The politics of openness[1]

Stewart Clegg, University of Technology Sydney, Australia & Nova School of Business and

Economics, Lisbon, Portugal

Stewart.Clegg@uts.edu.au

Mark van Rijmenam, University of Technology Sydney, Australia

Mark.vanRijmenam@student.uts.edu.au

Jochen Schweitzer, University of Technology Sydney, Australia

Jochen.Schweitzer@uts.edu.au

Introduction

Recently, openness has become a new approach in strategizing as ownership and control of internal assets are no longer vital to achieving competitive advantage (Chesbrough & Appleyard, 2007). Nowadays, knowledge is widespread and open systems are generally regarded as beneficial in terms of organizational design and work culture. However, openness also comes with politics and it is not a practice that will necessarily be welcomed by all. Openness changes the power dynamics within an organization; there are critics as well as friends, as we shall explore. Openness is a process that can change over time, becoming more or less open as events occur and contingencies or actors change. We are interested in how dominant organizational actors can seemingly manipulate 'open systems' strategically. Openness is problematic per se for social systems. Systems endogenously construct their differentiation from other systems through closure achieved through specific cognitive rules. In this chapter, we use Clegg's (1989) 'circuits' approach to a theory of power to grasp the politics of openness in terms of three circuits of power. Some of the recent problems posed in the wider world of social media will be analysed in terms of the three circuits to illustrate some potential problems.

We start from the premise that organizational structures are constituted by rules that make variable resources available to different actors. These create relations of autonomy and dependence, which actors, drawing on resources, reproduce as relations of domination (Giddens 1981: 28-9). Structures provide rules and resources; systems are reproduced, as are regular practices through the codifications they deploy. Actors draw on these structures: the more strategic resources are held, the greater the autonomy and the less the dependence of the actors concerned. Actors in this context may be of any type: human or non-human, material or immaterial. When resources are deployed, they can be depleted as they are used or through

their use, they may increase in value. Creating power through reproducing particular ensembles of social order presupposes consensus and the regular predictability of other actors' actions. Events, of course, can undermine these assumptions, as we shall discuss subsequently.

In what follows we shall first define open strategy, providing some examples of what is usually involved. Second, we shall move to a discussion that positions the importance of both trust and power relations in developing open strategy, while considering the case for new forms of digital affordances, such as blockchain, to render these transactionally redundant. Third, we shall discuss the sphere that has been most privileged in discussions of open strategy – the field of open innovation, which we shall steer towards a politics lens. Fourth, doing so provides an entry to our next sub-section – the politics of openness, which we initially explore discursively before moving to a more analytical discussion, framed through the model of 'circuits of power' (Clegg 1989). In a penultimate move, we continue the discussion of circuits of power by addressing it to the conjunction of big data, open systems and open strategy, looking at the use of such data by firms such as Cambridge Analytica. Finally, we draw some overall conclusions about the politics of openness that, perhaps, run a little counter to some of the more enthusiastic discussions of open strategy.

Defining open strategy

Open strategy, as an extension of open innovation (Whittington, Cailluet, & Yakis-Douglas, 2011), involves harnessing collective creativity in the strategy process (Chesbrough & Appleyard, 2007). Whittington et al. (2011) define open strategy as an inclusive and transparent form of strategizing that allows participation beyond organizational boundaries (e.g., allowing consultants, customers, suppliers and even competitors to contribute) as well as internally. Inclusiveness involves previously excluded actors in the strategy making

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process (Amrollahi & Ghapnchi, 2016; Appleyard & Chesbrough, 2016; Dobusch, Seidl, & Werle, 2015; Kennedy, Whiteman, & van den Ende, 2016; Pittz & Adler, 2016), while transparency is a concern to be transparent when communicating with those actors (Amrollahi & Ghapnchi, 2016; Appleyard & Chesbrough, 2016; Gegenhuber & Dobusch, 2016; Pittz & Adler, 2016). Tavakoli, Schlagwein and Schoder (2015), in a paper that arrives at a consolidated definition of open strategy, add 'IT enabledness' as a key aspect to facilitate inclusiveness and transparency through digital affordances.[2]

Openness focuses on discovering, exploring and exploiting opportunities through multiple internal or external resources resulting in better or new products and services (Chesbrough, 2003c; Dobusch et al., 2015). Open strategy creates value (Chesbrough & Appleyard, 2007) by lowering entry barriers for new stakeholders (Boudreau, 2010). Openness utilizes a collective intelligence, whereby involved stakeholders are connected so that collectively they act more intelligently than any individual, group or computer (Leimeister, 2010) to enable better decision-making (Stieger, Matzler, Chatterjee, & Ladstaetter-Fussenegger, 2012; Surowiecki, 2005), conceived almost as a digitally enhanced 'invisible hand'. The result is claimed to be a strategy process that is 'multivoice, divergent, egalitarian and inclusive' (Aten & Thomas, 2016: 171).

One example is crowdsourcing, which allows organizations looking for innovation ideas and solutions to engage a previously excluded crowd (Afuah & Tucci, 2012; Boudreau & Lakhani, 2009; Howe, 2006, 2008), one that will not always be well informed either about technologies, strategies or investments. Organizations can crowd source innovation via idea

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[2] Digital technologies, including social media and web 2.0 now allow organizations to use 'the intelligence of the crowd' analogously to the 'invisible hand' to improve solutions, innovate or make better decisions. The analogies between open sourcing, the wisdom of the crowd and the invisible hand are family resemblances that have long characterised discussions of openness in a parallel 'open' stream to that of open systems theory – that of the 'open society' (Popper 2012; see Tkacz, 2015).

contests (Piller & Walcher, 2006), innovation challenges (Edwards, Logue, & Schweitzer, 2015) and events such as the IBM Innovation Jam (Afuah & Tucci, 2012; Bjelland & Wood, 2008; Boudreau, Lacetera, & Lakhani, 2011; Lüttgens, Pollok, Antons, & Piller, 2014; Terwiesch & Xu, 2008). Brabham (2012) found the crowd to be predominantly made of self-selected professionals who opt-in to crowdsourcing arrangements and exert large amounts of work and expert knowledge for little reward, serving the profit motives of those companies that initiate the open invitation.

Open strategy: innovation

Different motivations for openness exist, such as quite functional searches for faster and more efficient innovation. The desire for openness may herald more transparent and participatory forms of organizing (e.g. Tkacz, 2012) as Dobusch, Dobusch and Müller-Seitz (2017, p.2) suggest. In either case, creating a community of practice attuned to the specific constraints of whatever ideals of openness are enacted is vulnerable to criticism from those that do not share these ideals.

Studies of open innovation have become very popular and led to a rapid evolution of the field (Huizingh, 2011; Van De Vrande, Vanhaverbeke, & Gassmann, 2010). Chesbrough (2003b: 24) suggests that organizations increasingly follow external ideas via purposeful flows of knowledge, technology and resources beyond organizational boundaries. So-called 'open innovation' occurs in a distributed network that includes external partners (Bogers & West, 2012; Chesbrough, 2006a). Through collaboration among internal and external actors, it is claimed, organizations are able to leverage complementary assets and capabilities, fast track the commercialisation of ideas and improve governance (Chesbrough, 2003a; Chesbrough & Bogers, 2014; West, Salter, Vanhaverbeke, & Chesbrough, 2014). Snow, Fjeldstad, Lettl, and Miles (2011) call this the Collaborative Community of Firms Model, where organizations

that want to succeed will have to share knowledge and engage in collaborative relationships with industry partners and stakeholders to drive innovation.

The majority of studies have examined the firm-level application of open innovation (e.g., Chiaroni, Chiesa, & Frattini, 2011; Dahlander & Piezunka, 2013; Laursen & Salter, 2006a; van de Vrande, de Jong, Vanhaverbeke, & de Rochemont, 2009) via knowledge exchange or technology transfer between two organizations (West and Bogers, 2014). Those studies have shown how organizations can foster innovations together with suppliers, customers and partners via R&D alliances and technology partnerships (e.g., Clausen, 2013; Obal & Lancioni, 2013), through search and integration of knowledge and technology (e.g., Cassiman & Veugelers, 2006; Hughes & Wareham, 2010), and patent and IP portfolio management (e.g., Vanhaverbeke, Van de Vrande, & Chesbrough, 2008; West & Gallagher, 2006). These open innovation mechanisms eventually advance innovation processes (e.g., Enkel, Gassmann, & Chesbrough, 2009), outcomes (e.g., Faems, De Visser, Andries, & Van Looy, 2010) and organizational performance (e.g., Laursen & Salter, 2006b).

Thanks to the plummeting costs of communication and new technologies, collaboration at a distance across the boundedness of the system becomes more feasible (Chesbrough & Appleyard, 2007), relying on trust among actors being created either through a system of reputation, governed by a central party (Dellarocas, 2004) or governed by cryptography. With these possibilities for (closed) organizations that are part of closed systems to open up and achieve innovation, there is the possibility of value creation and strategic advantage being stimulated by joining or forming collaborative communities (Tremblay & Yagoubi, 2017) typically characterised as having open and transparent exchange relationships. A fine balance between openness and filtered selectivity for optimal results typifies 'open' power relations (Hardy, Lawrence, & Phillips, 2006). A filtered 'open' system of cooperation can promote

innovation, elaborate different aspects of a problem and reform agendas through wider participation by different actors (Hardy et al., 2006), albeit under conditions that invariably involve agenda setting from the initiating organization.

Open strategy: trust, power and blockchain

Trust and power are two alternative bases for organizing relations with stakeholders. Relations of power over people functions as one amongst several media of communication through which dominant and subordinate groups of actors' co-ordinate and control their social interactions. Another option may be to constitute a social relation with others based on trust (Fox 1974) as an alternative to one based on power relations. Trust is often seen as the basis for a relation of openness because organizations would not want to be open to those they did not trust, although a lack of trust does not prevent openness. While firms often trust internal knowledge more than external knowledge (Tapio Lindman, 2002), mutual commitment among involved actors (Bogers, 2011) or legal mechanisms (Dahlander & Gann, 2010) can position organizations for more systemic open relations with other organizations.

In an environment such as the Internet, however, the options of mutuality or legal dictate might not be available, resulting in a lack of trust and a negative impact on any open strategic initiative (Whitty & Joinson, 2008). Traditionally, organizations have been focused on ownership and control of (in)tangible assets to achieve innovation and competitive advantage by using the power leverage that these afford to create favourable relations with external stakeholders. Internal stakeholders are already implicated in hierarchical and other power relations through contracts of employment and divisions of labour. In the past, strategic innovation equalled control; to be successful, it required full control and a closed system,

protected with secrecy, patents and legal process (Chesbrough, 2006b).[3] Innovative progenitors strove to steal a march on potential competitors; one thinks of high-security research laboratories, or skunkworks buried deep inside a bureaucracy. Of late, however, strategy and innovation have increasingly become associated with openness as a positive virtue, especially in terms of digital affordances. The most recent of these is blockchain, which changes the existing power and trust balances within organisations (Davidson, De Filippi, & Potts, 2016; Mattila, 2016)

With contemporary digital technologies, such as blockchain, new environments are evolving that explicitly rely on an open setting. Trust is created cryptographically, adding a never before seen dimension to the game (Beck, Czepluch, Lollike, & Malone, 2016). Thus, as a research topic, blockchain brings a new dimension to openness, where traditional power dimensions may no longer influence an organization's strategy because cryptography and smart contracts take over. Blockchain technology is a perfect example of a self-referential or autopoietic system of communication that reproduces itself by following an internal logic driven by a system-specific binary code. An autopoietic system is organized to respond to the world while preserving its integrity; it has a memory that organizes the parts even while those parts may be adding up to produce the functioning whole. With a single binary code steering the system, it can be considered closed as it can only make sense of external stimuli in relation to its own internal operations and parameters, lodged in memory and in smart contracts. On the other hand, the system is also open and not deterministic, given that the feedback from the environment, deciphered in the binary way of the code, influences its

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[3] However, today the world's biggest holiday accommodation company Airbnb doesn't own a single hotel, the biggest taxi company Uber doesn't own a single vehicle, and the biggest general store and bookstore Amazon.com doesn't own a single grocery/book (Goodwin, T. 2015. The Battle Is For The Customer Interface, Vol. 2017: Techcrunch.Goodwin, 2015).

reproduction.[4] An autopoietic system is not deterministic but contingent over time, meaning that choices made lay the basis for later choices. Earlier choices are not determinate of later ones, but they help form contingencies.

Research into blockchain is at the top of the current agenda for research into forms of open system organizational communication if only because it promises transparency in power relations and enables trustless transactions. What appears to be possible is the creation of a "fundamentally new paradigm for organizing activity with less friction and more efficiency, and at much greater scale than current paradigms" (Swan, 2015: 27). This decentralised technology enables an increasingly liquid society of networks in which the web interconnects much of social reality. However, we are not yet aware of how blockchain technology will actually play out as a political device. The ability to track all contributions to a system through the irreversible record of the blockchain enables all those actors that have access to a particular blockchain to know what transactions have occurred. While blockchain is certainly a mechanism for producing transparent transactions, it is not yet so clear what difference it will make to more structural, less transactional, elements of organization. In terms of open strategy, these will remain characterized not only by digital enablement, transparency and inclusiveness but also by a politics of openness.

The politics of openness

Open strategy is based on principles of inclusiveness and transparency (Amrollahi & Ghapnchi, 2016); it builds stakeholder relationships (Schmitt, 2010) and improves engagement of internal and external actors (Dobusch & Kapeller, 2013). Examples of open approaches to strategy have been documented in IBM (Bjelland & Wood, 2008) Red Hat

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[4] That this affordance is significant can be seen in the recent adoption by the Australian Stock Exchange of blockchain to replace the current Clearing House Electronic Sub Register System (CHESS) to settle share trades (Richardson, 2017)

(Gast and Zanini, 2012) and the Wikimedia Foundation (Dobusch & Kapeller, 2013). What characterizes open strategizing is a focus on sensemaking of the changing environment that combines industry dynamics and stakeholder empowerment to develop a strategy that, in its rhetoric, benefits all participating actors (Schmitt, 2010). It does so by enabling actors to see different aspects of the problem and opening agendas for wider participation by various previously excluded internal and external actors (Hardy et al., 2006). Increased openness can generate resistance and resentment (Luedicke et al, 2017); similar social technology platforms attract different levels of engagement (Neely and Leonardi, 2016); openness may sometimes need constraining in order to minimize identity-promotion and resentment of such promotion by particular individuals (Dobusch, Dobusch and Müller-Seitz 2017). The classic case of all three tendencies may well be the Kylie Jenner effect, registered on the 22nd of February 2018:

> *The Snapchat parent's shares sank as much as 7.2 per cent Thursday, wiping out $US1.3 billion ($1.7 billion) in market value, on the heels of a tweet from Kylie Jenner, who said she doesn't open the app anymore.[5]*

Pursuing open strategy enables organizations to claim alignment between their objectives with those of their stakeholders (Newstead & Lanzerotti, 2010). Although any organization practising strategic openness will lose some control of its direction internally, the benefits are alleged to be that it creates a sense of ownership, belonging, loyalty, engagement and commitment amongst those involved (Dobusch et al., 2015; Gegenhuber & Dobusch, 2016; Luedicke, Husemann, Furnari, & Ladstaetter, 2016; Newstead & Lanzerotti, 2010); again, the assumption is that allies rather than critics are seeking engagement.

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[5] See https://www.bloomberg.com/news/articles/2018-02-22/snap-royalty-kylie-jenner-erased-a-billion-dollars-in-one-tweet, accessed 22.02.2018.

Organizationally, openness can be relative: for instance, in terms of strategy, organizations are not fixed at any specific point on the continuum of open strategy and may move between different practices over time (Appleyard & Chesbrough, 2016). Especially with software development, for example, where the driver is to develop software through the inputs of customers with the objective of reducing development costs and decreasing time to market, organizations will often use open sourcing (Spaeth, von Krogh, & He, 2014). Stakeholders, customers, critics, management and markets can change the parameters of practices (Appleyard & Chesbrough, 2016). Organizations may move from open to closed for any number of reasons, including increased competition, which could lead one firm to acquire another in order to close it down in an attempt to reduce competition. Also, especially in mature markets, the benefits of being open decrease as competitors move from value creation to value capture (Appleyard & Chesbrough, 2016). These drivers admit diverse sources of social closure into the open system and, as such, there are broad and nuanced reasons why organizations might shift on the continuum of closed vs. open.

Whittington et al. (2011) suggest that open strategy may not be appropriate for every organization. Open strategy is not binary but exists on a continuum (Amrollahi & Ghapnchi, 2016; Appleyard & Chesbrough, 2016; Dobusch & Kapeller, 2013) and where it is on the continuum differs for every type of organization (Whittington et al., 2011). The more interaction occurs within the open strategy-making process, the more the potential loss of control by the organization (Amrollahi & Ghapnchi, 2016; Dobusch & Kapeller, 2013; Luedicke et al., 2016): openness has a politics. As Heracleous et al. (2017) note, variable voice, appropriate degree of structuring of the process of openness, and the need to take account of diverse perspectives to arrive at a commonly shared direction for the future all entail a politics.

Dobusch, Dobusch and Müller-Seitz (2017) suggest that the idea of organizational openness does not signify some essential democratic ideal. As Kornberger, Meyer, Brandtner, and Höllerer (2017) show, opening up to external actors does not necessarily replace the need for secrecy within the organization, premised on areas of jurisdiction and existing hierarchies. Open innovation brings together different actors, with different objectives, philosophies, information processing capabilities (information may be too much, irrelevant or ambiguous for actors who have difficulty in extracting meaning from all that knowledge to improve interactions and conversations (Luedicke et al., 2016; Malhotra, Majchrzak, & Niemiec, 2016) as well as different notions of status or power (Hardy et al., 2006). Differential knowledge is closely related to different capabilities for acting in power relations that might either positively, by enhancing power to, or negatively affect the outcome of open strategy by restricting access (Cronin & Weingart, 2007) or pre-defining relevant issues and non-issues (Bachrach and Baratz 1970). Research by Dobusch and Müller-Seitz (2012), identifies filtering mechanisms that may be in place to enact such selectivity: for instance, O'Neil (2011: 8) suggested that some 1,500 people are determining what is 'encyclopaedic' on Wikipedia at a time that the project had 12 million user accounts.

All forms of openness are also a form of closure as Dobusch and Dobusch (2017) note: where the boundaries are drawn is the issue. To dwell on boundary drawing and closure in open systems is to introduce agency and power in the construction of systems. The decision to open strategy formulation to previously excluded actors is especially likely for those organizations that attempt to lead through innovation while facing uncertain business conditions and so adopt an open strategy approach in order to try and learn from what they do not yet know (Chesbrough & Appleyard, 2007; Hardy et al., 2006). Organizations already participating in crowdsourcing or engaging with external others through a community of practice (Dobusch & Kapeller, 2013) are likely to deepen their openness. Especially this will

be the case, the literature suggests, when these organizations are facing real world, complex, interconnected and constantly changing environments, presenting 'wicked problems' (McMillan & Overall, 2016). Where many stakeholders with conflicting values are involved and where information is confusing (Churchman, 1967), multiple inter-related issues cannot simply be solved by solving each issue individually (Macfadyen, Dawson, Pardo, & Gasevic, 2014; Schmitt, 2010). Under these circumstances, engaging stakeholders for sensemaking can help organizations create and construct new understandings from which they can take action accordingly (Dobusch et al., 2015; Schmitt, 2010). The engagement occurs, as remarked, on terms mandated by the initiating organization not those chosen by the stakeholders that engage.

The 'borders' of all organization are emergent performative constructs composed of social interactions and interpretations (Czarniawska, 2014: 6) enacted by agencies shaping the system's power relations. Mostly, they consist of the routines and practices that are regularly enacted and re-enacted in processes of organizing. Organization, rather than having an objective being (Nayak & Chia, 2011), is better viewed as a 'momentary apprehension of an ongoing process of organizing' (Clegg, Kornberger, & Rhodes, 2004: 158) or as stabilized expressions of behaviour patterns constituted as social actions (Schutz 1967), whose ontological existence is sustained by 'rational myth' (Meyer & Rowan 1977). Therefore, openness is not just a characteristic of an organization but also an outcome of processes that involve not only the relationship between a reified organization and its 'environment' but also the internal dynamics of the organization/system. Looking at the issue of 'openness' or opening in this perspective unlocks an array of interpretive/critical opportunities.

We shall explore these opportunities using a process model of power conceived of as flowing through distinct circuits. We will do so because, as we have established, being open does not

eliminate closure, it does not generate pure transparency, and it is not necessarily participative. In short, other than in the transactional world of blockchain, open strategy does not negate power relations. These power relations are not merely episodic, where the behaviour of some agency or agencies is restricted or directed by another agency, such as the collectively decided will of the 1,500 people determining what is 'encyclopaedic' on Wikipedia. Power is also positive: it can make things happen through being facilitative as well as shaping the dispositions of agencies. An integrated approach to the analysis of power needs to be able to address these variable modes of structuration, which is what the model of circuits of power does.

Circuits of power

At the core of any analysis of politics are models of power: we have chosen to use the framework of circuits of power, developed by Clegg (1989), as the model for analysis. Early research largely conceived power as a mechanism creating effects over others, in which power was portrayed negatively (Lukes, 1974; Dahl, 1957) in terms of actors getting others to do what they might not otherwise have done. However, there is not just one essential model of power as Dahl (1957) suggests; instead, there are different concepts having 'family resemblances', as Haugaard (2010) puts it. In Clegg (1989), these family resemblances are accommodated through a threefold model of circuits of power (see Figure 1). The 'circuits of power' framework comprises three circuits of episodic, dispositional, and facultative power, specialized on agency, social integration, and system integration respectively (Clegg, 1989). The framework explores how different types of power circulate through networks promoting stability and/or change.

TABLE 1 ABOUT HERE

Circuits	Focus	Dimension	Example
Episodic Circuit: *'Power over'*	Agency of Members	Oriented to internal openness of structured power relations	Empowerment of employees: Zappos' Holacracy
Dispositional Circuit *'Power to'*	Social Integration	Oriented to openness of agendas and issue formulation	Co-creativity with customers: Phononic's solid state technology
Facilitative Circuit *'Power with'*	System Integration	Oriented to openness to work with others: other technologies, people, organizations, disciplinary practices	Wikipedia's architecture as a collaborative community of practice

The *episodic* circuit notion derives from Dahl's (1957) perspective of a single underlying concept of power as causal, which, under appropriate standing conditions, can achieve certain outcomes. Normal organization power in relation to its members resides here. Members of organizations have agency that organizations seek to structure in pursuit of organizational objectives. The episodic circuit is characterized largely by *power over* others where others are obliged to do things at the behest of a dominant power, often one legitimated by the sanctions and privileges of authority. In this circuit, empowering others where they were not previously so empowered is a major mechanism for opening strategy. Increasingly, rather than rely on coercive measures, organizations are more likely to seek to empower their members so that they are able to use their agency creatively in pursuit of objectives. What is entailed is an enhanced organizational openness, where roles are more fluid, organizational relations and opportunities to make initiatives more liberal, and the overall organization more liquid than highly structured. An example would be the Holacracy developed at Zappos (McKinsey Quarterly, 2017), in which the organization chart is available online in real-time and is changed up to 50 times a day, with every one of 1,500 employees being able to view what every employee's purposes and accountabilities are as projects shift. The episodic circuit is constituted by the actions carried out by these actors in their social relations in which they seek to control whatever resources are available to achieve intended outcomes. As Clegg (1989) argues, such

power requires the availability and stabilization of appropriate standing conditions as well as the overcoming of any inherent resistance either inherent in or to the freedoms that are charted. In Zappos' Holacracy,

The *dispositional* circuit focuses on the relations between actors in a social system that is open to other social systems. It embraces symbolic power associated with rules of meaning (the ways actors make sense of the world) and membership (what actors perceive to be appropriate categories of membership for framing social action). It is in this circuit that actors' dispositions, comprising their sense of the institutional order, are fixed in Bourdieu's terms as a habitus (Bourdieu, 1977: 95). The dispositional circuit concerns the nature of habitus in terms of the ways in which individuals perceive the social world around them and react to it. These are dispositions shared by people within organizations, who acquire habitus through *mimesis* and conscious techniques of socialization, induction and communication. In terms of power, the emphasis is on *power to*, through democratizing access to agenda shaping processes, meetings, issue formulation, shaping strategy as practice in the present in its formulation and in future in terms of its impact and those issues that it effects. An example of this is Phononics' an early stage technology company that develops solid state heating and cooling by co-creating with customers in developing imagined futures in which highly complex, precision engineered equipment costing millions of dollars is co-designed by fully integrated teams of engineers, supply chain experts, sales and marketers working closely in partnership with customers defining new products, designs, prototypes, and manufacturing specifications (Chandell, 2016).

This circuit is 'structured' because its dispositions are the product of past experiences and practising, which allows for the reproduction of practices, and it is 'structuring' because its dispositions allow for improvisation and invention in the context of new practices, the

emergence of new 'rules' of practice. It is through the introduction of new rules that power to is spread and distributed to places and people where open strategy designs it to be. Rules are both a source and a consequence of power. In the 'circuits of power' framework, rules depend on the context of interpreters, the actual situation in which the rule is interpreted, and the acceptance and enactment of those rules by actors (Clegg, 1989). Rules frame the relations between members of different systems through framing dispositional power that enables a set of capacities with potential application (Clegg 1989). For instance, in open engagements by organizations through co-creativity with customers and other stakeholders, the tendency is often to engage more fully with stakeholders whose dispositions are more aligned organizationally than those that are not. The problem in such a situation is that it is from the fiercest critics rather than the warmest friends that an organization is likely to learn innovations that further system integration.

The *facilitative* circuit focuses on situations where material conditions of production or relations of knowledge between actors and actants change, empowering or disempowering relations with these actors. The circuit of facilitative power is characterized by *power with,* which entails making forms of collaboration with others and with other things possible. These collaborations may be with people, organizations, technologies and disciplines engaged in efforts to extend the range of powers of those concerned. Power in this circuit is exercised through being embedded in different forms of knowledge and disciplinary formation, often made material. These materialities, such as Wikipedia's architecture, frame everyday routines that depend on actors' compliance with collective goals through the exercise of power translated into disciplinary practices, such as normalisation and routinization, establishing conventional borders of and for organizational practice.

Episodic circuit of power relations

To engage participating actors, existing management needs to create episodic power relations with significant others. The notion of episodic power implies that there is a narrative in play, that there is a strategic and discernible direction to the power enacted with intent. Management needs to generate exchanges with specific others, identify with the relevant conversations that are exchanged, mutually establish coherence in meaning and contribute without harming the others' objectives yet sustain tensions from which it can be represented that all actors can benefit (Chesbrough & Appleyard, 2007). Too little engagement means that, from an organization's view of its effectiveness, specific actors, either internally or externally, prioritise their own objectives; too much engagement means actors, internally and externally, may end up subordinated to an organization's dominant objectives to the detriment of their autonomous being. In the latter scenario, a conception of organizational effectiveness that consists of total commitment on the part of participants overwhelms the effectiveness of individual autonomy; in doing so, it threatens the spark of creativity and innovation that is lit by deviance and lack of commitment – by what elsewhere has been termed 'punk production' (Carlsen et al 2012). Thus, thinking more explicitly about the politics of openness, at the level of the first circuit of an open strategy, that of episodic power relations, the issue is one of engagement with and management of those invited in from outside the system.

Dispositional circuit of power relations

Social integration in more traditional and less open organizations is framed by explicit rules of meaning and membership. These are problematic in open ventures. There is no constitution defining the meaning of legitimate and illegitimate social actions, in keeping with open and anti-bureaucratic cultural tendencies. Identity is not determinate in digitally open communities: offline identities and competencies, as categories of membership, carry no weight online, nor are they differentially rewarded for there is no standard practice for

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rewards and incentives (Newstead & Lanzerotti, 2010; Von Krogh, Haefliger, Spaeth, & Wallin, 2012). The basis for social integration resides online and nowhere else.

There is a risk in openness: Habermas' (1971) notion of an ideal speech situation is fulfilled to some extent – there may be few explicit barriers to entry but the geeky masculine culture offers many implicit barriers. Anyone can criticise or debate, not just those dominant authorities that may feel secure in dispensing with reasons' tools (Flyvbjerg 1998). The lines between the reasoned and the risible may be somewhat elastic. To the extent that open systems' communities revolve around meritocracy a too centralised approach is regarded as potentially harmful (Chesbrough & Appleyard, 2007). A fine balance between the different activities and guidance is needed to ensure the outcomes of collaboration (Hardy et al., 2006). Openly sourced actors are not regulated by contracts or financial incentives (Spaeth et al., 2014) and to attract and keep actors engaged organization transparency in information sharing and feedback is important.

Facilitative circuit of power relations

The core claim to openness is that open source technology transforms techniques of production and discipline. The open system in contemporary practice is, above all, technologically enabled albeit that it may well be driven by cultural predilections, policy preferences and organizational requirements (Whittington et al, 2011). The ideal is that organization is open – anyone can contribute and in principle, anyone, irrespective of disciplinary credentials, is as expert as the next person. New obligatory passage points are readily formed, as innovative technologies become actants in the system. For instance, Dobusch and Müller-Seitz (2012) demonstrate that the wiki technology used by Wikimedia for large-scale open strategizing is used differently in different phases of gathering strategic

ideas and legitimising them. This is not use made by humans of a neutral technology so much as a process by which the affordances inherent in the technology engage the actors using it.

In the politics of openness, relations are ideally between peers (as per those engaged in the open source software movement and open source content development) where anyone is potentially a peer; however, not everyone is equally qualified for engagement. Open strategy brings together different actors to create value: organization members, content creators and suppliers from outside as well as consumers and (digital or material) artefacts. Attracting, engaging and retaining these actors are key for successful organizations (Chesbrough & Appleyard, 2007; Spaeth et al., 2014). Organizations need to enable and encourage actors to participate, create and interact during strategy formulation (Kohler, 2015) to improve its quality (Dobusch & Kapeller, 2013) in positive ways. Organizations that seek to connect with actors for strategy making from outside their system can seek to shape the intrinsic motivation of participating actors through utilizing resource bases such as their legitimacy, premised on factors such as reputation related to expertise (is the organization capable of fulfilling claims?) and trustworthiness (can actors trust the organization?). Relative openness is exemplified by the extent to which an organization encourages mutual knowledge exchanges between different actors. Due to the information asymmetry that exists between management and previously excluded actors (Yakis-Douglas, Angwin, Ahn, and Meadows, 2017), knowledge sharing within an open strategy can range from broadcasting only that strategic information deemed public from the centre, to starting a conversation and actively asking for feedback, to involving previously excluded actors in decision-making processes, which includes a higher degree of accountability (Gegenhuber & Dobusch, 2016).

In principle, all practitioners in open strategy can potentially exercise power although the assumptions about appropriate interactions by designers of social media platforms might

frame who is able to enter online discussions and information sharing. Power not only requires but also creates knowledge. The recursivity of power/knowledge (Foucault, 1980) might grant designers control over the strategic discussions that occur on the social platform. What is legitimate as a post or type of content may be more or less explicitly policed. Foucault argues that it is in power relations that identities become posited and resisted (Foucault, 1977). Hence, 'identity is always in process, always subject to reproduction or transformation through discursive practices that secure or refuse particular posited identities' (Clegg, 1998: 30). Since knowledge and power are irretrievably entangled (Foucault, 1977), the more knowledge that is shared within an open strategy the more the balance of power relations will be affected. Management may simultaneously diminish their capacity for *power over* by providing opportunities for new actors to be involved, enhancing their capabilities for *power to* make a contribution, and to the extent that the latter are successful and their innovations are incorporated in the organizational repertoire then by 'giving power away' the management may actually increase their *power to* as a capability. Therefore, power/knowledge reciprocity, as well as access to the matter being developed, is fundamental for the intrinsic motivation of the actors involved (Spaeth et al., 2014).

Big data, open strategy and open systems

Covert facilitative power relations through social integration

While there are overt facilitative power relations of system integration, there are also covert ones. Carole Cadwalladr (2017a; 2017b), in detailed investigative journalism, shows how big data derived from open systems can be gamed for political advantage, since knowledge gained from big data analytics creates a competitive advantage (Chluski & Ziora, 2015; Gobble, 2013; Kiron & Shockley, 2011; McAfee, Brynjolfsson, Davenport, Patil, & Barton,

2012; Prescott, 2014; Sharma, Mithas, & Kankanhalli, 2014; Vinod, 2013). We shall explore this issue next.

In terms of the politics of openness, big data analytic companies such as Cambridge Analytica create a 'central node' in 'alternative news and information networks' using open sourced data to do so. Their strategy consists of precise targeting of finely grained demographics constructed from the mass of available data. The data it uses is constituted by combining mass data harvesting of big data and micro-targeting of individualised messages, drawing on military strategies of psychological warfare to target a civilian population in order to influence their voting behaviour.

Key to the whole enterprise of facilitative power working though open networks is Facebook. Facebook is a venue for in which 'friends' share their pages. Its data is harvested, in terms of likes, from which 'personality traits, political partisanship, sexuality and much more' (Cadwalladr 2017a) can be inferred with a very high probability of accuracy. The disciplinary power that enabled access to this data was personality testing. A company, known as Global Science research, advertised for Facebook users who would be paid to take a personality test, which over six million people did. An academic Aleksandr Kogan, using his company, Global Science Research (GSR), in collaboration with Cambridge Analytica, paid hundreds of thousands of users to take a personality test on the basis of an agreement that their data was available for academic use. This data was then combined with the purchase of 'consumer datasets – on everything from magazine subscriptions to airline travel and uniquely [Cambridge Analytica] appended these with the psych data to voter files. It matched all this information to people's addresses, their phone numbers and often their email addresses' (Cadwalladr 2017a). Doing this they were able to do what they call bio-psycho-social-

profiling, not only of those who had completed the personality profiles but also those they nominated as 'friends' on Facebook.

In the United States, this data matching exercise was done in the 2016 Presidential election both to target Republican voters to encourage them to vote and to persuade Democrat voters not to; in Britain, it was used to press the case for Brexit, bombarding a small number of people identified as 'persuadable' with over a billion anti-EU ads transmitted in the last few days of the referendum campaign. In addition, pro-Brexit traffic automated by bots on Twitter that was 'programmed to look like people, to act like people, and to change the conversation, to make topics trend', comprised over one-third of all feeds immediately prior to the EU referendum.[6]

The actor-network created thus recursively generated and reproduced itself through its interactions (Law, 1992). The strategy that was pursued through the circuit of facilitative power in each case enabled one organization, the Republican Party and pro-Brexiteer organizations, such as Vote Leave, to extend their powers to communicate with voters by precisely targeting demographics and tailoring messages to these demographics. The openness was not in the strategy itself, which was extremely covert but in the open availability of the data that Facebook afforded, unbeknownst to those who had proffered the data, combined with the results of the personality test, created through the users of an app developed by GSR. The business strategy of Facebook, based on individuals creating their own open systems of communication, albeit closed to those not included amongst the circle of friends, meant that these open systems of communication provided rich data that could be

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[6] Behind Cambridge Analytica are the key figures of Steve Bannon, Trump's once strategic advisor, and Robert Mercer, a reclusive billionaire, who also founded the Government Accountability Institute that trawls the 'dark web' to dig up adversarial data on political opponents that can be disseminated by bots to swamp search engines and social media, which as Morozov (2012a; 2012b; 2014; 2017) argues, shows the weakness of the openness of the Internet.

sold on to other organizations such as GSR who were able to trawl what Facebook had harvested.

Simultaneous system integration and disintegration of circuits of power

Analytically, what Cadwalladr documents is the simultaneous system integration and disintegration of the circuits of power created by use of social media. The strategies are simple; harvest data, identify the obligatory passage point that one wants to channel communication through, in terms of individuals and social media sites, automate the bots, bombard the messages, and strive to find the edge that advantages one's side in politics (also see: http://www.smh.com.au/world/fake-news-why-the-west-is-blind-to-russias-propaganda-today-20170123-gtxbuw.html). According to Morozov (2012, 2014), this has become possible due to, what he calls, the 'fetish for digital openness'.[7] The information provided by internet users on platforms such as Facebook or Twitter, offer organizations and (future) regimes a possibility to not only bombard people with personalised messages but also offers the ability to track down dissidents or dispense propaganda (Morozov, 2012).

On March 16, 2018, as a result of the latest reports from the Guardian's investigative journalists Carole Cadwalladr and Emma Graham-Harrison (reported in *The Guardian* https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election, accessed March 17, 2018), Facebook announced that it was suspending access to Facebook's platform and data for Cambridge Analytica. Within a week, Facebook shares were down 10%; US regulators, as well as those in Britain and Australia were proposing increased regulation of Facebook; Mark Zuckerberg was very slow in responding; Cambridge Analytica suspended its CEO, Alexander Nix, and the Cambridge academic, Alkeksandr

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[7] These strategies were used effectively in Russian information warfare, particularly in its informational support of territorial warfare in Crimea and Ukraine. Cadwalladr (2017b) noted the Russian connection that Morozov (2012) elaborates.

Kogan, whose company Global Science Research had provided the data to Cambridge Analytica in the first place, came under pressure from the University of Cambridge to confirm that no university data, resource or facilities were involved in the unfolding story.

The circuit of social integration and dispositional demographics

The politics of openness is premised digitally in this case in the circuit of system integration, on identifying and aggregating individuals who, perhaps unwittingly, reveal their dispositions online. Cambridge Analytica used the Facebook friends' data of those who took the GSR personality test to build a dispositional circuit of power of mega proportions: over 50 million individuals were analysed and categorised in terms of their dispositions. On this basis, bots were targeted to attack individual social media participants on a mass scale in pursuit of an end that was anything but transparently revealed. From the open systems of Facebook circles of friends new forms of social closure were achieved by algorithmically programming messages. By bulk buying domain names the initiating organization, Cambridge Analytica, used automation to create the appearance of a consensus favouring the chosen message despatched through the open digital system to the many members of the circles digitally identified.

Shared and affiliated worldviews offer openings in terms of tracking dispositions. Through designing covert systems of social integration that amalgamate these dispositions and target them in terms of the emergent demographics enables data analytic organizations to exercise 'power to' politically and culturally through system integration of the data. Simultaneously, however, the strategy creates overall system disintegration because it creates digital solidarities by disintegrating the electorate into those persuaded and those dissuaded through a form of psychological warfare. The most crucial categories of persuasion are premised on threats to identity of 'others' – people not like us – in the present and future. It is for this

reason that Facebook friends and likes are such a valuable field because they comprise a network premised on assumptions of identity and, as Lakoff (2014) notes, people vote in terms of their identity, their values and those they identify with. Messaging and websites that affirm that sense of identity, as they disaffirm the identity of those significant others that one opposes and that oppose one, then become the crucial strategy of closure in an open society. In such a context, whoever has the most resources of money, domain names, data, bots, and technology has stacked the best odds for effecting closure to their advantage. At present, these resources have been largely those controlled by right-wing populism, such as that of Trump and Brexit and, as Bauman (2017: 69) writes, 'keeping anger perpetually smouldering and glowing offers the best recipe for the populists' success: anger of the excluded and abandoned is a uniquely rich ore from which constant supplies of profuse political capital can be extracted'.

Conclusion

The most dramatic and, from the politics of openness perspective, most covert use of the open systems of social media, may be occurring in campaigns run by firms such as Cambridge Analytica. However, social media data is not only used in politics (Bennett, 2012), it can also be used to identify an organization's most loyal customers and followers and target them with personalised communication (Tucker, 2014) to either sell them personalised products or services or bring them closer to the business through co-creation (Lorenzo-Romero, Constantinides, & Brünink, 2014). As should be clear, co-creation is not only a form of system integration but also of social integration as it is a way of extending organizational commitment to those who are not necessarily paid to have it. Hence, the borders of the organization are not objectively defined other than by the flux and flows of meaning constituting the borders of systems.

Discussion of predetermined objectives can create an agenda of carefully constructed ignorance and knowledge, issues and non-issues.[8] By carefully distributing 'openings' one creates and closes off obligatory passage points through the maze of possibilities. In Wikipedia, the tags that are attached to various entries would be a case in point[9]. Openness is paradoxical because organizing, by definition, entails selection and therefore forms of closure of alternative possibilities, times, and orderings.[10] Notwithstanding existing orderings, change may be accomplished if the effects of endogenous change or the impact of events exogenous to the system enable the acceptance and accommodation of new sets of rules within the social system.

New technologies such as big data or blockchain enable openness to the extent that they make it easier to find, connect and interact with previously excluded external actors. Nonetheless, as data-driven firms shift their focus from the marketing of products and services to the marketing of politics, a dramatic shift in the practices of openness occurs. Cambridge Analytica, along with a few others, is only one example of how data can be used for manipulative purposes. Companies such as Google, Facebook or Alibaba are organisations that have long recognised that data is a valuable asset (Fisher, 2009), collecting data rigorously since their beginning (Richards & King, 2014), resulting in them not only becoming powerful monopolies but also contributing to a centralisation of the world wide web and directly influencing politics.

New circuits of power are being created. Internally to organizations, open strategy can be pursued through the reduction of *power over*, the increase in opportunities for *power to*, and

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[8] The Brexit decision in the UK is a case in point. Both Remainers and Leavers each accuse the other of having followed this strategy.

[9] See https://en.wikipedia.org/wiki/Wikipedia:Tags, accessed 22.02.2018.

[10] Nevertheless, new forms of organizing are being experimented with, called liquid democracy, which enables citizens to vote, or delegate their vote, on any issue that requires a decision, bringing openness to new levels due to technologies such as big data and blockchain (Blum and Zuber, 2016).

the expansion of collaborative opportunities for *power with*. These are the ways in which organizations can pursue the positive benefits of an open strategy.

There is a dark side, however. We have considered this through starting from consideration of the overall capacities for system integration and disintegration that are available to organizations that have access to capabilities for managing vast amounts of open data collected digitally. The examples we chose were Facebook, Cambridge Analytica and Global Science Research. Working on a collaborative basis with each other organizationally, they were able to focus on and restructure the demographics of individual dispositional power. Data analytics applied thus are a digitally disguised persuader, a targeted and deliberately fragmented version of the one-dimensional hidden persuasion that Marcuse (2013) found in Packard (1957). Personalised data gathered by organizations to offer personalised products and services seeks to reinforce or limit free will through the power of persuasion and reinforcements (Zuboff, 2015). As such, organizations have tremendous power over people whose data is available to organizations interested in them as either consumer of goods and services or of political options.

While there remains hope that a better society that utilises advances in technology might yet bring Habermas' (1971) idealistic vision of an open society based on open communication closer to reality (Blum & Zuber, 2016), there are many reasons to be more pessimistic than optimistic. As in all matters of material reality, questions of the ownership and control of productive technologies cannot be ignored. Hence, there are ample opportunities for research to be pursued by scholars to understand how emerging practices will affect openness and whether or not emerging technologies will either increase openness (due to a decentralised approach) or decrease openness (because the artificial intelligence limits what it deems

important for decision-makers) as well as how the politics of technology-enabled openness

will change over time, depending on the dimensions that are affected.

References

Afuah, A., & Tucci, C. L. 2012. Crowdsourcing as a solution to distant search. *Academy of Management Review*, 37(3): 355-375.

Amrollahi, A., & Ghapnchi, A. H. 2016. *Open Strategic Planning in Universities: A Case Study*. Paper presented at the 2016 49th Hawaii International Conference on System Sciences (HICSS).

Appleyard, M. M., & Chesbrough, H. W. (2017). The dynamics of open strategy: from adoption to reversion. *Long Range Planning*, *50*(3), 310-321

Aten, K., & Thomas, G. F. (2016). Crowdsourcing strategizing: communication technology affordances and the communicative constitution of organizational strategy. *International Journal of Business Communication*, *53*(2), 148-180.

Bachrach, P., & Baratz, M. S. (1970). *Power and poverty: Theory and practice*. Oxford: Oxford University Press.

Bauman, Z. (2017) *Retrotopia*. Cambridge: Polity Press.

Beck, R., Czepluch, J. S., Lollike, N., & Malone, S. 2016. *Blockchain-the Gateway to Trust-Free Cryptographic Transactions*. Paper presented at the ECIS.

Bennett, W. L. 2012. The personalization of politics: Political identity, social media, and changing patterns of participation. *The ANNALS of the American Academy of Political and Social Science*, 644(1): 20-39.

Bjelland, O. M., & Wood, R. C. 2008. An inside view of IBM's' Innovation Jam'. *MIT Sloan management review*, 50(1): 32-46.

Blum, C., & Zuber, C. I. 2016. Liquid Democracy: Potentials, Problems, and Perspectives. *Journal of Political Philosophy*, 24(2): 162-182.

Bogers, M. 2011. The open innovation paradox: knowledge sharing and protection in R&D collaborations. *European Journal of Innovation Management*, 14(1): 93-117.

Bogers, M., & West, J. 2012. Managing distributed innovation: Strategic utilization of open and user innovation. *Creativity and Innovation Management*, 21(1): 61-75.

Boudreau, K. 2010. Open platform strategies and innovation: Granting access vs. devolving control. *Management Science*, 56(10): 1849-1872.

Boudreau, K., & Lakhani, K. 2009. How to manage outside innovation. *MIT Sloan management review*, 50(4): 68-76.

Boudreau, K. J., Lacetera, N., & Lakhani, K. R. 2011. Incentives and problem uncertainty in innovation contests: An empirical analysis. *Management Science*, 57(5): 843-863.

Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Brabham, D. C. 2012. The myth of amateur crowds. *Information, Communication & Society*, 15(3): 394-410.

Cadwalladr (2017a) The great British Brexit robbery: how our democracy was hijacked, available at: https://www.theguardian.com/technology/2017/may/07/the-great-british-brexit-robbery-hijacked-democracy, accessed 17.05.2017

Cadwalladr (2017b) Robert Mercer: the big data billionaire waging war on mainstream media, available at https://www.theguardian.com/politics/2017/feb/26/robert-mercer-breitbart-war-on-media-steve-bannon-donald-trump-nigel-farage

Cadwalladr, C., and Graham-Harrison, E. (2018) Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach, T*he Guardian*, available at https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election, accessed 18.03.2018.

Carlsen, A., Clegg, S. R., and Gjersvik, R. (2012) *Idea Work*. Oslo: Cappellen Damm

Cassiman, B., & Veugelers, R. 2006. In search of complementarity in innovation strategy: internal R&D and external knowledge acquisition. *Management science*, 52(1): 68-82.

Chandel, C. (2016) Customer co-creation is the secret of success, *Forbes Magazine*, June 10, 2016, available at https://www.forbes.com/sites/christinecrandell/2016/06/10/customer_cocreation_secret_sauce/#33c674605b6d, accessed 3.04.2018.

Chesbrough, H. 2003a. The logic of open innovation: Managing intellectual property. *California Management Review*, 45(3): 33-58.

Chesbrough, H. 2003b. *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Boston: Harvard Business School Press.

Chesbrough, H. 2006a. *Open Business Models: How to Thrive in the New Innovation Landscape*. Boston: Harvard Business School Press.

Chesbrough, H., & Bogers, M. 2014. Explicating open innovation: Clarifying an emerging paradigm for understanding innovation. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *New Frontiers in Open Innovation*: 3-28. Oxford: Oxford University Press.

Chesbrough, H. W. 2003c. *Open innovation: The new imperative for creating and profiting from technology*: Boston: Harvard Business Press.

Chesbrough, H. W. 2006b. The era of open innovation. *Managing innovation and change*, 127(3): 34-41.

Chesbrough, H. W., & Appleyard, M. M. 2007. Open Innovation and Strategy. *California Management Review*, 50(1): 57-76.

Chiaroni, D., Chiesa, V., & Frattini, F. 2011. The Open Innovation Journey: How firms dynamically implement the emerging innovation management paradigm. *Technovation*, 31(1): 34-43.

Chluski, A., & Ziora, L. 2015. The Application Of Big Data In The Management Of Healthcare Organizations. A Review Of Selected Practical Solutions. *Zastosowanie Big Data W Zarządzaniu Organizacjami Służby Zdrowia. Przegląd Wybranych Rozwiązań*, 1(35): 9-18.

Churchman, C. W. 1967. Wicked Problems. *Management Science*, 14(4): B-141-B-146.

Clausen, T. H. 2013. External knowledge sourcing from innovation cooperation and the role of absorptive capacity: empirical evidence from Norway and Sweden. *Technology Analysis and Strategic Management*, 25(1): 57-70.

Clegg, S. R. (1989) *Frameworks of power*. London: Sage

Cronin, M. A., & Weingart, L. R. 2007. Representational gaps, information processing, and conflict in functionally diverse teams. *Academy of Management Review*, 32(3): 761-773.

Czarniawska, B. (2014). *A theory of organizing*. Cheltenham: Edward Elgar Publishing.

Dahl, R. A. (1957). The concept of power. *Systems Research and Behavioral Science*, *2*(3), 201-215.

Dahlander, L., & Gann, D. M. 2010. How open is innovation? *Research Policy*, 39(6): 699-709.

Dahlander, L., & Piezunka, H. (2014). Open to suggestions: How organizations elicit suggestions through proactive and reactive attention. *Research Policy*, *43*(5), 812-827.

Davidson, S., De Filippi, P., & Potts, J. 2016. *Economics of blockchain*. Paper presented at the Public Choice Conference, 2016, Fort Lauderdale, United States.

Dellarocas, C. 2004. Building Trust On-Line: The *Design* of *Robust Reputation* Mechanisms for Online Trading Communities, in G. Doukidis, N. Mylonopoulos, and N. Pouloudi (eds.), *Social and Economic Transformation in the Digital Era*, Hershey, PA: Idea Group Publishing, 95-113.

Dobusch, L., Dobusch, L., & Müller-Seitz, G. (2017). Closing for the Benefit of Openness? The case of Wikimedia's open strategy process. *Organization Studies*, doi:0170840617736930.

Dobusch, L., & Kapeller, J. 2013. *Open Strategy between Crowd and Community: Lessons from Wikimedia and Creative Commons*. Paper presented at the Academy of Management Proceedings.

Dobusch, L., Seidl, D., & Werle, F. 2015. Opening up the strategy-making process: Comparing open strategy to open innovation. *University of Zurich, Institute of Business Administration, UZH Business Working Paper* (359).

Edwards, M., Logue, D., & Schweitzer, J. 2015. Towards an understanding of open innovation in services: beyond the firm and towards relational co-creation, *The Handbook of Service Innovation*: 75-90: London: Springer

Enkel, E., Gassmann, O., & Chesbrough, H. 2009. Open R&D and open innovation: exploring the phenomenon. *R&d Management*, 39(4): 311-316.

Faems, D., De Visser, M., Andries, P., & Van Looy, B. 2010. Technology alliance portfolios and financial performance: value-enhancing and cost-increasing effects of open innovation. *Journal of Product Innovation Management*, 27(6): 785-796.

Fisher, T. 2009. *The data asset: How smart companies govern their data for business success*: London: John Wiley & Sons.

Flyvbjerg, B. (1998) *Rationality and power: Democracy in practice*. Chicago: University of Chicago Press.

Foucault, M. 1977. *Discipline and punish*. New York: Pantheon.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1972-1977*. New York: Pantheon

Fox, A. (1974) *Beyond contract: Work, power and trust relations*. London: Faber & Faber

Gegenhuber, T., & Dobusch, L. (2017). Making an impression through openness: how open strategy-making practices change in the evolution of new ventures. *Long Range Planning*, *50*(3), 337-354.

Giddens, A. (1981). Agency, institution, and time-space analysis. *Advances in social theory and methodology. Toward an integration of micro-and macro-sociologies*, Knorr-Cetina, K and Cicourel, A. V. (eds), London: Routledge:161-174.

Gobble, M. M. 2013. Resources: Big Data: The Next Big Thing in Innovation. *Research-Technology Management*, 56(1): 64-67.

Goodwin, T. 2015. The Battle Is For The Customer Interface, Vol. 2017: *TechCrunch*, available at https://techcrunch.com/2015/03/03/in-the-age-of-disintermediation-the-battle-is-all-for-the-customer-interface, acccedssed 26.03.2018.

Habermas, J. (1971) *Knowledge and Human Interests*. London: Heinemann

Hardy, C., Lawrence, T. B., & Phillips, N. 2006. Swimming with sharks: Creating strategic change through multi-sector collaboration. *International Journal of Strategic Change Management*, 1(1-2): 96-112.

Haugaard, M. (2010). Power: a 'family resemblance'concept. *European Journal of Cultural Studies*, *13*(4), 419-438.

Heracleous L, Goesswein J, Beaudette P (2017) Open strategy-making at the Wikimedia foundation: a dialogic perspective. *Journal of Applied Behavioral Science*, https://doi.org/10.1177/0021886317712665

Howe, J. 2006. The rise of crowdsourcing. *Wired magazine*, 14(6): 1-4.

Howe, J. 2008. *Crowdsourcing: How the power of the crowd is driving the future of business*: New York: Random House.

Hughes, B., & Wareham, J. 2010. Knowledge arbitrage in global pharma: A synthetic view of absorptive capacity and open innovation. *R&D Management*, 40(3): 324-343.

Huizingh, E. K. R. E. 2011. Open innovation: State of the art and future perspectives. *Technovation*, 31(1): 2-9.

Kennedy, S., Whiteman, G., & van den Ende, J. 2016. Radical Innovation for Sustainability: The Power of Strategy and Open Innovation. *Long Range Planning*, 50(6): 712-725

Kiron, D., & Shockley, R. 2011. Creating Business Value with Analytics. *MIT Sloan Management Review*, 53(1): 57-63.

Kohler, T. 2015. Crowdsourcing-Based Business Models: How to Create and Capture Value. *California Management Review*, 57(4): 63-84.

Kornberger, M., Clegg, S. R., and Rhodes, C., (2005) 'Learning/Becoming/Organizing', *Organization*, 12(2): 147–167.

Kornberger, M., Meyer, R. E., Brandtner, C., & Höllerer, M. A. (2017). When bureaucracy meets the crowd: Studying "open government" in the Vienna City Administration. *Organization Studies*, 38(2): 179-200.

Lakoff, G. (2014). *The all new Don't think of an elephant! Know your values and frame the debate*. White River Junction, VT: Chelsea Green Publishing.

Laursen, K., & Salter, A. 2006a. Open for innovation: The role of openness in explaining innovation performance among U.K. manufacturing firms. *Strategic Management Journal*, 27(2): 131–150.

Laursen, K., & Salter, A. 2006b. Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic management journal*, 27(2): 131-150.

Law, J. (1992). Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. *Systems practice*, *5*(4), 379-393.

Leimeister, J. M. 2010. Collective intelligence. *Business & Information Systems Engineering*, 2(4): 245-248.

Lorenzo-Romero, C., Constantinides, E., & Brünink, L. A. 2014. Co-creation: Customer integration in social media based product and service development. *Procedia-Social and Behavioral Sciences*, 148: 383-396.

Luedicke, M. K., Husemann, K. C., Furnari, S., & Ladstaetter, F. (2017). Radically open strategizing: how the premium cola collective takes open strategy to the extreme. *Long Range Planning*, 50(3): 371-384.

Lukes, S. (1974) *Power: A Radical View*. London: Macmillan.

Lüttgens, D., Pollok, P., Antons, D., & Piller, F. 2014. Wisdom of the crowd and capabilities of a few: internal success factors of crowdsourcing for innovation. *Journal of Business Economics*, 84(3): 339-374.

Macfadyen, L. P., Dawson, S., Pardo, A., & Gasevic, D. 2014. Embracing big data in complex educational systems: The learning analytics imperative and the policy challenge. *Research & Practice in Assessment*, 9:(1): 17-28

Malhotra, A., Majchrzak, A., & Niemiec, R. M. (2017). Using public crowds for open strategy formulation: mitigating the risks of knowledge gaps. *Long Range Planning*, 50(3): 397-410.

Marcuse, H. (2013). *One-dimensional man: Studies in the ideology of advanced industrial society*. Routledge.

Mattila, J. (2016). *The Blockchain Phenomenon–The Disruptive Potential of Distributed Consensus Architectures* (No. 38). The Research Institute of the Finnish Economy.

McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D., & Barton, D. 2012. Big data. *The management revolution. Harvard Business Review* 90(10): 61-67.

McKinsey Quarterly (2017) 'Safe enough to try: An interview with Zappos CEO Tony Hsieh' McKinsey Quarterly, available at https://www.mckinsey.com/business-functions/organization/our-insights/safe-enough-to-try-an-interview-with-zappos-ceo-tony-hsieh?cid=other-eml-alt-mkq-mck-oth-1710; accessed 03.04.18

McMillan, C., & Overall, J. 2016. Wicked problems: turning strategic management upside down. *Journal of Business Strategy*, 37(1): 34-43.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology*, *83*(2), 340-363.

Morozov, E. 2012. *The net delusion: The dark side of Internet freedom*: Philadelphia, PA: PublicAffairs.

Morozov, E. 2014. *To save everything, click here: The folly of technological solutionism*: Philadelphia, PA: PublicAffairs.

Nayak, A., & Chia, R. (2011) Thinking becoming and emergence: process philosophy and organization studies. In *Philosophy and organization theory (Research in the Sociology of Organizations, Volume 32)* (pp. 281-309). Bradford: Emerald Group Publishing Limited.

Neeley, T., & Leonardi, P. (2016) Enacting Knowledge Strategy Through Social Media. In *Academy of Management Proceedings* 10.5465/AMBPP.2016.14013.

Newstead, B., & Lanzerotti, L. 2010. Can You Open-Source Your Strategy?: *Harvard Business Review*, https://hbr.org/2010/10/can-you-open-source-your-strategy, accessed 26.03.2018.

O'Neil, M. (2011). Wikipedia and authority. *Critical Point of View: A Wikipedia Reader, Amsterdam: Institute of Network Cultures*, 309-324.

Obal, M., & Lancioni, R. A. 2013. Maximizing buyer-supplier relationships in the Digital Era: Concept and research agenda. *Industrial Marketing Management*, 42(6): 851-854.

Packard, V. (1957). *The Hidden Persuaders*. New York: David McKay Company Inc.

Piller, F. T., & Walcher, D. 2006. Toolkits for idea competitions: a novel method to integrate users in new product development. *R&d Management*, 36(3): 307-318.

Pittz, T. G., & Adler, T. 2016. An exemplar of open strategy: decision-making within multi-sector collaborations. *Management Decision*, 54(7): 1595-1614.

Prescott, M. 2014. Big data and competitive advantage at Nielsen. *Management Decision*, 52(3): 573-601.

Richards, N. M., & King, J. H. (2014). Big data ethics. *Wake Forest Law Review.*, *49*, 393

Richardson, T. (2017) Five ways blockchain could revolutionise the sharemarket, *Sydney Morning Herald*, available at https://www.smh.com.au/business/investments/five-ways-blockchain-could-revolutionise-the-sharemarket-20171207-p4yxi6.html, accessed 28.03.2018

Schmitt, R. 2010. Dealing with wicked issues: Open strategizing and the Camisea case. *Journal of business ethics*, 96(1): 11-19.

Schutz, A. (1967) *The Phenomenology of the Social World,* G. Walsh and F. Lehnert (trans.), Evanston: Northwestern University Press, 1967.

Sharma, R., Mithas, S., & Kankanhalli, A. 2014. Transforming decision-making processes: a research agenda for understanding the impact of business analytics on organisations. *European Journal of Information Systems*, 23(4): 433-441.

Snow, C. C., Fjeldstad, Ø. D., Lettl, C., & Miles, R. E. 2011. Organizing continuous product development and commercialization: the collaborative community of firms model. *Journal of Product Innovation Management*, 28(1): 3-16.

Spaeth, S., von Krogh, G., & He, F. 2014. Research Note—Perceived Firm Attributes and Intrinsic Motivation in Sponsored Open Source Software Projects. *Information Systems Research*, 26(1): 224-237.

Stieger, D., Matzler, K., Chatterjee, S., & Ladstaetter-Fussenegger, F. 2012. Democratizing Strategy. *California Management Review*, 54(4): 44-68.

Surowiecki, J. 2005. *The wisdom of crowds*: New York: Anchor.

Swan, M. 2015. ***Blockchain: Blueprint for a new economy***: Sebastopol, CA: O'Reilly Media, Inc.

Tapio Lindman, M. 2002. Open or closed strategy in developing new products? A case study of industrial NPD in SMEs. ***European Journal of Innovation Management***, 5(4): 224-236.

Tavakoli A., Schlagwein D., Schoder D., (2015) '**Open Strategy**: **Consolidated Definition** and**Processual Conceptualization**', in **International Conference** on **Information Systems (ICIS)** 2015, Fort Worth, TX, USA,

Terwiesch, C., & Xu, Y. 2008. Innovation contests, open innovation, and multiagent problem solving. ***Management science***, 54(9): 1529-1543.

Tkacz, N. (2012). From open source to open government: A critique of open politics. ***ephemera***, 12(4): 386-405

Tremblay, D.-G., & Yagoubi, A. 2017. From Open Innovation to Crowd Sourcing: A New Configuration of Collaborative Work? ***American Journal of Industrial and Business Management***, 7(03): 223.

Tucker, C. E. (2014). Social networks, personalized advertising, and privacy controls. ***Journal of Marketing Research***, 51(5): 546-562.

van de Vrande, V., de Jong, J. P. J., Vanhaverbeke, W., & de Rochemont, M. 2009. Open innovation in SMEs: Trends, motives and management challenges. ***Technovation***, 29(6-7): 423-437.

Van De Vrande, V., Vanhaverbeke, W., & Gassmann, O. 2010. Broadening the scope of open innovation: Past research, current state and future directions. ***International Journal of Technology Management***, 52(3-4): 231-235.

Vanhaverbeke, W., Van de Vrande, V., & Chesbrough, H. 2008. Understanding the advantages of open innovation practices in corporate venturing in terms of real options. ***Creativity and Innovation Management***, 17(4): 251–258.

Vinod, B. 2013. Leveraging BIG DATA for competitive advantage in travel. ***Journal of Revenue & Pricing Management***, 12(1): 96-100.

Von Krogh, G., Haefliger, S., Spaeth, S., & Wallin, M. W. 2012. Carrots and rainbows: Motivation and social practice in open source software development. ***Mis Quarterly***, 36(2): 649-676.

West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. ***Journal of Product Innovation Management***, *31*(4), 814-831.

West, J., & Gallagher, S. 2006. Challenges of open innovation: The paradox of firm investment in open-source software. ***R and D Management***, 36(3): 319-331.

West, J., Salter, A., Vanhaverbeke, W., & Chesbrough, H. 2014. Open innovation: The next decade. ***Research Policy***, 43(5): 805-811.

Whittington, R., Cailluet, L., & Yakis-Douglas, B. 2011. Opening strategy: Evolution of a precarious profession. *British Journal of Management*, 22(3): 531-544.

Whitty, M. T., & Joinson, A. 2008. *Truth, lies and trust on the Internet*: London: Routledge.

Yakis-Douglas, B., Angwin, D., Ahn, K., & Meadows, M. (2017). Opening M&A strategy to investors: predictors and outcomes of transparency during organisational transition. **Long Range Planning**, *50*(3), 411-422.

Zuboff, S. 2015. Big other: surveillance capitalism and the prospects of an information civilization. *Journal of Information Technology*, 30(1): 75-89.