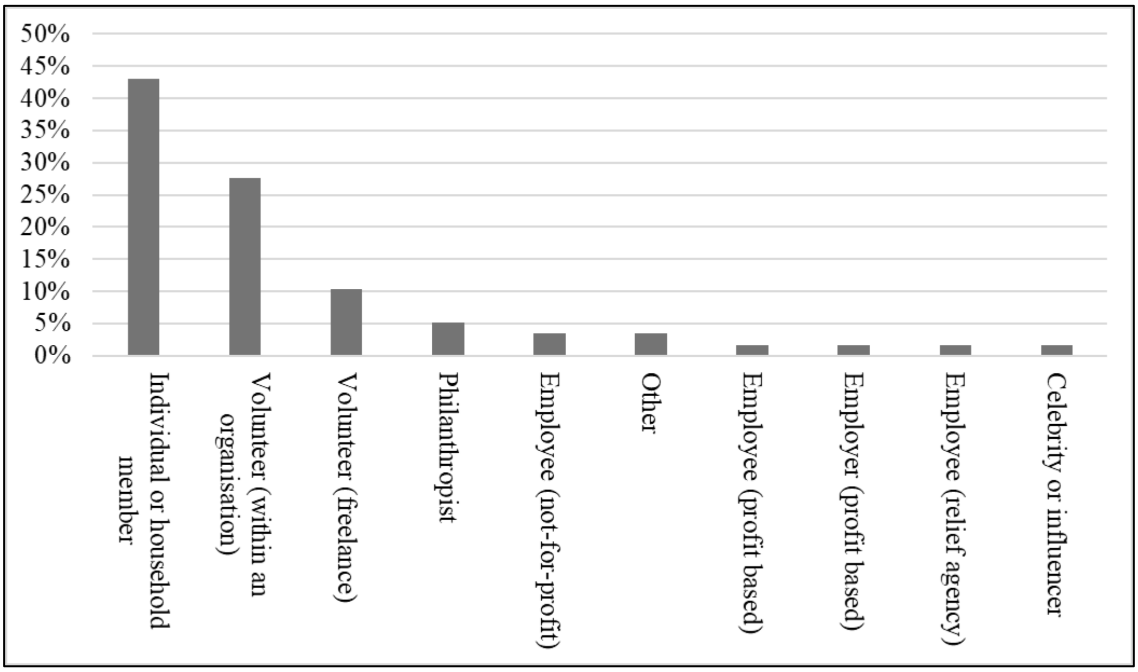

Figure 4-2: *Questionnaire Respondent Role*

4.3.1.2. Network Participation

In response to Question Block 2, respondents identified the donation functions in which they participate, as shown in Figure 4-3. This figure includes cases where multiple donation activities were reported for a single recipient. Across 124 validated responses, 223 donation activities were recorded, indicating engagement across all pre-listed donation functions. These findings contribute to the initial identification of network actors. The high response rate for "Donation" aligns with expectations, as fundraising typically follows a many-to-one structure (Zhang & Wang, 2018), where donations are gathered from a broad donor base through a smaller number of fundraisers or collection points.

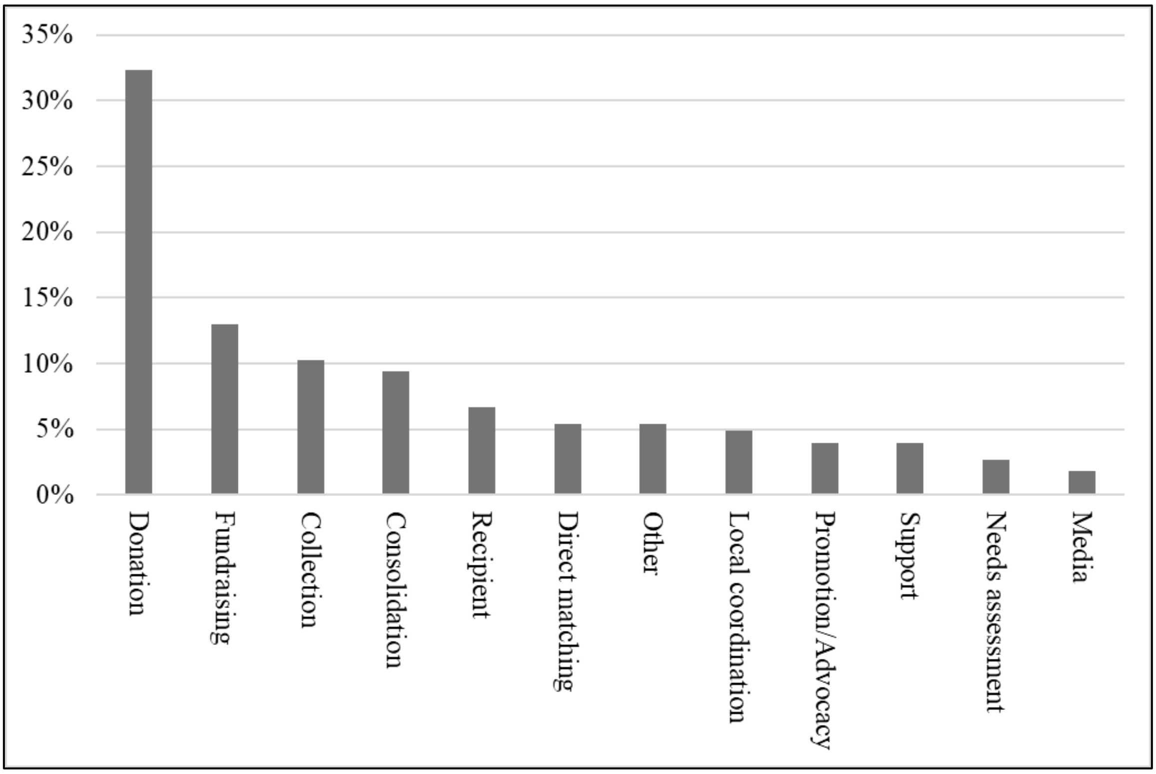

Figure 4-3: *Questionnaire Participation Function*

Conversely, a limited number of charitable organisations or agencies often redistribute these funds to multiple recipients. While the exact proportions may vary, this structure reflects traditional supply chain models (Stanton, 2023) and value supply chains (Zamora Elvira, 2016), where donors act as suppliers, intermediaries (charities and agencies) manage distribution, and recipients function as consumers. A simplified version of this framework has been applied to describe participation functions (Figure 4-4).

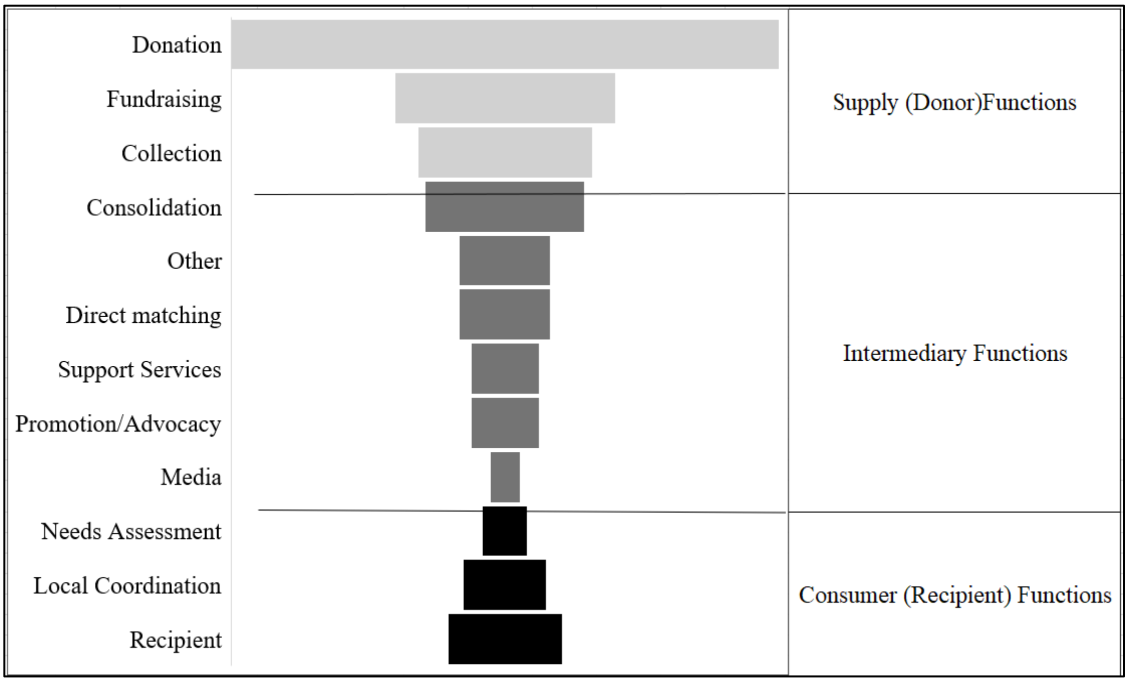

Figure 4-4: *Function "Phase" Distribution*

This categorisation into phases is helpful in assessing the relative performance of each stage based on its proximity to primary actors, donors and recipients and the complexity of the supply function. A visual representation highlights the challenges intermediaries face in transmitting emotional expressions, given the varying magnitudes of each phase and the methods required for emotional communication. While financial transactions can be conducted remotely via online platforms, emotional expressions necessitate sophisticated language and imagery or direct face-to-face interactions.

This model does not depict a strict sequence of actors within the supply process but instead provides an indication of the relative significance of each function within the broader supply framework. A key intersection between the research theme and supply chain management is the concept of reverse flows—traditionally understood as the return of goods (Ding & Chen, 2008), but in this context, it is interpreted as the reciprocation of emotion. This study extends beyond the conventional donor-to-recipient flow to examine reciprocal flows (Salema et al., 2010), where emotional or social responses originate from recipients and travel back through the network to donors, before or after a donation. Subsequent analysis will explore these non-physical reciprocal flows as integral to the donation network.

The structure of this distribution, which follows a many-to-many or group-density model (Zhang & Wang, 2018), presents an avenue for further discussion and research. In the case of "Direct Matching," it is conceivable that this function—along with other intermediary roles—could adopt methodologies similar to Mobility as a Service (MaaS) (Yao & Zhang, 2024), where a many-to-many model enables the direct provision of services from suppliers to recipients with minimal intermediary involvement.

Nominated Relationships

This series of questions (Block 3) (Appendix H) establishes connections between respondents' nominated functions and other functions within the defined set. The responses enabled the construction of a symmetrical directed adjacency matrix using Ucinet (Table 4-6). The corresponding network map (Figure 4-5) visually illustrates the degree of connectivity across different phases, highlighting the overall quality of relationships between key nodes, particularly between donors and recipients.

Table 4-6: *Questionnaire Responses – Role Relationships—Adjacency Matrix*

	Donation	Fundraising	Collection	Consolidation	Local coordination	Recipient	Direct Matching	Needs assessment	Media	Support Services	Promotion/advocacy
Donation	23	12	11	4	8	6	5	2	6	4	2
Fundraising	5	2	2	1	5	1	1	0	1	2	0
Collection	4	0	2	1	3	0	1	1	1	1	0
Consolidation	1	0	5	2	2	1	1	1	2	3	1
Local Coordination	1	1	1	0	0	0	0	0	1	1	1
Recipient	2	1	0	0	4	1	1	0	0	3	0
Direct Matching	2	0	0	1	2	0	1	1	2	2	1
Needs Assessment	0	0	0	0	0	1	1	1	1	2	0
Media	0	1	0	0	1	1	0	0	0	0	0
Support Services	1	0	0	0	1	0	0	0	0	1	0
Promotion/Advocacy	0	0	0	0	0	0	0	0	0	0	0

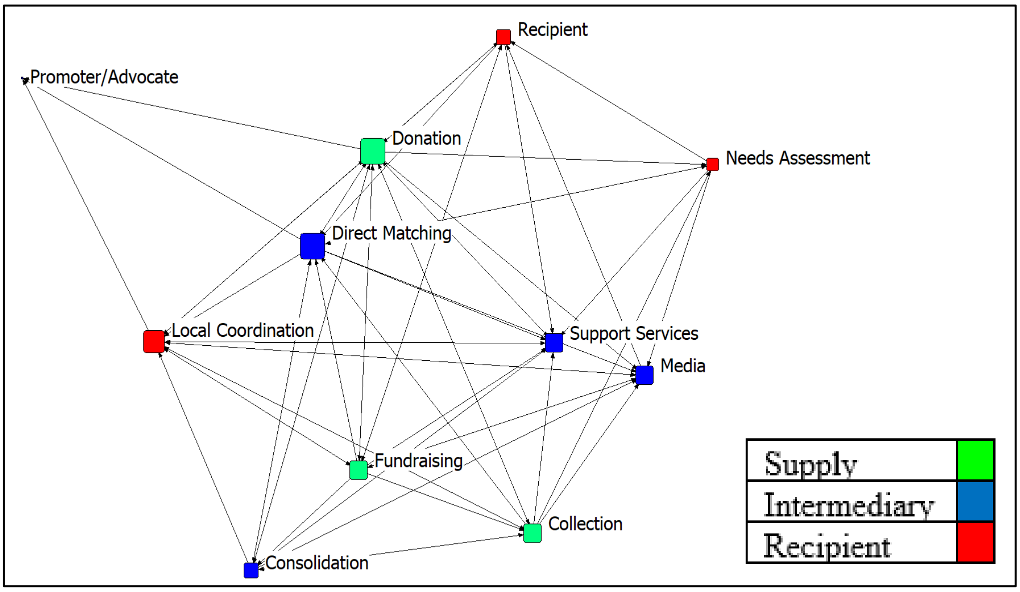

Figure 4-5: *Questionnaire Relationship Network showing Degree and Phases*

Notably, the "Direct Matching" function, positioned as an intermediary, exhibits stronger connectivity than the "Consolidation" function, primarily comprising large-scale focal organisations. The network map further reveals a triadic structure encompassing the “Direct Matching”, “Donor”, and “Recipient”. This triad has the potential to facilitate both financial transactions and emotional expressions, as it integrates all three phases within a single step.

Network Centrality and Topology Overview

The resulting network (Figure 4-8) is relatively cohesive, with no isolated nodes (Wasserman & Faust, 1994). Compared to the Stage I Filtered Network (Table 4-7), which was constructed hypothetically based on donation literature, the Stage II (Questionnaire) Network exhibits a similar profile and overall behaviour but with a higher level of connectivity. While its degree centralisation is lower, its average degree is higher, indicating a smaller core group of highly effective network participants.

Table 4-7: *Comparative Network Metrics across Datasets I and II*

	Stage I Consolidated	Stage I Filtered	Stage II
Number of nodes	14	12	11
Number of ties	76	41	61
Connectivity measured as "density"	0.418	0.311	0.555
Reachability	Incomplete 0.484	Incomplete 0.439	Incomplete 0.909
Degree centralisation	0.192	0.345	0.222
Average degree	5.429	3.417	5.45
Network profile	Closed-loop	Star or Hub–and–Spoke	Star or Hub–and–Spoke
Cliques			8
Clustering coefficient			1.585

Although cliques are present within the network, their significant overlap (11 nodes across 8 cliques) reduces their overall relevance. This minimises the necessity for brokerage roles (McCulloh et al., 2013) that could otherwise monopolise or restrict access within the network. All nodes maintain multiple pathways to nearly all other nodes, ensuring that, aside from the donor and recipient—who define the network’s boundaries—no single node is indispensable for connectivity. The presence of alternative pathways between all nodes is further confirmed by the "Reachability" analysis (Table 4-7), which indicates that almost all nodes have access to one another.

Weighted Relationships—The Introduction of Flows

The next set of questions (Block 4) assesses the significance of various relationships transmitting physical and non-physical commodities. Participants were presented with four categories of relationship flows. While the primary focus of this research is on emotional relationships, additional relationship types were included to highlight the presence of other non-physical flows and to distinguish emotional flows from them. The donation, motivation and information relationship flows were ultimately excluded from the analysis.

Responses were collected using a slider response tool, calibrated on a scale from 0 to 10, where 0 represented the minimum importance, and 10 represented the maximum. Participants answered the following questions:

a) How important were these relationships for sending or receiving the actual donation?
b) How important were these relationships for sending or receiving information about donation activity?
c) How important were these relationships for providing or receiving motivation and support in donation activities?
d) How important were these relationships for sending or receiving emotional or social expressions?

The mean score for each question was the most appropriate representation of response trends. The definitions applied in this analysis was adapted from McCulloh et al. (McCulloh et al., 2013). The emotional relationships represent a subset or layer of the overall network (Table 4-8 and Figure 4-6). The network map shows the weighting of the ties, the degree magnitude of the respective nodes, and the categorisation into phase attributes.

Table 4-8: *Role Relationship Adjacency Matrix for Emotional Content*

	Donation	Collection	Consolidation	Direct Matching	Fundraising	Local Coordination	Media	Needs Assessment	Promoter/Advocate	Recipient	Support Services
Donation	4.4	4.6	4.8	3.0	4.6	4.6	7.4	7.0	7.0	4.3	4.3
Collection	5.8	7.5	10.0	8.0	0.0	6.3	9.0	8.0	0.0	0.0	8.0
Consolidation	1.0	3.0	0.0	8.0	0.0	5.5	9.0	0.0	0.0	0.0	8.0
Direct Matching	3.0	0.0	6.0	4.0	0.0	8.0	5.0	7.0	1.0	0.0	7.0
Fundraising	3.3	10.0	8.0	2.0	6.0	4.0	9.0	0.0	0.0	6.0	6.5
Local Coordinator	7.0	7.0	0.0	0.0	1.0	0.0	9.0	0.0	5.0	0.0	8.0
Media	0.0	0.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	10.0	0.0
Needs Assessment	0.0	0.0	0.0	5.0	0.0	0.0	7.0	6.0	0.0	5.0	5.0
Promoter/Advocate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recipient	7.0	0.0	0.0	5.0	6.0	7.3	0.0	0.0	0.0	6.0	8.5
Support Services	6.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0

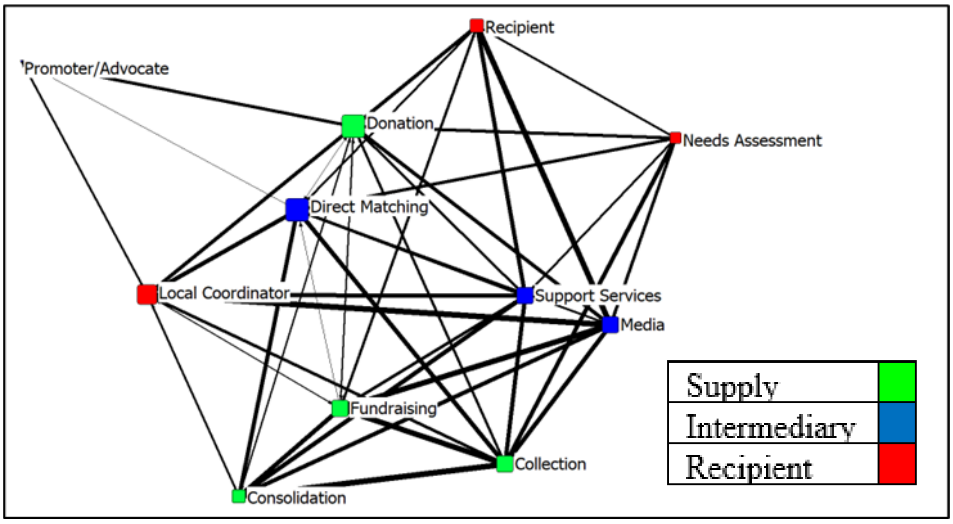

Figure 4-6: *Emotional Network Map showing Weightings, Degree, Phase*

4.3.1.3. Centrality Metrics

Elements of centrality were discussed in relation to the overall questionnaire network. We now return to the concepts and measurements of centrality; however, this exercise is now directed at the emotional flow as a subset of the overall questionnaire matrix using the donation flow as the comparative measure. In any network, there will be evidence of actors with varying degrees of influence and applications of influence. This influence can be limited in its range but can also impact remote actors. In this section, we look at three measures of influence that provide an understanding of influence within the emotional network.

Degree Centrality

A key metric for measuring a node's influence in a network is its number of links. Links directing services outward are classified as "out-degree," while those receiving services from other nodes are "in-degree" (McCulloh et al., 2013). Table 4-9 shows a relative parallel in overall "degree" scores between Social/Emotional and Donation relationship flows. In both cases, "Collection" and "Fundraising" serve as dominant providers of value, whereas "Local Coordination," "Media," and "Direct Matching" are dominant receivers. However, when considering both in-degree and out-degree, "Local Coordination" emerges as the most influential node based on connectivity.

Table 4-9: *Social/Emotional vs Donation* Centrality Metrics

Phase	Node	"Closeness"					
		Social/Emotional			Donation		
		Out-loseness	In-Closeness	Avg Closeness	Out-Closeness	In-Closeness	Avg-Closeness
	Donation	1	0.667		1	0.667	0.8335
Recipient	**Local coordination**	0.714	0.714	0.714	0.714	0.625	0.6695
Intermediary	**Direct matching**	0.769	0.625	0.697	0.769	0.625	0.697
Supply	**Fundraising**	0.833	0.556	0.6945	0.833	0.556	0.6945
Supply	**Collection**	0.769	0.526	0.6475	0.769	0.526	0.6475
Intermediary	**Consolidation**	0.714	0.556	0.635	0.714	0.556	0.635
Intermediary	**Support services**	0.556	0.714	0.635	0.556	0.714	0.635
Intermediary	**Media**	0.556	0.667	0.6115	0.556	0.667	0.6115
Recipient	**Needs assessment**	0.588	0.500	0.544	0.588	0.5	0.544
Supply	**Promoter/Advocat**	0.25	0.588	0.419	0.25	0.588	0.419
	Recipient	0.667	0.556		0.667	0.955	0.811

Nodes within the supply phase exhibit higher out-degree connectivity, indicating greater output value. While “Collection,” “Fundraising,” and “Direct Matching” have high out-degree in terms of donations, they may act as bottlenecks (McCulloh et al., 2013) for social expressions and emotions. Conversely, these nodes have lower in-degree values, suggesting greater dependency on other nodes, particularly “Local Coordination” and “Media.” This imbalance could hinder reciprocity in relationships, affecting high-ranking nodes’ ability to facilitate two-way flows.

All nodes possess at least one pathway to every other node, as determined by the “reachability” metric. This allows for the application of additional measures, such as “Closeness” and “Betweenness,” to assess the efficiency and relative shortness of alternative pathways. The presence of multiple relationship flows and pathways suggests that the network has built-in redundancies to accommodate diverse demands. However, this could either enhance flexibility or impose unnecessary costs, potentially diminishing the value of multiple flows. Network congestion may also impact donor motivation.

The availability of multiple pathways, and a reduced need for brokerage, places high-degree nodes at risk over time. The influence of “social proof” (McCulloh et al., 2013) may shift recognition toward well-established organisations, weakening high-degree nodes. Optimising network redundancy could help mitigate this risk (McCulloh et al., 2013).

Finally, while the questionnaire data highlights multiple flows, directions, and pathways, it does not provide causal indicators to inform the discussion at this stage further.

Closeness Centrality

Closeness is measured as "(the) independence of an actor to receive information quickly from any position in the network" (Buechel & Buskens, 2013). It contrasts with "degree", which shows the most highly connected actor. Closeness is also presented as a network feature that is key to creating value (Srivastava & Singh, 2010). It could be argued that Closeness is key in the protection of value, where a reduction in intermediary nodes reduces the transactional cost of the relationship flow (Pilling et al., 1994). Table 4-10 visually demonstrates the scale of Closeness across both relationship flows, i.e. social/emotional and donation. The top three places in each flow are shared by local coordination, direct matching and fundraising.

Table 4-10: *Degree Centrality Social/Emotional vs Actual Donation*

Degree Centrality				
	Social/Emotional		Donation	
	Out degree	In degree	Out degree	In degree
Donation	51.59	33.08	68.83	45.75
Collection	55.08	24.63	52.75	27.5
Fundraising	48.83	21.58	55	26.08
Direct matching	37	31	57	36.67
Local coordination	37	53.65	41	55.64
Consolidation	34.5	28.75	30.5	30
Media	30	55.4	23	58.1
Needs assessment	22	22	18.5	23.5
Support services	14	14	15	52.67
Promoter/Advocate	0	13	0	22
Recipient	33.75	25.33	37.5	21.67

This provides an interesting combination of phases that potentially identifies pathways that provide the greatest creation of value and the greatest protection of value. With respect to the relationship flows being discussed, it might suggest that the actual donation is at less risk of value reduction. Equally the emotional gesture has greater potential to reach its destination without loss. It is also significant that the top three rankings for closeness are spread across the three phases of the supply.

Betweenness Centrality

> Betweenness centrality[…] the number of pairs of other members who can converse with each other directly through a user with the shortest distance.(Zygmunt, 2015).

Colloquially, betweenness is defined as "the distance between people who are not neighbours (and is) is measured by the smallest number of neighbour-to-neighbour hops from one to the other"(Derek et al., 2011). The betweenness index highlights those nodes with the highest location incidence on those shortest paths.

This common centrality measure is relevant in understanding how, in this research, a particular flow, e.g. emotion, can travel from an originating node, e.g. **Donor** to a destination node, e.g. **Recipient**, with the least number of "hops". Excluding the extremity nodes of **Donor** and **Recipient**, Table 4-11 shows graphically and numerically the nodes of **Local Coordinator, Direct Matching** and **Fundraising** as exhibiting the highest betweenness. The observation here is that the range of pathways between donor and recipient is more likely to include these nodes.

The application of Freeman's betweenness (Opsahl et al., 2010) allows only for the binary nature of the network paths and not the weighted value of the ties. An analysis of this will produce similar rankings of Betweenness for all flows within the network, where the flows include the same nodes (Table 4-11). This finding shows no distinction of Betweenness across the two flows of Social/Emotional flow and the Donation flow. An observation that can be rendered at this point is that the three top-ranking nodes, excluding **Donation**, have a distribution across the three identified phase attributes of the network. This finding is of interest to the practical and logistical functionality of

the respective relationship flows.

Table 4-11: *"Betweenness" Metric: Social/Emotional vs Actual Donation*

Phase	Node	"Betweenness"	
		Social/Emotional	Donation
Supply	**Donation**	14.15	8.10
Recipient	Local coordination	8.10	8.10
intermediary	Direct Matching	6.25	6.25
Supply	Fundraising	5.21	5.21
Intermediary	Media	3.45	3.45
Supply	Collection	2.12	2.12
Intermediary	Support Services	0.78	0.78
Recipient	Needs Assessment	0.67	0.67
Intermediary	Consolidation	0.44	0.44
Intermediary	Promoter/Advocate	0.00	0.00
Recipient	**Recipient**	2.84	2.84

A weakness of the Betweenness centrality is that while it gives a ranking for each node as it relates to pathways between other nodes, it does not identify the respective paths from node to node on which it has "Betweenness". This alerts us to the potential of a node with the highest Betweenness ranking, not actually existing on the shortest path between two specified nodes. To determine if the betweenness ranking can provide insight into the respective relationship flows, we must explore the construction of the Betweenness centrality metrics.

4.3.2. Network Performance

4.3.2.1. Number of Pathways

The network topology demonstrates a highly connected structure with no discernible brokers or clusters. This configuration is significant, as it highlights the availability of multiple pathways between starting and ending points, which is essential for understanding both the emotional and material donation networks.

In the donation network, the flow originates from the donor and culminates with the recipient. This process depends on logistical and practical mechanisms that ensure the funds reach recipients via the most efficient route, thereby minimising potential negative impacts on the donation's value. The presence of multiple pathways within the network grants actors considerable autonomy in decision-making, with choices being influenced by factors such as personal motivation, policies, perceived efficiencies, trust, affiliation, or proximity.

Similarly, the emotional network benefits from the independence afforded by these multiple pathways. However, in contrast to the structured, goal-oriented flow of donations, emotional flows are more reactive and fluid, often following the path of least resistance. The emotional network is less linear and predictable, with the movement of emotions being shaped dynamically by environmental factors. While an initial crisis may trigger emotions, their progression through the network lacks the organisation and predictability inherent in donation flows.

This fluidity is reflected in the variations in the number of pathways and the disparities in cost and efficiency between donor-to-recipient emotional flows and reciprocal recipient-to-donor flows (Table 4-12).

Table 4-12: Network Performance Comparison: Emotional/Social vs Actual Donation

Source/Sink	Relationship Flow	Shortest Path	Lowest Cost	No. of Pathways	Maximum Flow
Donor to Recipient	Emotional/Social	Donor - Recipient	0.23	1032	25.3
Recipient to donor	Emotional/social	Recipient - Donor	0.14	959	33.1
Donor to recipient	Actual donation-value/cost	Donor-Recipient	0.21	855	21.7

4.3.2.2. Shortest Path – Dykstra Algorithm

Earlier in this chapter, we identified the overall network as having two nodes that represented the extremities of the network, i.e. donation and recipient. This correlates with the concept of Value Delivery Networks (Srivastava & Singh, 2010) and provides a further application of non-physical supply chains. For this element of analysis, we can adopt the phrasing of "source" and "sink" as alternatives to identify the entry and exit points of this supply scenario (Goldberg & Tarjan, 1988).

"Betweenness" metrics are based on the aggregation of "shortest paths" (Opsahl et al., 2010), applying the Dykstra algorithm to identify all shortest paths across the network. Given this research's interest in the nature of the multiple flows between the donor and the recipient, Dykstra is used to identify the specific range of paths between these two nodes using the value of the tie weightings as a representation of the cost of each node on the pathway. However, the weightings from the questionnaire responses are based on a positive grading of the value of the “other” to the respondent. On a shortest-path analysis, these positive weightings would be regarded as a cost.

To correct this and reflect the positive nature of these values, rather than as a value, they need to be inverted, i.e. if “x” is the positive value of the edge between two nodes, then the inverse of that (cost) would be calculated as “1/x” (Table 4-13). This data, once inverted, was analysed using Graph Online, an open-source network-based calculator and graph generator (*Graph Online*, 2024) This is represented graphically in Figures 4-7 and 4-8.

Table 4-13: *Inverted Adjacency Matrix—Emotion—Cost Factor*

	Donation	**Collection**	**Consolidation**	**Direct Matching**	**Fundraising**	**Local Coordination**	**Media**	**Needs Assessment**	**Promoter/Advocate**	**Recipient**	**Support Services**
Donation		0.22	0.21	0.33	0.22	0.22	0.14	0.14	0.14	0.23	0.23
Collection	0.17		0.10	0.13		0.16	0.11	0.13			0.13
Consolidation	1.00	0.33		0.13		0.18	0.11				0.13
Direct Matching	0.33		0.17			0.13	0.20	0.14	1.00		0.14
Fundraising	0.30	0.10	0.13	0.50		0.25	0.11			0.17	0.15
Local Coordinator	0.14	0.14			1.00		0.11		0.20		0.13
Media					0.10	0.10				0.10	
Needs Assessment				0.20			0.14			0.20	0.20
Promoter/Advocate											
Recipient	0.14			0.20	0.17	0.14					0.12
Support Services	0.17					0.13					

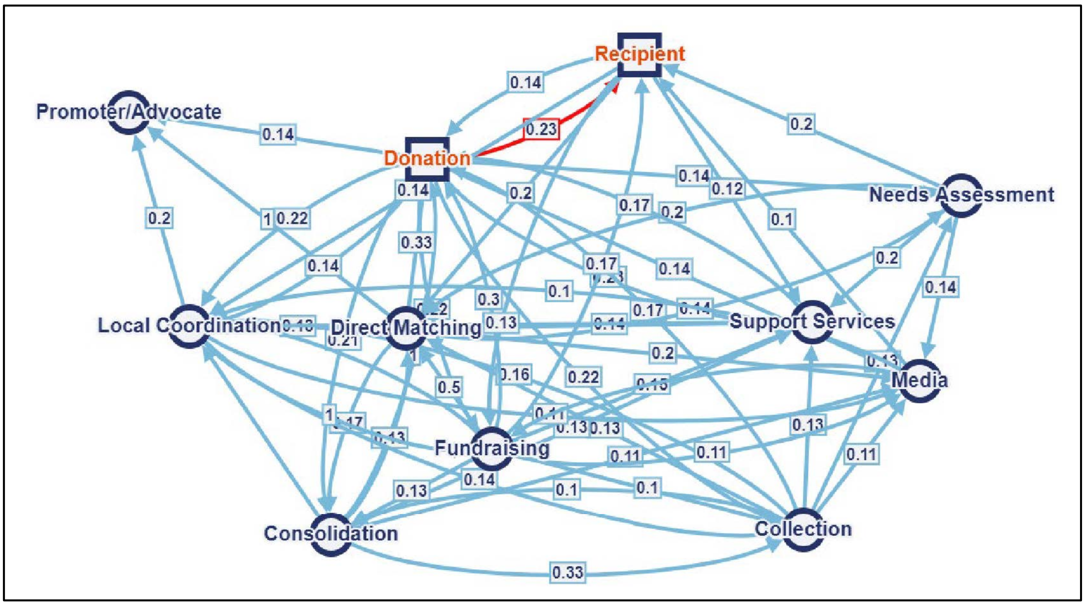

Figure 4-7: *Emotional—shortest path—donor to recipient*

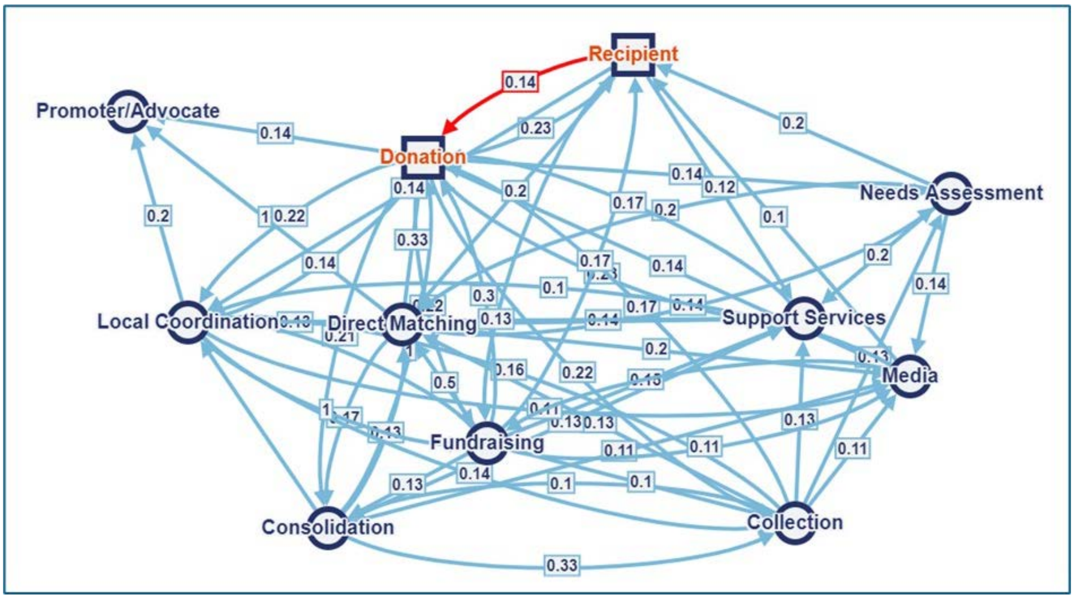

Figure 4-8: *Emotional—shortest path—recipient to donor*

The shortest path from the donor to the recipient for the social/emotional flow is identified as the direct path without intermediaries. The reciprocal shortest path is also identified as recipient to donor without intermediaries. It should be noted, however, that the reciprocal pathway has a cost of 0.14, whereas the pathway from the donor to the recipient has a cost of 0.23. In contrast, while the actual donation pathway is also a directed flow, a reciprocal flow of funding is not considered a feature of the actual donation network. The shortest pathway for the actual donation is, again, the direct connection between the donor and the recipient, with a cost factor of 0.21. The impracticality of direct connection between the donor and the recipient, who may experience remoteness from each other, is the basis for the existence of the network.

Through an analysis of the multiple pathways, we can begin to evaluate the most effective pathway for the flow of actual funding and the emotional flow, including any specified function along with that pathway.

Whereas the flow of emotions is considered a multidirectional/multi-pathway across the entire network, specifically between the donor and the recipient, the flow of actual donations is considered a unidirectional/multi-pathway exclusively between the donor and the recipient. The shortest path for actual donations between the donor and the recipient, resulting from the inverted adjacency matrix (Table 4-14), is highlighted in Figure 4-9 with a value of 0.21.

Table 4-14: *Inverted Adjacency Matrix—Actual Donation - Cost*

	Donation	Collection	Consolidation	Direct Matching	Fundraising	Local Coordination	Media	Needs Assessment	Promoter/Advocate	Recipient	Support Services
Donation		0.13	0.14	0.21	0.14	0.14	0.10	0.13	0.13	0.21	0.18
Collection	0.15		0.13	0.13		0.17	0.11	0.11			0.17
Consolidation	1.00	0.33		0.14		0.20	0.14				0.13
Direct Matching	0.12		0.14			0.14	0.11	0.14	0.10		0.13
Fundraising	0.14	0.11	0.13	1.00		0.17	0.13			0.13	0.13
Local Coordination	0.11	0.13			0.25		0.13		0.25		0.13
Media					0.13	0.13				0.14	
Needs Assessment				0.17			0.14			0.50	0.29
Promoter/Advocate											
Recipient	0.17			0.10	0.14	0.12					0.17
Support Services	0.13					0.13					

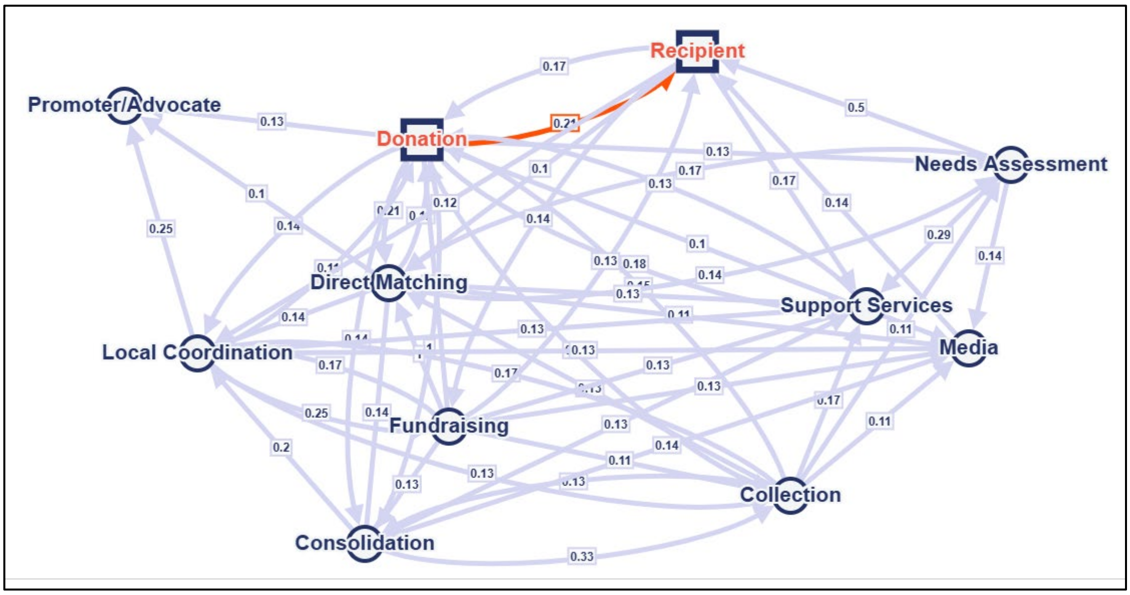

Figure 4-9: *Shortest path—donor to recipient—actual*

The variance between these shortest-path measures will show the inversion of the relative value, or in other words, the cost that the respondents place on the respective relationships and directions (see Tab 4-15)

Table 4-15: *Shortest Path Comparison: Social Emotional vs Actual Donation*

Shortest Path Nodes	Relationship Flow	Shortest Path Value
Recipient to Donor	Social/Emotional	0.14
Donor to Recipient	Actual Donation	0.21
Donor to Recipient	Social/Emotional	0.23

In each case the shortest path is identified as the direct path between the two nodes. This provides a different perspective than provided previously when considering the betweenness rankings. In no case did the shortest path between the donor and the recipient, and vice versa, include the highest ranking betweenness nodes.

4.3.2.3. Aggregate Cost of Pathways

Given the potential impracticality of the shortest path, as already inferred, the interpretation of the shortest path is the path that can practically achieve a successful flow between specified actors. Our analysis needs to evaluate the range of pathways for their respective aggregated cost to achieve this outcome.

Dijkstra's algorithm calculates the shortest path between a starting node and all other nodes in a weighted graph. In this context, each connection (edge) between two points (nodes) has an associated cost (e.g., distance, delay, monetary cost). The algorithm explores all possible routes from the source node, summing the edge costs along each path, and always expands the path with the lowest total cost next. The result is the most efficient pathway, or set of pathways, based on the minimization of cumulative costs (Cormen et al., 2022).

This makes it especially useful in network analysis, logistics, and resource planning, where the goal is to identify the most cost-effective route through a system. From Table 4-16, we see the respective number of pathways for each flow and, in the case of the emotional flow, the reciprocal flow. The same table (Table 4-16) represents a sample of the pathways for each relationship flow, showing the actor nodes and the aggregate pathway cost. Presenting aggregated costs for all pathways is impractical and not included in this finding demonstration.

Table 4-16: *Aggregated Pathway Cost—Emotion*

Donor to Recipient – Emotional	**Aggregated Pathway Cost**
Path #3: Donation ⇒ Media ⇒ Recipient	0.24
Path #4: Donation ⇒ Needs Assessment ⇒ Recipient	0.34
Path #2: Donation ⇒ Fundraising ⇒ Recipient	0.39
Path #5: Donation ⇒ Collection ⇒ Media ⇒ Recipient	0.43
Path #6: Donation ⇒ Collection ⇒ Needs Assessment ⇒ Recipien	0.55
Recipient to Donor – Emotional	**Aggregated Pathway Cost**
Path #4: Recipient ⇒ Local Coordination ⇒ Donation	0.28
Path #5: Recipient ⇒ Support Services ⇒ Donation	0.29
Path #3: Recipient ⇒ Fundraising ⇒ Donation	0.33
Path #2: Recipient ⇒ Direct Matching ⇒ Donation	0.53
Path #6: Recipient ⇒ Direct Matching ⇒ Consolidation ⇒ Donation	0.72

Donor to Recipient – Actual	**Aggregated Pathway Cost**
Path #2: Donation ⇒ Media ⇒ Recipient	0.25
Path #4: Donation ⇒ Fundraising ⇒ Recipient	0.27
Path #5: Donation ⇒ Collection ⇒ Media ⇒ Recipient	0.38
Path #3: Donation ⇒ Needs Assessment ⇒ Recipient	0.63
Path #6: Donation ⇒ Collection ⇒ Needs Assessment ⇒ Recipient	0.74

4.3.2.4. Maximum Flow

Cost efficiency is critical to network performance but must be balanced with effective relationship flow (Cormen et al., 2022; Ford & Fulkerson, 1956). The challenge of minimising cost while maximising capacity, particularly given the multiplicity of pathways and the unpredictability of emotional flows, makes this balance complex.

Evaluating efficiency or effectiveness in isolation provides an incomplete view of network performance. While prioritising one over the other is unnecessary at this stage, assessing the network's capacity to sustain relationship flow enhances understanding. The "maximum flow" methodology (Ghaffari et al.; Gómez et al., 2013; Ströele et al., 2018) offers a structured approach to this evaluation.

The Maximum Value charts (Figure 4-10 to 4-12) illustrate variations in maximum flow across different commodities and directional flows. A comparison between donor-to-recipient emotional flow (Figure 4-10) and donor-to-recipient donation flow (Figure 4-12) reveals similar relationship pathways supporting maximum flow. However, significant differences in pathway weightings highlight inconsistencies in the network's ability to transmit donations and emotions in parallel.

Comparing donor-to-recipient maximum flow configurations (Figure 4-10) with recipient-to-donor emotional flows (Figure 4.11) reveals even greater discrepancies. The recipient-to-donor configuration exhibits lower cost and higher maximum flow, indicating greater efficiency in emotional transmission. These findings highlight the dynamic, non-linear nature of emotional and financial transactions and demonstrate that emotions—particularly those flowing from recipients to donors—extend beyond the structured pathways required for financial donations.

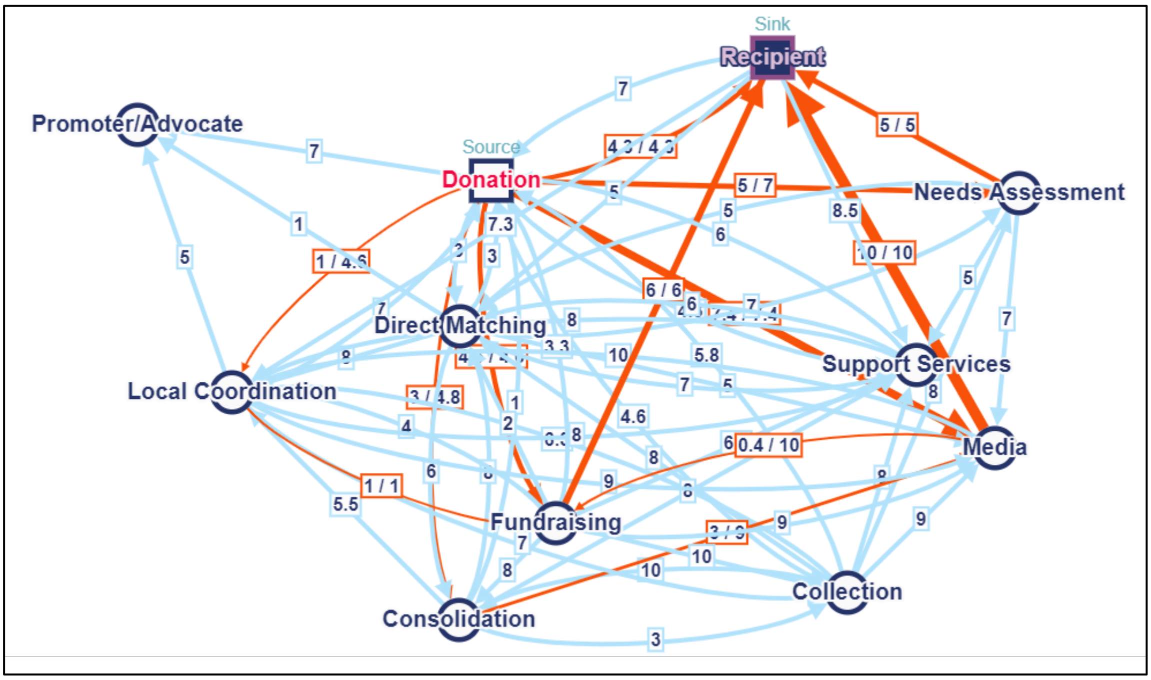

Figure 4-10: *Maximum Flow value—donor to recipient—emotional*

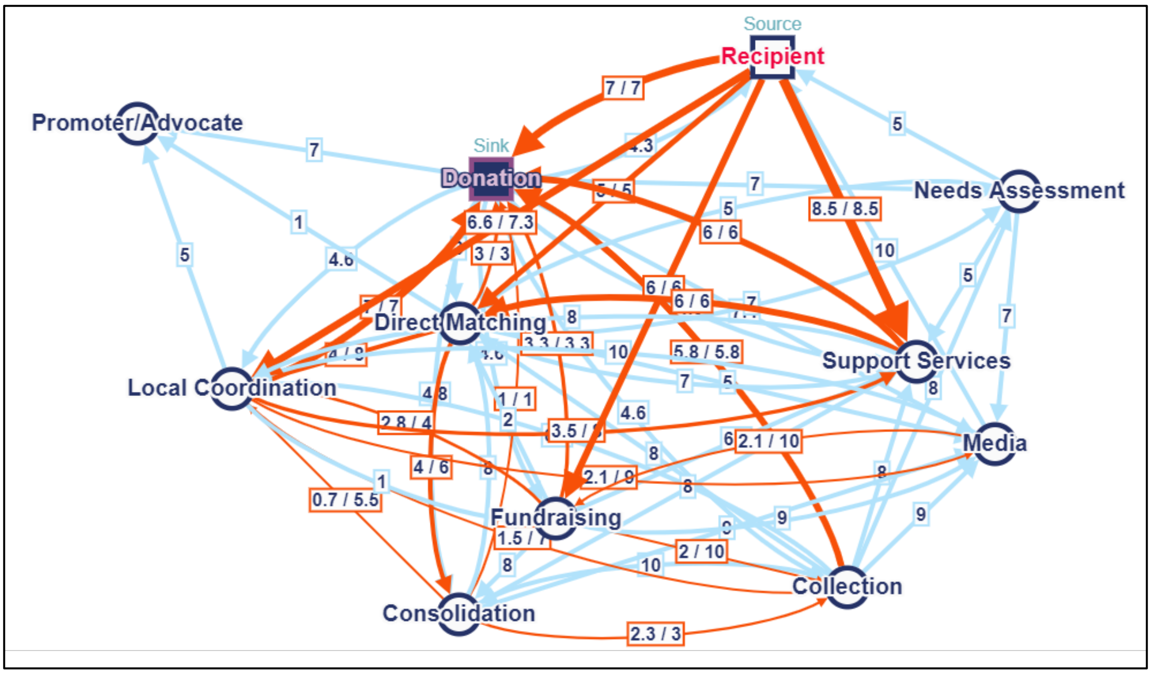

Figure 4-11: *Maximum Flow value—recipient to donor—emotional*

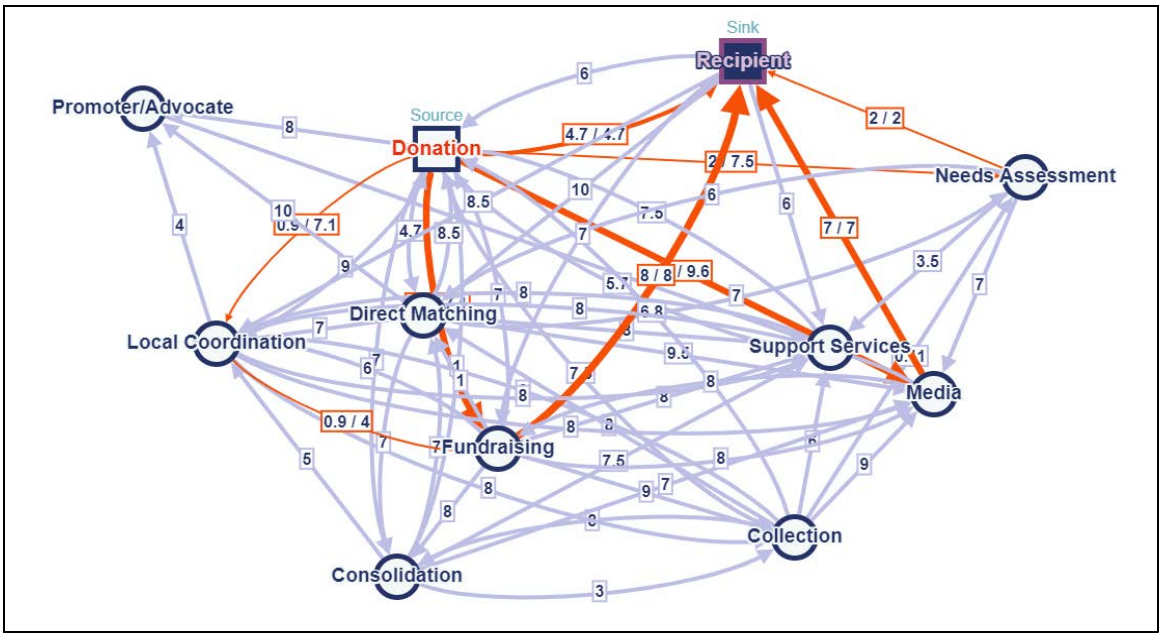

Figure 4-12: *Maximum Flow value—donor to recipient—actual donation*

Several key nodes play distinct roles in these pathways. Fundraising and media are critical in donor-to-recipient flows, while recipient-to-donor pathways involve a broader range of high-profile actors, with local coordination, consolidation, collection, support services, and direct matching assuming greater prominence. Conversely, needs assessment and media play a diminished role.

A particularly notable pathway is the direct connection between recipient and donor, which consistently incurs the lowest transmission cost and is included in the network's maximum flow. The prominence of this direct link underscores its efficiency in facilitating emotional exchange, further distinguishing it from the more structured pathways governing financial donations.

4.4. Stage III. Semi-structured Interviews

4.4.1. Introduction

Stage I provided insight into the existence of an emotional network within the donation environment, partially addressing the first supporting research question:

"What are the constituent parameters of the donation activity network?"

This aligns with the associated research objective:

"Identify, describe, and categorise the form (network) and participant actors of the donation phenomenon in a localised crisis context."

Stage II offered a deeper understanding of the emotional network, partially addressing the second supporting research question:

2. "What are the dynamics within the donation activity network?"

This stage also introduced the next research objective:

3. "Explore the emotional relationships between identified actors in the context of the donation phenomenon."

Building on these foundations, Stage III directly responds to the final supporting research question:

4. "How do these dynamics influence the functions of the donation activity network?"

This contributes to fulfilling the remaining research objectives:

1. "Determine the impact of these relationships on actor behaviours."

2. “Assess how these relationships influence the network’s effectiveness in delivering social outcomes and donated funds.”

4.4.2. Interview Administration

A total of 14 interviews were conducted, with participants sourced from a wide range of functions within the donation activity in localised crisis scenarios (Appendix E).

Function categories were identified through media, social media, and existing literature. While patterns emerged across reported scenarios, this research is not intended as a case study of a single crisis event.

Communication protocols were adopted as outlined in section 3.3.2. Each session began with a brief social dialogue and an introduction to the procedure.

Interview recordings were transcribed using Otter.ai (Crumley, 2018). Aside from minor grammatical adjustments, transcripts remained largely unedited to preserve the integrity of responses. Unedited transcripts were used for analysis, as transcription errors did not compromise content relevance or research objectives.

Interview analysis followed three concurrent approaches:

1. Thematic annotation of discussion content using NVivo,
2. Thematic coding of transcripts with NVivo references, and
3. Mapping relationships between network actors.

This methodology remained consistent for the first four interviews, after which a process review was conducted. Analysis revealed a high volume of relational and thematic data, necessitating a strategic adjustment. The research approach was modified to prioritise network identification first, followed by thematic and coding analysis to enhance manageability.

This structured separation facilitated a more focused investigation into network existence. Findings and analysis will proceed through centrality measures, as in earlier stages, while exploring qualitative dimensions such as causality, attribute homophily, and emotional transformations across network nodes.

4.4.3. Semi-structured Data Summary

This section provides a summary overview of relationship statistics within the donation network. Subsequent sections will analyse the data from network and direct dialogue perspectives, with each approach contributing to the broader discussion.

Interviews identified 428 relationship instances between actors. While responses were not exclusively focused on emotional interactions, leading to the inclusion of some relationships beyond the emotional scope, 228 incidents were categorised as emotion-based (Figure 4-13). Additionally, 84 recurring relationship pairings were identified, with those appearing four or more times presented in Figure 4.-14. This data highlights both the volume of interactions and the strongest emotional connections within the network. This analysis reveals that the donor-recipient relationship constitutes the majority of interactions. While this bond is characterised by strong emotional connections, it remains uncertain whether the emotions expressed by one party are fully perceived or understood by the other. Assessing the effectiveness of emotional transmission throughout the network forms a central focus of this research.

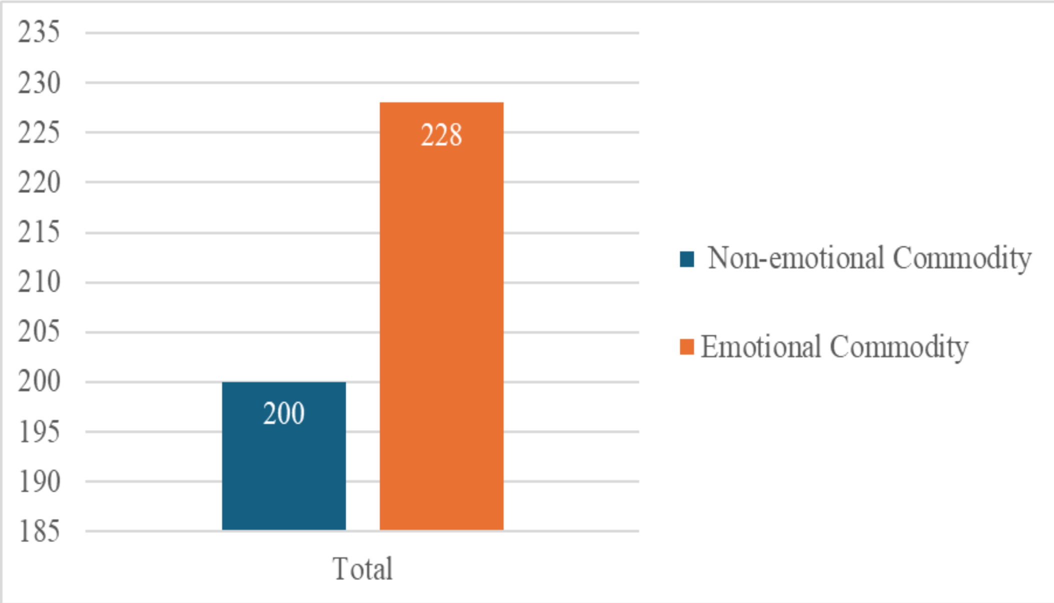

Figure 4-13: *Interview Relationship Instances Distribution Summary*

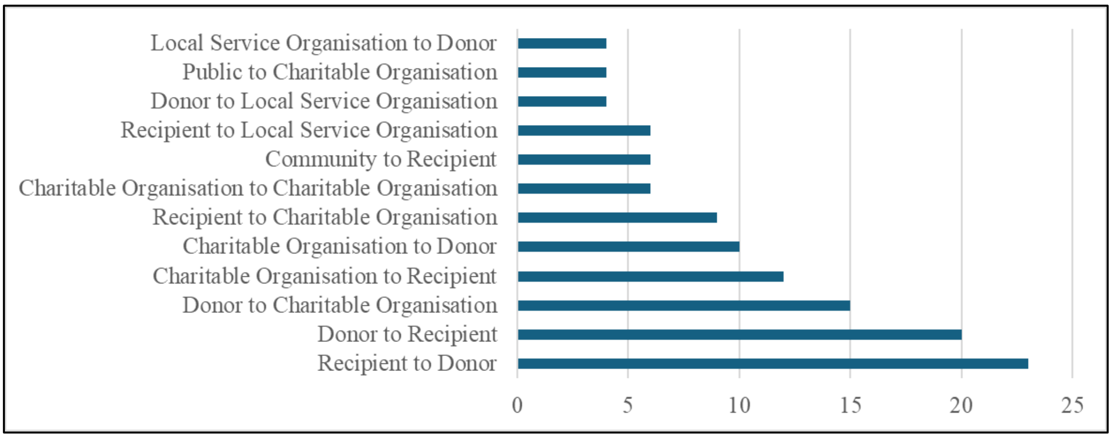

Figure 4-14: *Relationship Distribution over Relationship Couplings*

Beyond the direct donor-recipient relationship, the most frequently recurring couplings involve charitable organisations, emphasising their dominant reported role in facilitating these relationships. More importantly, the analysis highlights the extent to which relationships extend across functional phases. Table 4-17 illustrates these relationships based on the assignment of functions to phases.

These phases, categorised as donation/supply, intermediary, and customer/recipient, represent generic supply chain lifecycle stages of donation activities. This framework supports conclusions regarding the levels of communication and cohesion among different actor groupings within the network.

Table 4-17: *Cross-Phase Couplings*

Coupling	**Cross Phase**	
	Yes	No
Donor to Recipient	20	
Charitable Organisation to Recipient	12	
Community to Recipient	6	
Aggregator to Recipient	3	
Community Donor to Recipient	3	
Emergency Services to Recipient	3	
Public to Recipient	3	
Broadcast Media to Recipient	2	
Government to Recipient	2	
Local Service Organisation to Recipient	2	
Community to Recipient	1	
Community Coordinator to Recipient	1	
Donor to Recipient	1	
Local Government to Recipient	1	
Peer-to-peer to Recipient	1	
Transfer agents to Recipient	1	
Volunteer to Recipient	1	
Recipient to Recipient		3
Assessor to Recipient		2
Local Government Recovery Officer to Recipient		1
Recipient to Local Government Recovery Officer		1
Grand Total	**63**	**7**

Table 4-18: *Generalised Phase Categories*

Actor Node	Stage III Phase	Generalised Phase
Aggregator	Supply	Supply
Community Donor	Supply	Supply
Corporation	Supply	Supply
Donor	Supply	Supply
Volunteer	Supply	Supply
Charitable Organisation	Transfer	Intermediary
Transfer Agents	Transfer	Intermediary
Advocate	Support	Intermediary
Broadcast Media	Support	Intermediary
Business Services	Support	Intermediary
Community	Support	Intermediary
Emergency Services	Support	Intermediary
Network	Support	Intermediary
Public	Support	Intermediary
Social Media	Support	Intermediary
Government	Regulatory	Intermediary
Local Government	Regulatory	Intermediary
Regulator	Regulatory	Intermediary
Community Coordinator	Multiple	Recipient
Local Service Coordinator	Multiple	Recipient
Local Service Organisation	Multiple	Recipient
Peer-to-Peer	Multiple	Recipient
Assessor	Recipient	Recipient
Collateral Recipient	Recipient	Recipient
Local Government Recovery	Recipient	Recipient
Recipient	Recipient	Recipient

Given the dual functions of conveying both funding and emotion from donor to recipient—and, in the case of emotions, enabling reciprocal flows—the ability of network functions to facilitate interactions across functional boundaries emerges as a particularly significant finding. While the interview dataset offers a more nuanced and granular view of functional relationships within the donation network , the original phase categories are retained to provide a generalised and substantive profile of the network's structure.

The emotional flows across these boundaries are particularly noteworthy, as they represent both the original emotional expressions that initiate the network and the pathways through which these emotions travel between donors and recipients.

4.4.3.1. Interview Network Analysis

The matrix containing the listing of individual relationships referenced (Appendix F) was submitted to UCInet and NetDraw and a network map (Figure 4-15) showing "degree" centrality was returned.

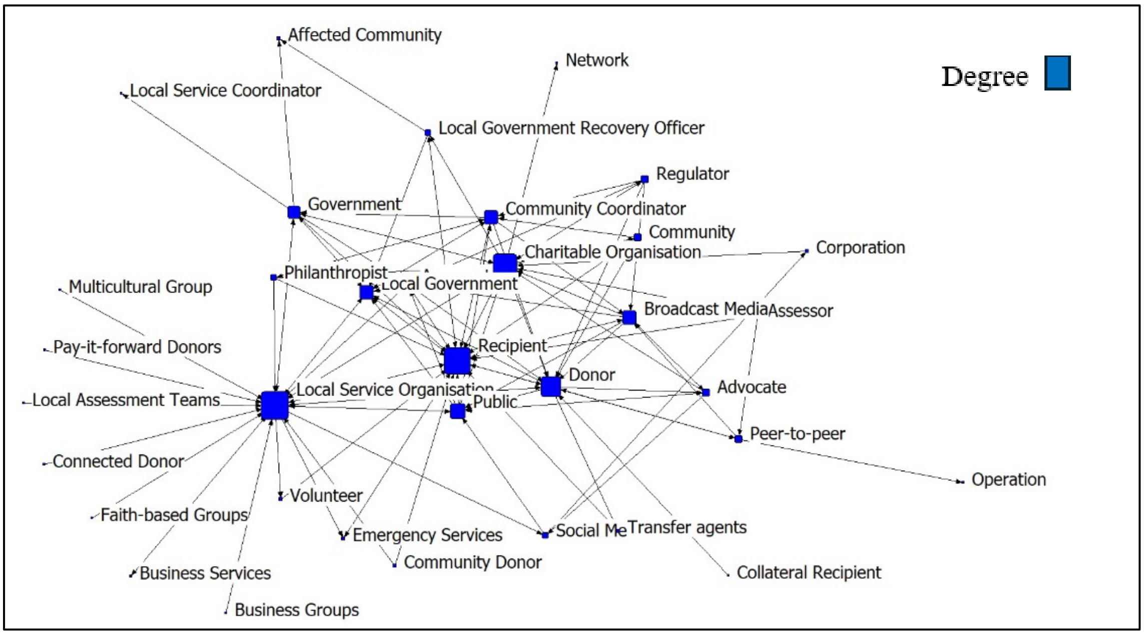

Figure 4-15: *Consolidated Network—Weighted by Degree*

The Consolidated Network included all relationships identified throughout the interviews, including non-physical relationship flows of motivation and information. References to the actual donation flow were also captured through the interviews. This was filtered out to produce the subset of emotional network activity (Figure 4-16), including weighting and phase category. The respective differences between these networks are considered in the following sections.

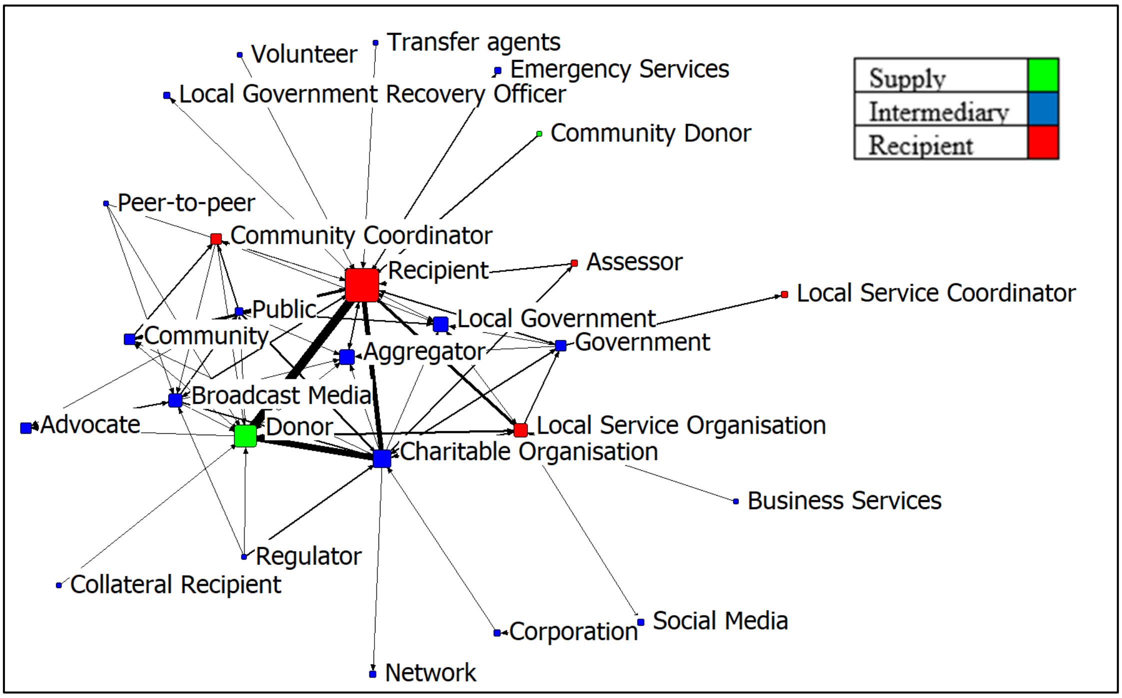

Figure 4-16: *SSI Emotional Network showing InDegree Weighting, Phase*

Centrality

The network analysis of the semi-structured interviews follows the pattern applied to the questionnaire with one major distinction. To capture data that might reveal causation within the donation network rather than just the resultant network profile, it was necessary to record the specific emotion expressed, accepted or received. Without this degree of causation, responding to Research Question III becomes challenging. The analysis will commence with the centrality measures without reference to specific emotions. This will show the raw levels of centrality that may not give the true nature or valence of those relationships.

Degree

Following the same logic of the relationship between the centrality measures, the "degree" ranking of nodes throughout the donation network (Table 4-19) presents a similar profile of the findings from the questionnaire in Stage II. Similarly, we see significant disparity across the range of actor nodes with the highest representation, excluding the donor and the recipient, of both indegree and outdegree within the intermediary role of charitable organisations, thus highlighting its level of connection and dependency in both directions. The ranking of “degree”, as discussed under the heading of valence, may not indicate a positive tone or relationship between the respective nodes, thus highlighting the importance of understanding nodes with significant “degree” rankings.

Table 4-19: *SSI—Emotional Network—Degree Centrality*

Degree Centrality			
Emotions			
Generalised Phase	Node	OutDegre	InDegree
Supply	Donor	44	44
Intermediary	Charitable Organisation	31	39
Recipient	Local service organisation	14	13
Intermediary	Public	13	3
Intermediary	Broadcast media	10	9
Intermediary	Community	10	3
Intermediary	Government	8	8
Intermediary	Regulator	5	0
Supply	Aggregator	4	6
Recipient	Community coordinator	4	5
Intermediary	Advocate	3	3
Supply	Community donor	3	0
Intermediary	Emergency services	3	2
Intermediary	Local government	3	7
Recipient	Peer-to-peer	3	0
Recipient	Assessor	2	2
Intermediary	Business services	1	0
Recipient	Collateral recipient	1	0
Supply	Corporation	1	1
Recipient	Local government recovery offic	1	1
Intermediary	Social media	1	1
Intermediary	Transfer agent	1	0
Supply	Volunteer	1	0
Recipient	Local service coordinator	0	3
Intermediary	Network	0	1
Recipient	Recipient	50	66

Closeness

The centrality measure of closeness was defined in previous sections. It is applied again in stage III (Table 4-20) with the intent to highlight the capacity of the respective nodes to connect with other nodes, demonstrating a degree of immediacy and value protection. Closeness analysis returns a scaling that shows a spread across the revised range of phase attributes. Excluding the donor and the recipient as the endpoints of the network, the top three "Average Closeness" rankings represented each of the phase

Table 4-20: *Closeness Rankings—Semi-structured Interviews*

Generalised Phase	Node	"Closeness"		
		OutCloseness	InCloseness	AvgCloseness
	Donor	0.34	0.51	0.43
Intermediary	Charitable Organisation	0.36	0.50	0.43
Recipient	Local Service Organisation	0.35	0.46	0.40
Supply	Aggregator	0.30	0.46	0.38
Intermediary	Government	0.32	0.42	0.37
Intermediary	Community	0.31	0.43	0.37
Intermediary	Public	0.33	0.37	0.35
Intermediary	Local Government	0.31	0.39	0.35
Intermediary	Emergency Services	0.29	0.39	0.34
Recipient	Local Government Recovery	0.29	0.39	0.34
Intermediary	Broadcast Media	0.33	0.33	0.33
Recipient	Community Coordinator	0.29	0.36	0.33
Recipient	Assessor	0.29	0.35	0.32
Intermediary	Advocate	0.27	0.37	0.32
Intermediary	Social Media	0.25	0.33	0.29
Supply	Corporation	0.29	0.26	0.28
Intermediary	Network	0.17	0.37	0.27
Recipient	Local Service Coordinator	0.17	0.33	0.25
Recipient	Peer-to-Peer	0.32	0.17	0.24
Intermediary	Regulator	0.31	0.17	0.24
Supply	Community Donor	0.31	0.17	0.24
Intermediary	Transfer Agents	0.31	0.17	0.24
Supply	Volunteer	0.31	0.17	0.24
Intermediary	Business Services	0.29	0.17	0.23
Recipient	Collateral Recipient	0.29	0.17	0.23
	Recipient	0.36	0.58	0.47

categories. This demonstrates the same behaviour as the questionnaire results, with the average closeness scores lower than the results. Between the two datasets, the findings argue that the results from the interview show a generally greater distance between nodes, i.e. more steps, with the potential for reduced value protection and less cohesion.

Betweenness

"Betweenness centrality… the number of pairs of other members who can converse with each other directly through a user with shortest distance." (Zygmunt, 2015). Colloquially, betweenness is measured as "the distance between people who are not neighbours is measured by the smallest number of neighbour-to-neighbour hops from one to the other"(Derek et al., 2011). This common centrality measure is relevant in understanding how, in this research, a particular flow, e.g. emotion, can travel from an originating node, e.g. donor to a destination node, e.g. recipient, with the least number of "hops". The betweenness index (Table 4-21) highlights for us those nodes that have the highest incidence of location within those shortest paths.

Table 4-21: *SSI-Emotion-Betweenness Rankings*

Generalised Phase	Node	Betweenness
Supply	Donor	77.29
Intermediary	Charitable Organisation	95.82
Recipient	Local Service Organisation	64.68
Intermediary	Broadcast Media	32.41
Intermediary	Government	23.50
Intermediary	Social Media	22.00
Supply	Corporation	17.00
Intermediary	Local Government	13.77
Intermediary	Community	7.40
Intermediary	Public	5.07
Recipient	Community Coordinator	3.22
Supply	Community Donor	3.22
Intermediary	Advocate	1.67
Supply	Aggregator	1.08
Intermediary	Emergency Services	-
Recipient	Local Government Recovery	-
Recipient	Assessor	-
Intermediary	Network	-
Recipient	Local Service Coordinator	-
Recipient	Peer-to-Peer	-
Intermediary	Regulator	-
Intermediary	Transfer Agents	-
Supply	Volunteer	-
Intermediary	Business Services	-
Recipient	Collateral Recipient	-
Recipient	Recipient	189.14

Topology

Figure 4-17 presents a network map that shows a number of profile characteristics.

a) There is a central core of well-connected actor nodes with a high levels of activity between those nodes. This connectivity shows resilience within the network and the vulnerability of dependence on power factors within those nodes.

b) The influence of the core nodes is strengthened by their brokering role with the majority of the other actors. The network has 10 communities dependent on the brokering influence of three main actor nodes and two lesser connected nodes providing brokerage to 3 pendulum nodes.

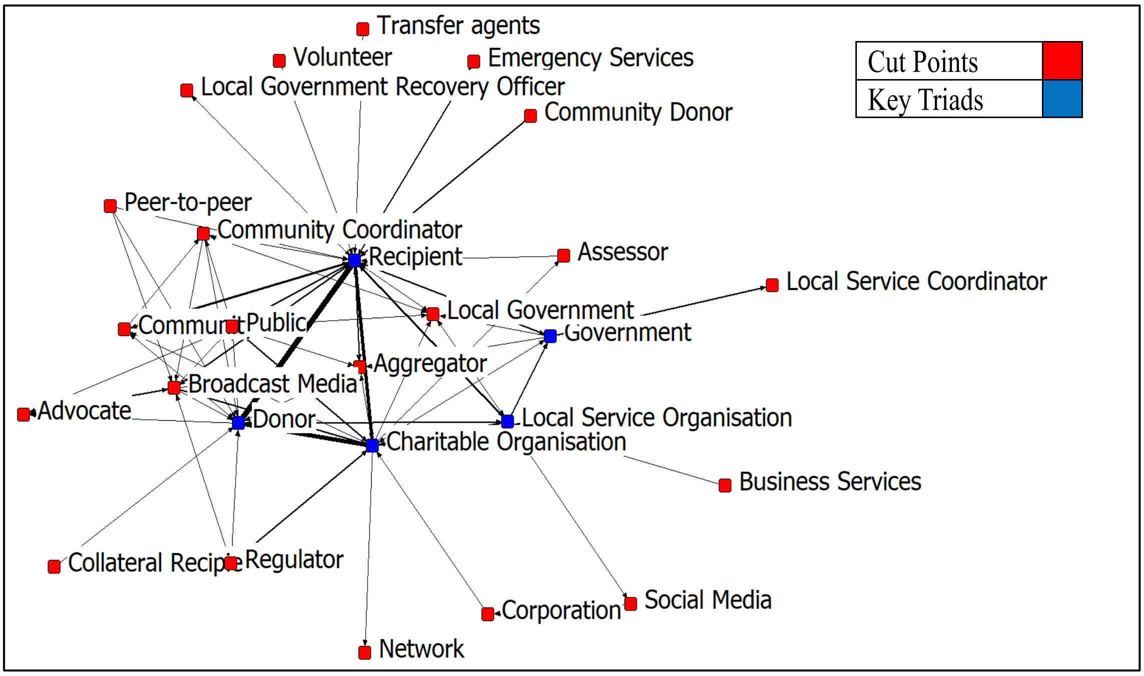

Figure 4-17: *Cut points and Key Triads*

The interesting element of this particular profile feature is the triad formed by the three main actor nodes. Those actors are the recipient, the donor and the charitable organisation. Including the donor and the recipient as the fixed extremes of the network positions the charitable organisation as a key variable in the adjacent relationships in the triad.

The effectiveness of that influence is not clear without the knowledge of the specific emotions flowing through those relationships. Other variables such as power attributes, causality of relationships, functional requirements, et cetera will contribute to a much fuller understanding of the role of the charitable organisation.

Valence and Direction

In contrast to the questionnaire in Phase II, which focused on identifying relationships most likely helpful or valuable in facilitating donations, the semi-structured interviews in Phase III took an open-ended approach. The questions were not framed or scaled toward a positive outcome, allowing for the capturing positive and negative emotions between actors.

A key concept in this analysis is valence (Carmona-Perera et al., 2013), which measures the pleasantness or unpleasantness of an emotion. Understanding valence is essential for accurately assessing the emotional tone of the donation network. Without attributing valence to network connections, i.e. the connection level rather than the network level, the true emotional landscape remains obscured (De Dreu et al., 2008).

For instance, a node with both high degree (number of connections) and weight (strength of relationships) might be assumed to reflect a positive emotional tone. However, this assumption may be flawed if these connections are driven by practicality or market dominance rather than genuine goodwill. In such cases, strong relationships might be associated with negative emotions, which could ultimately reduce the network's effectiveness. Valence within this network has been categorised as beneficial or adverse Integrating network analysis and dialogue analysis, Phase III data provides a more comprehensive understanding of the emotional valence dynamics within donation activity. This stage of analysis will commence with the centrality metrics as applied to previous phases. It will then be followed by a more micro-level analysis of the emotions and their impact on network performance.

Figures 4-16 and 4-17 illustrate the beneficial and adverse emotions expressed toward network actors. When interpreting these maps, it is important to consider the direction of emotional flow. These figures represent nodes as subjects and potential triggers of emotion. For example, in Figure 4-18, recipients are the most highly connected in terms of receiving beneficial emotions, while donors, followed by charitable organisations, exhibit the highest incidence of gratitude.

Conversely, Figure 4-19 shows that charitable organisations and government are the most highly connected for adverse emotions, experiencing significant levels of criticism, scepticism, and frustration.

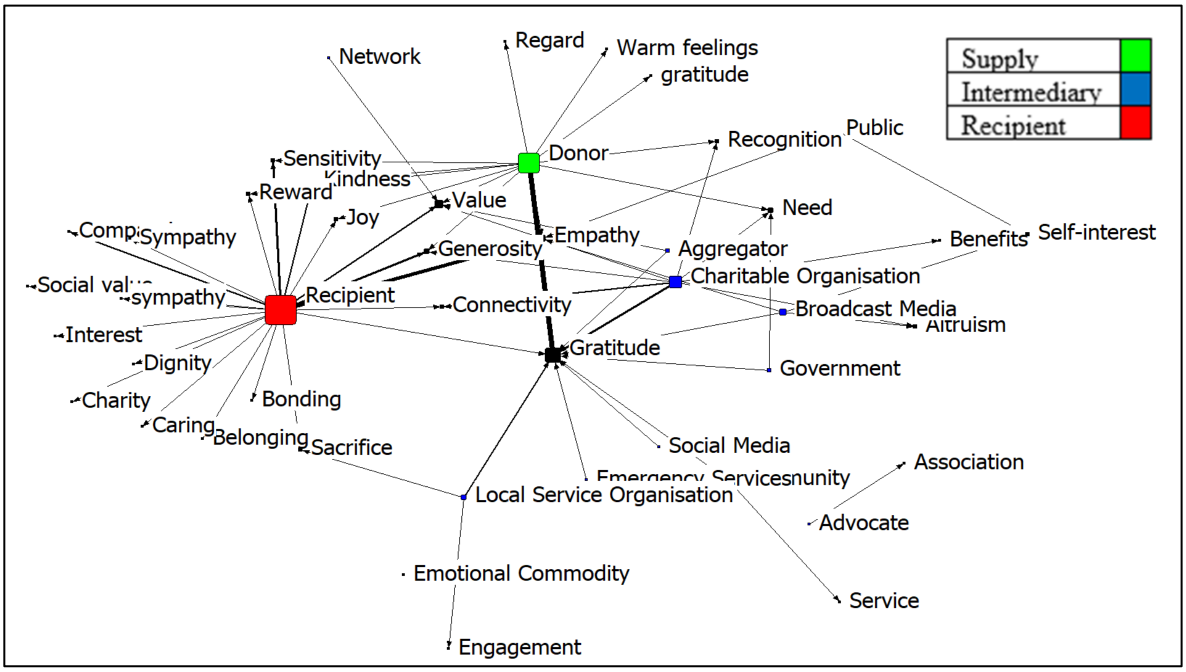

Figure 4-18: *SSI map showing beneficial emotion—In-Degree*

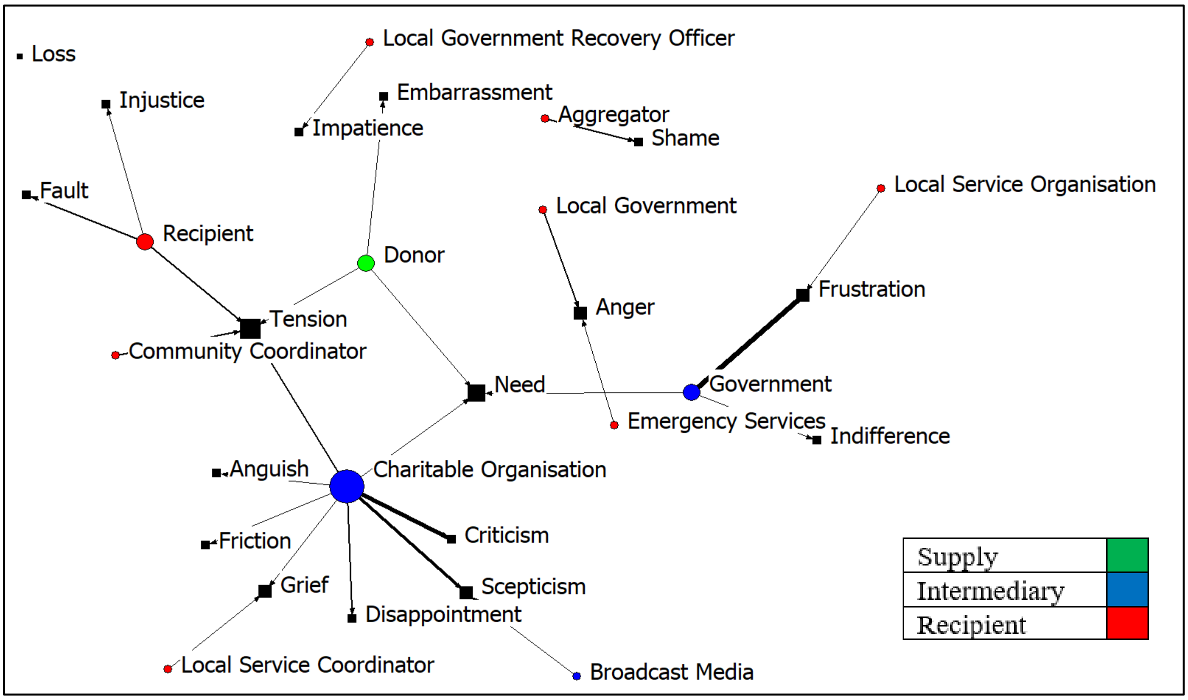

Figure 4-19: *SSI map showing adverse emotion—InDegree*

<u>Network Performance</u>

When assessing the network performance from the Stage II data, we applied a number of metrics that were supportive in developing an overall view of the network performance and the performance of individual modes. The same rationale and protocol are applied to the data produced from the semi-structured interviews. Table 4-22 summarises the network performance based on those findings.

Table 4-22: *SSI Emotion Network Performance Metrics*

Source/Sink	Relationship Flow	Shortest Path	Lowest Cost	No. Of Pathways	Maximum Flow
Donor to Recipient	Emotional/Social	Donor to Recipient: 1	0.047619	252	44
Recipient to Donor	Emotional/Social	Recipient to Donor: 1	0.041667	297	41

Supportive of the findings from stage II, the semi-structured interviews reveal a network of multiple pathways between the donor and the recipient, with the donor-to-recipient relationship demonstrating a slightly lower number of pathway options. At the same time, it showed a slightly higher maximum flow at a higher cost than the recipient-to-donor flow direction. In each of the respective flows, the shortest path and associated lower cost are found in the direct link between the donor and the recipient, notwithstanding the possibility of other pathways demonstrating lower costs (Figure 4-20 and 4-21).

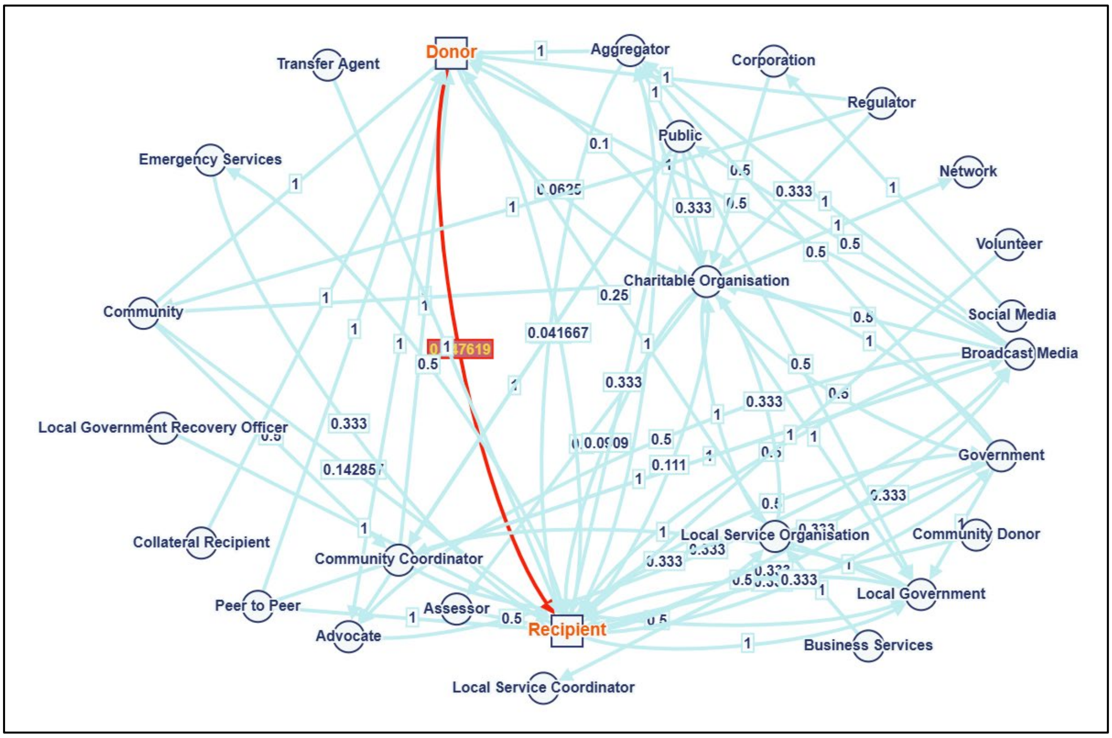

Figure 4-20: *SSI donor to recipient—shortest path/cost*

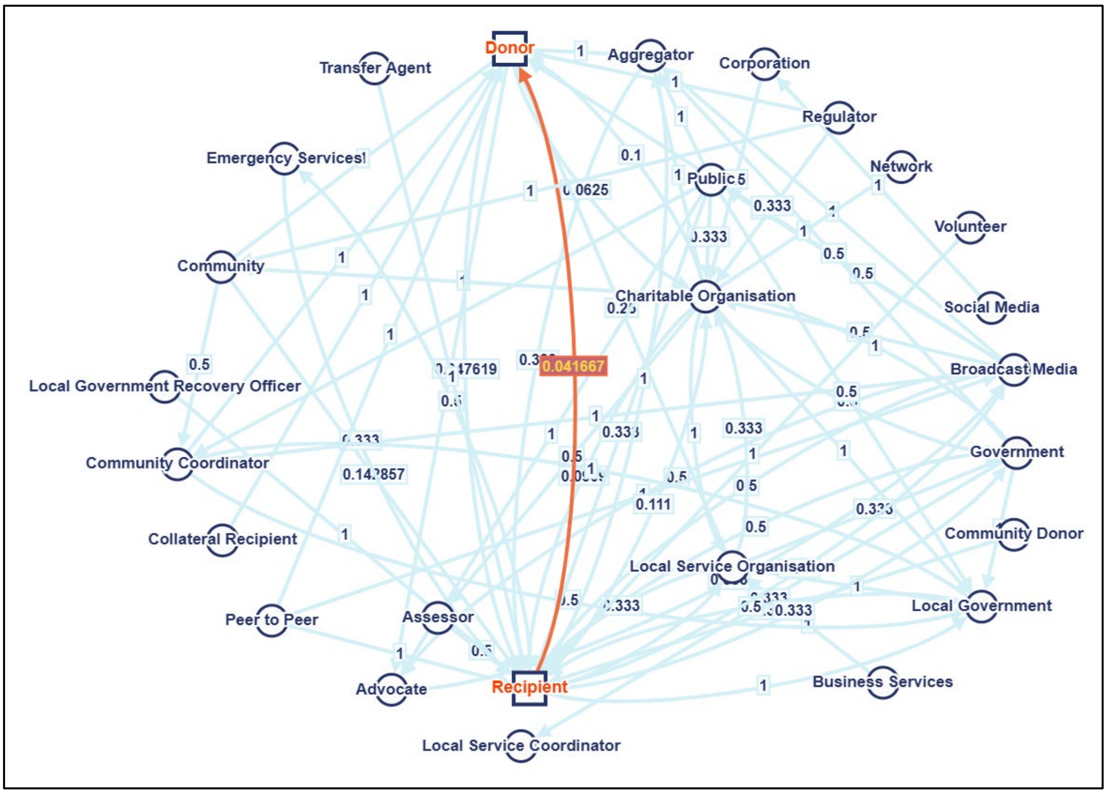

Figure 4-21: *SSI-recipient to donor—shortest path/cost*

The maximum flow findings from the semi-structured interviews (Figs 4-22 and 4-23) portray a different image of the network than the results from the questionnaire. This can partly be explained by the underlying nature of the data in the semi-structured interview, which carries both positive and negative sentiments. The maximum flow, therefore, reflects the total capacity of the network without that distinction. The valency maps in Figure 4-18 and 4-19, which highlight the positive and negative sentiment in the network, assist in demonstrating the true nature of individual nodes that contribute to the overall maximum flow. In both directions, the network shows the strength of the charitable organisation as the channel with the greatest capacity for emotional flow.

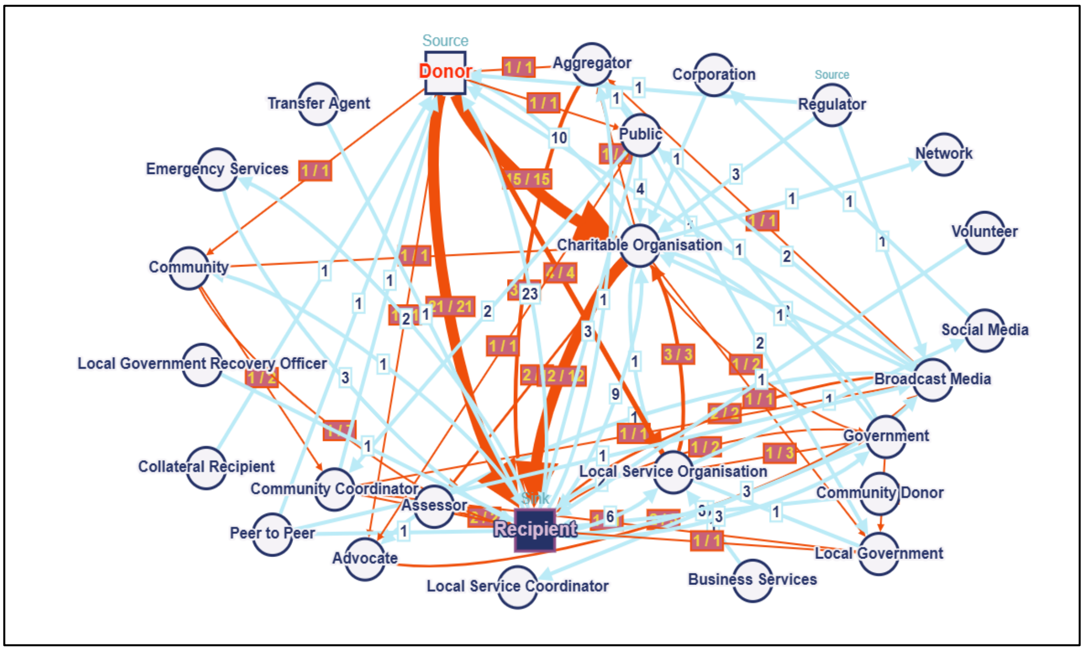

Figure 4-22: *Donor to Recipient—Max Flow—Stage III*

The generalised finding from this data highlights the independence of the emotion-directional flows that point to the need for node-level analysis to identify an optimal and strategic balance between the constraints cost, maximum flow, and value. This finding informs the interest of Research Question II in understanding the dynamics of the hypothesised emotional network and also points to the future modelling of the multiplexed donation environment.

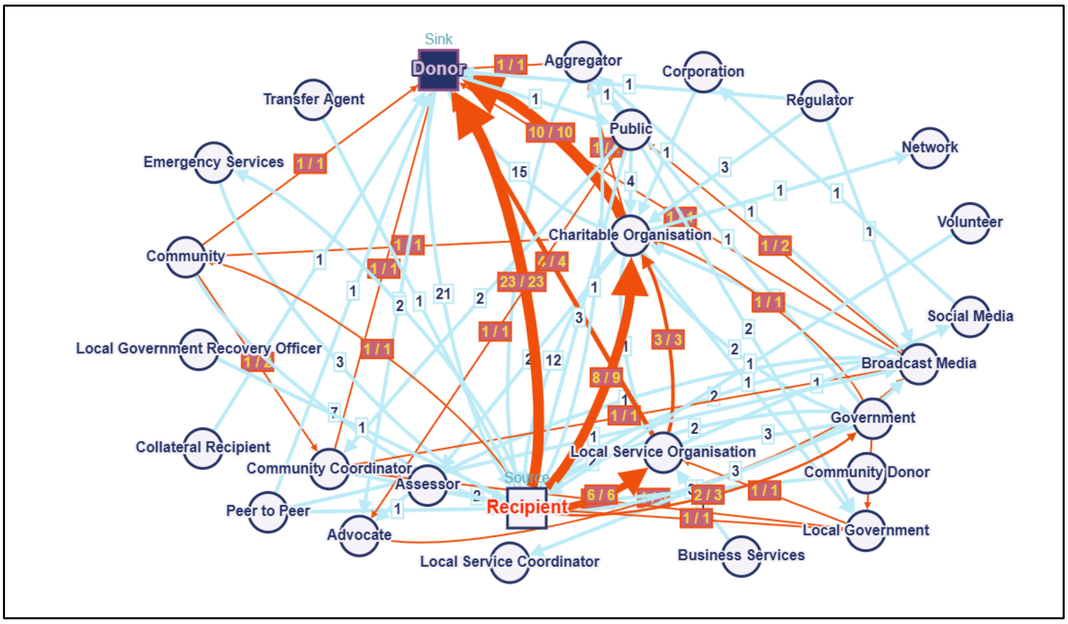

Figure 4-23: *Recipient to Donor—Max Flow—Stage III*

4.5. Data Collection summary

Three datasets were collected for this research, reflecting its mixed-methods approach.

Dataset I was derived from analysing 7047 articles referenced in Section 2.6 of the literature review. Though secondary in nature, this content analysis revealed the presence of actors and relationships characteristic of a network, suitable for structural and dynamic network analysis. A filtered subset focused specifically on emotional transmission and experience. While correlated with the broader donation network, this subset displayed distinct features, particularly in centrality, density, and cohesion metrics. It revealed fewer connections overall but a higher concentration of influence among dominant actors. These findings support Research Question I, identifying the existence and characteristics of an emotional network within the broader donation space.

Dataset II comprised 124 responses to an online questionnaire representing primary data. It was analysed independently rather than as a subset of the donation network. The emotional network derived from this dataset showed alignment with Dataset I, reflecting similar actors and relationship types. It was contrasted against other relational dimensions in the donation space, such as information-sharing, motivation, and funding. Using network analysis techniques, the data revealed a notable correlation with Dataset I.

A focused comparison between the emotional network and the donation funding network highlighted key similarities in actor composition. However, their dynamics differed: influence shifted from central intermediaries to more localised actors. Node-level analyses using Shortest Path and Maximum Flow techniques reinforced this pattern. Together, these findings illustrate the multiplex nature of the donation environment, where the same actors participate across emotional and financial relationships in structurally distinct ways. This analysis directly informs Research Question II.

Dataset III consisted of 14 semi-structured interviews. Like Dataset I, it revealed an emotional network as a subset of broader relational patterns. Its strength lies in being a primary qualitative source. Using the same network analysis techniques as Dataset II, this dataset validated earlier findings on network topology and actor prominence. In combination, the three datasets offer triangulated evidence, with minimal variance, supporting the presence and characteristics of emotional networks in the donation context. Thus, they jointly reinforce findings related to Research Questions I and II.

In addition, Dataset III provided rich narrative insight into the emotional causes and outcomes within the network. These findings, summarised in Figure 4-24 are key to answering the principal research question and are further discussed in Chapter 5.

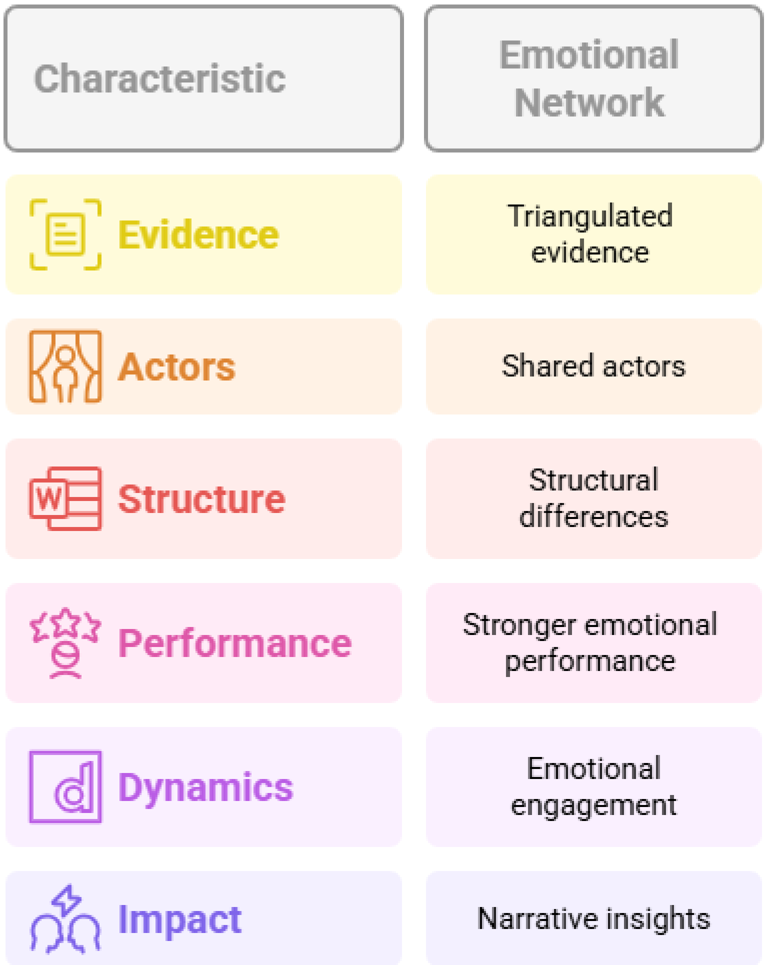

Figure 4-24: *Data Findings Summary*

Chapter 5. Integrated Discussion

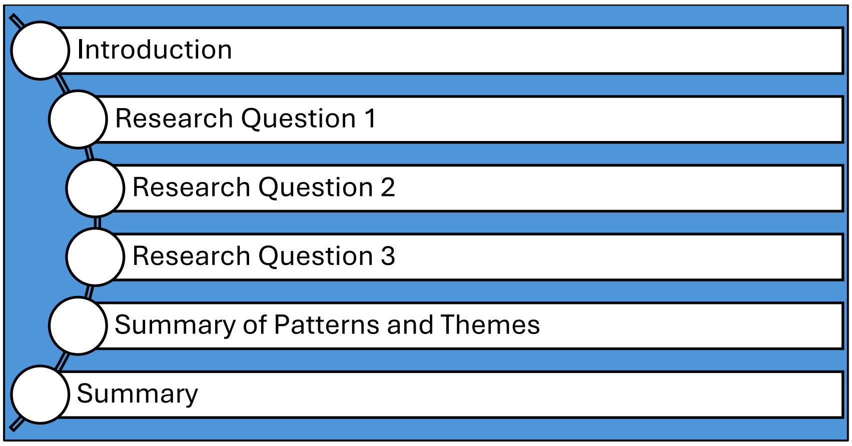

Figure 5-1: *Outline of Chapter 5: Correlated Discussion*

5.1. Chapter Introduction

In the previous chapter, three data collection methods were discussed, along with explanations of their respective administrative protocols and processes. These methods were presented separately, although they were correlated between them during data collection. Each method aligns strongly, though not exclusively, with specific research questions. This alignment justified the separation of datasets throughout Chapter Four.

5.2. Discussion on Research Question 1:

What are the emotional dynamics within the donation activity network?

The introduction to this research proposed that, based on findings from social and broadcast media, emotional expressions were evident among actors involved in donation activities within localised crisis scenarios. However, evidence of these interactions beyond their original sources was limited, shedding little light on the true extent of the emotional dynamics accompanying the donation process from donor to recipient.

A review of existing academic literature, summarised in chapter 2 revealed a body of predominantly donor-centric work lacking a comprehensive and accurate representation of the emotional environment observed initially. It did not provide a suitable research foundation for examining the identified phenomena.

What the literature did offer, however, was a substantial volume of studies making isolated references to a broad range of actors and emotions. Despite this, these actors and emotions were not clearly defined within a structured framework, such as a network, limiting their analytical utility.

5.2.1. Stage I Contribution to Research Question 1

Although Stage I data lacks direct outputs, it allows for hypothesising about relationships within the donation network. This stage takes advantage of that by building a preliminary emotional network model based on literature. While this model relies on secondary data and may have limitations, it helps identify key actors and emotional dynamics, distinguishing between the broader donation network and a more focused emotional subnetwork.

Findings confirm that emotional relationships play a role in donation activities. While the emotional network shares actors and structures with the consolidated donation network, it functions differently. A comparison of the two networks shows that the consolidated version has a more loosely connected structure, while the emotional subnetwork has reduced connectivity at the periphery (Zygmunt, 2015).

The emotional subnetwork has a lower density index, meaning fewer redundant connections and potentially limited access. While it's unclear whether this is beneficial or restrictive, it highlights structural differences. Further analysis shows that the emotional network has higher Degree Centralisation but a lower Average Degree metric, suggesting that influence is concentrated among fewer actors.

Regarding the first supporting research question, Stage I confirms that the donation network is dynamic, involving multiple actors and relationship flows. Network Analytics effectively capture these variations in structure and influence.

A comparison between the emotional and consolidated networks shows that while they share actor categories, their relationship dynamics differ. The emotional network follows a star-like structure, allowing broad but incomplete reach while lacking clear brokering roles. This design enables efficient resource transmission while concentrating influence among key actors.

Overall, analysing the consolidated donation network and the filtered emotional subnetwork provides strong evidence of their existence and structural differences. These findings highlight the important role of emotional influence within the donation network and offer insights into how these networks function.

5.2.2. Stage II Contribution to Research Question 1

The findings from Stage II align closely with those from Stage I, revealing a viable network with unique attributes that constitute a distinct layer or subset of the overall donation network. While the emotional network shares similar structural features with the physical donation flow and the non-physical flows of motivation and information, the dynamics observed within the respective relationship flows and actor nodes differ.

Primary data analysis from the questionnaire reveals a highly connected network, exhibiting near-complete reachability and a core group of high-degree nodes that exert above-average influence. Importantly, there is no evidence of brokerage roles or structural gaps within the network. Although there are cliques with substantial node membership, their overall impact is diminished due to significant overlap between them.

These findings prove that emotional dynamics within the donation environment function as a network. Stage II results conceptually triangulate with Stage I data, demonstrating that both datasets effectively differentiate between the broader composite networks and the filtered “emotion” networks.

5.2.3. Stage III Contribution to Research Question 1

Stage III data was derived from 14 semi-structured interviews. Although the sample size in Stage III is significantly smaller than in Stage II, the rate of reported relationships in Stage III exceeded that of Stage II, which was limited by the available options in the questionnaire. Despite these differences, there is a notable correlation between the outcomes of Stage III and the previous stages in terms of the existence and nature of an emotional network.

The larger dataset of relationship connections in Stage III reveals a network with distinct characteristics. The overall network profile in Stage III shows a more distributed and less connected structure, with evidence of clusters and Block Points. This is reflected in the low degree of centralisation and overall reachability, indicating greater decentralisation. Stage III also identifies cliques, potentially linked to homophily, an aspect not observed in Stages I and II.

A noteworthy feature of the Stage III network is the increased number of nodes directly derived from the interviews. This expanded dataset provides a more granular and realistic view of the network compared to previous stages. Despite the distinctions between the collective findings from Stages I and II and the outcomes of Stage III, consistent evidence emerges across all stages of a network of actors and relationships that facilitate the flow of emotions between donor and recipient in localised crisis scenarios.

5.2.4. Research Question I Discussion Summary

Who are all the actors that constitute the donation activity network?

All three stages of data collection contribute to addressing Research Question 1. Stage I provides an initial conceptualisation based on donation literature, offering a preliminary network framework and demonstrating its suitability for network analysis. Its primary contribution lies in identifying key actors and relationships which guided Stage II development. However, Stage II alone could not capture the full range of actors and relationships, reinforcing the need for a triangulated mixed-method approach.

Stages I and Stage II provide joint evidence of a distinct emotional network within the broader donation network. Stage I isolates emotional content from the consolidated network, while Stage II distinguishes the emotional network by identifying additional layers within the donation environment. Stage III independently confirms the emotional network through semi-structured interviews, avoiding predefined actor or relationship categories.

Table 5-1: *Comparative Network Statistics across the Data Stages*

	Stage I Consolidated	Stage I Filtered	Stage II	Stage III Consolidated	Stage III Social/Emotional
Number of nodes	14	12	11	35	26
Number of ties	76	41	58	117	76
Connectivity measured as "density"	0.418	0.311	0.527	0.098	0.117
Reachability (transitivity closure)	0.809	0.722	0.658	0.312	0.317
Degree centralisation	0.192	0.345	0.289	0.436	0.503
Average degree	5.429	3.417	5.273	3.343	2.923
Network profile	Closed-loop	Star or Hub–and –Spoke	Star or Hub–and –Spoke	Hybrid	Hybrid
Cliques	5	7	9	25	15
Clustering coefficient	76.649	13.49	3.703	4.275	3.297
Connectedness	0.484	0.439	0.909	0.684	0.675

In Stage II, actors are categorised into timeline phases, reflecting their functions within the donation network. While some actors operate across multiple phases, these distinctions enhance the credibility of the emotional network as a distinct feature of the donation process. Stage III expands on Stage II by adding more granularity, identifying a network of 26 nodes and 76 ties across three timeline phases. Despite this additional detail, the core roles and relationships remain consistent across both stages.

Individually and in combination, findings from all three stages confirm the existence and structure of the donation activity network, providing a comprehensive response to Research Question 1.

5.3. Discussion on Research Question II:

What are the emotional dynamics within the donation activity network?

The emotional relationships within the donation network form a distinct subset of the broader donation system. The network map highlights the weighting of ties, node degrees, and their categorisation into different phases.

These relationship flows depend on the broader donation network's formation and continuity. While some network functions may persist beyond specific crisis events, the network is driven by two main factors: the needs of crisis victims and the availability of funds from motivated community members. Essentially, the network's primary role is to create pathways between donors and recipients. Without either party or a crisis event to link them, the network loses its purpose.

Thus, the network can be seen as a system of actors and pathways that enable the flow of financial and emotional relationships between donors and recipients. This framework informs the use of network metrics to analyse the overall structure, with particular emphasis on donor-recipient interactions. It also serves as the foundation for addressing Research Question II: *What are the emotional dynamics within the donation activity network?*

5.3.1. Stage I Contribution to Research Question II

Stage I produced a network that, while not showing directional flow between actors, weighted the relationships based on the number of connections. Figure 5-2 illustrates the spread of connective influence across the network. The findings from Stage I also visually demonstrate the influence of actors on pathways between other actors and their proximity within the network.

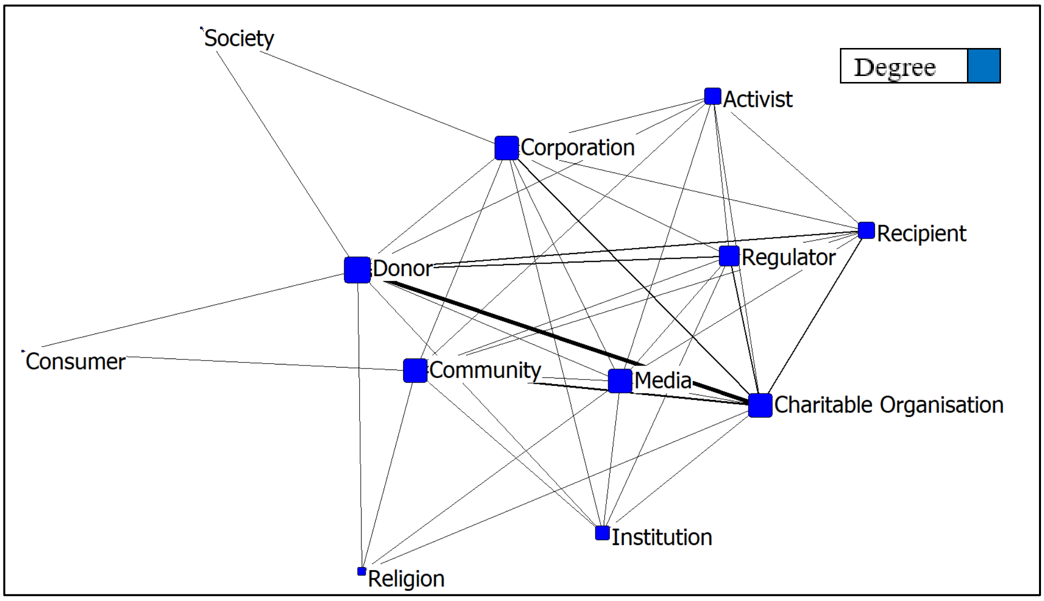

Figure 5-2: *Stage I - "Filtered" network map—Weighted showing Degree*

However, Stage I data is limited in its capacity to reveal the underlying workings of the emotional network. The nature of the data itself highlights this limitation. Pursuing network dynamics beyond a basic overview is unnecessary and would undermine the credibility of the conclusions. As such, Stage I provides no further contribution to Research Question II or Research Question III

5.3.2. Stage II Contribution to Research Question II

Centrality Discussion

When applying centrality measures to the emotional network generated from Stage II data, we observe an interesting redistribution of influential nodes, which raises several considerations.

Applying the "out-degree" measure reveals a concentration of connectivity influence within nodes at the "supply" and "intermediary" phases, including "collection" and "fundraising." The donation function is a key high out-degree factor, as the entire network depends on its relationship with the donation function. The remaining high out-degree functions indicate their dependency on providing emotional value and facilitating the flow of funding to the network. These nodes, however, have relatively lower in-degrees.

The disparity between in-degree and out-degree for any node can be interpreted in several ways. A low in-degree combined with a high out-degree suggests that the node is either unpopular (Kaur & Singh, 2016) or asserts a dominant power and is in high demand. This inequality might indicate that these nodes are potentially disruptive or transformative within the relationship flow. However, there is insufficient evidence to determine the exact positive or negative influence these high-ranking "degree" nodes have on the transfer of donations and emotions between the donor and recipient (Opsahl et al., 2010). While this level of influence may be beneficial for the linear donation flow, it may be detrimental when reciprocity is required, particularly for emotional flows where reciprocity of emotional expression (not necessarily the same emotion) is a fundamental social mechanism. This contrasts with the unidirectional nature of the donation flow, which does not require reciprocity. When the intermediary phase is "squeezed," as seen in this analysis, combined with the high dependency on intermediary functions, there is clear potential for performance challenges within the network. This "one-to-many" configuration may be equated to a high out-degree actor.

The "in-degree" analysis shows that "local coordination" and "media" are dominant actors and interim destinations of emotional value. Notably, Local Coordination has a balanced in-degree and out-degree, positioning it as an effective intermediary due to its incoming and outgoing connections. This highlights a recurring theme: the relative effectiveness of localised donation management. When considering the urgency of relationship flows, the level of connectivity (i.e., degree) might be less significant than other centrality measures.

The data analysis also revealed multiple pathways for each relationship flow: emotional flow from donor to recipient, emotional flow from recipient to donor, and the actual donation flow from donor to recipient. The availability of multiple pathways between donor and recipient, and vice versa, provides actors with the flexibility to access nodes beyond the high-degree nodes. Alternative centrality measures, specifically “betweenness” and “closeness”, were applied to assess these dynamics further.

The application of Closeness Centrality identified three nodes with the highest capacity to enhance relationship flow efficiency and value: “local coordination,” “direct matching,” and “fundraising.” In the donation environment, the shortest path between donor and recipient is not always practical and requires intermediary activity to ensure the required speed and value augmentation. These three nodes demonstrate their relevance in this context.

Interestingly, “local coordination” ranks highest in average degree, highlighting it as a well-connected node with close access to other nodes. This positioning protects the flow from value deterioration or transaction loss. The positioning of “fundraising” in both the degree and closeness scales reinforces its compounded value to the network. Local coordination is adjacent to the recipient function, while fundraising is adjacent to the donation function. This insight suggests that a network model utilising nodes adjacent to the extremities of the network could be effective. The findings support this concept for both the funding flow and emotional flows.

Finally, while focusing on nodes with favourable closeness, we must also consider nodes with high degree centrality but lower closeness centrality. These nodes represent high-control entities that may have low efficiency and could disrupt value flows. Even though the variances may be minimal, this category includes several well-connected nodes.

Network Performance Discussion

The two centrality metrics applied so far provide an aggregated assessment of each node's performance but offer limited insight into the relationships between specific nodes. While similar in this respect, betweenness centrality assesses each node's presence on the shortest paths between all nodes. Identifying specific nodes on these shortest pathways between the donor and recipient allows us to determine direct connections, whereas the general betweenness metric only estimates the probability of a node appearing on such a path.

The betweenness metric highlights the same three nodes, local coordination, direct matching, and fundraising, that ranked highest for closeness centrality. If these three nodes consistently appear on relatively short pathways, they could form the foundation of a model that optimises both emotional and donation flows. This idea is further reinforced by their distribution across the three phases of the network. However, this correlation raises an important question: do the relationship flows benefit from following the same pathway, or are they in some way compelled to do so?

The strategic value of multiple pathways will be revisited in subsequent discussions and may serve as a focus for future research. However, centrality measures alone do not provide a definitive answer. To explore this further, we must broaden the discussion beyond centrality to include overall network performance in relation to the research objectives.

A key recurring theme in the analysis is the existence of multiple pathways for all three relationship flows, particularly when considering reciprocal flows as distinct. The presence of multiple pathways diminishes the relative importance of degree centrality while elevating the significance of closeness and betweenness centrality. Across these metrics, local coordination, direct matching, and fundraising emerge as influential nodes, leading to a preliminary conclusion that pathways through these nodes may represent an optimal model. However, this assumption is tempered by recognising that centrality measures are based on network averages and aggregations rather than specific relevance to prescribed nodes. As previously noted, a high-ranking betweenness node does not guarantee its presence on the shortest or even any path between two specified nodes.

In a general network performance analysis, these metrics may carry greater weight. However, in the context of this research, the network's ability to facilitate a connection between two specified nodes, the donor and recipient, is of primary concern. The thesis proposes that the network exists to bridge an impractical direct relationship between these two nodes. This impracticality has driven the evolution of the donation network, which, while mitigating logistical barriers, also introduces costs.

Given the urgency and scale of the donation environment, it is imperative that the network optimally achieves its objective. Therefore, the discussion is best framed as an evaluation of network performance between the donor and recipient rather than an overall assessment of network efficiency.

In analysing network performance (Section 4.3.4.2), three critical elements were considered: shortest path, aggregate pathway cost, and maximum flow.

Relationship Cost

The first step in this process was identifying the shortest path for each relationship. While a direct link between nodes is the most obvious shortest path, weighted ties between nodes can sometimes create an indirect pathway with a lower overall cost. By identifying the shortest or lowest-cost path, we can determine all possible pathways between the donor and recipient in both directions. Additionally, mapping these pathways allows us to assess the cost of each segment, enabling us to calculate the aggregate cost of each pathway.

If we had continued focusing solely on "betweenness," our analysis would have been limited to counting the steps between two specified nodes. However, by applying the concept of the shortest path, we introduce a weighted evaluation of each segment, which can be interpreted either as a value or, inversely, as a cost. The analysis revealed numerous potential pathways for each of the three relationship flows. While a comprehensive exploration of all possible paths was beyond the scope of this study, a sample analysis provided insight into the cost efficiency of different pathways. From this, we identified the "Cost of Relationship Pathway" as a key variable in evaluating the network's performance between donors and recipients.

When reviewing pathway cost results and the actor nodes involved, practical constraints raised questions about the viability of certain paths. For instance, in the analysis, two pathways in the actual donation flow included the actor node "media." While the media's role in the emotional flow is expected, its involvement in the actual donation flow prompts further examination. This raises two key questions: Should media be excluded as a viable pathway for donations, or could its function be adapted to enhance cost efficiency? The unexpected positioning of media within the donation flow suggests a potential strategic opportunity. Given its network placement, the media's role could be expanded to leverage its influence in the funding supply chain. By integrating media more actively into donation pathways, its function within the network could be optimised to support emotional and financial flows more effectively.

While this is just one example, it highlights the broader relevance of assessing and refining network pathways for improved performance.

Relationship Value

The cost of a pathway can be used comparatively as a measure of the pathway's efficiency in delivering a commodity between two actors. This is not necessarily a measurement of the pathway's effectiveness, which would be more appropriately measured by metrics such as volume and value. In the analysis, we discussed the "closeness" centrality measure as an indication the ability of a node to create or protect value in the pathway. We will hold the concept of value in abeyance while considering maximum flow.

The concept of maximum flow was introduced in the analysis and indicates the capacity of a pathway to carry the relevant relationship flow. These results were documented, and a maximum flow index and map were identified for the three respective flows in this research. The variance in the maximum flow index between the relationships is further evidence of the unique nature of the emotional network in the donation environment and supports the findings from Stage I analysis. More importantly, to understand this difference, the pathway maps are associated with the maximum flow. The maps identify the combination of pathways that collectively deliver the highest volume through the network between the donor and recipient and vice versa. The maps also identify the combined capacity of the network.

Integrated Factors

In essence, we have two competing constraints confronting us in an attempt to optimise the network performance between the Donor and the Recipient. On the one hand, we have the cost factor, and on the other hand, we have the volume factor. The Maximum Flow Map is re-presented here from the analysis section to show the specific workings of this attempt to reconcile cost and value factors. The same exercise could be conducted for the reciprocal flow and equally for the actual donation flow. The presented map (Figure 5.3) has a maximum flow of 44. The aggregated cost of this relationship flow from the Donor to the Recipient equals 2.07. The cost to achieve this optimal flow in the network is a significant multiple of the 0.23 cost for the shortest path (Table 5.2) between the donor and the recipient, and evidence of the conflict between these constraints is shown.

As both metrics are derived from the same data, we could expect that an attempt to reduce the cost of the relationship will have a correlated reduction in the throughput of that relationship.

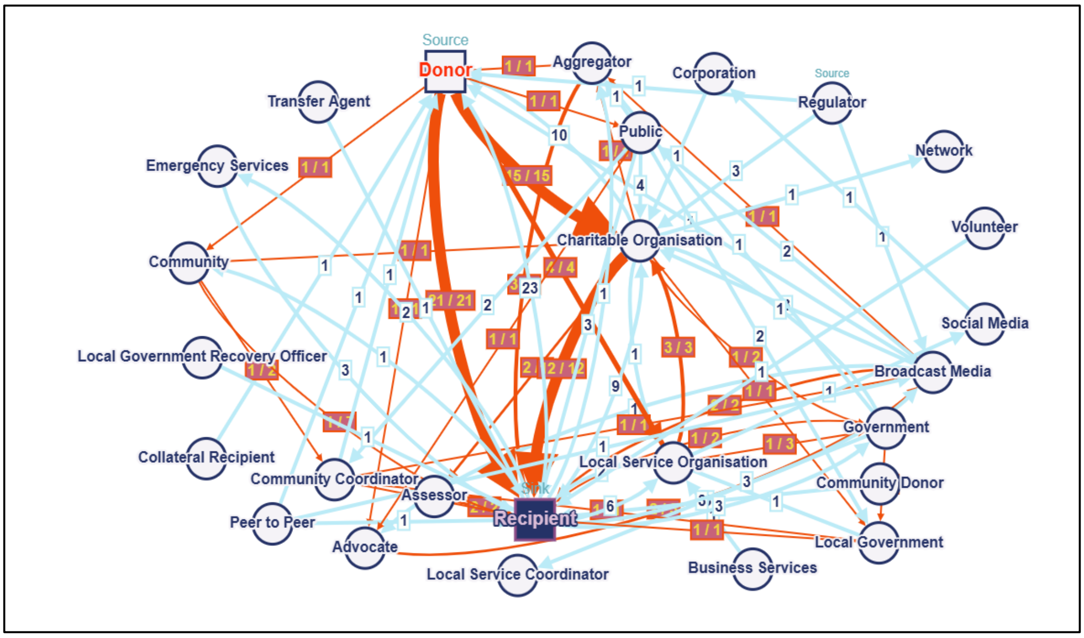

Figure 5-3: *Maximum value—donor to recipient—social/emotional*

Table 5-2: *Shortest Path Costs for Maximum Flow Map*

Donation to Local Coordination	0.22
Donor to Consolidation	0.21
Donation to Fundraising	0.22
Donation to Media	0.14
Donation to Needs Assessment	0.14
Donation to Recipient	0.23
Local Coordination to Fundraising	0.22
Consolidation to Media	0.11
Fundraising to Media	0.11
Fundraising to Recipient	0.17
Media to Recipient	0.10
Needs Assessment to Recipient	0.20

If we reintroduce the variable of closeness, we have a triple constraint that we could describe as the tensions between a) cost, b) volume and c) value, each of which is a continuous variable. As alluded to earlier, we may also be confronted by nodes on any particular pathway that either have diminished functionality for that particular flow, as in the case of media as a node on the actual donation pathway, or there is a demonstrated imbalance in their degree centrality.

With a greater volume of empirical data for each of these variables, there is the possibility of creating an optimal model, or at least a compromised model, that satisfies all constraints. This applies to all three relationship flows being considered. The objective of stage II was to explore the dynamics of the hypothesised emotional network.

The extent of the available data informs us that if all metrics are considered, “local coordination” and “fundraising” are highly efficient and effective nodes on the various pathways for the transfer and expression of emotions between the donor and the recipient. Within those pathways, we can identify “media” as very influential in the volume of emotional expression carried through the network but less efficient in its throughput-to-cost ratio.

5.3.3. Stage III Contribution to Research Question II

The findings from Section 4.4.3 (Semistructured Data Summary) strongly reinforce the argument made in Section 5.3.2 (Stage II) regarding the dual role of centrality in shaping both the structural and emotional dynamics of the donation network. Section 5.3.2 asserts that performance in donation ecosystems cannot be fully understood through structural metrics alone, emotional directionality and valence must be integrated to provide a comprehensive picture of network effectiveness. The semi-structured interview data from 4.4.3 supports this by revealing how nodes with high centrality (e.g., charitable organisations) do not always generate positive emotional impact. In fact, some of the most central actors are also those receiving the highest incidence of adverse emotional sentiment.

This divergence between structural centrality and emotional valence validates the assertion in 5.3.2 that emotional centrality constitutes a distinct form of influence, one that is critical to understanding the flow, resonance, and reception of emotions across the network. Furthermore, the identification of independent emotion-directional flows underscores the need for evaluating performance through both emotional and structural pathways, echoing 5.3.2's call for a more multidimensional model of donation network performance.

These insights directly address Research Question Two by demonstrating how performance is mediated not only by position in the network but also by the emotional quality and direction of interactions. The findings suggest that high centrality without positive emotional resonance may actually impair trust or collaboration, while emotionally cohesive connections, regardless of structural prominence, can enhance value transmission and network cohesion. In doing so, this analysis advances our understanding of how emotional centrality shapes performance and helps optimise the emotional architecture of donation networks.

5.3.4. Research Question 2 Discussion Summary

The discussion has largely addressed Research Question 2 by confirming the existence of an emotional network and identifying key factors that influence its centrality and performance.

One key discovery is that the network has multiple pathways that allow both the donor and recipient and any intermediaries to express and share emotions. However, the data does not explain why these pathways or actors exist.

Stage II looked at both the structure and performance of the network in creating a relationship between two specific points. It set up a framework for evaluating the network's dynamics and, with the available data, offered insights into the emotional network's specific workings. That position carried forward to Research Question III, with a number of questions developing over the capacity of focal organisations to carry both the actual funding and the emotional expression from the donor to the recipient and back.

5.4. Discussion on Research Question III:

How do those dynamics influence the functions of the donation activity network?

Research Question II also established a dynamic framework for the donation network. This framework showed sufficient correlation with stage I to provide triangulated credibility. Research Question II provided the groundwork for understanding the network's effectiveness from a structural perspective. This combined condition requires further discussion on the impact of those dynamics on the emotional exchange between the donor and the recipient, including the role of intermediaries. Consistent with that requirement is the need to identify some causality of the network structure and its behaviour. Research Question Three is charged with that responsibility. The semi-structured interviews presented to the interviewees a range of questions that could inform an understanding of the network behaviour.

The semi-structured interview responses contained over 400 expressions of emotion. These 400 expressions were distributed across 35 emotions and 55 relationship couplings. These responses were distributed over the two categories of emotion source as presented, i.e a) emotions expressed between the donor and the recipient, including the transfer or transmission of those emotions by intermediaries, and b) emotions directed at the network or network actors. The distinction between these two sources of emotion will be observed in the following sections.

5.4.1. The Exploratory Narrative

While any exploration requires contextual parameters, these parameters do not determine what the exploration may uncover. Instead, they serve as guides, shaping the focus of the study and reporting findings. The researcher's challenge is maintaining this focus while avoiding distractions from intriguing but unrelated elements. This study follows these exploratory principles while allowing for investigative flexibility, with evidence of this flexibility emerging throughout the analysis of interviews.

A key objective of this research is to examine how the network facilitates the transmission of emotion between donor and recipient. Simply cataloguing observed emotions is insufficient, yet providing a study of the complete interior emotional dynamics is beyond the scope of this work.

Using interview transcripts as a foundation and integrating insights from earlier discussions, the analysis will trace the pathway of emotional transmission from the donor, incorporating relevant variables. While individual actor nodes exist before a crisis, the donation network activates only in response to the emergence of a crisis. In the absence of a crisis, the network remains passive. The first input into this crisis-driven network comes from the donor's decisions—whether to donate, how much to contribute, and which donation pathway to choose. These decisions are particularly significant, as they represent the donor's initial role in shaping the network's structure and the diversity of donation channels.

Donors become aware of a crisis through various sources and emotional cues. However, this research argues that the activation of the donation network depends not just on crisis awareness but alo on the donor's intent to contribute. This intent is influenced by multiple factors, as revealed in interview responses. Beyond the inherent motivations towards prosocial donations discussed in the literature review and choices over funding causes (Thottam et al., 2024), the next decision point for the donor is to select the pathway that best satisfies their pathway selection criteria.

This discussion commences with the intrinsic emotional elements that motivate an individual towards donation. The following discussion considers the emotional factors that contribute towards the donation pathway decision.

5.4.2. Variable 1. Intrinsic Emotion Donor Variables

The literature review highlights extensive research on donor motivation. Beyond economic and social exchange theories, much of the discussion focuses on altruism and empathetic behaviour, which shape donor attitudes toward their donation intentions.

From an economic perspective (Richardson, 2003), donors select pathways that maximise returns on their donated resources. This exchange typically occurs between the donor and the adjacent actor node within the network. Similarly, when altruism serves as the primary motivation, a donor's sense of fulfillment may be achieved when the immediate or next actor in the network receives the donation and the donor's need to do a good thing has been completed. However, research suggests (Pitt et al., 2002) that altruism is often driven by the act of giving itself rather than the recipient's actual needs. The donor's emotional needs are often met through interaction with an intermediary.

Beyond these short-term exchanges that provide immediate emotional gratification, donors often remain emotionally engaged, as their expressed emotions are ultimately intended for the recipient. Interview responses revealed that emotions were rarely expressed without direction, except in negative instances. According to Plutchik's theory (Imbir, 2017), the experience and expression of emotions require reconciliation and normalisation. This contrasts with undirected emotions, which simply require the expression of emotion in order to fulfil the donor's need for acceptance or recognition (Lee, 2000). Since direct donor-recipient connections are typically absent, donors rely on the donation network to convey these directed emotions, thereby facilitating emotional closure and restoring equilibrium.

This discussion traces the representation of these intrinsic factors through the interview responses, noting the absence of economic gain in any of the discussions. This is consistent with the literature review that found economic gain most prevalent in donations to existing causes rather than short-term crisis scenarios.

Altruism

Altruism is generally defined as "costly acts that confer economic benefits on another individual" (Pfattheicher et al., 2022), reflecting genuine goodwill toward the recipient. While often regarded as a behaviour more than an emotion, there is consensus that value-based emotions are a significant antecedent for altruistic behaviours (Brethel-Haurwitz et al., 2020), as discussed previously(Miller, 2011). While altruism can motivate donation, not all donations stem from altruistic intent, nor does an altruistic motivation necessarily imply an emotional connection with the recipient. This distinction is supported by both the literature review and interviewee responses. The following interview extracts infer or directly suggest a separation between altruism and other independent or accompanying emotions.

1. Oh, no, I think most donors feel altruistic about it. I think that's why they do it, you know, it's a non-discretionary spend. So we've got a smaller proportion of people donating more and more money. Now, the reason we've got that smaller proportion of people, I think, is because it's harder and harder to make the case for the altruistic gift. AudioJM 40:09

While this response suggests that some donors are looking for something more engaging than altruism, it remains a relevant and persistent motivator, and in the case of Quote No. 2, altruism becomes the default motivating factor when empathy cannot be fulfiled due to the lack of connection or feedback.

2. [MH]. Overall, Sarah, do you think that the donation ecosystem adds social venues? Or adds that social connection, then that sense of offering and receiving and being grateful?

3. [ST]. I think it's integral. Otherwise, people don't give. I think, I think the whole thing about giving us a makes you actually feel good to give, you know, giving is it's pretty, pretty special, when you know, you're given something that you know, is gonna go help someone who is in a worse place. AudioST 1:01:08

4. [MH]. Do you think there is an altruism there? Or just that people feel like they should give because it's something that they should do?

5. [KP]. I think that this, it's probably more of a particular view, because I think it's something they should do or could do. Because they don't get the feedback on what happened to their money, in one sense, that

they don’t meet anybody that genuinely that you might know. I think that it really boils down to you really feel for the people. AudioKP 58:08

6. Most of my work as a mature adult has been institutional, where the people who were doing the donations were individuals who were motivated by their faith, or their desire their altruistic desires to benefit the world. And they chose organizations that they considered were trustworthy and would use their money for the purposes which they were giving it so that their consciences their desire for altruism would be satisfied, and they wouldn’t hear on stories later on, about somebody had subverted the funds. AudioKT 14:54

Empathy

Empathy is mentioned six times as an emotion experienced by the donor toward the recipient. In a total collection of 14 interview respondents, this represents a significant emotional factor. Historically, emotion was understood as “feeling oneself” into another person’s subjective experience (Allport & Prince, 1924; Murphy et al., 2022). This enduring interest in the recipient’s feelings and experiences extends outside the closed loop of altruism and demonstrates the donor’s emotional openness. Empathy influences the donor’s intention to express care and compassion toward the recipient. Empathy also influences their pathway selection. Additionally, the degree of empathy is reflected in the immediacy or urgency of the donor’s response, which further impacts pathway selection. The following references provide insight into respondents’ observations or expressions of empathy and reinforce the emotional basis for behaviour.

7. I think it is the social intent and the empathy. Because if it was something you didn't care about, like if, I don't know, trying to think of a hated person, Ivan Melot, had to go find me and said, I'm having a really bad time in custody, I've got cancer, people just go Who cares? Like, sorry, you killed people, like, good luck in custody, like good luck with your death kind of thing. But if it was someone who genuinely said, I don't know, I've had a bad time in the floods, I can't pay my rent, my house is washed away. And you go, I feel real empathy for that situation. So I'm going to pay you some money as a way to channel that empathy. AudioGM 33:39

8. I think so, and the fact that they've actually had to go out and collect it, you know, we have so many people ringing us saying, you know, we're a school, we want to help, we've got a truck, but what are we filling it with, you know, they want to help they want to have that drive, they want to collect the shoes, or the school uniforms, or the toys. AudioST 32:33

9. And I mean, even if it is cash, which can seem quite impersonal, people have still been touched by someone who has fallen on tough times and wants to help. So I think that has to be the reason why donors give Surely, I mean, I think maybe some corporates do it because it's the right thing to do from a business perspective. They've been driven by

their customers and their staff, but particularly members of the public, it is a way of getting something out of the way of actually help and for so many times, we're here with people who have given generously, it's because they were impacted themselves in a previous previous event. AudioST 51:05

10. [MH]. How do you want to get or how do you identify empathy in society, then? Is that a part of your recruiting process? Or you've got some trick that identifies empathy?

11. [MJ]. No, I wish I did. I know. And I know they're teaching everything in schools now. And in corporate businesses and the like. No, I think, you know, while it (Empathy) can be taught, it doesn't come naturally to a lot of people, but it's very obvious when it is naturally within people. And I think, I guess you hear it by, it's hard to pinpoint, isn't it, but the stories they tell and what they tune into when they go and help, let's say, a farmer rebuild, or they move into a community, and they can see devastation around them. So, what do they tune into? Is it you know, making sure that they've got the best toilet facilities in Basecamp? Or is it about putting all of that aside and saying, Well, you know what, I've got this, but they haven't, you know, so let's make it better for them. AudioMJ 12:58

12. I think there there there is some like I know, GoFundMe takes a certain portion of all donations. I think that is, like the money itself is I think,

a consideration, but maybe not the overriding consideration, because their whole platform is to kind of help people out. AudioGM 35:15

No-Fault

While judgment is more of a cognitive behaviour than an emotion, similar in some respects to altruism, it is argued to have an underlying emotional trigger and to produce emotional outcomes (Feagin, 2007). The attribution of fault plays an interesting role in the emotional landscape of donation. It first appears at the donation or supply end of the network, suggesting that the perception of "no-fault" influences justification and decision-making. Specifically, victims of natural disasters are deemed "not at fault" and, therefore, more deserving of donations than other causes. So they're much more emotive about their giving to natural disasters, where it's another larger subset, and I think often that they feel that could have been us.

So all of those are driven, not so much by let's put money into things that might solve climate change, and stop these things happening. They're all put in because we saw it on TV, it was in the papers every day, we feel sorry for the recipients. And in a lot of cases, maybe not COVID, but in a lot of the other cases, it's the mass market giving to a smaller subset who were affected, rather than so it's us feeling sorry for them and giving to them. Because it wasn't a man-made thing like, you know, some view welfare as that. I don't. - AudioJM 12:52

From this discussion, the range of intrinsic motivations that motivate individuals towards donation, is reflected in Figure 5-4 which also projects from each respective motivation, the emotional closure status that can result from each motivation type.

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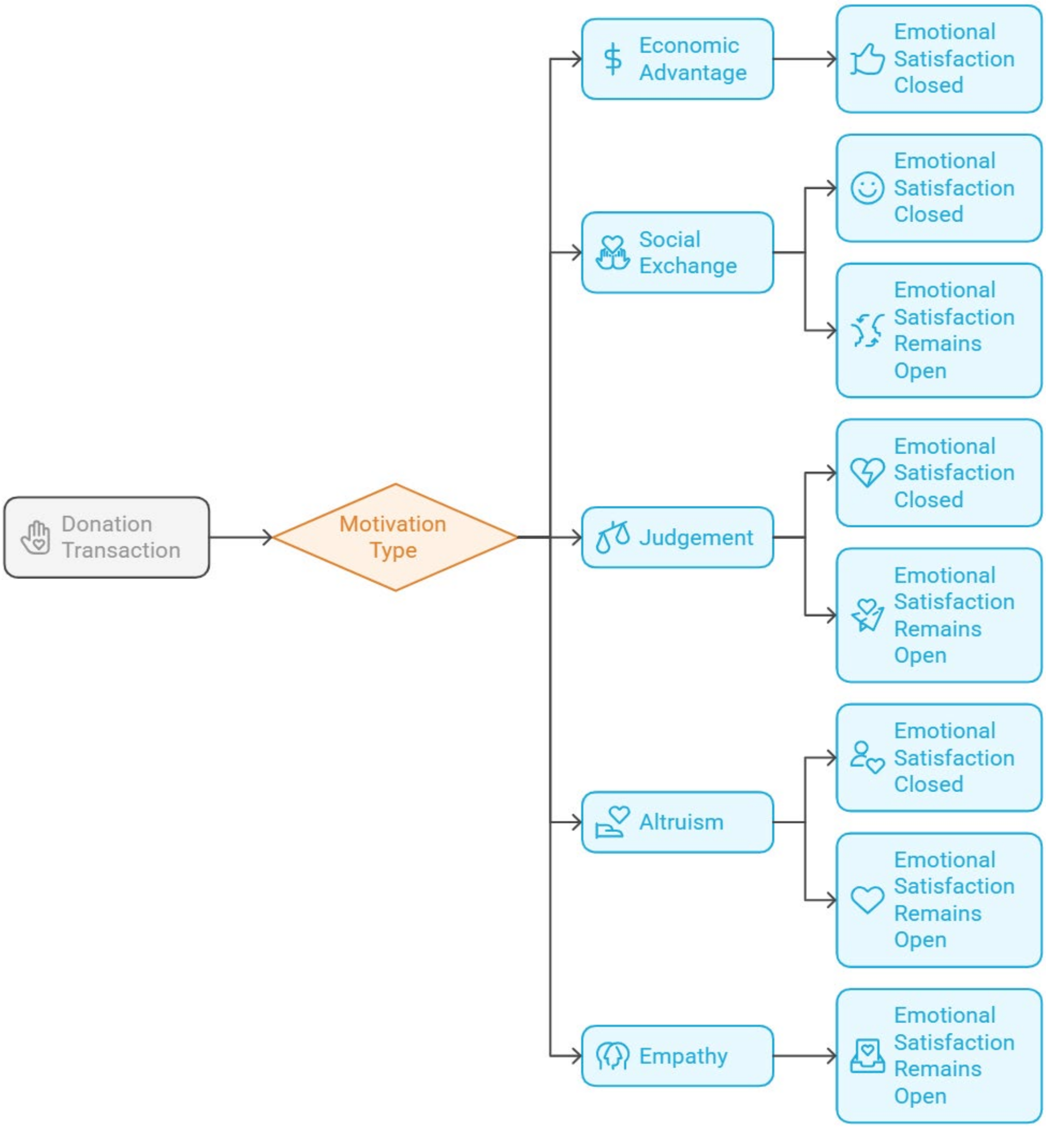


Figure 5-4: *Intrinsic emotional satisfaction in donation transactions*

When donors remain emotionally engaged beyond the initial exchange, their fulfilment depends on their chosen pathway. This choice is influenced by personal values such as faith, trust, scepticism, and value retention. The following section explores how these emotional factors affect pathway selection

5.4.3. Variable 2. Extrinsic Emotion Donor Variables

A key performance metric of the donation network is how well emotional values exchanged between donors and recipients are retained or moderated throughout the network. This highlights the importance of preserving both the form and intensity of these emotions. Since external factors can influence value retention, value networks provide a useful comparison for understanding emotional donation networks (Basole & Rouse, 2008).

Value Network Analysis (VNA) (Allee, 2008; Wei, 2021) offers a potential framework for studying the bidirectional emotional flow between donors and recipients. To assess its applicability, we examine the concept of "value" in the following interview responses. These theories and methodologies will be explored further later in this chapter.

Trust

The following references highlight respondents' intent to safeguard financial and emotional value within the network. In this context, trust may function independently or align with other decision-making factors such as empathy or altruism. Trust is a broad theme analysed across various characteristics and dimensions (Haider & Åström, 2017; Özkan Canbolat et al., 2023).

In the interview texts, respondents generally do not categorise "trust," reinforcing the argument that trust is not easily definable (Schroepfer & Pradalier, 2023). Trust is also found in the balance between emotion and cognitive action, which further compounds the challenges and understanding of its nature (Lahno, 2001). However, even without a specific definition, trust plays a crucial role in donor decision-making(Chapman et al., 2021), particularly in selecting acceptable or optimal pathways for emotional expression.

As identified in the interviews, key factors influencing trust and distrust include size, previous history, celebrity association, communication, transparency, pathway complexity, religious affiliation and localisation.

Size

13. Oh, I suppose for me, and the part of the organization that I'm involved in it is when, you know, there are significant disasters and events that impact a lot of people, and Anglicare seems to be making a difference and contributing to those. So that has been the case, certainly after the fires. And it was a big for Anglicare. It was big, generous donations that were made. **Nowhere near the scale of, you know, the Red Cross or whatever**. But yeah, for us, it was quite a quite a significant thing. And I think people wanted to partner with organisations that they already knew and valued and trusted. AudioML 12:25

14. Because people are looking for that trust, aren't they? And I think, unfortunately, some of the big charities have almost lost that a little bit. And I'm not going to get into that, I think I think it was, you know, unfortunate how it happened. AudioST 48:33

15. And, we are often competing as a regional fund against national donation systems and, you know, much bigger charity operations. But people see that we give money just in this area and that we give it directly to the people that are directly impacted. So, we value that trust.

So that's what the donor knows if they give us the money. AudioAT 1:00:36

Previous History

16. So that has been the case, certainly after the fires. And it was a big for Anglicare. It was it was a big, generous donations that were made. Nowhere near the scale of, you know, the Red Cross or whatever. But yeah, for us, it was quite a quite a significant thing. **And I think people wanted to partner with organisations that they already knew and valued and trusted -** AudioML 12:25

Celebrity Association

17. Very similar to what you're talking about is Mick Fanning the surfer. We've been working with him, he has done incredible work in his local community, in the Northern Rivers area, and again, he's seen as someone who is well, he was out rescuing people on a surfboard to start with. So he's he's definitely shown that he's, he's there for them. But yeah, we've working with him because he's the same, he's had so many people wanting to help through him, **because they see him as this as this person that he can trust**. AudioST 48:33

Communication

18. They they do a really, really strong **communication** job when it comes to it, and you can see that by the way it gets them to come together to give money for bushfires and things like that. People felt they could really trust [...] because they they felt that gifts were what something

that gift days and I don't quite know what it is. And I'm thinking it is can be old data communication, but something they did put the trust in people that what what they were giving money for was going to go to. AudioAN 28:26

Transparency

19. I think maybe this, a bit more clarity would be good, like in that specific example, which I think is maybe one of the most high profile. I guess, like crowd funds, aside from GoFundMe that got so much money. From memory, the sticking point in that was all the money was paid to the PayPal giving fund. And they kind of said, we have to judge who to pose to so they paid it entirely VRFs. So I think there's a space for, I guess, greater **transparency**. AudioGM 27:01
20. This is a great organisation to donate to because we know where the money goes and they're very **transparent**. AudioMJ 28:16
21. The only other thing I'd say that's really important, I think, to donors in all that space, we found this, we've got much better at it as we go but been really **100% transparent**. So our model in black summer buyers, and it has been for the last flood. And storm appeals that we just ran both our biggest appeals ever did both of those spaces, when we did 11 million or something for like summer. But in that space we published on social media, how much money we'd received, how much money we'd given out all the way along almost on a weekly cycle. […] So so you could keep but telling having **transparency** in donations and

disbursements is really really important to public because they trust that then they can see it. AudioAT 1:00:36

Complexity

22. Yeah, I think it makes for a slower response. Because we're working through different entities to get that result. So definitely impacts them when they need more immediate relief. I would say there's a lot of confusion on their part, because they don't, there's so many people to deal with, they don't really know which way to turn sometimes. And so they'll come to council they might ring our recovery line, for example. And then we can at least put them on the right track. To start picking up the phone, they wouldn't know whether, you know, you've got obviously you've got Red Cross, you've got give it if you were looking on the website, there's so many different, like, agencies that give funding or donations. **It's a minefield for those people**. AudioAN 7:38

23. There's a lot of a not an enormous amount of money is put into administration and oversight by government, which is quite interesting that we, you've got a more right wing government, that's actually adding **enormous layers of complexity** over the top of the donation dollar. And so to me, it's, it's actually a disincentive and what it does, it actually pushes smaller organizations out of that altogether. AudioML 16:51

24. [MH]. Does that impact on the donors intentions?

25. [ML]. Look, I think it limits what the donor We'll give two. So it means that, you know, it's it's more of a general donation towards angry cares, well known and existing social welfare work. **But collecting the additional stuff, you know, that would be, you know, well, on top of that regular giving may make makes it more complicated in the sense that**, you know, we're not we're not even asking for that at the moment.

26. [ML] Which which means, which means we all we all miss out? AudioML 19:56

27. My comment was today, surely we can get away from having to fill out forms. Homes and have to prove that these days with drones with mapping, they could run a drone across the top of those houses, they can then find out who owns those houses and start to put money into their accounts without them having to wonder **why do you have to fill out a form to say my house was flooded bloody things**? There it is, yeah, we need to cut down the paper warfare. Because it coach public servants in a job almost convinced her as a public servant for 31 years to so. But public servant things to my jobs getting a bit light on here, so develops a new form. Everyone has to fill it in and the boss was person GG busy, got all these forms to process. And it's all crap anyway, after stuff that they're processing these days, if they can get the money to the people a lot more quickly. And by doing so, how do you do that? We'll take photographs of the place, you know that you know their place has burnt down, you know, their place has flooded?

Why do you have to make them jump through hoops to give them money that? AudioKP 1:09:42

Religious Affiliations

28. Most of my work as a mature adult has been institutional, where the people who were doing the donations were individuals who were motivated by their faith, or their desire their altruistic desires to benefit the world. And they chose organisations that they considered were trustworthy and would use their money for the purposes which they were giving it so that their consciences their desire for altruism would be satisfied, and they wouldn't hear on stories later on, about somebody had subverted the funds. AudioKT 14:54

Localisation

While localisation is discussed as one of the contributors to trust, it is given its own section due to its repeated and varied application in the performance of the emotion network. Localisation concepts are relevant in multiple scenarios within the donation environment, but they first influence donor pathway decisions—both in relation to intermediaries in general and specific pathway choices.

The data shows that physical and emotional proximity to a crisis impact these decisions. Localisation factors may arise from prior associations with the affected area, cultural ties, or connections to organisations involved in the donation process.

A sense of belonging is the underlying emotion driving localisation as a pathway criterion. This concept is broad and nuanced, as evidenced by its varied applications in society (Wood & Waite, 2011). Belonging can be tied to geography or community

(Guéguen et al., 2018), but it can also manifest in more abstract forms, such as shared experiences, aspirations, empathy, or other intangible connections (Pardede & Kovač, 2023).

29. **They don't want to give it to someone in a different state or somewhere else,** you know, that? Yes, it does get to those who need it. So I think because we because we have that capacity to identify those people and and say that the money goes through. We do get that intent of their compassion is for those people that are most severely impacted. I think that works. AudioAT1:00:36

30. But what we'll see in correspondence to us is it's Gippsland, who now lives in London, or lives in the US, or lives in Europe somewhere or, you know, Iceland or something, and they'll write to us and go ahead, you know, what I'm sending some money to us. **So, so it's people's connection to place**. And we get that where they're spent all around Australia as well. So they've lived there, they feel connected to that spot, they feel concerned that their communities have been impacted. AudioAT 29:12

We have seen how these emotional needs shape donation pathways; now, we must consider this dynamic from the perspective of intermediary actors.

While the transcripts reveal the emotionally driven criteria donors use in selecting donation pathways (Figure 5-5), they provide no clear evidence of how the network responds to these decisions. Factors such as market forces and the nature of intermediary actors likely influence the availability and structure of respective supply paths.

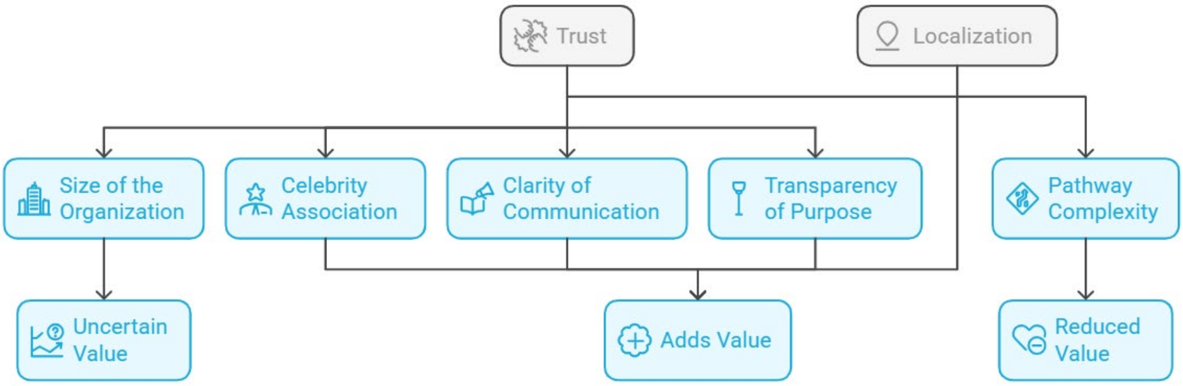


Figure 5-5: *Key extrinsic factors influencing value-based pathway decisions*

5.4.4. Variable 3. Organisational Profile and Culture

Once a donation is secured through the intermediary's marketing efforts and the donor's decision-making criteria, the next crucial factor in transmitting emotions from donor to recipient is the intermediary's profile and organisational culture. Interview results reveal that the organisation's vision can either enhance or hinder the successful transmission of emotions, thereby influencing the value of the donor's expressed emotions. Some organisations prioritise the emotional aspect, aligning with Miller's (Miller, 2011) argument that behaviour is primarily emotional before it is social, while others take a more pragmatic approach (Pitt et al., 2002). These differences are evident in the interview responses, leading to a discussion about how organisations balance emotional and material donations.

Understanding the intermediary's role is key to grasping their impact. When a donation infused with emotion is entrusted to an intermediary, it is their responsibility to preserve and deliver both the material and emotional components to the recipient. During natural crises, the workload on intermediaries can overwhelm even the most capable organisations, whether profit-driven or non-profit. While these organisations often operate based on empathy and goodwill, their capacity may be limited to delivering funds, goods, or services and may not extend to managing the emotional component of the donation.

The intermediaries' influence on emotional transmission becomes evident at this stage. Interview responses highlight significant variations in how different organisations approach this responsibility.

The first reference presents a profound question that impacts the range of intermediary motivations that exist across the network. The respondent asked the principal rhetorical question, followed by a recognition of the value of unity within the network. The "coming together" does not dictate an intention of unity in organisational purpose but perhaps more in the unity of outcome. The subsequent question suggests that unity does not yet exist.

> 31. Look, you know, how can we all know what is our purpose? What is our Constitution? How can we all come together? AudioAC 20:36

Some declare their sole purpose as the practical receipt and distribution of funds, indicating that there is no intention to carry forward any emotional and behavioural expressions, focusing only on the physical donation.

32. [MH]. Do you sense that the the intention that I have in my giving is carried through the system to the beneficiary? Or is it just the dollars that are carried forward?

33. [ML]. To toggle through fi, I think it's it's probably more about the dollar. And, yeah, I think the parameters for for the donation, unless it's a very large donation, you know, if particularly if it's an appeal by Anglicare itself, like how that's going to be used, is already decided before the appeal is made. AudioML 23:49

34. So its purpose is to provide immediate financial assistance to people impacted by natural disasters within six local government areas in Gippsland. So we extend from it's where we're all. AudioAT 19:35

35. I think it's integral otherwise people don't give. I think, I think the whole thing about giving us a makes you actually feel good to give, you know, giving is it's pretty, pretty special, when you know, you're given something that you know, is gonna go help someone who is in a worse place. ST 1:01:08

We also see evidence of intermediaries who are driven by strategic initiatives rather than immediate satisfaction of recipient needs.

36. So their purpose might be, "well, we're going to give money to long term recovery. So we're going to store money here for that". AudioAT 1:19:11

Throughout the responses we find unreconciled attitudes between the importance of the emotional connection, and the impracticality of its delivery.

37. I think for us at the end, it is about the physical commodity as in as in getting it but I always talk, I always talk about the fact that, for so many people receiving the item, it is so much more than just the school shoes or the water tank they get it’s the fact that someone cared enough to give. So I do think that is a big part of it. I think recipients really understand that. This is more than just the item. It’s the fact someone has actually reached out. And I mean, even if it is cash, which can seem quite impersonal people have still been touched by someone who has fallen on tough times and want to help. So and I think that has to be the reason why donors give. AudioST 51:05

The following scenario shows the intermediary acting as an emotional de facto of the financial recipient, and by some respondents as an inauthentic emotional respondent.

38. Well, what, you know, what? Can we, you know, what, what can we do to make you feel better about handing out money? You know, most most of the time, it’s, you know, it’s, you know, it’s a corporatised, you know, marketing machine that takes in the money and then sends out letters of thanks. And, you know, the signed letter by the CEO. And, yeah, it just follows the well known marketing formula. In many ways, which, you know, it’s kind of disappointing. AudioML 23:49

Some argue that intermediaries facilitate the generosity of donors by transforming emotions into another form and providing a delivery pathway for the transformed commodity, similar to the process of converting donated funds into goods or services.

39. So I think it adds that as rather than someone like walking after you down the street saying join, donate to the Red Cross, you kind of like stop harassing me. So I think it's good from that perspective. AudioGM 39:10

40. And we spend a lot of time with our partners, getting to them and to understand what their good intention is. So that's the social commodity, because we have a science is the right words to the right people at the right time. And that's, you know, very true during disasters, since they exceed during a disaster, everybody rushes in, in the first week. Everybody wants to do good in the first week. And often that causes more harm than good. And so you think about the social cause. AudioAC 23:54

41. Overall, Sarah, do you think that that the donation ecosystem adds social venues? Or adds that social connection, then that sense of offering and receiving and being grateful? AudioST 1:01:08

A similar response which creates productive leverage out of the donated funds, doesnt offer any similar leverage to the emotional expression.

42. So we're probably one of the few where you actually get a leverage value for your dollar. So for each dollar we've received, we turn that into $20. So it's actually an incredible fascination with. AudioAC 29:00

Some intermediaries view emotion through the lens of effectiveness, suggesting behaviours inspired by authentic emotions lose value if not facilitated by an efficient intermediary.

43. [ST] I think so and the fact that they've actually had to go out and collect it, you know, we have so many people ringing us saying, you know, we're a school, we want to help we've got a truck, but what are we filling it with, you know, they they want to help they want to have that drive, they want to collect the shoes, or the school uniforms, or the toys or problem with that, of course is there's a disaster changes so quickly. So, you know, we had some people ring and say, you know, they rang their local member who said they need long life milk and cleaning products. So by the time they actually rally the troops and get the long like milk and cleaning products, and the delay and organise how to do it, then they come back and say, right, we're ready to go
44. [MH]. So what you're saying is perhaps that, that the system itself facilitates generosity. AudioST 32:33

This operational perspective highlights the challenge intermediaries face in managing emotional expressions. While not all donors expect their emotions to reach the recipient, when this outcome is desired, a purely operational approach may fall short. The decision to reject responsibility for conveying the donor's emotions creates a clear boundary. However, when intermediaries attempt to equate emotion with financial donations, they encounter theoretical challenges.

From an emotional theory standpoint, we again turn to Plutchik. Emotions have distinct supply and demand dynamics and retain their value only when delivered and received in their original emotional form (Plutchik, 1982). It is also important to recognise that the availability of emotional resources and the availability of donated funds are not interdependent. Equating the value of emotion with the value of a financial donation is invalid for both the donor and the recipient. These contrasting dynamics are shown in Figure 5-6

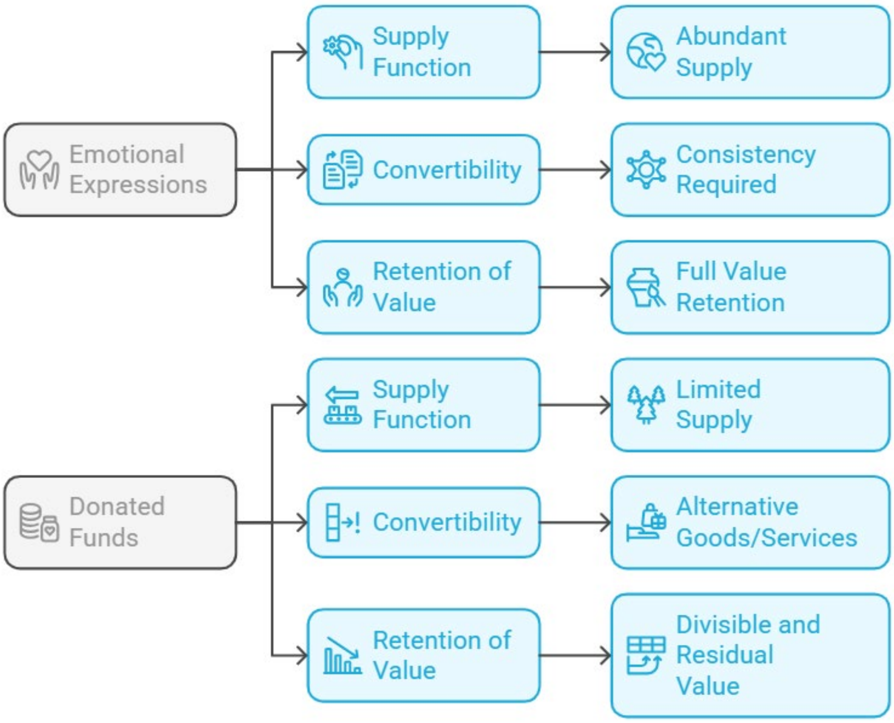


Figure 5-6: *Comparative supply evaluation*

This leads to a key finding about the relationship between the flow of emotions and financial donations. While supply chain literature increasingly addresses the range of contingencies related to resource limitations (Kalaitzi et al., 2018), this same supply rationale does not apply to the availability of emotions in society. Although emotional expression can be depleted individually and across society through conditions like exhaustion, which impacts subsequent behaviours (Lussier et al., 2021), there is no direct correlation between the supply of emotion and the availability of funding.

The disconnect between emotional expression and the financial value of the donation is highlighted in the reference below. In this case, the emotional outreach, accompanied by a minimal financial donation, shows the distinction and relative value of each commodity.

> 45. And she said she burst into tears. But it was the fact that the community had reached out to her and recognise that she was in, you know, she was in trouble. It wasn't the amount didn't make, we're not changing the we're not, we're not acting as the insurer or you know, we're not fixing replace. It's just a small, it's a small amount of money in real terms to people. But it's the fact that they get recognised by the rest of their community has rallied around them and tried to reach out to them. And that's a really, really powerful story. It happens time and time again, that if the communities rally around and reach out to those people, that's a huge, that's a huge step for people. AudioAT 29:12

Other responses acknowledge and provide evidence of the the efforts to extend emotion and generosity through to the recipient.

> 46. Ah, I think the thing that gives you what is I think the thing that makes it really valuable is because it's often in times of, you know, where there's a lot of other rather bad news happening around place, **what you see is this enormous generosity and humanity in the whole**

process, you know, like, people, you know, people talk about others being selfish and not caring about the community and doing all this other stuff that goes around these days. Well, I've never, I don't see that every time we get a natural disaster, people. It's just remarkable what people do to try and raise some dollars, you know, we primary school, secondary schools, you know. AudioAT 1:07:32

47. No, know, our mission is to, really is to reduce the stress of communities and people after natural disasters. **So, in a lot of ways, you know, we talk about building a fence. But that's probably a metaphor for something quite deeper**, you know, we prioritise who we work with, according to their mental health and their needs. So for example, when we say we work on rural farming properties, someone might have a paddock with a horse and a goat in it, and the goat was swept away in the flood. And then you've got somebody else who's got, you know, 350 acres with cattle full of cattle, we would probably prioritise the person who lost the goat, because for them, that's like, a member of their family and their mental health is far far more important than getting a farmer's fence down who has got other places to move their cattle to? Do you know what I mean? I'm not sure if that answers your question. But it's, yeah, it's I think we hang on to the idea of reducing stress for people who've been in unnatural through natural disaster. AudioMJ 15:19

48. Or actually we, we searched for, we hunt, for people who do have that compassion and an empathy to run base camps and go and help. AudioMJ 12:09.

In summarising the treatment of emotions that are presented simultaneously with the physical donation, the range of value-impacting attitudes applied by intermediary actors includes:

a) **Rejection:** A rejection of the responsibility to transmit emotions.
b) **Transformation:** An attempt to transform the emotion into goods and services that the intermediary can more easily accommodate.
c) **Rationalisation/Devaluation:** A rationalisation of the emotional expression or a judgement on its value based on the effectiveness of its behavioural application.
d) **Consumption**: An appropriation of the emotional expression by the intermediary for its own satisfaction and emotional fulfilment.
e) **Acceptance and responsibility**: An attempt to correctly convey the initial emotional expressions concurrent with the distribution of donated funds.

If these observations are summarised and encapsulated even further, we would say that there are those who engage in advancing the original emotions and those who do not subscribe to the carrying forward of the original emotion. An interesting feature of the distinction between these various responses is in the profile of the respondents. Attitudes a) – d) are displayed by intermediary actors who are more remote and maybe one or more steps removed from both the donor and the recipient.

While not explicitly stated in the responses, it is recognised that the remoteness from individual donors and recipients mitigates their ability to effectively receive and deliver either individual or collective emotions . In contrast, respondents who demonstrate support for the conveyance of emotions (e) are typically found to be smaller and localised intermediaries who function within shorter pathways and/or have closer proximity to both extremities of the network. When an emotional expression is intended for the crisis victim, it is observed from these responses that shorter pathways that include localised intermediaries may be more effective in the direct transmission of emotion and have a direct bearing on the value of emotional supply being carried through the network.

In order to provide some basis for comparison, this research proposes modelling the flow of the originally expressed emotions throughout the various response scenarios (Figure 5-7).

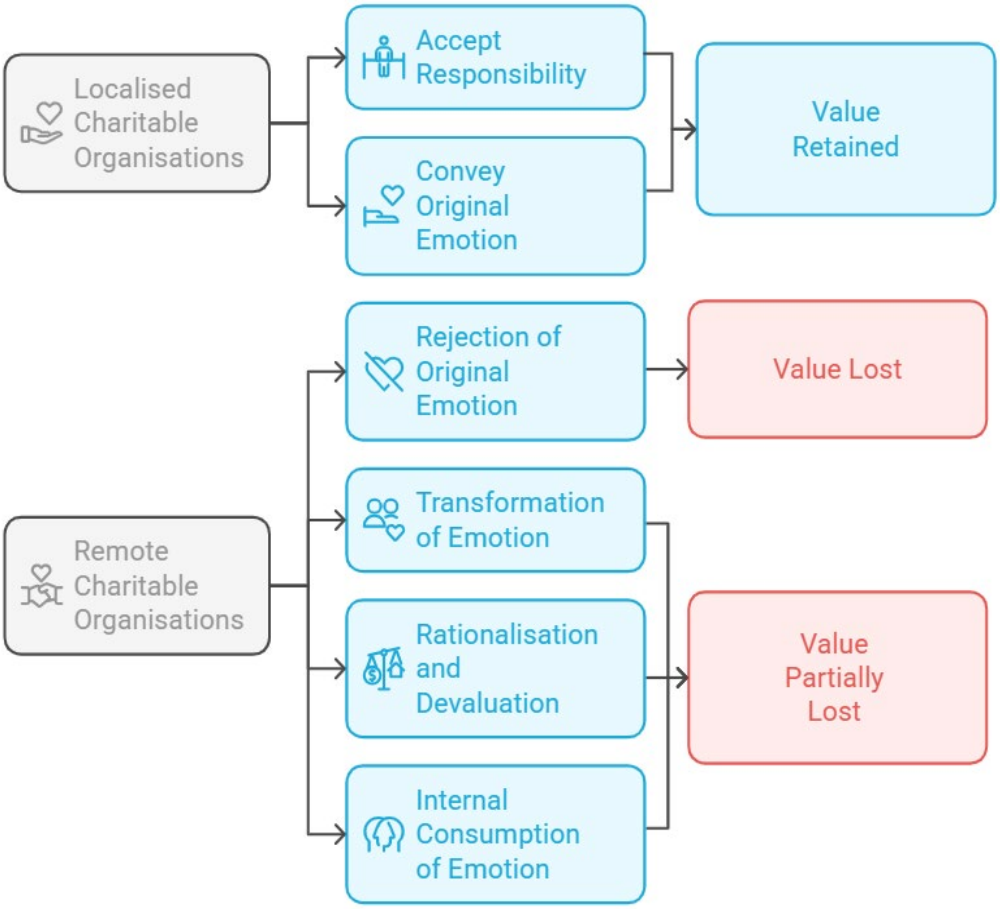


Figure 5-7: *Localisation variable on emotional value outcomes*

5.4.5. Variable 4 Tension in the Network

As discussed in Chapter 4, various adverse emotions, such as frustration and anger, were expressed or referenced, often directed at specific network actors or processes. External criticisms of government agencies and intermediary organisations frequently highlighted perceived inefficiencies in administration and management. While these critiques are crucial for understanding network performance in delivering donation funds, this analysis focuses on factors that directly influence the value of emotional transmission within the network.

However, these criticisms expose vulnerabilities that can diminish the network's ability to preserve and convey emotional value. Interviews frequently cited regulatory and administrative challenges as barriers to effective emotional transmission. When these challenges evoke adverse emotional responses, they increase tension within the network, reducing the potential for emotions to retain their intended value as they flow from donor to recipient.

Sixteen references indicated concerns over the government's administrative performance and efficiency, while thirteen highlighted similar challenges with charitable organisations. These responses illustrate how administrative inefficiencies can erode the emotional value embedded within donation pathways.

Included below are five examples of emotions directed at government or government agencies by local coordination agencies:

49. There's a lot of a not an enormous amount of money is put into administration and oversight by government, which is quite interesting that we, you've got a more right wing government, that's actually adding enormous layers of complexity over the top of the donation dollar. And so to me, **it's, it's actually a disincentive** and what it does, it actually pushes smaller organisations out of that altogether. AudioML 16:51

50. We just get **frustrated with the frustration** I have is not with our charity, or the other charity. I said, I sit on two, but there's the frustration with the government agencies around there that it's their systems that **cause the grief for people**. AudioAT 18:37

51. So government has two really conflicting bits of, they have two problems that they have with collecting impact data. So on one hand, they can be very good at it and get it rapidly. The other hand, the other problem they have is they can tie themselves up in privacy laws, and instead ability to share that critical information with all of those people that need it, to get help to the right people, and, and even to share it amongst themselves. And that's probably the most frustrating thing. **This it still causes us enormous grief. And it shouldn't, it shouldn't cause people grief**, you'd have to say why would impacted people not want someone to know what happened to them and give them some help. AudioAT 52:58

52. I made some comments locally here on the floods up in New South Wales, right. I'd been in charge of floods 31 years of it down here, some big floods. My comment was today, surely we can get away from having to fill out forms. Homes and have to prove that these days with drones with mapping, they could run a drone across the top of those houses, they can then find out who owns those houses and start to put money into their accounts without them having to wonder why do you have to fill out a form to say my house was flooded bloody things? There it is, yeah, we need to cut down the paper warfare. Because it coach public servants in a job almost convinced her as a public servant for 31 years to so. But public servant things to my jobs getting a bit light on here, so develops a new form. Everyone has to fill it in and the boss was person GG busy, got all these forms to process. And it's all

crap anyway, after stuff that they're processing these days, if they can get the money to the people a lot more quickly. And by doing so, how do you do that? We'll take photographs of the place, you know that you know their place has burnt down, you know, their place has flooded? Why do you have to make them jump through hoops to give them money that? AudioKP 1:09:42

53. Oh, absolutely, absolutely. **In** fact**, the level of tension between the council and the victims is palpable, absolutely palpable**. And that's, that's because the council didn't turn around and simply say, and I told the mayor, this, I don't and the CEO, there's so many times, and we had raging at the CEO, and I had, he's one of those people like to yell, and is, he has a very bullying nature. And I guess I've been around long enough not not not to accept that crap. We would have these arguments that I try and keep him from open, but he would just spin out. Because I would say, you cannot run this recovery effort across the whole of the sole haven in the area, the areas that have been in my patch, where I live, we've got a community organisation that's running. AudioPD 31:50

The following quote shows a similar example of emotion directed at charitable organisations.

54. I think people are worried that the dollar value gets lost. I think people concerned you know, I even know this just from, you know, like, members of my family that have said, Oh, it's okay to give money. But

how much of it actually goes to the person and that that we would hear a lot I think from people they're quite skeptical about how much filters through and how much goes to administrative costs, etc. And I think people are very wary of of that. AudioAN 31:46

Additionally, six references noted tension, friction, or cooperation challenges between charitable organizations, three of which are cited below.

55. **So I think there is tension and competition between them.** And there's also for them, particularly, there's a starkel backgrounds between them, you know, they all came out, often have specific religious things, different things. And so, you know, I've suggested to a number of them, and you never get anywhere, but a number should merge and get together, but it just doesn't happen. So absolutely, there's tensions between them much more so in that field than there is in things like arts and education. AudioJM 24:12

56. Yeah, that is a good question. It's a huge kind of problem to solve, because every disaster has that same problem. And it seems to always be kind of friction points in that every disaster has that same problem. And it seems to always be kind of friction points in that supply chain. Because ultimately, everyone's in that's to make sure the person who needs the help gets what they need when they need it. I mean, we're all in there for the same reasons. How that supply chain actually works is, yeah, it's hard. Um, yeah. AudioST 34:44

57. I think so because we say we're sort of the collaborator that we can get people to partner where they may not be natural. have collaborators. **So where people might be competitors, sometimes we can bring them to the table for the common good**. That's probably one of our skills is where people may not naturally want to work together, we find ways of getting them to work together. AudioAC 19:52

In these examples, we observe that the criticism is often directed more at the issue than the individual actor (Figure 5-8). Regardless of the specific target of the criticism, it can be argued that the environment of tension and confusion creates obstacles to the smooth transmission of beneficial emotions from the donor to the recipient.

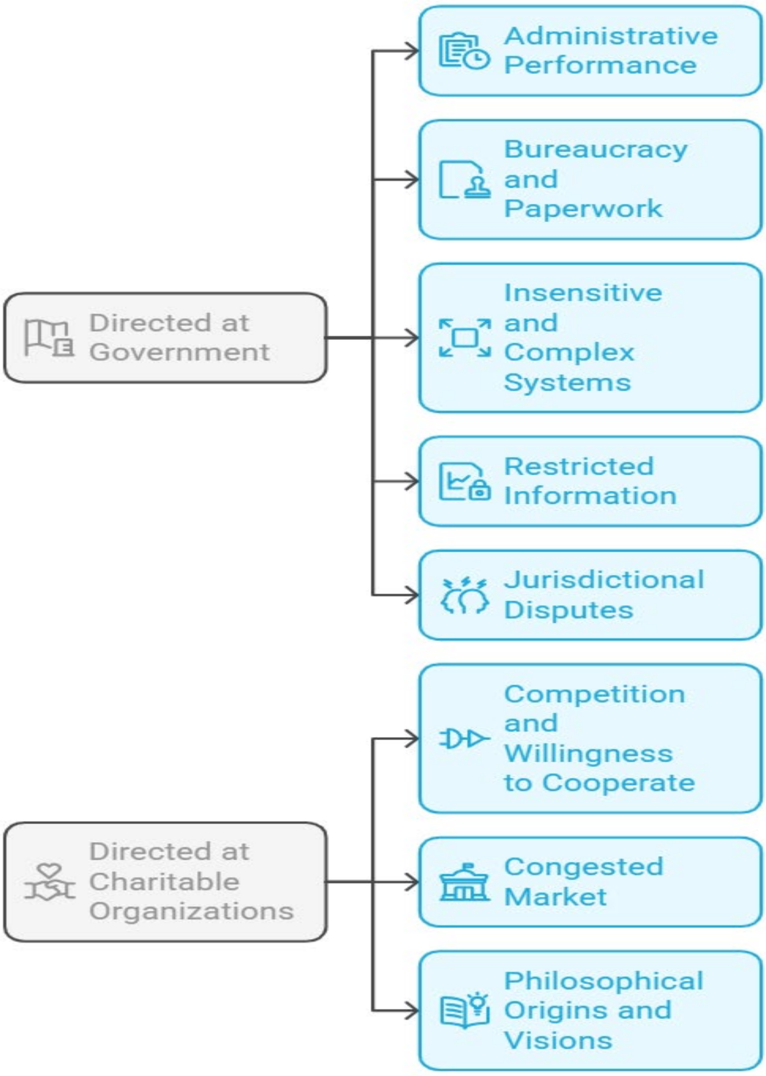


Figure 5-8: *Tension in government and charitable organisations relationships*

5.4.6. Variable 5. Risk versus Responsiveness

Many of the responses reveal a common root cause that both shapes the framework of organisations and affects the overall value within the network. This root cause revolves around the balance between risk tolerance and victim sensitivity. In the humanitarian sector, this dilemma is framed as the trade-off between maximising the value of donation control and optimising operational performance (Aflaki & Pedraza-Martinez, 2016).

Intermediaries operate along a spectrum, from prioritising fund security—enhancing financial stability but potentially limiting value creation for recipients—to focusing on recipient needs and outcomes, which may increase value in terms of impact but introduce financial risks. This research does not assign moral judgment to any position on this spectrum. However, an intermediary's stance directly influences the overall value it delivers, both in terms of operational effectiveness and the successful transmission of donor emotions. It also shapes the nature of criticisms it may receive.

58. And we'll work with them before about how we can share data to maintain privacy, because […] **is super, super high, high adversity to risk you around data sharing**, and there's no email information. It's all about closed portals. AudioDB 36:09

59. So 70,000 applications is a lot of resources to go and look at every single application and make sure they've got all the paperwork in they're legitimate, and they're not duplication. So at the end of the day, we'll pay out around 70,000 households, when you think the amount of time and effort goes into for our total funding pool 27 point 2 million is a phenomenal amount of applications you have to go through. And the other thing is is that grants administering of grants is also highly difficult, because depends on the quality of the assessment that's coming up conducted by the response agency. Audio 26:29

60. My comment was today, surely we can get away from having to fill out forms. Why do you have to fill out a form to say my house was flooded bloody things? There it is, yeah, we need to cut down the paper warfare.

If they can get the money to the people a lot more quickly? Why do you have to make them jump through hoops to give them money that? AudioKP 1:09:42

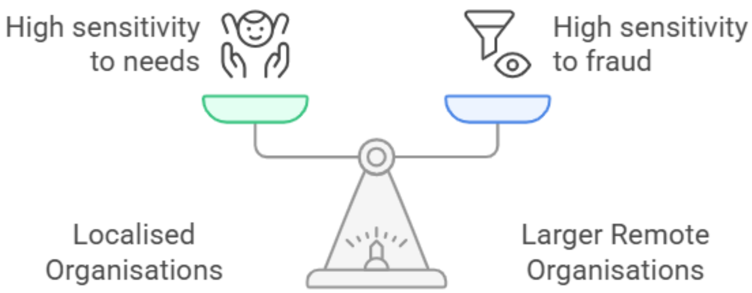
61. So government responds to the issues around abuse of charity funds, so it focuses on the 5% . So someone defrauds the system, someone who shouldn't get the money yet, so everybody goes down to that one person, right? And then they go, Oh, we got to fix that. So we'll make the system, we'll add. So now we'll have a 20 page application. And we'll have, you know, another three bureaucrats reviewing the process to make sure that everybody's application for assistance is right. AudioAT 14:02

62. **You know, this really small percent of** people **that abuse the system, rather than thinking like we got 95% of it, right?** Isn't that super? How do we maybe how do we deal with the 5%? But like, how do we make the 95% work really? Well? It's a really, it's just nonsense, like get them. Anyway, it's a really stupid. AudioPN 17:12

63. It's not balanced, because obviously, yes, you're taking this money on, it's a huge honor to to take money from these donors, and they trust your organisation to do the right thing with it. Otherwise, they would walk down the street and hand their money straight to someone who's lost their house, so they are trusting you to do it. **I think it is a very fine balance. We rely on a third party to be the vetting for us. So they identify, you know, to make sure that people have got a**

genuine need for it. Saying that I think the most important thing is you want to make sure that the people who really need it are getting that support. AudioST 37:48

The ability to deliver emotional expressions is challenged further by these adverse conditions in the network. In reviewing the risk tolerance continuum, there is a correlation between the risk tolerance and the proximity or localisation of the respondent. These correlations add to the anecdotal suggestion that homophily within risk tolerance is relatively high, identifying a substantial gap in the attitudes of focal charitable organisations and those of localised organisations and agencies (Figure 5-



9)

Figure 5-9: *Responsiveness distribution*

5.4.7. Variable 6. Gratitude and Recipient Voice

The organisational profile and its accompanying risk tolerance influence how intermediaries receive and process donations, directly impacting the value carried through the donation network. These observations reveal either distinct categorical attitudes or a continuum of approaches in response to the transmission of emotional expressions originating from the donor. The effectiveness of these approaches affects the overall value of the network in facilitating emotional exchanges. These distinctions are particularly evident in responses regarding the recipient's emotional expressions, especially gratitude, toward the donor.

As noted in the introductory chapter, emotions exhibited or expressed by the recipient may arise either from the crisis itself or in response to receiving a donation. An emotional response to a donation is not necessarily dependent on an emotional outreach by the donor. However, it still contributes to the overall value of the network by shaping the emotional dynamics between actors within the system.

Modelling these emotional flows reveals multiple scenarios that could occur in a direct, person-to-person donation exchange. However, as previously discussed, the impracticality of direct connections places the responsibility for managing these emotional expressions and responses in the hands of intermediaries. The ability of intermediaries to facilitate this process effectively enhances the network's value by ensuring that emotions are transmitted smoothly. Conversely, inefficiencies or barriers within intermediary organisations may reduce this value by disrupting the emotional flow.

When examining the emotional expressions of recipients, there is evidence that their emotional needs and expressions may take precedence over the donor's emotional needs. If the donation network is viewed as a solution to a problem, then the primary value it provides should be in addressing the needs of victims of natural crises rather than solely catering to the emotional fulfilment of donors.

The significance of these emotional expressions, particularly in crisis scenarios, is supported by Passmore et al. (2022), who discuss the social value of gratitude, and by

Datu et al. (2022), whose research highlights gratitude's role in emotional normalisation during crises. Expressed gratitude not only fulfils the donor's emotional need for affiliation but also enhances the value of the network by strengthening donor engagement and increasing donation size (Paramita et al., 2020). This positive impact on donation size and pathway selection further reinforces the value of effective emotional transmission within the network. Impeding these positive outcomes are a range of perspectives that subjectively attribute potentially biased or incorrect emotional status to the recipients (Gillum, 2009), ignoring the individual recipient's voice.

The ability of the network to facilitate emotional flow is a key measure of its overall value. Pathways that enhance this flow positively contribute to the network's impact, while those obstructing or diluting emotional exchanges diminish its effectiveness.

64. No know, our mission is to, really is to reduce the stress of communities and people after natural disasters. So, in a lot of ways, you know, we talk about building a fence. But that's probably a metaphor for something quite deeper, you know, you know, we prioritize who we work with, according to their mental health and their needs. AudioMJ 15:19

The broad range of responses reflects thoughtful and emphatic perspectives on the role of gratitude expressed through the network and its contribution to normalising victims' lives. These responses also play a crucial role in understanding the transformation and flow of emotions throughout the network.

One response highlights the opportunity to express gratitude through web-based platforms, which help strengthen the connection between donors and recipients. This relatively direct interaction is an example of how network cohesiveness can be enhanced and how emotional value can be preserved through shorter pathways between relevant actors (Rawlings et al., 2023). As discussed earlier in this chapter, shorter pathways are also a key factor in pathway selection criteria

65. I think there is, like I've seen, like in the GoFundMe itself, like when you get enough money, you can send an update or something that says, thanks so much for your help. Here's what I'm going to do. Now. We've got enough money for the funeral, like we're going to close it down now kind of thing. So there's a way for them to respond within the platform. But also, like I've seen on social media and stuff, they can respond in that way and say, Wow, this has been overwhelming. Thanks so much kind of thing. So there is kind of the interaction between the donor and the beneficiaries. AudioGM 42:43

The next set of references to gratitude shows a strong intention and desire to directly express gratitude to the donors, suggesting the intention or existence of a direct connection between the donor and the recipient. This correlates with the historical context of person-to-person of giving and receiving. The extended stories behind these references give compelling evidence of recipient's desire to express gratitude .

66. But I can't thank anyone for that other than say thank you if you're donated to Red Cross, rest assured I got. AudioKP 54:18

67. Okay, because we had a lot of personal contact with this whole group. Well, a large group community. Now, we, that hasn't happened today, as an app for two reasons, COVID hit, and we couldn't do it. And that really upset that balance of people being able to say thank you. So we would put tributes up on Facebook, we'd put all sorts of things up. But it was frankly, the best we could do… Absolutely. It's almost like a de facto relationship. AudioPD 45:51

68. - So what we what probably position is that we normally get we often get off, we often get letters, or cards of thank you from people who are particularly moved or impacted who want to let us know, **they feel strongly enough that they want to thank us for the community has reached out to them and given them assistance**. AudioAT 37:07

69. She wrote back and said, Andy, thank you very much. She says unbelievable. She said, I was sitting at my kitchen table with a family. She said I was in despair about what was I going to do now after the fires for for the family. **And I think particularly even facing Christmas as well. And she said I thought nobody had thought of it. Nobody thought cared about us, really. She said I got your letter and check. And she said she burst into tears**. AudioAT 41:33

70. And we try to tell, we try to use these days a bit of, I suppose, social media and other things to try and thank the people that donate them and and sometimes to tell if if we get permission to tell the story from the receiver. what their story is about that they've got some funds and, and

whether that was important to them, or change their trajectory of how things happen for them. **So we try and tell tell by stories if you like because because that's what people need to see**.AudioAT 1:00:36

71. If it's an individual, right? If there's a, I suppose there's a bit of anonymity with it. You know, that a lot of people have donated, but you can't thank them personally. **So there's that there's both sides. And the wife had some money passed to her by one of her congregation member church members in Melbourne while she was down visiting while she was down there. And, and she just got floored with that**. AudioKP 20:38

72. I might be different to other people. But I really think there is just that little bit different. **The worst part about getting it from the organisations is that you can't thank the people**. You can't, you know, you can send back a letter to the organisation to the Red Cross and say, Thank you. And thanks for the donations. They don't send a letter out to you. And so thanks for your 50 cents or thanks for your dollar or thanks for your 1000 or thanks for your million. **Yeah, it's it doesn't happen**. AudioKP 24:48

Representing the same values but from the supply side of gratitude rather than the recipient's perspective, this response emphasises the importance of closing the emotional loop for the donor. This process supports both the donor's (Paramita et al., 2020) and the recipient's need for emotional closure.

73. I mean, our big thing is always trying to complete the loop. And if you've looked at it, and our communications back to donors is very much sharing the stories of where their money has gone. So I think a big thing for us is making sure we do complete that loop. So I think it's a very important loop that we as a sector have to do. So the donor actually has that feeling back of I've actually done something I've been I've been part of something quite special here. **Because yeah, I don't think you'd give without having that sentiment of actually empathizing with people and wanting to help. So I think it is important to continue to complete that loop**. AudioST 53:43

In this next response, there is clear evidence of the value and intent to provide emotional connection and closure, but there is also the recurring risk of appropriation of those emotions by the intermediary.

74. It's not that we say you can't, it's more that if someone actually says and often we do have, you know, opportunities for people to do say, you know, to say thank you, and people often do you know that people are incredibly that a lot of people are blown away by the help that they are getting from people who they will never meet. **So I don't think it's a matter of not, you know, in some ways, those stories are everything for us as intermediates, because it makes it really real, you know, instead of just as I said, being a tax deduction, you know, tax receipt, and it's gone, they can actually see the impact. So even though it won't be an individual person, actually eyeballing the**

person who gave them the money, we are always open for that. AudioST 56:02

There are also a number of responses that take a counter view on the value of expressing gratitude. These responses argue that although gratitude is a good thing for those who feel inclined, it is not necessarily an appropriate response for people in “tough times”. These responses demonstrate a dual agenda that accepts the value of expressed gratitude but counters that acceptance with the perspective of protecting the privacy and dignity of the recipient or that “tough times” mitigate against the need or capacity for expressing gratitude. In these responses, we see again the resultant appropriation of emotion being absorbed within the network actors rather than being conveyed fully or transparently to the intended emotion recipient.

75. It’s adequate, you know, like, you know, we feel in challenging times, you don’t need to say your thank you. But we do receive very nice impact stories, we do receive very nice, thank you. It’s nice to hear their stories, so we can pass them back. But you know, it’s, it’s not about making people have to tell their story. **But you know, a lot of the times they do want to, you know, show their gratitude and say thank you. But if you put yourself in the shoes of somebody who’s doing it tough, it’s it’s the, you know, it’s the humility and the humbleness of, you know, knowing that times are tough.** It’s hard to be able to say your, you know, your gratitude at that moment, because it’s going through tough times. AudioAC 11:33

76. But we say when we're working with a partner, look, we can share those impact stories with you so that you can tell your staff and your customers the benefit of donating. But many of our classes, and we don't need that. **Because you know, for that person who's receiving them, it's all about, you know, making sure they have their dignity.** And it's not about getting those stories back. But you know, having a few of their stories is actually you know, it makes you realize just how good life is that you know, when somebody expressed to you what that means to them, you know, you take for granted sometimes the things that you have in your life. When you hear what that means to somebody that sometimes it's some some of the smallest things, the tiniest thing that actually means so much to somebody. And that's what our partners realize that the things that we're not useful to them anymore that they didn't sell, and still change somebody's life. AudioAC 12:50

77. And, yeah, and I think, you know, when people are vulnerable, and whatever they, yeah, it's not fair to try and, you know, they're often laugh and are thankful. But they're overwhelmed often with so many other things, and it's just not appropriate. So, you know, from time to time, you may have someone that it is appropriate, because I, you know, we're going fine, I fell flat on their face. And then, you know, someone helped them up, and then they're doing really well again, and they often are really thankful and very happy to begin, thanks. But for many of our clients, you know, all of life has been really, really tough. And they're not in that headspace. AudioML 41:38

Here, we see further examples of “gratitude” being appropriated by the intermediary:

78. And a lot of those stories, you know, really important to build that link…..it’s not appropriate for them to be known exactly who they are. And we often get really great stories from either our volunteers or workers who work with people. ….**And so, and those stories become very, very powerful, not just for linking, I suppose the donor with the people that are receiving that help on the ground, but it’s actually quite valuable in terms of building up staff morale, and sharing the stories of what’s happening, that can also be quite powerful**. AudioLM 43:34

79. Oh, yeah. Yeah. And I think I’m, I think that’s becomes a more normal thing, when someone’s been helped, that they take the person that’s been helping them rather than the person that actually funded them to be there. AudioLM 43:34

Not all references to gratitude were a direct expression. In some responses the notion of gratitude or the authenticity of gratitude was questioned. This response, positioned in the supply phase, demonstrates that questioning.

80. You know, most most of the time, it’s, you know, it’s, you know, it’s a corporatized, you know, marketing machine that takes in the money and then sends out letters of thanks. And, you know, the signed letter by the CEO. And, yeah, it’s a it’s a, it just follows the well known marketing formula. In many ways, which, you know, it’s kind of disappointing. AudioLM 23:49

The reference to gratitude is also expressed in the argument that it is not a requirement but rather a response that might be evidenced in the passing forward of generosity. This provides an interesting perspective. It raises the question of whether gratitude in this environment is regarded as an obligation (Manela, 2014) or, alternatively, as a subjective need of the recipient. The regard for gratitude as an obligation shows a leaning towards the transactional nature of donation (Sudbury & Vossler, 2022) rather than the emotional needs of the donation recipient.

81. We give it and they take it in when they need it. And hopefully I was like to this is my optimistic side, but I always like to think it goes full circle. **So, you know, there might be a time when I'm in need, and some will give to me, or they need to know that I'm grateful for what they've given.** Or what just the fact that, you know, knowing that that money's gone to help someone be enough, and I think it is enough. I don't think the recipient should have to step up and show their gratitude. AudioAN 39:56

Two views were offered which looked at the moderating effect of the donor source and recipient need on the level of gratitude responsiveness

82. And I don't think maybe as you say, if he had actually didn't have clothes to wear tomorrow and someone gave him just on the spot. **He would be overwhelmed by that one thing but but if it came from a government, Social Security worker who made no personal sacrifice**, yeah, how hon, forgive me, but the person in the personal connection has to be there for the first to happen. AudioKT 38:53

83. We don’t know this that I think people are generally ungrateful. When there’s government money involved. They think, well, they’ve paid for it anyway, even if they never did. So there’s, there’s that expectation. And then, when the money is purely chattel, yes, then I think people are mostly grateful, but that it will, will depend on the preconception. AudioGJ 35:11

Gratitude is expressed in conjunction with respect for the value of the donation to the donor. The idea presented is that the donor may have sacrificed to donate; therefore, the recipient should offer empathy, sensitivity, acceptance, and use of that donation.

84. AudioMJ 35:10 - We talk about we have, obviously month, weekly meetings. And we talk about all the time, that whichever you’re using on the fence that came from this lady, so, for example, a donation, **if you don’t look after that tool, we have to go and buy it again, it’s wasting that person’s money. So there is there’s there’s a tapping into it was kind of back to empathy. Yes, there’s a gratitude, but it’s also back to empathy.** How would you feel if you gave $20 And we didn’t look after it. We didn’t. We didn’t treasure what what we purchased, you know what I mean?

The more intriguing reference to “no-fault” is used as an apologetic justification to explain that even though a victim has demonstrated “no-fault”, the organisational sentiment or policy is to protect the recipient from any engagement, including emotional engagement with intermediaries and/or the donor.

85. It’s interesting, isn’t it? I mean, from our perspective, it’s one of our kind of foundations, if you like to make sure that we do protect the privacy and the dignity of the end recipient, I think, in a disaster, it’s probably people are far more open to being identified and matched because there’s not as much stigma. I think people who’ve been impacted by, you know, a flood or a major bushfire kind of almost feel like it wasn’t their fault, though, in that situation, but there is that stigma, but it is give it perspective, it’s very much, it’s also about protecting the privacy and the and the kind of safety of the donor as well. AudioST 21:07

The next response highlights the complexity and ambiguity recipients face when expressing gratitude. While it conveys deep appreciation, it also carries undertones of embarrassment and guilt. Although some emotions are successfully expressed, anonymity and distance often limit these opportunities.

This creates a dilemma for intermediaries, who, constrained by practicality, organizational mandates, and lengthy pathways, struggle to manage or convey individual emotional responses from recipients to donors. The following lengthy quotation illustrates the intricate dynamics of gratitude in crisis scenarios.

86. The thing looks a bit differently if you know the person it’s it, that’s can probably sometimes be a little bit more embarrassing, I suppose. Because you think, Geez, that they’ve had it or it might have given me all that money. If it’s an individual, right? If there’s a, I suppose there’s a bit of anonymity with it. You know, that a lot of people have donated,

but you can't thank them personally. So there's both sides. And the wife had some money passed to her by one of her congregation member church members in Melbourne while she was down visiting while she was down there. And, and she just got floored with that. Why, why, but she then use that may have bought some jewelry that replaced some jewelry that got burnt and had the pleasure of being able to show that person and wear it. She said it might have been seen to be a waste of money, but in one sense, but she just didn't know any decent jewelry at all got melted. So the person had said to her what you wish. So if there's a little difference in that you can't thank but the only way you could thank them is in a flyer we had some money given to us from a shop in Perth, would you believe a Woolworths or whatever, we got $200 or $300 gift card with a little note with it. Someone picked us out of the out of the and sent it to us. I was able to then write a letter back and say thank you, could you please put this on your notice board? Thank you so much to all people you don't know what that means. And this is what we've done with it. One of the things I tried to do was to make sure that the money that I was given for things are used sensibly, to buy stuff that's to replace things. That's what it was about. It wasn't for me to go on a cruise overseas or whatever, not responded anyway. But that being able to thank them. Church put great my wife goes just church here. The local church took up collections. I had other churches from around Australia, same similar denomination, and some from overseas. We're getting we're going to cut the checks and it was

> considerable amount of money. 40,060 bit now that 20,000 I mean, that's you in you can't you can't just throw their round at money, you need to do something and be able to say, well, this is what I do. Anyway. AudioKP 20:38

Beyond this range of attitudinal variables (Figure 5-10), the interviews provided insight into the factors that might influence the extent of gratitude and the recipient's inclination to express gratitude. These factors included the nature of the source, distinguishing between donations by individuals and funding provided by government agencies, the latter drawing responses that were less in favour of demonstrated gratitude. Several attitudes and factors influence recipients' expressions of appreciation and are rarely transmitted consistently across all donor-recipient pathways. Pathways with localised intermediaries, which create shorter connections, are more effective in fostering gratitude. In contrast, longer pathways involving institutional intermediaries often struggle to facilitate emotional flows. These longer pathways are more susceptible to transactional costs and differing interpretations of product value (Hobbs, 1996), which hinder their ability to convey emotions between third parties effectively.

These findings reveal a clear distinction in responses based on actor groupings. Interview quotations show that positive expressions of gratitude are more prevalent among localised intermediaries and agencies. Conversely, network actors who resist or present alternative views on emotional expression tend to be larger and more distant from the donor and the recipient. This pattern strengthens the idea that emotions are more effectively conveyed through localised organisations and further supports the emerging sense of homophily among network actors in terms of emotional transmission.

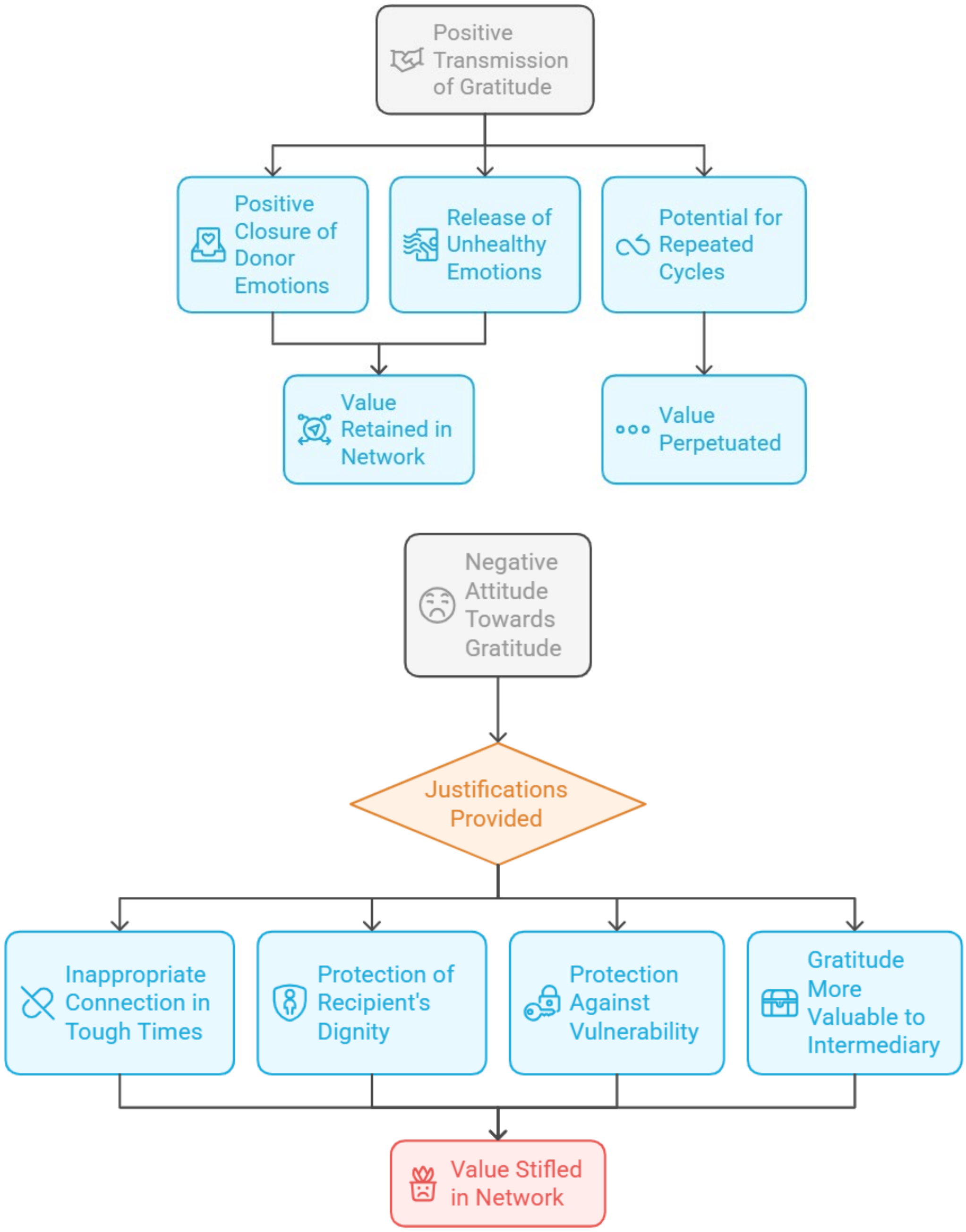


Figure 5-10: *Comparitive gratitude transmission in the network*

5.5. Thematic Overview of Research Question III Discussion

The various discussions and headings in this section address the variables discussed in section 5.4 regarding Research Question III. While the content and source material is the same, in this section, the discussion revolves around generalised themes rather than specific variables.

5.5.1. Localisation

Building on the Stage II questionnaire findings from Chapter 4, this section explores the concepts of network centrality, closeness, and betweenness to identify key nodes that bridge donors and recipients. These measures assess the proximity of each node to both the parties and their roles within network pathways.

Nodes with high closeness and betweenness, particularly **Fundraising, Local Coordination**, and **Direct Matching**, play a critical role in facilitating donations. Closeness, which safeguards value (Opsahl et al., 2010; Srivastava & Singh, 2010; Zemljič & Hlebec, 2005), enhances efficiency in fund distribution and emotional connection. This research establishes a correlation between network centrality measures, shortest path techniques, and performance in emotion conveyance. Quantitative analysis, supported by qualitative data from semi-structured interviews, suggests that localised intermediaries outperform larger counterparts in connecting donors and recipients functionally and emotionally.

5.5.2. Efficiency of Local Coordination in Emotional Exchange

The shortest path metric (Srivastava & Singh, 2010) highlights the efficiency of **Local Coordination** in facilitating emotional exchanges. Stage III interview responses (see Section 5.4.2., Variable 1) reinforce this, showing that localised intermediaries outperform larger organisations in trust-building, association, and empathy. Localisation itself emerges as a critical factor in pathway decisions.

Smaller, less complex organisations (see Section 5.4.3, Variable 2) demonstrate superior emotional conveyance due to their structural simplicity and proximity to recipients. Localisation fosters a sense of physical and emotional belonging, strengthening trust between donors and recipients. In contrast, larger intermediaries, constrained by bureaucratic complexity and longer pathways, struggle to maintain the same level of emotional connectivity while fulfilling their primary functions of collecting and distributing donations.

5.5.3. Regulatory Constraints and Emotional Transmission

Larger organisations face additional barriers in emotional conveyance due to strict regulatory and compliance requirements (see Section 5.4.6, Variable 5). These constraints limit flexibility and risk tolerance, which are critical in crisis scenarios. As a result, larger organisations prioritise financial oversight over emotional responsiveness. In contrast, localised organisations, with more flexible governance and a direct vision of fund distribution, are better positioned to prioritise recipient needs while minimising risks of misuse.

Data from Section 5.4.5 (Variable 4) indicates that local organisations take greater responsibility for conveying donor emotions throughout the network. Similarly, findings from Section 5.4.7 (Variable 6) show that local organisations actively support the emotional feedback loop between recipients and donors.

Balancing Emotional Connectivity and Scale

While localised intermediaries demonstrate stronger emotional transmission, they face capacity limitations during large-scale crises. High donation volumes can overwhelm small organisations, disrupting distribution and emotional pathways. Thus, while shorter pathways enhance emotional exchange, scalability remains a challenge.

A composite analysis suggests that network models emphasising localised intermediaries offer advantages in emotional conveyance and donation value protection. When emotional loops are intact between the donor and the recipient, there is a greater likelihood of positive emotions leading to future engagement. Concerns about dignity and protection are mitigated when emotions flow authentically through local networks. However, structural deficiencies and strategic resistance among larger intermediaries can inhibit full transparency and emotional transmission.

5.5.4. Challenges Faced by Focal Intermediaries

Due to their public recognition, infrastructure, and established networks, focal organisations maintain influence over intermediaries and recipients. However, their dominance is not necessarily linked to superior performance but to their access and stability.

Despite their strengths, focal intermediaries risk financial and emotional value loss. Evidence from interviews suggests their inability to facilitate emotional exchange alienates donors and recipients. Donors often cite concerns about trust, transparency, and organisational objectives as deterrents, leading them to seek alternative intermediaries. Multiple pathways exist within the donation network, offering varying emotional engagement and service levels.

Focal intermediaries also face scrutiny from the public, media, and regulators. This scrutiny enforces accountability but can restrict their ability to engage in emotional exchanges fully. A key challenge is balancing the protection of donor funds against the demand for immediacy. Stricter distribution protocols ensure accountability but slow responsiveness, while increased flexibility raises concerns about oversight.

5.6. Discussion Conclusion

This identifies clear trade-offs: localised organisations excel in emotional connectivity but struggle with scale, while focal intermediaries ensure financial security at the cost of emotional transmission (Figure 5-11), however, it does not draw moral or absolute conclusions on the effectiveness of different intermediary models. Understanding these dynamics is crucial for designing donation networks that optimise financial integrity and human connection.

Figure 5-11: *Summarised inputs to localisation advantages*

5.6.1. Key Emotional Contributors

Trust

A limitation of this research is the lack of a comprehensive analysis of the movement and connections of specific emotions. While network nodes serve as the foundation for much of the discussion on network performance, treating "emotion" as a generic relationship between actors prevents the distinction between individual emotions and their respective valence. Semi-structured interviews provided insights into the relevance of specific emotions, revealing that two emotions dominate the donation network.

In Section 5.4.2, trust is identified as the most significant emotion influencing pathway selection at the supply end of the network. Trust is critical in determining the flow of prosocial emotions, such as compassion and empathy, from donor to recipient. By facilitating these emotional exchanges, trust plays a fundamental role in shaping the effectiveness of the donation network. The elements that contribute to trust provide value for both theoretical and practical consideration (Figure 5-12).

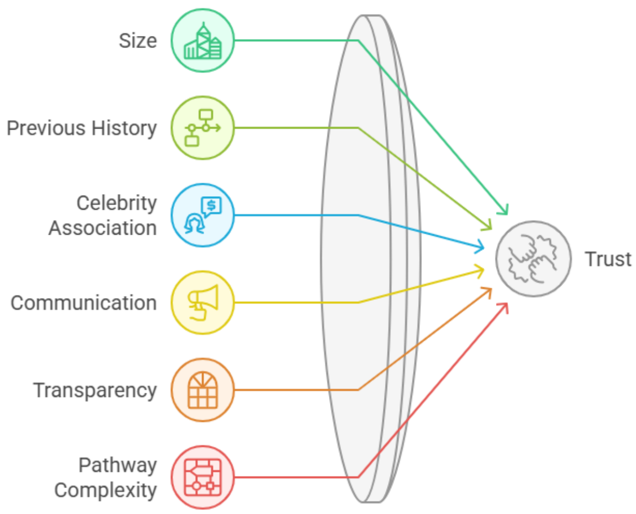


Figure 5-12: *Contributing factors to donor trust*

Gratitude

As discussed in Section 5.5.2, gratitude serves as a pivotal emotion in differentiating the intentions and performance of intermediaries. Beyond simply reflecting a difference in sentiment among intermediaries, gratitude also represents the return flow of emotion in response to generosity and compassion that result in donations.

This return flow of emotion serves two key functions. First, it acknowledges the fulfilment of emotional needs for both the recipient and the donor, who have extended emotion through the network. This maintains the value within the network and allows it to return to the donor in fulfilment of their originating expressions. Second, it transforms incoming emotions into an outward emotional response directed back to the donor, creating a unique supply reciprocity dynamic that reinforces continued participation in the donation network.

5.6.2. Network Profiles and the Presence of Homophily

In Chapter 4, data from the questionnaire and semi-structured interviews were analysed using social network applications to identify the profiles and performance of donation networks. The questionnaire data revealed the presence of cliques, suggesting a shared sentiment and behaviour within these subgroups, a phenomenon known as homophily.

Homophily is defined as: “the extent to which pairs of individuals are similar in terms of certain attributes, such as age, gender, education, or lifestyle” (Pozzi & Pozzi, 2017).

This finding was particularly relevant in addressing Research Question 2.

5.6.3. Sentiment Alignment Across Network Phases

The research relies on qualitative insights from semi-structured interviews to understand the nature and behaviour of these cliques. Actor sentiment regarding key themes, such as emotional transmission in crisis donations, was found to vary based on the actor’s role within the network. These roles align with a general supply chain model, categorised into:

- Supply (donors and funding sources)
- Intermediary (organizations facilitating distribution)
- Distribution/Recipient (local coordinators and end recipients)

5.6.4. Patterns of Homophily in Organisational Profiles

Interview responses indicate a strong alignment of sentiment within specific network phases, particularly among local coordination groups and nationalized focal organisations. Key patterns of homophily were observed in:

- Perceptions of responsibility and emotional conveyance
- Organisational culture and risk tolerance
- Approaches to facilitating gratitude and recipient voice

Localized organisations tended to share characteristics of smaller size, closer proximity to recipients, and greater operational flexibility, whereas nationalised focal organisations exhibited more rigid structures and centralised decision-making.

5.6.5. Impact on Network Cooperation

These differences in sentiment and organisational behaviour have practical implications on the physical delivery of donated funds, but of greater interest to this thesis is the impact of these contrasting profiles on the delivery of emotions through the network. Repeated friction

between network groupings may reduce overall cooperation, affecting the emotional and cultural dynamics of the donation process. Misalignment between local and national actors could hinder effective collaboration, ultimately influencing donor-recipient relationships (Figure 5.13).

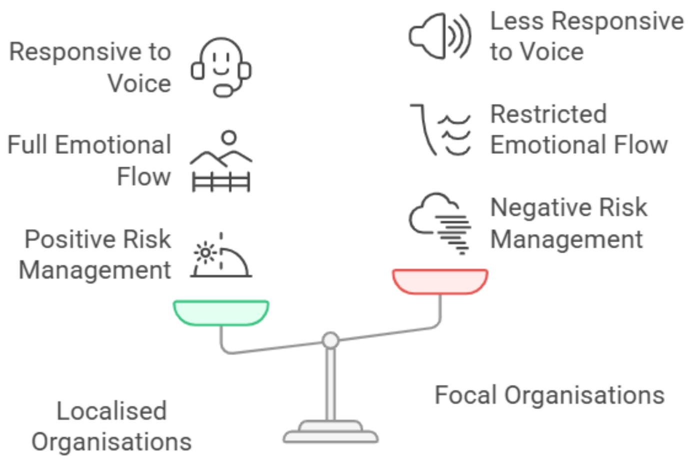


Figure 5-13: *Homophily in intermediary sentiment*

5.6.6. Value Comparisons and Proposed Model

Closeness Centrality and Value in Donation Networks

In Stage II, we recognized closeness centrality as a key network attribute that enhances and retains value based on proximity to adjacent or critical nodes. Questionnaire-based and interview-based networks showed that "localised" agencies foster stronger closeness between donors and recipients, suggesting a greater role in preserving value within these networks.

Stage III provides further evidence supporting this observation, as pathway decisions often favoured intermediaries closer to the donor and recipient. This reinforces the critical role of localised connections in maintaining value within the donation network.

Emotions in Donation Networks

Earlier sections of this chapter explored the emotional dynamics between donors and recipients within the donation network, using a narrative approach to examine the journey of emotions across the donation supply chain. This analysis covered various donation functions, including supply, intermediary, and recipient/distribution roles.

In Chapter 1, we suggested that exploring emotions within donation networks could contribute to the broader discussion on non-physical supply chains. The literature review highlighted both historical and contemporary evidence of emotions playing a role in moderating and influencing supply chain dynamics. Emotions were shown to affect both the supply and management of commodities. However, the focus remained on the novel investigation of emotions in crisis scenarios, avoiding a premature overemphasis on traditional supply chain perspectives.

Renewed Focus on the Role of Emotions in Supply Chains

The findings in Chapter 4 reintroduced the relevance of supply chains, particularly by identifying emotions and donation funding as coexisting supply assets. Each actor element—whether donors, recipients, or intermediaries—exhibits traditional supply chain role attributes such as suppliers, consumers, and intermediaries. This recognition led to a simplified supply model of donors, intermediaries and recipients, which helped conceptualise the emotional and donation-based flows.

Further network analysis demonstrated that emotional and donation-based relationships operate under different constraints, raising questions about their compatibility within shared supply pathways. This intersection holds significant implications for managing multiple commodities within the same supply framework and invites comparisons with other delivery models.

Service Delivery Network

The rise of the service economy, with its focus on relational composition and customer journey (Basole & Rouse, 2008; Tax et al., 2013), has led to conceptual models of value within delivery networks (Figure 5-14). Basole and Rouse (2008) provide an overview of the Service Delivery Network (SDN), which initially appears similar to the emerging donation network. The SDN typically includes the source, the focal organisation, and the customer, along with a complex web of contributing stakeholders. Its core proposition is that participants in the network can both add and consume value.

The SDN is based on three key principles (Basole & Rouse, 2008): (1) it is driven by the consumer, (2) actors within the network contribute to value creation, and (3) there is a degree of integration among actors. According to Hamilton (Hamilton, 2004), the SDN aims to deliver value in an integrated and "harmonious" manner. Despite these similarities, this thesis finds that the Donation Emotion Network (DEN) diverges significantly from the dynamic frameworks of the SDN and Value Delivery Network (VDN).

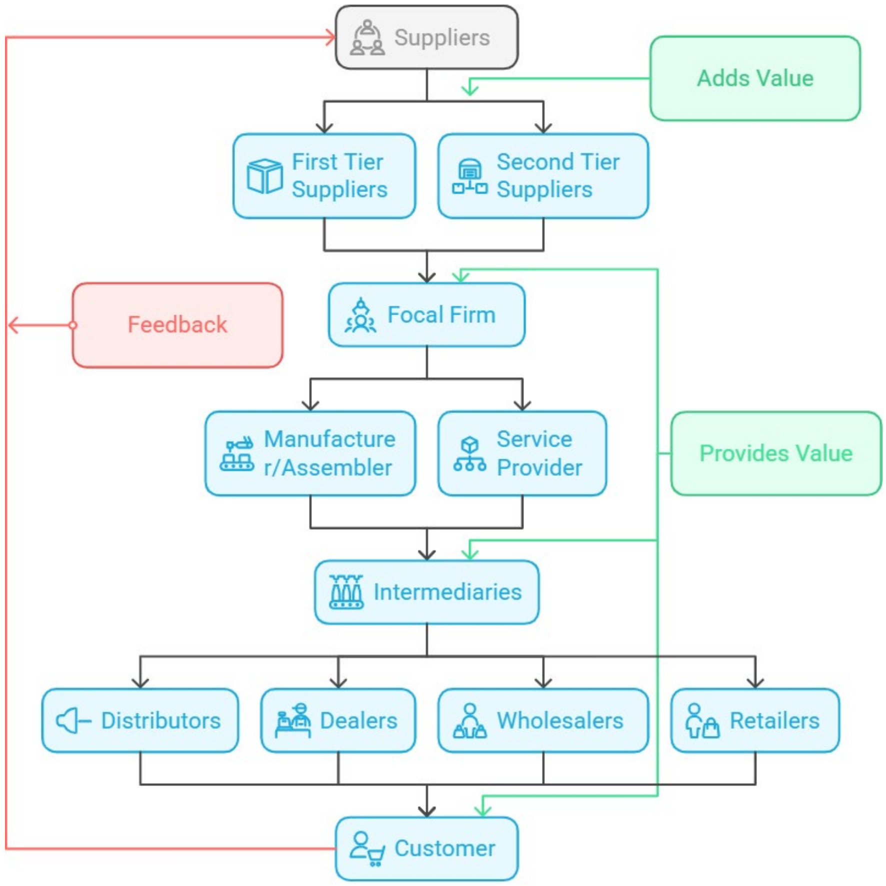


Figure 5-14: *Value adding network schematic*

Source: Adapted from Srivastava & Singh, 2010

Customer Driven Value

Crises generate financial and emotional needs, attracting media attention and prompting community response. While these activities create an economy or marketplace around donation efforts, they do not establish the mechanisms that drive the donation supply chain. Contrary to common assumptions, neither crisis events nor the needs of recipients directly trigger donation activity. Instead, fundraising efforts are targeted at donors who participate in the network primarily for emotional fulfilment.

Donors, rather than recipients, serve as the key instigators and drivers of the donation economy. Within this system, they seek opportunities for pro-social emotional expression, demonstrated through financial contributions. The donation exchange is complete when the donor’s motivation—whether economic, altruistic, or empathetic—is fulfilled.

As discussed in Section 5.4.1.1/2, various factors influence donor motivation, distinguishing this dynamic from service delivery economies, where customers drive the network. This leads to an important distinction: in the donation economy, the donor is both the primary driver and the customer of the network. This dual role contrasts with traditional models, where supply functions exist at one end and customer demand at the other, connected by a network facilitating value exchange.

The Donation Economy Model (DEM) proposes that donors simultaneously occupy both supply and customer roles, forming what can be described as a “loop economy.” This differs from a resource-based circular economy (Ritchie & Freed, 2021) and contrasts with commercial enterprises, which focus on customer generation (Drucker, 2001).

5.6.7. Contribution and Withdrawal of Value

Traditional supply chains operate linearly, adding or withdrawing value at different transaction points. Each participant economically benefits while contributing to the final product’s value. In these models, the highest value is realised when the product reaches the end consumer, aligning with profit-driven supply chain principles.

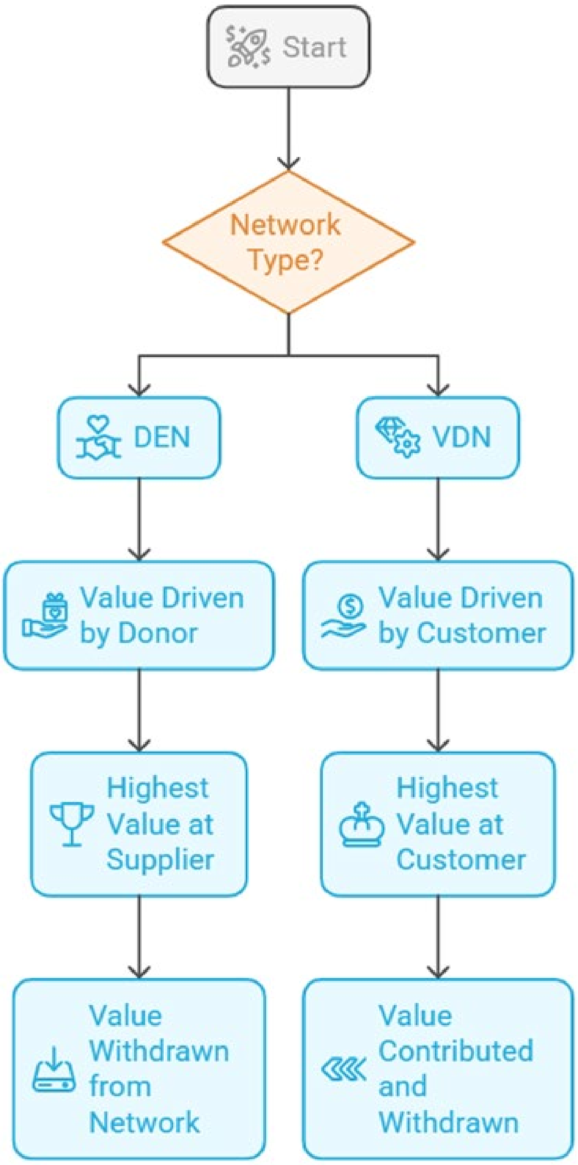


Figure 5-15: *Value comparisons DEN and VDN*

However, the Value Delivery Network (VDN) operates on the assumption that network participants collectively enhance the value of a commodity as it moves from supplier to customer. Yet, analysis from stages two and three of the data collection (see section 5.5) reveals a contrasting trend in donation networks: instead of increasing in value, emotional and financial donations often diminish as they move from donor to recipient (Figure 5-15)

This reduction in value arises from the indivisible nature of emotional commodities. Unlike tangible goods, the highest value of an emotional expression exists at the moment of contribution. While the network facilitates the transfer of emotion, it does so at a cost—resulting in the recipient receiving the emotion at its lowest value. Any remaining emotional value is often retained at the point of origin, where it is converted into a financial donation.

This suggests that the recipient plays a less active role in the supply dynamics, with most transactions occurring between donors and intermediaries. However, localization influences the effectiveness of emotional exchanges. Greater proximity between donor and recipient strengthens emotional connection—allowing for the donor's empathy and compassion to be reciprocated by the recipient's gratitude. A well-positioned intermediary can further facilitate this exchange by shortening the emotional distance between both parties.

For a donation network to function effectively, it must enable a return flow of emotion. If the network fails to deliver the donor's full emotional expression, the recipient cannot respond in kind, leading to an incomplete exchange , or more correctly, emotional closure. In a successful emotional transmission, the recipient can transform the received emotion and return a reactionary expression to the donor, reinforcing the donor's emotional fulfilment.

From a value perspective, the recipient acts as an intermediary who interprets and enhances the emotional commodity before returning it to the donor. This creates a looped economy (Figure 5-16), where the donation network's primary function is not delivering aid, but rather ensuring the donor receives emotional satisfaction.

Thus, the Donation Emotion Network (DEN) represents a distinct supply model, reinforcing the fundamental human cycle of giving and receiving—a concept deeply rooted in the evolutionary history of donations.

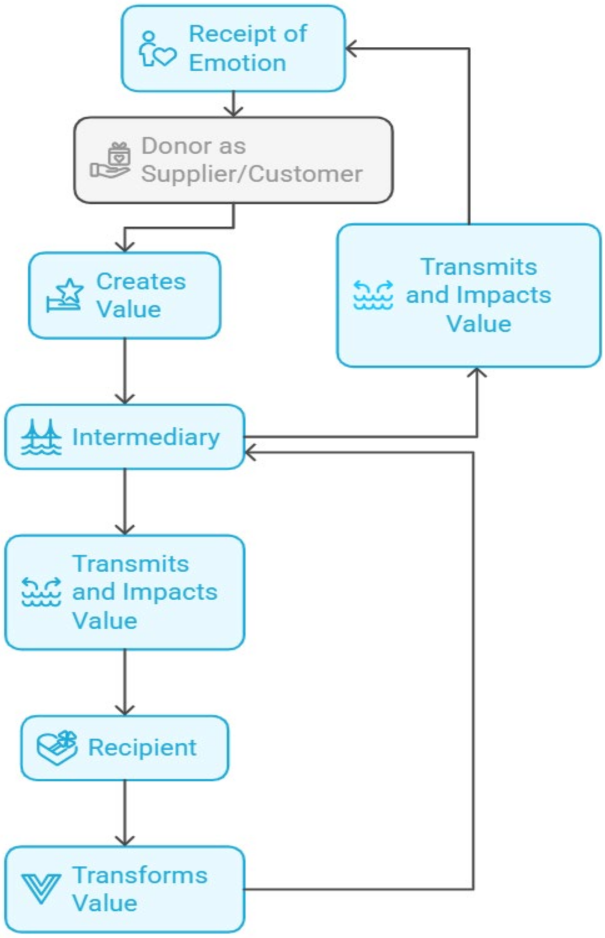


Figure 5-16: *Looped Donation Economy Network (DEN)*

5.6.8. Networked or Linear

Donation networks function differently from structured supply chains, where each participant engages in a direct value exchange. Instead, donations involve multiple pathways of emotional and material flow, making them more fluid and dynamic.

The Service Delivery Network (SDN) framework challenges traditional linear or dyadic models, arguing that delivery is shaped by a broad network of influence

(Hamilton, 2004). In SDN, value is created vertically and horizontally, forming a grid of value contribution rather than a one-way flow (Basole & Rouse, 2008). Similarly, in donation networks, emotional value moves through various channels, with its magnitude and speed affected by external factors (see Section 5.4.1).

However, the Donation Emotion Network (DEN) differs from SDN in that its emotional flow follows a more linear path—moving from the donor, through intermediaries, to the recipient and then returning. In this way, DEN resembles traditional supply chains more than network-based service models. While intermediaries in SDN directly enhance the value of a service, in DEN, their role is more indirect, influencing emotional value through their interactions rather than altering the core emotional commodity itself.

5.6.9. Human vs. Cause-Based Donation Networks

A comparison of directed emotions in human-centred donation networks versus those supporting nonhuman causes reveals significant differences in emotional dynamics.

In crisis-driven donation networks, emotions are typically extended to foster a relationship—however distant—between the donor and recipient. In contrast, donations to nonhuman causes involve more limited emotional exchanges, primarily focused on the initial act of giving.

In human-centred donation networks, recipients experience a range of emotions shaped by the donor's motivations and the expectations surrounding the donation. Here, emotions influence donor and recipient behaviour, with donors seeking emotional fulfilment through the transaction itself or, more commonly, through the recipient's reciprocal emotional response. As discussed in Section 5.4.1.1 (Variable

1), the pathway of donation is often guided by the donor's emotional needs, which are frequently met through direct communication or acknowledgment from the recipient.

On the other hand, donations to nonhuman causes involve a different emotional dynamic. Unlike human-centred networks, where emotional exchanges are typically reciprocal, nonhuman cause donations provide fulfilment primarily through indirect rewards, such as recognition, a sense of belonging, or moral satisfaction (Adamska-Mieruszewska et al., 2023). Donors in these networks often derive satisfaction from tangible outcomes, like improved conditions for the cause they support, rather than direct emotional reciprocity (Sextus et al., 2024).

This distinction underscores a fundamental difference in how emotions function within donation networks: in human-centred donations, emotions are a motivating factor and a relational exchange. In cause-based donations, emotions primarily act as a form of self-reinforcement, where fulfilment comes from the perceived impact rather than direct interaction with the recipient.

5.7. Discussion Summary

This chapter explored the emotional, structural, and relational dynamics of donation networks, emphasizing the contrasting roles of localised and focal intermediaries. Localised organisations, with higher network closeness and betweenness, emerged as key facilitators of emotional transmission due to their proximity, trustworthiness, and flexibility. They outperformed larger intermediaries in maintaining emotional value, enabling trust and gratitude to circulate more effectively between donors and recipients. However, they face capacity challenges during large-scale crises.

In contrast, focal intermediaries, while structurally dominant and financially secure, struggle to convey emotion due to bureaucratic complexity and regulatory constraints. This often results in emotional disconnect, alienating both donors and recipients. The concept of homophily revealed sentiment clustering within the network, impacting cooperation and emotional flow.

A new model, the Donation Emotion Network (DEN), was proposed, distinguishing donation systems from traditional supply or service delivery networks. In DENs, emotional and financial value often diminishes as it travels, and successful donation relies on reciprocal emotional closure. The chapter concludes that donation networks operate less as linear economic chains and more as emotional loop systems, where donor satisfaction is derived not from material outcomes, but from emotional exchange, highlighting the need for emotionally intelligent design in donation infrastructures.

Chapter 6. Conclusion

6.1. Summary of Chapters and Thesis Findings

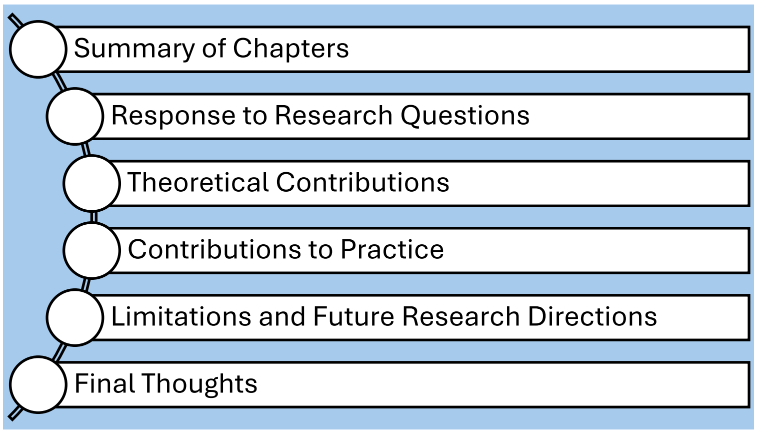


Figure 6-1: *Outline of Chapter 6: Conclusion*

This chapter concludes the thesis. Chapter 1 introduced the context of significant donations from families and individuals to victims of localised natural crises. This scenario served as the foundation for investigating the presence and role of emotional activity in the flow of donated funds within a network of diverse actors and functions. Given the theoretical complexity of this phenomenon, a multidisciplinary approach was necessary, as outlined in Chapter 2. The literature review explored the contextual background, potential theoretical frameworks, and the concept of a hypothetical emotional network. It integrated insights from supply chain management, management theory, network theory, and emotion theory and other donation related theories, contributing to theory development across these disciplines as well as theory creation specifically towards a "Donation Theory".

The literature review also highlighted key gaps, particularly beyond the extensively studied domain of donation motivations. A notable historical insight was the evolving definition of "donation," shifting from an emotionally driven gesture to a contemporary transactional and economic paradigm. This insight ensured a sustained focus on the emotional dimensions of the phenomenon, preventing thematic drift during the research process.

Addressing the research questions required an exploratory methodology, as a purely quantitative approach was unsuitable. The existence of the emotional network had neither been confirmed nor quantified, and the diversity of emotions identified in the literature called for a flexible approach. This methodology facilitated the discovery, conceptualisation, and understanding of the network's nature, aligning with the research objectives and guiding data collection, as detailed in Chapter 3.

Chapter 4 presented initial findings from the literature review, suggesting a hypothetical network of actors and relationships consistent with a social network. Subsequent data from an online random questionnaire validated this model, confirming the network's existence and advancing the study to explore its emotional dynamics. A third dataset, derived from semi-structured interviews, provided qualitative insights into the experiences and perspectives of network participants. These findings reinforced the questionnaire results and deepened the understanding of causation, relationships, and outcomes within the emotional network.

The findings, outlined in Chapter 4, are both extensive and diverse. Chapter 5 synthesised these insights into key themes, offering significant theoretical and practical contributions. The research successfully addressed the posed questions, shedding light on the dynamics of emotional networks within donation systems. The following sections summarise these findings, providing substantiated responses to the research questions and contributing to the broader discourse on emotional networks and donation systems.

6.2. Response To Research Questions

6.2.1. Research Question 1: Who are all the actors that constitute the donation activity network?

This research, employing triangulation across three distinct datasets and synthesising the discussions in Chapter 5, confirms the presence of a viable network facilitating the transfer of multiple commodities, primarily emotions and donation funding, between donors and recipients. While similarities exist, key differences are identified in the structural and dynamic profiles of the networks associated with these commodities.

Two possible interpretations arise from the findings: (1) emotions and donation funding are subsets of a single, overarching network, or (2) they represent distinct networks that share common resources. Given their shared supply origins and intended recipients, the evidence strongly supports the idea that these commodities function as dual components of a unified supply network.

At the core of any network are two essential elements: the actors involved and the relationships connecting them. In this case, the emotional and donation networks share the same actors, whose activities follow phases resembling a simplified supply chain from donor to recipient. However, the key distinction between these sub-networks lies in the nature of the relationships between the actors. The study concludes that the dynamic variations in these relationships sufficiently differentiate the flow of emotions from donors to recipients as a unique and novel network. Additionally, this study highlights the unique aspect of combining physical and non-physical flows through the same network of actors.

6.2.2. Research Question 2: What are the emotional dynamics within the donation activity network?

The contribution of three datasets supports a credible conclusion that several dynamics are pivotal to the successful transmission of emotions through the network. While most donated funds flow through highly centralised and well-connected intermediaries, these intermediaries face several challenges in transmitting emotions effectively. This jeopardises their performance, prompting donors to seek alternative pathways that satisfy financial and emotional flows. Although the volume of pathways may have strategic value, the existence of multiple pathways introduces opportunities and challenges for the flow of emotions.

Reducing these pathways or nodes, except for those identified as ineffective, could disrupt the emotional core of the network. Any changes must be carefully evaluated, considering the balance of key variables and the network's essential functions. This highlights the need for strategic decisions focused on optimising both the volume and efficiency of the flow for both commodities.

A convergence of techniques identified highly performing actors within the network based on several metrics. These nodes were typically located close to both the donor and the recipient, with localised intermediaries demonstrating higher and more efficient performance in transmitting emotions. In contrast, focal intermediaries, often further removed from the donor and recipient, performed less effectively in transmitting emotions but maintained high connectivity, which is crucial for the physical flow of donation funding. Centrality measures of the network reinforce the conclusion that large-scale, highly connected intermediaries—marked by imbalanced dependencies—cause disruption and tension in the network. From a network perspective, this creates the need for alternative pathways with a more consistent balance of in- and out-dependencies.

Aligned with the high connectivity of focal intermediaries, a funnelling effect was observed at both ends of the supply network. This resulted in a "many-to-one" ratio between donors and focal intermediaries and a "one-to-many" ratio between focal intermediaries and recipients. This structure places operational burdens on intermediaries. In contrast, local coordination emerged as a more consistent pathway, increasing its likelihood of acceptance and preference. This finding supports the idea that localisation and multiple pathways are key variables in the network's success. It also addresses the demand for alternative pathways in response to concerns about centralised intermediaries.

Also, in response to research question II, data analysis identified two sets of emotions. The first involves emotional expressions as commodities directed to network actors in response to localised natural crises. The second involves emotional expressions directed at the network rather than through it. These emotions highlight the performance issues within the network.

6.2.3. Research Question 3: How do those dynamics influence the flow of emotions through donation activity network?

Insights from Network Analysis

The network analysis from the Stage II questionnaire provided initial insights into the dynamic factors influencing emotional flow. While these results identified key patterns, they lacked depth in contextualising findings beyond network-based observations. Qualitative data from semi-structured interviews were incorporated to address this limitation, offering a richer understanding of Research Question III.

Findings from across the donation network strongly correlated with both network analysis observations and questionnaire responses, reinforcing key themes. These correlations revealed several influential factors, identifying two distinct yet interrelated categories of emotions that shape emotional flow within donation networks.

Pro-Social Emotional Gestures

The first category involves donors' emotional gestures toward recipients, which initiate the donation process but do not necessarily correlate with donation amounts. Recurring evidence suggests that emotional expressions and financial contributions are not always proportional.

In natural crises, emotional offerings primarily serve to establish connections between donors and recipients, distinguishing them from financial donations, which are more characteristic of cause-based and nonhuman donation networks. For many donors, financial contributions represent a tangible expression of intangible motivations, supporting the theory that emotion precedes behaviour.

The dual nature of donations—financial and emotional—creates challenges for networks, which must facilitate monetary transactions and the expression and retention of emotional value. This mirrors supply chain challenges, where networks must adapt to the characteristics of the supplied commodity. However, emotions require a return path between actors, a complexity beyond the capacity of many intermediary organisations.

Network-Directed Emotions

The second category consists of emotions generated and directed toward the donation network and its participants, influencing decision-making and behaviours. Among these, trust emerges as a particularly influential factor in pathway selection. Donors seek or create pathways aligned with their trust-related expectations, which are shaped by factors such as:

- Organisation size
- Past performance
- Celebrity endorsement
- Communication transparency
- Pathway complexity
- Religious affiliation
- Localisation
- External Emotional Dynamics

Beyond pro-social emotions and trust, intermediary organisations play a crucial role in maintaining emotional value between donors and recipients. The organisational profile and culture influence sentiment toward emotion, affecting key donor emotions such as empathy and compassion and recipient emotions like gratitude.

While sometimes justified by rationale, negative sentiments are difficult to assess as principle-driven or post-hoc justification. Regardless of their origin, these sentiments impact emotional flow in various ways, including:

- Stockpiling—withholding emotional responses
- Rejection—dismissing emotional gestures
- Consumption—absorbing emotional energy without reciprocation
- Degradation—diminishing emotional significance over time

The likelihood of negative sentiment increases with greater network distance from key actors and larger organisational size. Smaller, localised intermediaries, which operate with less regulation and public scrutiny, tend to prioritise responsiveness over risk management. They also enjoy greater control over firsthand information and relationships with donors and recipients.

These conflicting conditions create tension and frustration, sometimes escalating to anger between intermediaries and causing uncertainty among donors. This uncertainty disrupts ther pro-social emotional flow, jeopardising the overall success of the donation process.

The Role of Value in Donation Networks

A key research finding highlights the crucial role of value retention in building trust along a donor's decision-making pathway. This applies to both financial donations and emotional expressions. However, findings reveal no direct correlation between financial and emotional value from the perspective of individual donors and recipients.

The study also distinguishes how value is interpreted: Emotional expressions can intensify in value between donors and recipients. Financial donations are assessed based on purchasing power rather than emotional significance.

The interpretive nature of emotions challenges an organisation's ability to measure performance, further strengthening the case for smaller, localised intermediaries better suited to retaining emotional value within donation networks.

The Incongruity of Financial and Emotional Supply

A key conclusion of the research is the inherent incompatibility between financial and emotional supply within donation networks. While financial donations require logistical capacity and transactional efficiency, emotional expressions demand authenticity and value retention. Although intermediaries share common interests in efficiency and purpose, this incompatibility often manifests as network-wide tension.

These findings highlight the unique nature of the donation economy, which diverges from traditional and other recognised supply chain models. While donation networks have evolved to resemble conventional supply chains, the supply and receipt of emotions represent a distinct model within this economy. The initial resistance to categorising the donation phenomena as either a network or a supply chain too prematurely is vindicated in this finding.

Reevaluating the Donation Supply Model

The research suggests a philosophical shift in the donation supply model. Unlike traditional supply chains—where value reaches its peak at the customer exchange—the donation network presents a role inversion; the donor acts as supplier (of emotions and funds) and customer (receiving emotional fulfilment through giving and connecting emotionally with the recipient).

This contrasts with models like the circular economy, which still rely on distinct supplier-customer roles. This inversion is evidenced by well-documented efforts to persuade donors to contribute in exchange for emotional satisfaction or perceived social rewards.

A Social Economy Beyond Financial Exchange

Rather than functioning purely as a financial exchange, the donation network operates as a social economy, perpetuating donors' interests as suppliers and recipients. This raises important questions, particularly regarding donations to nonhuman causes, where traditional emotional reciprocity does not exist.

Final Thoughts: A Return to the Essence of Giving and Receiving

While financial donations remain critical for material recovery, addressing emotional flow within donation networks could have a broader social impact. By supporting emotional exchange, these networks can enhance social cohesion and deepen the fundamental principles of "giving and receiving."

The research proposes a looped supply model, where intermediaries play a regenerative and transformative role in directing emotional responses back to donors. Recognising the challenges of managing dual supply chains under existing organisational constraints, the study suggests future models and technologies reflecting the advantages of localised intermediaries.

The research introduces the “Noble Supply Chain” as a suitable descriptor to encapsulate these findings, highlighting its unique value base and function. By fostering a donation network that prioritises financial efficiency and emotional retention, the model aspires to redefine charitable giving in a way that aligns with its original social purpose.

6.3. Theoretical Contributions

This section builds on the literature review by identifying how existing theories have contributed to this research and where they have been extended or challenged. It highlights how the study helps to close key theoretical gaps and presents new theoretical insights that emerged from the findings and conclusions.

6.3.1. Network Theory

This research applies network theory to donation systems, showing how relationships between many different actors—not just donors and recipients—affect outcomes. It combines structural analysis (like centrality, shortest path, and flow) to improve how we understand and design donation networks.

By focusing on point-to-point delivery as a measure of network performance, this study bridges the theories of shortest path and maximum flow with the concepts of network centrality, paving the way for further applications of complementary performance metrics. This work extends network theory, having established a network as prescribed by Estrada et al.(2015) and responding to the call for further development and application of the theory (Balkwell, 2008). More specifically, this research has supported the initiatives of Bolibar (2016) and Borgatti et al. (2014) by extending the application of network theory to multiple levels and moving beyond the limited perspective of network theory as a structural paradigm only. While emotions have been considered previously within networks, the exercising of network theory across multiple domains i.e. social and organisational, and within the under-addressed environment of donation activity, this research not only makes valid contributions, but opens pathways for subsequent developments of network theory that bridge domains and practices and associated theories.

6.3.2. Donation Theory

Donation related theories traditionally focus on the motivations and behaviours of donors and recipients. However, they fall short by failing to integrate broader network dynamics and emotional influences, which limits its scope. The theories' focus remains predominantly donor-centric, overlooking the relational complexities within donation networks. A key objective of this research is to explore the emotional dynamics beyond the donor's initial motivations. Research has shown that significant emotional activity extends throughout the network, serving as a principal moderator of its effectiveness. Recent work by Das et al. (2023) strengthens this argument, demonstrating that while donors often prefer supporting causes that assist socially closer beneficiaries, contributing to socially distant others can in fact generate greater happiness through heightened feelings of benevolence—highlighting that emotional gratification extends well beyond proximity and traditional motivation-based models. This study therefore expands the discussion of emotions from donor motivations to include the behaviours of network actors and, ultimately, the recipient. It also considers the reciprocal emotional impact from the recipient back to the donor. This approach encourages a Donation Theory that expands beyond the motivation for the initial donation, providing a more comprehensive understanding of the donation process

6.3.3. Emotion Theory

Emotion Theory has been underexplored in the context of donation behaviour. This study proposes the need for an integrative framework that synthesises elements from Network Theory, Donation Theory, and Emotion Theory, and the body of theories that have some intersection with the donation phenomenon, specifically focusing on how emotions influence donation networks. The research bridges these theories, presenting new theoretical perspectives on existing concepts such as economic theory and social exchange theory in the donation environment. These contributions are valuable as they consider the role of emotions, such as empathy, altruism, and existential gift theory, in driving donations at various stages of the donation process.

While economic and social exchange theories emphasise self-interest and reciprocity, emotional theories—like Donation Emotional Theory (DET), Appraisal Theory, and Positive Emotional Transfer (PTE)—focus on emotional motivations such as empathy, altruism, and emotional contagion. These perspectives suggest that emotions, rather than obligation or reciprocity, significantly influence donation behaviour, particularly in emotionally charged contexts like crises. This aligns with the "logic of gift" discussed by Baviera et al., (2016), which describes free, unconditional giving as distinct from the logics of exchange or duty. Such a view reinforces the idea of the existential gift—an act of generosity that transcends transactional motives and reflects the deeply human impulse to give without expectation of return.

6.3.4. Management Theory

The research highlights several correlations between organisational behaviour and emotional influences transmitted through intermediaries within the donation economy. These interactions between organisational constraints and emotionally driven behaviours provide context for understanding the increasingly blurred boundaries between organisations and their social responsibilities. This section discusses theories emphasising the importance of emotions in driving donation behaviour, ranging from individual emotional responses (like empathy or guilt) to collective emotions in crises. Recognising that the donation environment is only one part of the social landscape, this research raises opportunities for management theory to engage more completely with social requirements and constraints that are underscored by volatile and nonphysical characteristics. In this context, intermediary charitable organizations serve as conduits for emotional influence, coordinating between donors and recipients and demonstrating how organizational structures shape emotionally driven donation behaviours (Li et al., 2022).

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6.3.5. Supply Chain Theory

This thesis contributes to supply chain theory from several perspectives. The most evident contribution lies in contextualising behavioural responses within the supply chain and examining their impact on performance. A more significant contribution, however, is the application of emotion as a supply commodity in the context of donation networks. Alongside traditional supply chains—such as those for goods, services, and care networks—this thesis introduces a novel concept that combines the principles and components of supply chain theory with donation economics. This research encourages movement away from current models of supply chain purpose and management that is embedded in the "focal firm" (Blanchard, 2010), and towards a more end-to-end and simplistic concept of supply (Ballou et al., 2000; Ferrer & Mullins, 2014)which is consistent with the requirements of emotions as a commodity. While the donation economy shares elements with supply chain dynamics, it departs significantly in areas such as resource limitations, performance measurement, and the roles actors play in the network. This marks the beginning of an emerging donation economy framework and theory that warrants further exploration and development.

It brings emotional dynamics into supply chain thinking, treating emotions as a form of value that flows through networks—similar to goods or services—but with distinct behaviours and impacts.

6.4. Contributions to Practice

This research reveals practical contributions across multiple actors in donation networks; donors, recipients, intermediaries/organisations, and policymakers, highlighting the interdependence of financial and emotional flows. By examining the behaviours, interactions, and network dynamics of these actors, the study provides both nuanced understanding and actionable insights that extend beyond traditional perspectives of donation systems. The findings offer practical guidance for developing policies, systems, tools and strategies that recognise and leverage this interdependence.

6.4.1. Contributions for Donors

The research reasserts donation as an emotionally initiated behaviour, highlighting that emotions such as trust, altruism, and solidarity are central to giving. Equally, it asserts the social need for the extension of emotions such as empathy, kindness, compassion and sacrifice to the recipients. Campaigns and engagement strategies should not only acknowledge but actively cultivate these emotions to foster meaningful and sustained donation practices. The study further identifies the emotional reciprocity between donors and recipients as a key dynamic, suggesting that recognition of the donor's impact on recipients,and vice versa,can strengthen relational engagement and encourage ongoing participation.

By understanding emotional triggers, organisations can design communication strategies and donor experiences that improve satisfaction, loyalty, and long-term retention. This research also emphasises that donors' influence extends beyond initial motivation: the emotional and relational context shapes broader network behaviour, suggesting opportunities for more sophisticated, relationship-driven engagement strategies. These engagement strategies may be the basis for not only a broader communication mandate, but also the development of mechanisms and pathways that can more effectively facilitate the dual transfer of donated funds and emotions.

6.4.2. **Contributions for Recipients**

Recipients gain both material and emotional benefits from donation networks. The research introduces the dual-value model of donations, which frames contributions as simultaneously providing tangible aid and psychosocial support. Recognising this dual value enhances recipient dignity, trust, and recovery, and offers practical guidance for creating feedback loops that connect recipients meaningfully with donors.

In crisis contexts, recipients' emotional experiences play a critical role in shaping the effectiveness of interventions. Aid delivery systems that attend to emotional and psychosocial needs alongside material support can foster higher social and organisational resilience and optimise outcomes. The study also highlights the need for a more inclusive understanding of donation, recognising relational, cultural, and emotional dimensions that are often overlooked in traditional donor-centric models

6.4.3. Contributions for Intermediaries and Organisations

Organisations and intermediaries operate at the nexus of financial and emotional flows. This research demonstrates how network analysis can be integrated with emotional behaviour insights to improve both operational efficiency and human-centred outcomes. By applying complementary network performance metricssuch as flow, centrality, and point-to-point efficiency, organisations can design more effective delivery systems that optimise both material and emotional value.

The study also shows how emotional dynamics influence organisational behaviour, including staff motivation, volunteer engagement, and donor interaction. Embedding emotional intelligence into organisational practices enhances engagement across multiple actors, while treating emotions as a resource or "supply", highlights novel opportunities for system design and operational planning.

A key contribution is the bridging of technical and humanitarian logics: organisations can balance efficiency-driven network design with the imperatives of emotional support. The research also underscores the strategic importance of localised intermediaries, who improve responsiveness, cultural relevance, and network resilience. Policies and training frameworks that empower these actors to manage both logistical and emotional dimensions can substantially improve outcomes in complex donation environments. Frameworks such as these can aid in reducing duplication of effort, challenges of jurisdiction and reduction of tension in the overall donation economy. introducing a theoretical model of decentralised efficiency in emotionally charged systems.

6.4.4. Contributions for Policymakers and Regulators

Through the composite lens of network analysis and point-to-point performance metrics, this research offers practical guidance for designing and managing both single- and multi-commodity delivery frameworks. Complementary measures allow assessment of network and node-level performance while balancing cost, capacity, and resilience. Importantly, this approach also reasserts the human outcomes that networks are meant to serve. By considering not only efficiency but also reliability, equity, and responsiveness, policymakers and regulators can design systems that safeguard flow under competing demands while maintaining fairness in access and delivery. These insights are directly applicable to logistical planning and value-critical supply models, ensuring networks perform well both technically and in meeting the needs of those they exist to support. Insights from this study also extend beyond disaster response to other sectors, including health, social services, and other charitable agendas, providing guidance for the development of emotionally attuned service networks.

6.4.5. Integrative Summary

Taken together, these contributions reassert the importance of viewing donation networks as both technical systems and social organisms. The findings deepen theoretical understanding of how social structures and behaviours shift under crisis conditions, particularly where emotional interdependency drives mobilisation and engagement. By bridging technical efficiency with humanitarian imperatives, this research advances a new synthesis between systems theory and social care theory, showing how the management of emotional triggers can improve donor retention, recipient satisfaction, and overall network impact.

This integrated perspective extends beyond the disaster response sector. Insights into crisis behaviour, emotional flows, and decentralised actors are relevant to health care, and other complex service networks where resilience, fairness, and responsiveness are paramount. For policymakers and regulators, the research highlights how complementary network metrics can inform the design of balanced, value-critical delivery systems that perform reliably under competing demands. For organisations and intermediaries, it demonstrates how trusted local actors and community-led approaches can strengthen both resource distribution and emotional support. For donors and recipients, it underscores how emotional engagement and outcomes are as critical as financial flows.

In sum, this study provides both conceptual clarity and practical tools for advancing social and organisational models in crisis response, offering strategies that make networks not only more efficient but also more humane, resilient, and effective.

Figure 6–1 outlines in a matrix form, the intersection between the opportunities for the roles and the respective contributions of the research.

Table 6-1: *Integrated Contribution Matrix*

Theme / Role	Donors	Recipients	Intermediaries & Organisations	Policymakers & Regulators
Emotions & Triggers	• Taps into trust, altruism, and solidarity to inspire giving • Show donors how their impact is felt	• Share stories that validate recipients' emotions • Build dignity by recognising psychosocial needs	• Train teams to use emotional intelligence in engagement • Motivate staff and volunteers through values	• Build fairness and responsiveness into policies • Measure success by human outcomes, not just efficiency
Reciprocity & Relationships	• Create two-way recognition between donors and recipients • Design campaigns that nurture loyalty	• Provide feedback channels to show how donations help • Strengthen trust through ongoing updates	• Link technical systems with human support • Empower local actors to build cultural trust	• Set rules that guarantee reliable and fair access • Balance system cost with community benefit
Dual Value (Material + Emotional)	• Frame donations as giving both money and emotional support • Offer pathways for donors to share encouragement	• Highlight both material aid and emotional backing • Recognise cultural and relational contexts	• Treat emotions as a resource to be managed • Build delivery systems that move money *and* care	• Require programs to measure both tangible and social impact • Fund models that provide holistic support
Efficiency & Network Design	• Use communication strategies that shape wider networks • Encourage donors to influence beyond single gifts	• Integrate emotional care into material aid programs • Tailor interventions to improve recovery	• Apply network metrics (flow, centrality) to reduce waste • Coordinate to cut duplication and tension	• Use node-level and system-level metrics in planning • Design frameworks that can flex to multi-need crises
Resilience & Inclusivity	• Retain donors by linking giving to meaningful outcomes • Recognise emotional triggers as drivers of loyalty	• Strengthen resilience by pairing aid with care • Include cultural perspectives in delivery.	• Support decentralised, local intermediaries • Build resilience through training and empowerment	• Safeguard systems against competing pressures • Extend inclusive models into health and social services

6.5. Limitations and Future Research Directions

Revisiting the exploratory nature of this research reminds us that the research aims to find and report on the donation phenomena that exist in the natural crisis environment. To that end, the value of this research is found equally in its direct contributions and in the opportunities it highlights for additional research.

This research examines the intersection of theory, organisational structures, and social dynamics within donation networks. A key challenge is defining a scope that is neither too narrow, risking overlooked insights, nor too broad, which could dilute analytical depth. To address this, the study employs a mixed-method exploratory approach that balances flexibility with rigour while ensuring appropriate sample sizes for data collection (Braun et al., 2021; Deterding & Waters, 2021).

While the definitions and categorisations may invite scrutiny, they effectively highlight key themes and findings. Similarly, generalisation is necessary but does not compromise the study's insights. These limitations are addressed through the study's recommendations.

1. Donation Networks and Value Supply Chains

Research Question II identified potential similarities between donation networks and traditional value supply chains. Further exploration of this relationship could yield interdisciplinary benefits, enhancing practical applications and theoretical models with particular interest in "looped" supply models.

2. Longitudinal Study of Emotional Transitions

Understanding how emotions evolve throughout a crisis could offer valuable insights into donor behaviour and network dynamics across the lifecycle of crisis scenarios. A longitudinal approach could track emotional shifts, highlighting key decision-making processes and support needs.

3. Strategic Value of Multiple Pathways

The intersection of agency, functionality, and efficiency suggests that multiple pathways within the donation network serve a strategic purpose. Further research could identify the factors shaping these hierarchies, improving overall network adaptability and effectiveness.

4. Individuality of Emotions

This study examined emotions broadly, highlighting only a few. Future research could focus on specific emotional experiences rather than general categories. A more nuanced approach may reveal how distinct emotions influence donor-recipient interactions and network engagement.

5. Commodity Transformation of Emotions

Findings suggest that emotions within donation networks undergo reactionary and intensifying transformations as they move between actor nodes. While this study explored the facilitation of emotional transmission, it did not examine how emotions evolve within the network. A deeper analysis could provide insights into network causality, organisational responses, and community resilience during crises. A further contribution can be made to the understanding of volatile commodities that can be seen as an approach to value delivery theory.

6. Reciprocal Flow in Non-Physical Supply Chains

This study did not explore the reciprocal flow of intangible commodities such as emotions, particularly those with volatile and transformative characteristics. Investigating how emotional exchanges function within a supply chain framework could offer new perspectives on network efficiency and resilience,

7. Balancing Localisation with Network Capacity

While this study highlighted the benefits of localisation and shorter pathways, particularly in strengthening donor engagement, it did not fully evaluate the balance between network capacity and desired social outcomes. Future research could define an acceptable level of emotional satisfaction among participants and determine the optimal number of intermediaries needed to sustain emotional and financial value in the system.

8. Dual Commodities

Further research on how supply networks can handle simultaneous or concurrent supply functions for commodities with different characteristics, such as physical and non-physical goods. While the data from stage II and stage III included multiple flows between the donor and the recipient, comparing those multiple flows has not been a priority of this research. Nonetheless, such an analysis of networks and their respective flows, having different profiles, i.e. physical and non-physical, commercial and non-commercial, would be productive for supply networks with high supply/customer engagement levels.

6.6. Final Thoughts

This research reveals the underappreciated yet transformative role of emotion within donation networks, challenging traditional theories and advancing a more integrated framework of value. By reinterpreting emotions as a commodity and transmission mechanism, it reframes donations as dual-value exchanges, simultaneously delivering material aid and emotional resonance. The findings bridge theory and practice, offering insights applicable not only to the donation economy but also to broader business and crisis contexts. Organisations are encouraged to revisit operational models, integrating emotional dynamics into network design, supply strategies, and stakeholder engagement. The study highlights the importance of local intermediaries, emotional reciprocity, and multiple delivery pathways in building resilience and trust.

By encouraging organisations to revisit business scenarios through the lens of emotional value and transmission, the study introduces a new conceptual tool for decision-makers: understanding that emotional effectiveness is not a by-product, but a deliberate design objective. As emotion travels across and through networks, it becomes a strategic asset, shaping outcomes, reinforcing trust, and amplifying the human impact of system performance. Future studies can build on this thesis by addressing these research areas to deepen our understanding of donation networks' structure, functionality, and emotional dynamics. As discussed, these insights could contribute to more effective network strategies, policy-making, and crisis response mechanisms, ultimately improving donor engagement and recipient outcomes.

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Appendices

Appendix A. Email Contact

From: Mitchell Howard <Mitchell.Howard@student.uts.edu.au>

Sent:

To:

Subject: Research invitation – UTS

Hi …….,

My name is Mitch Howard. I'm a PhD student at the UTS in Sydney. As advised in the attached invitation, I am conducting research into the donation phenomena in localized crisis situations. I would invite you to review the invitation and consider your willingness to participate. You can contact me by return email, or by phone.

As indicated on the formal invitation, ethics and privacy controls will be adhered to in the conducting of this research, and in subsequent publication if appropriate.

There is no obligation to participate.

Kind regards

Mitch Howard

Appendix B. Formal Invitation

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

Date....

Dear ....

My name is Mitchell Howard, and I am a PhD student at the University of Technology Sydney.

I am conducting research into the topic below and would welcome your assistance.

Working Research Topic

"How does the donation ecosystem propagate the social intentions of the donor to beneficiary exchange?"

The research will involve 11 (eleven) principal interview questions and should take no more than 45 to 60 minutes of your time. I have asked you to participate because of your public experience in the broad range of donation related activities in localised crisis scenarios. The research is being conducted across a diverse cross-section of roles that constitute the donation ecosystem. Your contribution would assist in both exploring and understanding the donation phenomena.

It is hoped that the output of this research will advance both the understanding and performance of the donation environment and the associated social dynamics.

This research has been funded under Commonwealth Research Funding through the University of Technology Sydney. If you are interested in participating, I would be glad if you would contact me.

You are under no obligation to participate in this research.

Yours sincerely,

Mitch Howard
0424 197 990
13692900@student.uts.edu.au

NOTE:
This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 2478 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number. Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Ethics approval reference: ETH20-5606 Approved Title: "Strategic modelling of relationship networks in humanitarian funding supply chains."

Appendix C. Part II Consent Form

UNIVERSITY OF TECHNOLOGY SYDNEY

CONSENT FORM

ETH20-5606 - STRATEGIC MODELLING OF RELATIONSHIP NETWORKS IN HUMANITARIAN FUNDING SUPPLY CHAINS

I ____________________ *[participant's name]* agree to participate in the research project being conducted by Mitchell Howard Mitchell.Howard@student.uts.edu.au 0424197990.

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the research as described in the Participant Information Sheet.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time without affecting my relationship with the researchers or the University of Technology Sydney.

I understand that I will be given a signed copy of this document to keep.

I am aware that I can contact Mitchell Howard Mitchell.Howard@student.uts.edu.au 0424197990 if I have any concerns about the research.

____ ____/____/____

Name and Signature [participant] Date

____ ____/____/____

Name and Signature [researcher or delegate] Date

Appendix D. Participant Information

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

PARTICIPANT INFORMATION SHEET

ETH20-5606 - STRATEGIC MODELLING OF RELATIONSHIP NETWORKS IN HUMANITARIAN FUNDING SUPPLY CHAINS

WHO IS CONDUCTING THIS RESEARCH?

My name is Mitchell Howard and I am a student at UTS. My supervisor is Dr. Md Maruf Chowdhury - Maruf.Chowdhury@uts.edu.au

WHAT IS THE RESEARCH ABOUT?

This research is about the expression of social values E.g., gratitude, empathy, obligation, generosity, etc., that motivate and accompany the giving and receiving of financial donations in crisis situations i.e., fire, floods, etc.

The purpose of this research is to explore the roles, relationships, and activities within those situations as an interactive and interdependent set of elements. It will produce a set of findings that addresses the impact of those elements on the expression and representation of the social values.

WHY HAVE I BEEN INVITED?

You have been invited to participate because you have personally participated or represented an organization in the range of activities related to financial or other donations in a crisis i.e., flood, fire, etc. Participant roles in donation activities extends beyond the principal roles of donor and recipient.

FUNDING

N/A

WHAT DOES MY PARTICIPATION INVOLVE?

If you decide to participate, I will invite you to participate in a one-to-one semi structured interview conducted either in a face-to-face interview or via Zoom or similar. The location of the interview will be negotiated between yourself and the interviewer for a location convenient to you.

You will be asked a range of questions about your involvement in the donation activity. Those questions will explore a range of topics including your personal experience and perceptions, observations, and relationships.

You will not be asked any questions about your specific donations (if you are a donor) or regarding any value or use of donated funds (if you are a recipient). Other than the contact details provided, you will not be required to provide any other personal details.

An audio recording of the interview will be made. It is anticipated that the interview will last approximately 45 to 60 minutes.

There will be no other participants or observers during your interview.

ARE THERE ANY RISKS/INCONVENIENCE?

Participant information and consent form – V.02 16 Feb 2022 *Page 1 of 4*

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

Yes, there are some risks/inconveniences.

The planned semi structured interviews will be conducted either face-to-face or in zoom settings. There is no physical risk beyond the level of inconvenience that may exist in a normal conversational setting.

Those conditions would not exist in a zoom setting. There may be a level of inconvenience associated with the use of technology when using Zoom and/or computers for communication.

In either setting there is the potential risk of embarrassment as a participant or in response to individual questions. The embarrassment could be caused by such things as forgetfulness of incidents, limited articulations skills or discomfort with their own responses.

Within the semi structured interview there are no questions that would generate any reputational, compliance or regulatory risk for the participants.

COVID Management Statement

"We encourage everyone participating in research involving physical face-to-face contact to maintain good hand hygiene and to practice physical distancing (maintaining 1.5 metres or more between yourself and others) at all times. Please take your own measures to respond to COVID-19 in line with Australian Government COVID-19 guidelines and consider downloading the COVIDSafe app. For your safety and for others, if you are feeling unwell, please notify appropriate medical personnel and do not attend any physical face-to-face activities."

DO I HAVE TO TAKE PART IN THIS RESEARCH PROJECT?

Participation in this study is voluntary. It is completely up to you whether you decide to take part.
If you decide not to participate, or to withdraw from the study, it will not affect your relationship with the researchers or the University of Technology Sydney or your organisation.

WHAT IF I WITHDRAW FROM THIS RESEARCH PROJECT?

If you wish to withdraw from the study once it has started, you can do so at any time without having to give a reason, by contacting Mitchell Howard at Mitchell.Howard@student.uts.edu.au or 0424197990.

If you withdraw from the study, your audio file and transcript will be destroyed if your personal details remain identifiable with those files.

However, it may not be possible to withdraw your data from the study results if these have already had your identifying details removed.

WHAT WILL HAPPEN TO INFORMATION ABOUT ME?

By signing the consent form, you consent to the researcher collecting and using personal information about you for the research project. All this information will be treated confidentially. Contact details will be collected and maintained by the researcher for administrative and logistic purposes of the research data collection. This data will remain on a locally secured server until the completion of the data collection. Interview recordings and transcripts will be stored in a university secured repository specifically for research data with access limited to the researcher. Personal contact details of participants will be transferred to this repository on completion of the research project. All locally held files will then be destroyed.

It is anticipated that the results of this research project will be published and/or presented in a variety of forums. In any publication and/or presentation, information will be provided in such a way that you cannot be identified, except with your permission.

This research has significance for a range of theory disciplines. As such it is foreseeable that the data we collect from you may prompt or support additional research into those disciplines. Within the domain of donation theory, it is foreseeable that this data could be used in establishing a range of variables for

Participant information and consent form – V.02 16 Feb 2022 *Page 2 of 4*

Appendix E. Participant Register

Participant ID	Interview Date	Duration	Participant role
Audio AC	18/5/2022	0:44:55	Aggregator
Audio AN	17/5/2022	2:30:22	Recovery Officer
Audio AT	13/4/2022	1:33:07	Local Service Organisation
Audio DB	23/5/2022	1:12:00	Charitable Organisation
Audio GJ	1/06/2022	0:58:00	Regulator
Audio JM	8/06/2022	0:56:00	Analyst
Audio KP	13/4/2022	1:24:19	Recipient
Audio KS	18/5/2022	1:15:00	Academic Observer
Audio KT	16/9/2023	0:58:52	Analyst/Charitable Organisation
Audio MJ	8/62022	0:59:00	Local Service Organisation
Audio ML	16/5/2022	0:50:00	Charitable Organisation
Audio PD	8/04/2022	1:02:07	Community Coordinator
Audio ST	27/5/2022	1:10:00	Peer-to-peer Organisation
AudioGM	19/3/2022	0:56:39	Broadcast Media

Appendix F. SSI Emotional Adjacency Matrix

	Advocate	Affected Community	Aggregator	Assessor	Broadcast Media	Business Services	Charitable Organisation	Community	Community Coordinator	Community Coordinator	Corporation	Donor	Emergency Services	Government	Local Government	Local Government Recovery Officer	Local Service Coordinator	Local Service Organisation	Network	Operation	Peer-to-peer	Philanthropist	Public	Recipient	Regulator	Social Media	Transfer agents	Volunteer
Advocate					4		1																1			1		
Affected Community		1																										
Aggregator							5					8						1						5	2			
Assessor							2														1			3				
Broadcast Media	2		1		1		2					5											7	3				
Business Groups																		3										
Business Services						1												1										
Charitable Organisation			2	3			11	1				17		2	1	1		3	1					18	1			
Collateral Recipient												1																
Community								1	2	1		1												8				
Community																								2				
Community Coordinator					1							2		1	4							4		5				
Community Donor																		1						3				
Connected Donor																		1										
Corporation							2																					
Donor	1		4				31	3				1			1			7			3		1	26			1	
Emergency Services																								4				
Faith-based Groups																		1										
Government		1	3				5								2		4	3						7				
Local Assessment Teams																		1										
Local Government								2	2									3						2				
Local Government Recovery Officer		1													1									1				
Local Service Organisation						1	3					4	1	3	1								2	9		1		1
Multicultural Group																		1										
Pay-it-forward Donors																		1										
Peer-to-peer					1							2								1				3				
Philanthropist							1		1									1						1				
Public	1		1				3		4						2			1						6				
Recipient			1		4		11	1				28	2	3	2	3		6			2			6				
Regulator							4		1			4																
Social Media											1												1					
Transfer agents																								1				
Volunteer																								2				

Appendix G. Consolidated SSI Adjacency Matrix

	Advocate	Aggregator	Assessor	Broadcast Media	Business Services	Charitable Organisation	Collateral Recipient	Community	Community Coordinator	Community Donor	Corporation	Donor	Emergency Services	Government	Local Government	Local Government Recovery Officer	Local Service Coordinator	Local Service Organisation	Network	Peer-to-peer	Public	Recipient	Regulator	Social Media	Transfer agents	Volunteer
Advocate	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aggregator	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Assessor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Broadcast Media	2	1	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Business Services	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Charitable Organisation	0	1	2	0	0	5	0	1	0	0	0	10	0	2	1	0	0	1	1	0	0	11	0	0	0	0
Collateral Recipient	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Community	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Community Coordinator	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Community Donor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Corporation	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Donor	1	1	0	0	0	16	0	1	0	0	0	0	0	0	0	0	0	4	0	0	1	21	0	0	0	0
Emergency Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Government	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	2	0	0	0	0
Local Government	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
Local Government Recovery Off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Local Service Coordinator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Service Organisation	0	0	0	0	0	3	0	0	0	0	0	4	0	3	1	0	0	0	0	0	0	3	0	1	0	0
Network	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peer-to-peer	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Public	1	1	0	0	0	3	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	3	0	0	0	0
Recipient	0	1	0	3	0	9	0	1	0	0	0	24	2	3	1	1	0	6	0	0	0	3	0	0	0	0
Regulator	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social Media	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfer agents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Volunteer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

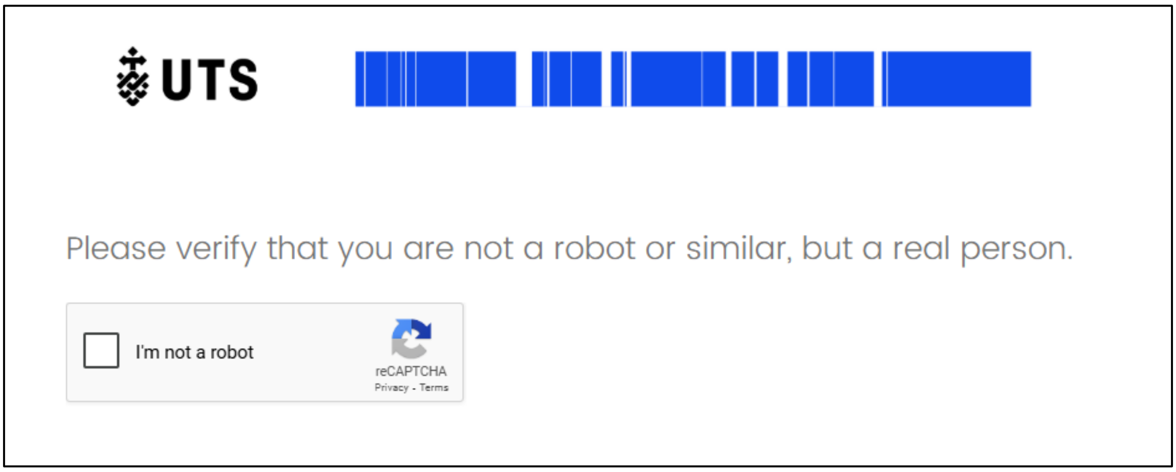
Appendix H. Interview Questions

Ref	Relevance to research questions	Subject category	Question	Follow on questions I	Follow-on questions II	Follow-on questions III	Follow-on question IV
Q1	RQ2, RQ3, RQ4	Participation	**Can you describe your personal experience as a participant in financial donations in crisis scenarios?**	In that experience what roles and functions did you perform?	What were some of the events or observations of significance in the donation ecosystem?	Can you describe the range of feelings you experienced towards any element of the donation activity?	Was was your involvement in response to, or motivated by, any reward or consideration?
Q2	RQ2	Actors	**From your involvement can you identify the various roles and functions that exist in between the donor and the recipient?**	How did these roles differ?	Do you see a beneficial opportunity to include additional roles or to modify/delete existing roles?	What would you change?	Why?
Q3	RQ2,RQ3,RQ4	Relationships	**Can you describe the relationships between the roles you have identified?**	How would you categorise the different types of relationships you have just described?	What factors do you believe contribute to the success of those relationships?	Describe the expectations that exist within those relationships.	Why do those expectations exist?
Q4	RQ2,RQ3,RQ4	Relationships	**Can you discuss the nature and dynamics of your role's relationships?**	How would you compare the importance of your own relationships with other relationships you have observed?	Can you discuss the factors that impact on your relationships?	How do you see those relationships changing across the life cycle of the crisis?	What is the nature of these relationships outside the life-cycle of the crisis
Q5	RQ3	Motivations	**What differences of focus areas have you observed between the various roles?**	Why do you feel those differences exist?	Do you see a need for adjustment or correction in those focus areas?	What is the basis of that judgement?	
Q6	RQ3,RQ4,RQ5	Functional	**Thinking about the exchanges you have described, are you able to chart or draw the various transaction or handover points between participants?**	At what points in those transactions and handovers do you see value being added or subtracted from the original donation?	Can you give any examples of where you see inequity or inequality in those transactions?	In light of those transactions, how would you compare the beneficiary with the normal role of a consumer?	In what ways do you see the financial transactions impacting on the relationships within the ecosystem and vice versa?
Q7	RQ3,RQ4	Personal values	**What responsibility did you feel towards other participants in that scenario?**	How was that responsibility demonstrated?	Did you feel that sense of responsibility being reciprocated from other participants?	How was that demonstrated?	
Q8	RQ4,RQ5	Social values	**What do you believe is the social intention of the donor?**	How do you feel the donation ecosystem is successful in delivering that intent to the recipient?	Describe for me the barriers and supports for that social intention?	Is it necessary, and in what ways is the beneficiary able to make a social response to donations received?	
Q9	RQ3,RQ4,RQ5	Social values	**In what ways do you think the donation exercise makes a difference to the principle donor/beneficiary relationships?**	In your opinion explain why it is necessary or not for any social exchange to occur between the donor and recipient?	What responsibilities do you see for the donation ecosystem to make those social exchanges?	How does this particular social relationship impacts on the financial exchange?	
Q10	RQ3	Personal values	**In what ways has your participation been valuable to you?**	How has it made you more aware of the social behaviour and motivations of the donor and/or the beneficiary?	How has your personal participation impacted on your own social behaviour and motivations?		
Q11	RQ3,RQ4,RQ5	Motivations	**What influences have contributed to your involvement in donation activity?**	How has your most recent donation experience impacted on your attitude towards future involvement?	How has your most recent donation experience impacted on your relationships within the donation environment?	How has your involvement impacted on the relationships between other participants?	
Q12	RQ2	Participation	**Has this interview and the interview questions raised any other issues or thoughts regarding the donation scenario that have not been discussed?**	Can you suggest any other individuals or categories of participants whose contribution may be valuable or interesting?			

Appendix I. Questionnaire Blocks and Questions

Block 1. Introduction

Verification Task



Block 2. Participation

Question 1.

Listed below are eleven donation related activities that aid households impacted by a crisis e.g. floods, fires, storms.

Please click all activities in which you personally participated.

1. Donation: You donated to crisis relief from household income or other sources e.g Individual, family, philanthropist.

2. Fundraising: You were involved in fundraising for impacted households e.g.

Alternative Responses

1. Donation:
2. Fundraising:
3. Collection:
4. Consolidation:
5. Local Coordination:
6. Recipient:
7. Direct matching:
8. Needs Assessment:
9. Media:
10. Support:
11. Promotion/Advocacy:

12. Is there any other donation activity in which you participated, that is not covered by one of the activities above. If “yes”, write the activity in the box below.

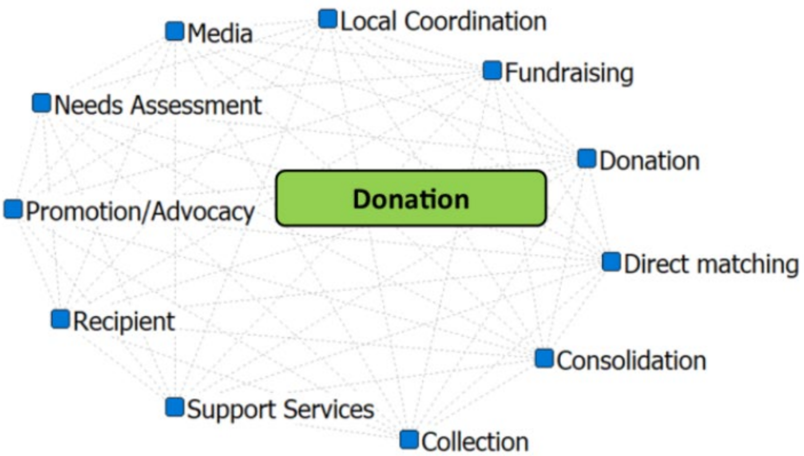
Block 3. Relationships

Question 2 Part I

There are several parts to this question subject to your responses

Previously you selected "Donation" as an activity in which you participated.

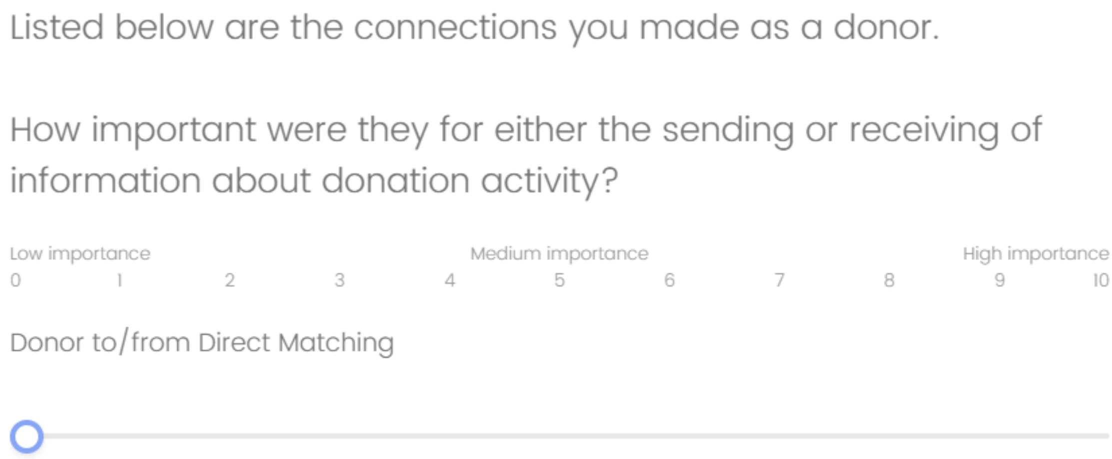
Now click the other activities in the network that you connected with while donating e.g. As a donor, did you have any connection to a fundraising activity, or perhaps you donated directly to a recipient, or perhaps you're relied upon the media for crisis and/or donation information?



Appendix I…. cont'd

Block 4. Relationship Values/Influence

Question 2 Part II.


Listed below are the connections you made as a donor.

How important were they for either the sending or receiving of information about donation activity?

Low importance Medium importance High importance
0 1 2 3 4 5 6 7 8 9 10

Donor to/from Direct Matching

From Question 2, Question 3 branches into the identified connections and determines the value of those connections in relation to:

a. information
b. motivation
c. emotional expression
d. actual donation

Block 5. Sign-off and Snow Ball

Question 3

During your participation in these donation activities you would have been acting in one, or a number of roles. These could include a household member, volunteer, a public official, an employer and so on. From the list below please click all roles that you acted in during your participation in donation activities.

☐ Academic or commentator	☐ Employer (not-for-profit)
☐ Employee (not-for-profit)	☐ Elected public officer
☐ Employee (profit based)	☐ Individual or household member

If there is someone that you know whose participation in this survey could be valuable, please share this survey link with them.

Alternatively, insert their email or social media link in the boxes below.

☐ Employed or freelance media provider	☐ Celebrity or influencer
☐ Employer (profit based)	☐ Other

Question 4

Would you be prepared to discuss your responses further in a zoom interview?

If so, please insert your email address below. Additional information will be emailed directly to you.

Question 5

Question 6

If you would like to be kept up-to-date with the results of this survey, please insert your preferred contact details in the box below.

Appendix J. Questionnaire Adjacency Matrix

	Donation	Fundraising	Collection	Consolidation	Local coordination	Recipient	Direct Matching	Needs assessment	Media	Support Services	Promotion/advocacy
Donation	23	12	11	4	8	6	5	2	6	4	2
Fundraising	5	2	2	1	5	1	1	0	1	2	0
Collection	4	0	2	1	3	0	1	1	1	1	0
Consolidation	1	0	5	2	2	1	1	1	2	3	1
Local Coordination	1	1	1	0	0	0	0	0	1	1	1
Recipient	2	1	0	0	4	1	1	0	0	3	0
Direct Matching	2	0	0	1	2	0	1	1	2	2	1
Needs Assessment	0	0	0	0	0	1	1	1	1	2	0
Media	0	1	0	0	1	1	0	0	0	0	0

Support Services	1	0	0	0	1	0	0	0	0	1	0
Promotion/ Advocacy	0	0	0	0	0	0	0	0	0	0	0

Appendix K: Semistructured Interview Protocol

Overview

This protocol outlines the procedures and framework guiding the conduct of semi-structured interviews for this study.

1. Purpose

To gather experiential and conceptual data related to the donation network by interviewing individuals representing a range of actor roles (e.g., donors, intermediaries, recipients, regulators, and commentators). The interviews aim to support theory development and enhance understanding of the network's structure and participant dynamics.

2. Participant Recruitment

Participants were purposively sampled based on relevance to the research questions and roles identified in the literature review. Sources included personal contacts, referrals, media, and public records. Invitations were extended via email (see Appendix A) with supporting documents: invitation letter (Appendix B), and consent form (Appendix C). A total of 14 interviews were conducted (see Table 3.1).

3. Interview Format

- Mode: Online via Zoom or Microsoft Teams
- Duration: 45 minutes (scheduled for 75 minutes)
- Recording: With consent, interviews were recorded (video/audio) and transcribed using Otter, followed by manual editing.
- Storage: Recordings are stored as MP4 files; transcripts in Microsoft Word.

4. Structure and Content

Interviews followed a semi-structured guide organized into two tiers:

- Initial and first follow-up questions
- Additional prompts for depth and clarification (Appendix H)

Themes included:

a) Personal participation

b) Role identification

c) Relationship dynamics

d) Motivations

e) Functional interactions

f) Personal values

g) Social values in donation

Questions were designed to be open-ended, experiential, and aspirational, with minimal bias and scope for elaboration.

5. Ethical Considerations

All interviews adhered to ethical protocols approved by the relevant ethics committee. Participants provided informed consent prior to participation. Data confidentiality, participant anonymity, and voluntary participation were strictly maintained (see Appendices B and D).

6. Saturation Strategy

A minimum sample of 9–17 interviews was targeted following Hennink & Kaiser (2022). Saturation was monitored iteratively, focusing on thematic richness rather than numeric thresholds. Maximum variation sampling supported exploration across heterogeneous roles.