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The Digital Work of Strategists: Using Open Strategy for Organizational Transformation

Introduction

There is growing interest in how information technologies (IT) are changing the nature of work in organizations, leading to the reconfiguration of work practices. These new work practices are collectively termed 'digital work' (Orlikowski and Scott, 2016; Barley et al., 2017). Aspects of digital work that have been studied to date include how web 2.0 tools mediate knowledge sharing (Simeonova, 2018), the emergence of digitally-enabled jobs in offshoring work (Sandeep and Ravishankar, 2015), the interplay of human and computer work practices (Richter et al., 2018), and the dynamics in digitally challenged organizations (Davison and Ou, 2017), yet the digital work undertaken by strategists remains unexplored. This paper complements these areas to include the digital work of strategists in formulating and implementing organizational strategy.

Researchers have started to probe how "the role of various stakeholders taking action, typically firmly rooted in ongoing digitally-enabled practices" shapes strategy (Henfridsson and Lind, 2014, p.11; Marabelli and Galliers, 2017). The notion of *ongoing digitally-enabled practices* extends into organizational strategy and, in particular, where IT is deliberately deployed to create so-called open strategizing (OS) (Whittington et al., 2011; Morton et al., 2019). Strategists are engaged in digital work through the digitization of strategy-making (Amrollahi and Rowlands, 2018). Through digital work, strategists adopt more inclusive (i.e. including more people in the development of strategy) and transparent (i.e. allowing greater accessibility and visibility of strategic information) strategizing practices (Tavakoli et al., 2017).

Studies of OS show how IT enables a strategic dialogue with a range of stakeholders which feeds into strategy development (Amrollahi and Rowlands, 2018). In-concert, IT and OS can act as a platform for organizational transformation (Hautz et al., 2017; Vial, 2019). IT and social media provide newfound capabilities which can increase participation in strategy and strategists are adapting their practices such that traditional 'analog' forms of strategizing are being complemented or replaced by digital practices (Baptista et al., 2017a). Baptista and colleagues show that organizations must develop reflexiveness as a capability in order to use social media for OS. However, their analysis concentrates on the role of feedback loops as interpreted and used by senior managers. This study continues their line of argument by connecting IT and social media with OS, but attends to the practices of social actors in developing, revising, and implementing strategy through their digital work.

This paper adopts an activity-based view[1] (Johnson et al., 2003; Jarzabkowski, 2003) to study the micro-strategizing by managers which we analyze using an activity framework (Jarzabkowski, 2005). The Activity framework combines five interrelated factors which show the unfolding of strategy through activity systems: (i) the subject of analysis (top managers); (ii) the group with whom top managers interact, (iii) the object of their activity, in this case the emergent strategy; (iv) the technologies in-use that mediate practices, and; (v) the goal-directed outcome from the activity system – that is, the strategy itself. Indeed, activity systems have been used to analyze strategy as patterns of activity that connect various organizational actors and their agency

[1] There has been growing use of activity- or practice-based views in Strategic Management and Information Systems literatures to better understand *how* various actors bring strategies into being. Johnson et al. (2003, p.5) capture this succinctly: "The activity-based view…lies increasingly in the micro activities of managers and others in organizations. [It] is concerned with the consequential details of organizational work and practice. It goes inside organizations, their strategies and their processes, to investigate what is actually done and by whom."

through their use of IT-tools (artefacts) (Henfridsson and Lind, 2014; Jarzabkowski and Wolf, 2015). In our study, we examine the work of strategists, in this case, top managers and their use of IT-tools in developing a new strategy with their community through OS. As our interest in artefacts is focused on IT-tools, we examine what we call IT-mediated practices. These practices incorporate the use of both traditional IT-tools such as questionnaires, email, and PowerPoint, coupled with the use of new and powerful social media (von Krogh, 2012; Leonardi et al., 2013) in order to increase inclusion and transparency in strategy (Haefliger et al., 2011; Baptista, 2017a). In essence, the use of IT-tools by top managers to mediate goal-directed activity guides our exploration of the digital work of strategists.

To better understand these recent changes in how strategy is conducted in organizations, we explore the role of digital work in OS in the case of situated change (Orlikowski, 1996) in a large professional association in the UK, InfoLib. We demonstrate the transformative potential of IT in OS: how top managers use digital work to *strategize* and how the transformation unfolds. Our research question is: '*How does the digital work of strategists, and the use of open strategy, enable organizational transformation?'*. We reveal how top managers, as organizational strategists at InfoLib, formulated and implemented a five-year strategic plan with their community through OS and redefined the mission, values, and purpose of the organization. We employ the aforementioned activity framework to consider (i) how IT-mediated practices were used by top managers in OS, (ii) how these activities worked in-concert to guide emergent strategy (Henfridsson and Lind, 2014; Karanasios and Slavova, 2019), and (iii) how digital work is a key part of a top manager's OS activities.

Theoretical Background

This section addresses three themes: (i) strategy practice, (ii) digital work, and (iii) open strategy. Strategy practice provides a lens to understand the work of strategists and their use of IT-tools – which is relevant to digital work. Digital work and OS are then explored as a basis for understanding how IT guides changes to strategy work and leads to organizational transformation.

Strategy practice

Using a practice lens, the *doing of strategy* is conceptualized as a situated, socially accomplished activity constructed through the interactions of actors (Jarzabkowski and Wolf, 2015). Hence, strategy is understood not as a fixed property of an organization but as something that organizational actors do. Therefore, our focus is on its practitioners and their knowing and becoming of the strategy phenomenon, especially in light of the development of social and digital media. Whittington (2019, p.2-15) examines the progression of strategy practice and the work of strategists from "the primitive strategic planning of the 1960s, to the strategic management of the 1980s, and now to more self-conscious experiments in 'open strategy'". OS places the role played by IT centre-stage in "shaping the direction of practice change" and is a shift towards digital work for strategists. We discuss this notion of OS later in this section.

Much of the strategic IS literature has built on Porter and Millar's (1985) seminal work which outlined the strategic significance of IT. Over time, this has prompted greater interest in IS strategizing and on the role of IT in strategy work (Marabelli and Galliers, 2017). Researchers have also outlined interconnections of people and material

features in social media and 'smart' devices (Haefliger et al., 2011; Cecez-Kecmanovic et al., 2014), which support our appreciation of the dynamic interactions between IT and strategy work (Haefliger et al., 2012). Strategy researchers and IS researchers have bridged epistemological differences in their respective domains (Orlikowski and Barley, 2001; Vaara and Whittington, 2012), and have noted a synergy between the two fields. This is beneficial as strategy scholars seek a greater understanding of the material properties of technologies in strategy work (Whittington, 2014), and IS scholars strive to understand the *doing* of IS strategizing and the strategic impact of IT in the workplace (Peppard et al., 2014). The label 'Strategy as Practice' is commonly used in studies that capture the *doing* of strategy and a variety of theories have been used to explain this perspective (Whittington, 2006).

In this paper, we draw specifically on an activity-based view (Johnson et al., 2003; Jarzabkowski, 2003; 2005; Jarzabkowski and Wolf, 2015). Such activity-based views are rooted firmly in trying to analyse the interconnected activity of actors and (material and psychological) tools in relation to their collective structures (organizations). They are therefore especially useful for examining the use of artifacts in shaping strategy (Henfridsson and Lind, 2014). We build upon this interplay between strategy, IS, and practice in the next section by outlining our understanding of digital work and elaborate on our activity framework later in the paper.

Digital work

Digital work is a pressing issue for policy makers, organizations, and workers alike. Few overarching definitions exist and undoubtedly the contributions to this special issue will provide greater clarity to the nature of digital work (Baptista et al., 2017b).

Orlikowski and Scott (2016, p.88) argue the near-ubiquity of digital work, and that "'digital' no longer serves as a useful separable feature distinguishing a type of work. Work today almost always entails the digital". Our review of the literature on digital work revealed that there are two complementary and compelling arguments as to why organizations are being transformed through digital work. The first is that changes in IT occur outside of the organizational context and impact it from the outside-in by driving changes inside organizations that impact the nature of work. In the second, organizations are undergoing transformation from within because tasks and routines are digitized, bringing significant changes to work.

Changes such as the increase in processing and storage capacity of various IS and their increasing embeddedness and mobility (Lyytinen and Yoo, 2002) have changed work in organizations. Indeed, the term 'the changing nature of work' has been applied to the widespread post-industrial transformations and the experience of working from changes in IT (Barley et al., 2017). Our argument follows the thesis of Zuboff (1988) that, through *informating*, IT produces new streams of information which alter, or replace, human agency. There has been much debate about the challenges facing society as the workplace changes, through such things as automation (Forman et al., 2014) and the focus on casual work (e.g., in the 'gig-economy') (Petriglieri et al., 2019). However, various benefits emerging from these new means of working and in their enablement of increased autonomy, flexibility, and democratic distribution of knowledge, can also be recognized (Baptista et al., 2017b). It is argued that we have entered a new era of IS with organizations' success hinged on building IS capability (Barney, 1991; Bharadwaj, 2000; Peppard and Ward, 2004), and this further emphasizes the need to understand the impact of IT on work and its long- and short-

term effects (Forman et al., 2014; Richter et al, 2018). Research also recognizes the changes to tasks and processes in (and between) organizations using IT which develop capabilities that attend to social and tacit activities for example, market responsiveness or improved service quality (Bharadwaj, 2000; Peppard and Ward, 2004), which lead to intangible benefits. IT has moved beyond the automation, planning, and control of discrete tasks, for example, and is being used in the socialization of employees (Leidner et al., 2018; Simeonova, 2018). Studies also reflect the tensions between the social and digital layers of organizations, acknowledging complexities in digital work such as where employees circumvent IS policy (Davison and Ou, 2017) or where analog and digital forms of strategizing collide (Baptista et al., 2017a; Mount et al., 2020).

IT can play a strategic role by enabling different types of organizational transformation and change through digital work (Dehning et al., 2003; Vial, 2019). Dehning et al. (2003) identify four specific strategic roles IT can play. *Informating-down* allows information to be provided to stakeholders across and outside of organizations from top management, which aims to improve decision-making, coordination, and collaboration in firms. IT used to enable *informating-up* allows information to flow from different levels of the organization and to be communicated to top managers again with the aim of improving decision-making, coordination and collaboration. IT can also fulfil the role of *automation,* whereby existing capabilities are improved by replacing human labour. IT may also lead to *transformation* by "redefining the business model, business processes and relationships of the firm." (Vial, 2019, p.132), altering existing capabilities or ensuring new capabilities are built through reconfiguration and by establishing new strategic relationships (Dehning et al., 2003). Importantly, digital work

and the resulting transformation can offer both tangible and intangible benefits which fundamentally alter the fabric of organizations (Zuboff, 1988; Zammuto et al., 2007). The following section examines digital work in relation to OS specifically.

Open strategy

OS research spans epistemological boundaries in strategy and IS research to balance the social elements of strategy and organizing, and the role of technology in strategy work. OS is achieved when organizations include internal and external stakeholders in strategizing, thereby gaining access to new insights which inform strategic direction and organizational transformation (Whittington et al., 2011; Hautz et al., 2017; Mount et al., 2020). The preface to the 'Cambridge Handbook of Open Strategy' states that "as new technologies and societal pressures have precipitated employees, business partners, shareholder groups and other stakeholders into deeper involvement in strategy, various Open Strategy initiatives now promise greater transparency and inclusion in the strategy process" (Seidl et al., 2019, p.i). This description emphasizes that a central theme in OS is the use of IT (Morton et al., 2019), and studies have provided evidence of this reporting the use of social media, ideation platforms, and web-based questionnaires (Baptista et al., 2017a; Tavakoli et al., 2017). When studying OS, we consider the IT-enabled practices and therefore the digital work of top managers in OS. Indeed, in the IS field Tavakoli and colleagues (2017) have contributed to the theoretical development of OS by explicating that IT is essential to complementing or replacing analog strategy work, and in enabling episodes of openness to occur. This highlights the powerful combination of OS and IT and its capacity to impact strategy development and organizational transformation (Hautz et al., 2017).

The study of OS in our paper reflects the impact that IT-enabled openness can have on the nature of work (Whittington et al., 2011), and answers calls for practice-based research to connect the strategy and IS domains (Vaara and Whittington, 2012; Peppard et al., 2014). Research has, for example, demonstrated that mundane and near ubiquitous technology such as PowerPoint (Kaplan, 2010), and enterprise systems (Leonard and Higson, 2014) are used to support strategizing. Our work expands on such work to examine the digital work of top managers in OS.

Empirical Setting and its Relevance to Digital Work

Our empirical work captured the formal strategic planning-cycle at InfoLib; an organization which represents Library and Information based professionals in 18 sectors across the United Kingdom (UK). InfoLib was formed in 2002 and like many professional associations in the UK it operates under a Royal Charter, outlining its core purpose and dictating any changes that are made to its byelaws. In accordance with these byelaws, InfoLib is required to renew its strategy every five-years (in this instance 2015-2020). In June 2015, InfoLib hired a new CEO tasked with leading the new planning-cycle for the organization. The CEO recognized the need for this process to be an inclusive exercise involving the wider organizational community in formulating and delivering its strategy. Historically, strategy work in the organization was the domain of top management. In contrast, this research traces the conscious move towards more inclusion and transparency in strategy as InfoLib adopted an OS approach. To quote the CEO, the only way he envisaged for conducting strategy work was to *"be open and make it a participatory process"* in a time *"where management is as much a facilitation and articulation as it is just saying that is where we're going to go, and then sit in my office and move the pieces around the board"*.

InfoLib top management's OS approach sought to engage the organizational community. The community comprised an estimated 86,000 people; its members (upwards of 13,000), staff, professional interest groups, and former/non-members. OS was also a means to manage the dispersed and diverse nature of InfoLib's community, and to better understand what they wanted from their association. In terms of organizational transformation, top managers sought to re-define the "rules of membership and their meaning for an institutional community" (Lawrence, 1991, p.161). The organization had grown distant from its community, had limited visibility as an advocate for the profession, and lacked credibility. The organization's membership numbers were dropping which threatened its very existence. Overall, there was a need to transform the organization into one that served and engaged its community. Thus, the CEO saw OS as a mechanism for transformation at InfoLib by understanding and articulating the views of the "*sheer range of voices that we've got in our community"* and weaving them into the strategy. To top management at InfoLib, OS was more about *"distributed ownership of the strategy"* and less about "*sit(ting) here on the board and say(ing) this is definitively the direction that we're going in".*

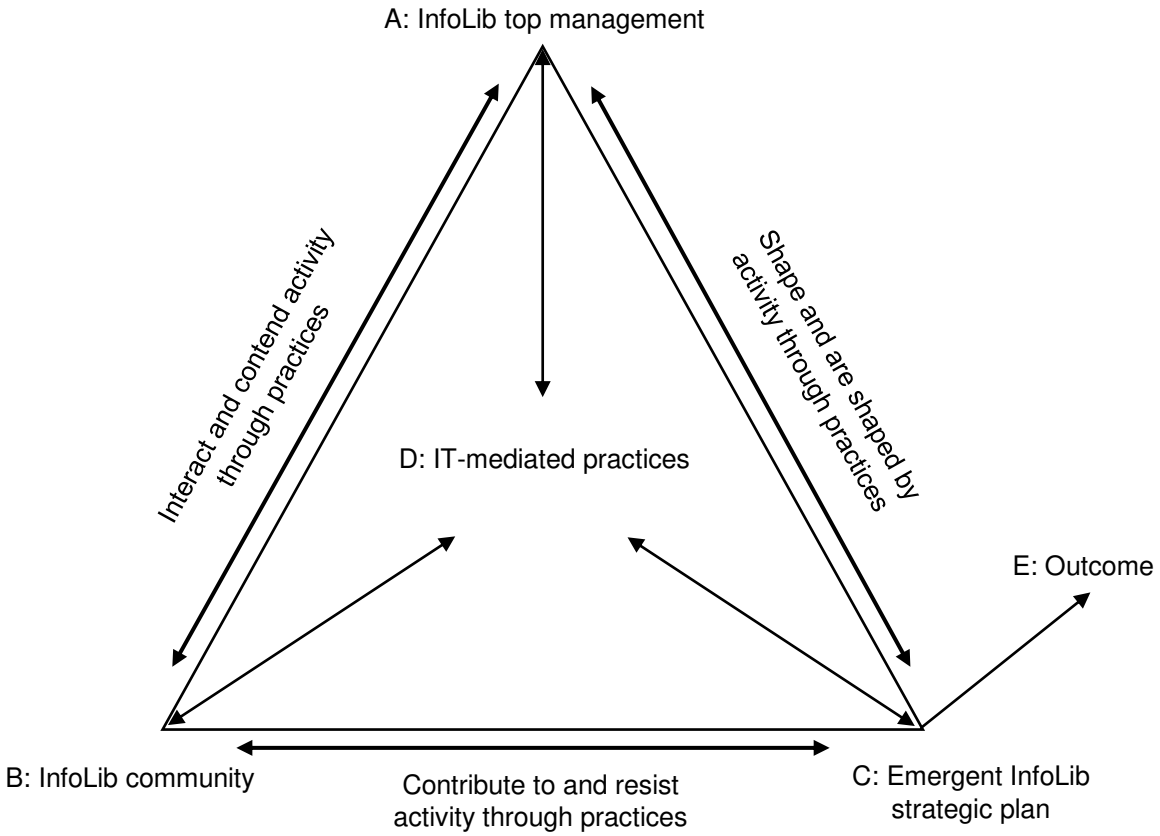
The use of IT in OS at InfoLib was prevalent and therefore provided the basis to explore the digital work of its top managers. To engage its community, InfoLib used various tools: a web-based questionnaire, social media platforms, webpages and blogs, email, face-to-face PowerPoint discussions, and written responses. These tools were described by top managers as representing different "layers of engagement" and as part of a "ladder of engagement" in moving towards an OS approach and they were a significant move towards making strategy work digital (Tavakoli et al., 2017). Top management outlined that the three 'layers of engagement' were online, face-to-face,

and hardcopy engagement and that this could enable the ladder of engagement to move the community from "*no awareness of the strategy, to aware, to engaged, to sharing and coordinating strategy*". Over 1000 voices contributed to OS, which resulted in the publication of a summative report of the planning-cycle, and draft and final strategic plans and guided much-needed organizational transformation.

Method and Analytical Framework

Interpretation of the activity framework

We use the theoretical background of strategy practice and the activity-based view and outline an activity framework for examining the digital work of top managers and "how specific technologies [...] enhance wider participation and inclusion of knowledge workers in organizational transformations" (Jarzabkowski and Wolf, 2015, p.178). This framework (*Figure 1*; adapted from Jarzabkowski, 2005) encompasses an activity system detailing the interactions that take place between strategists and other stakeholders, and the IT-tools that mediate goal-directed activity (Henfridsson and Lind, 2014).



Legend for Activity Framework

We explore the digital work of strategists in their interactions with different stakeholders and IT-mediated practices in OS. We emphasize the flow and focus of activity through the direction and weight of each arrow and how they modulate different activity systems.

The arrows on the outside of the activity system demonstrate the flow and focus of interaction between stakeholders and goal-directed activity through IT-mediated practices, specifically; top management and the community interacting and contending activity (A-B), top management shaping and being shaped by activity (A-C). and the community contributing to and resisting activity (B-C).

The arrows in the centre of the activity system demonstrate the dominant flow and focus in how top management (A-D) and the community (B-D) interact with IT-mediated practices, and how these practices work towards goal-directed activity (D-C).

Outcomes are from the whole activity system acting in-concert (A, B, C, D-E), not exclusively from any single component.

Figure 1: Activity framework exploring the digital work of strategists in open strategy

To break-down the key components in *Figure 1*: InfoLib's emergent five-year strategic plan (C:) can be understood through IT-mediated practices (D:); practices refer broadly to how various IT-tools being used in the strategy work of top managers. The tools include "meetings, spreadsheets […] and types of technology" and their use "provides insight into how technological communication tools and social software enhance inclusiveness" (Jarzabkowski and Wolf, 2015, p.177-178). Also important are the interactions between the stakeholders involved in the development of strategy with

these IT-mediated practices and the emergent strategic plan. These stakeholders include: InfoLib's strategists (A:) (their top managers e.g., CEO, board members, senior managers) and (B) the InfoLib community who were not previously involved in strategizing (e.g., members, operational staff, former/non-members). This activity system enables us to account for the (digital) work of top management and stakeholders and to examine the IT-mediated practices used to produce the outcomes (E:) (i.e. realized strategy and organizational transformation) for InfoLib.

Whilst we acknowledge that strategy work includes both digital and analog practices, and OS is not entirely digital work (InfoLib's 'layers of engagement' with their community included online, face-to-face and hardcopy) we pay particular attention to the IT-mediated practices and digital work of strategists. The InfoLib community consists of different organizational actors with diverse views, opinions and needs, which serve as the basis for InfoLib's strategic plan to be conceived. Top management worked with the community to construct the emergent strategy. Various IT-mediated practices enabled interaction between these participants as shown in the activity systems (Jarzabkowski, 2005) which we outline in relation to our case.

Data collection and analysis

Due to the lack of studies examining digital work in OS, we conducted an interpretive study to allow findings to emerge from the data and improve our understanding of the phenomenon (Myers, 1997; Klein and Myers, 1999). Naturalistic data were collected using multiple qualitative sources (Walsham, 1995). Nvivo software was used to both organize and analyse data; semi-structured interviews and observation were core to the empirical work. We collected data about the different practices of OS, such as the

web-based questionnaire, social media, and email data, with further rich secondary data from documentation such as planning documents. Consistent with our guiding framework, we conceptualized strategy as unfolding through tools-in-use (online, face-to-face, and hardcopy). Data collection was directed towards understanding the use of these digital and analog tools and the activities which contributed to InfoLib's realized strategy. *Table 1* provides examples of data relating to each source to complement the data analysis (*Table 2*), and as shown throughout the paper to illustrate which data relate to IT-mediated practices and the work of top managers.

In uncovering the phenomenon (Klein and Myers, 1999) the data were analyzed in view of the relevant literature. Consistent with semi-structured design, interviews covered themes which aimed to understand the meaning that participants attached to InfoLib's strategic direction, and the OS approach (Myers, 2015). Interviews were conducted in two stages. First were interviews with InfoLib's top managers: the CEO (3), board members (4), senior managers (4). These interviews took place at three stages (before, during, and after the planning-cycle) in order to understand their experience in OS. Second, were interviews (19) with the InfoLib community, including; members and former/non-members (including librarians, information and knowledge managers, consultants, and educators) and InfoLib operational staff. These interviews were completed after the draft strategic plans resulting from OS had been published, and implementation had commenced. This allowed exploration of interviewees' opinions of strategy work and the emerging and realized strategy (Jarzabkowski, 2005). The interviews were recorded and transcribed verbatim to gain familiarity with the data.

Data Collection Method (DCM)	Source of Data	Example of Data
1. Semi-structured interviews	• 30 semi-structured interviews with 26 participants. • Length between 34 and 136 minutes, average length of 63 minutes, resulting in 30 hours of recorded material; approximately 175000 words.	*"It was very positive that InfoLib was actually seeking to engage its membership in the decisions that it was making. There are issues or decisions that InfoLib have taken in the past without really consulting its membership. I think it's a step in the right direction"* (InfoLib Member) *"I think the fact that he put as much as he could out on Twitter was good too. We've got big engagement on Twitter so that was useful, I think he's (InfoLib CEO) made huge efforts to engage on a number of different platforms, which has had an effect"* (InfoLib Member)
2. Observation	• 6 days of observation data. • 4 days at face-to-face strategy discussion events, and 2 days at InfoLib headquarters observing strategy meetings. • Approximately 25 hours of observation in total.	*"InfoLib has too many ideas which aren't effective. Is this strategy consultation just another one of these, or is it going to be something more substantial and worthwhile, with added benefit to its members?*" (InfoLib Member) *"We need to ensure the output of the discussion will have clear outputs, engagement, and change, otherwise it just becomes another strategic plan drawn up by the few"* (InfoLib CEO)
3. Web-based questionnaire	• 599 web-based questionnaire responses from the community (of 701 received by top management – participants had the option to keep their response private). • Responses related to strategic priorities of the community.	*"Be fully inclusive of all sectors and ensure professionals working in IM, KM and Digital roles feel InfoLib is their natural home"* (InfoLib Member) "*None of these strategic goals are achievable unless InfoLib first addresses the serious decline in membership that has been allowed to occur over the past ten-years, and also considers how it can create a new and more secure financial base by tapping additional sources of income"* (InfoLib member)
4. Social media	• 3000 social media posts containing strategic input and discussions • 1655 posts were from a dedicated strategy discussion on Twitter.	*"Calling all info professionals - have your say b4 16th December #InfoLib2020"* (InfoLib Social Media) *"@InfoLibCEO Make it cheaper to join #twitterdiscussion"* *"Nice direct request there! @member #twitterdiscussion Q4 Defining a more affordable model is 1 thing, the real complexity is transitioning to it"* (conversation between InfoLib Member and CEO during Twitter discussion)
5. Email and hardcopy	• 30 email and written responses sent directly from the community to top management.	*"It feels old fashioned, not really adequate, it's more traditional. A strategy should be about where we're going. This doesn't do that, it's about the present. It's trying to please too many people"* (InfoLib member) *"Rethink the subscription model as it is currently too expensive for those on a lower wage"* (Former InfoLib Member)
6. Documentation	• Strategic planning documents, draft and final strategic plans, minutes from 7 board meetings, PowerPoint presentations, access to online Trello boards, internal reports, magazine articles, and blog posts.	*"The vision which has emerged from is of a revitalized InfoLib – a modern, progressive, digital-by- default membership organization which unites, develops and champions its members in creating a democratic, equal and prosperous Information Society"* (Summative Report Document)

Table 1: Methods of data collection for exploring the digital work of strategists in open strategy

Approximately 25 hours of observation were conducted over 6 days, and relevant observations were recorded. Observation guided understanding of the context and everyday practices (Leonard and Higson, 2014; Karanasios and Slavova, 2019) of top manager's digital work. For the data collected from various OS activities (specifically IT-mediated practices - e.g., the use of the web-based questionnaires and social media), netnography techniques were used to observe and capture data from platforms (e.g., over 3000 social media posts) (Kozinets, 2002). We acquired 599 (of 701) web-based questionnaire responses from InfoLib, email and hardcopy strategy responses, and numerous documents including formal strategic planning documents and other important archival material (e.g., PowerPoint slides, board meeting minutes, and internal reports). These data were essential in forming a holistic picture of the strategic planning-cycle and top manager's digital work in OS (Myers, 1997).

The analytical procedure followed Miles and Huberman's (1994) stages of data reduction, analysis, and display, as an appropriate way for interrogating interpretive, qualitative data. Through this, we recursively iterated between theoretical conceptions and empirical data (Klein and Myers, 1999; Myers, 2015). As distinct activity systems emerged, our activity framework conceptualized these as modes of OS around which to display important data and insights (Miles and Huberman, 1994). This helped to outline how IT-mediated practices demonstrate patterns of goal-directed activity through which InfoLib exists or is changing, and helped to align findings with extant theories. The analysis was not linear; it consisted of four stages and followed steps consistent with our chosen analytical framework (e.g., Jarzabkowski, 2005). The data

analysis stages (Miles & Huberman, 1994) are expanded upon in *Table 2* with an illustrative account of the activities associated with each stage of data analysis.

Analysis Stages	Researcher's Activities	Illustrative Examples of Analysis
(i) Reducing data	• Producing first-cycle codes from sentences in transcripts and documentation using Nvivo software. This identified the key themes in the data (Myers, 1997).	E.g., Twitter discussion event data: *"@InfoLibCEO Make it cheaper to join #twitterdiscussion" (community demand new membership model)* *"Nice direct request there! @member #twitterdiscussion Q4 Defining a more affordable model is 1 thing, the real complexity is transitioning to it"* (two-way conversation about new membership model)
(ii) Displaying data	• Detailed coding (7 main themes) and mapping OS practices of participants through development of narratives (Kouamé and Langley, 2018). • Producing a chronology of the case story and using the activity framework (*Figure 1*) as the main analytical lens for analyzing the data. • Identifying activity systems (i.e. *Figures 3-6*) through different IT-mediated practices (i.e. the use of IT tools), which formed the dominant analytical focus (Jarzabkowski, 2005). • Summarizing the output through activity systems as displays to emphasize the focal points of Jarzabkowski's (2005) framework. The main actors involved (subject(s) and community), and the role of IT-mediated practices were central to displays. • Developing an explicit categorical organization of the data (Myers, 2015), and checking inter-coder reliability, with meanings of key themes compared and negotiated.	E.g., Identifying activity systems and summarizing output through activity systems: Twitter discussion event as an IT-mediated practice (D in *Figure 1*) Community openly discuss strategy with the CEO (A to B in *Figure 1*) Community and top management jointly negotiate goal-directed activity (A and B to C in *Figure 1*)
(iii) Drawing conclusions	• Authors agreeing upon the narratives and activity systems within the findings. • Emphasizing the outcome of the activity, particularly in understanding OS and its relevance to organizational transformation (Vial, 2019). Arrows in activity systems help demonstrate flow and focus of interactions through IT-mediated practices, such as how these enable interaction, and how activity relates to a realized strategy (Jarzabkowski and Wolf, 2015). • Classifying activity systems as 'modes of OS' to offer explication of inclusion and transparency, IT, and strategic outcomes in relation to InfoLib's strategic planning-cycle.	E.g., Finalizing activity systems (showing digital work) as modes of OS: Twitter discussion and face-to-face practices demonstrate 'collaboration' occurring between top management and the community towards goal-directed activity (realized strategy).
(iv) Instantiation and comparison with theory	• Understanding the outlined modes of OS and instantiating their role in organizational transformation (Kouamé and Langley, 2018). Drawing on our understanding of prior literature, narratives were developed to display how modes lead to a realized strategy and organizational transformation (Miles and Huberman, 1994).	E.g., instantiating role of modes in organizational transformation: The OS mode of Collaborating enables a dialogue around strategy and top management to translate insights into a realized strategy.

Table 2: Stages of data analysis with associated analysis activities and illustrative examples

Findings: Phases of Open Strategy and the Digital Work of Strategists

Our analysis covers three phases of strategy development (Tavakoli et al., 2017) to show the digital work of top managers in each phase and the emergence of the new strategy and its implementation. These phases (*Figure 2*) are used to structure our findings:

- *Phase one, preparing and planning strategy*, focuses on defining and setting-up the open strategy process and establishing initial strategic priorities.
- *Phase two, generating and evaluating strategy,* is about generating further ideas and priorities by accessing widely distributed knowledge, and evaluating these in an inclusive and transparent manner.
- *Phase three, communicating and implementing strategy,* turns focus to finalizing a shared strategy through the writing of draft and final strategy documents shared through IT and implemented into realized actions.

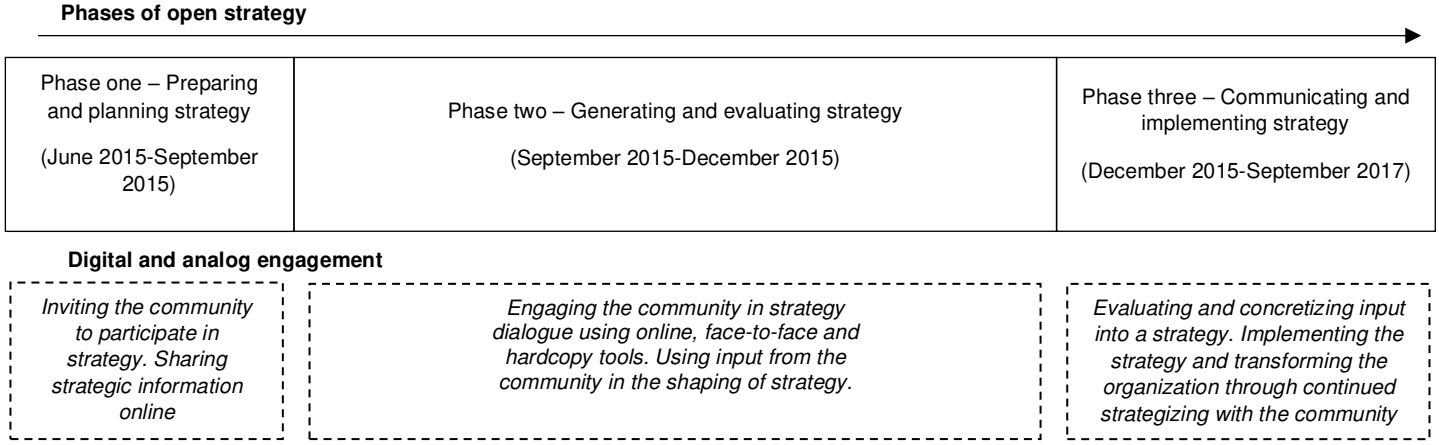


Figure 2: Phases of open strategy and digital and analog engagement

Phase one, June 2015 - September 2015: Preparing and planning strategy

In phase one, strategists - InfoLib top managers - prepared and planned the strategy cycle and pursued an OS approach. The InfoLib community were given a platform to

contribute to the strategy and its implementation. Top management explained that OS would ensure that the varying needs and views of the community were better understood and could be harnessed to inform strategy. This was in stark contrast to previous strategic planning cycles. A board member expressed this shift from the 'closed' approach to strategy:

> *"Members' views weren't being taken on board. If you structure it in the way that InfoLib has [...] it opens it to everybody, it means that it's a more democratic environment, and a structured place to discuss strategy"* (InfoLib Board Member A, DCM 1)

The CEO was concerned that the organization embraces OS as an ongoing conversation as opposed to the 'artificial openness' that might be achieved through, for example, a single survey. The top managers recognized that an OS approach extends beyond any one tool or event, and involves a culture shift - continued collaboration is required:

> *"it's easy to exploit participation and do a survey and get an idea about what we should be doing […] for me it's starting a culture of dialogue and saying that at any moment people can discuss ideas or ask questions. You can artificially engineer openness and I'd rather be an organization that has an ongoing conversation"* (InfoLib CEO, DCM 1)

Top management used online tools to share information about the strategic planning-cycle, central to this was an electronic planning document in which top managers presented five areas of the strategy (vision and mission, values, strategic priorities, campaigns and programmes, and developing the business model) and their opinion on each of these. Within draft strategic priorities, (these being; advocacy, professional development, expanding the community, enterprise, and partnership with other organizations) top managers voiced their own view on the future of InfoLib. Top managers then opened this draft to the community to discuss and debate in order to work towards refining and crafting the strategy and steering transformation (see *Figure 3*).

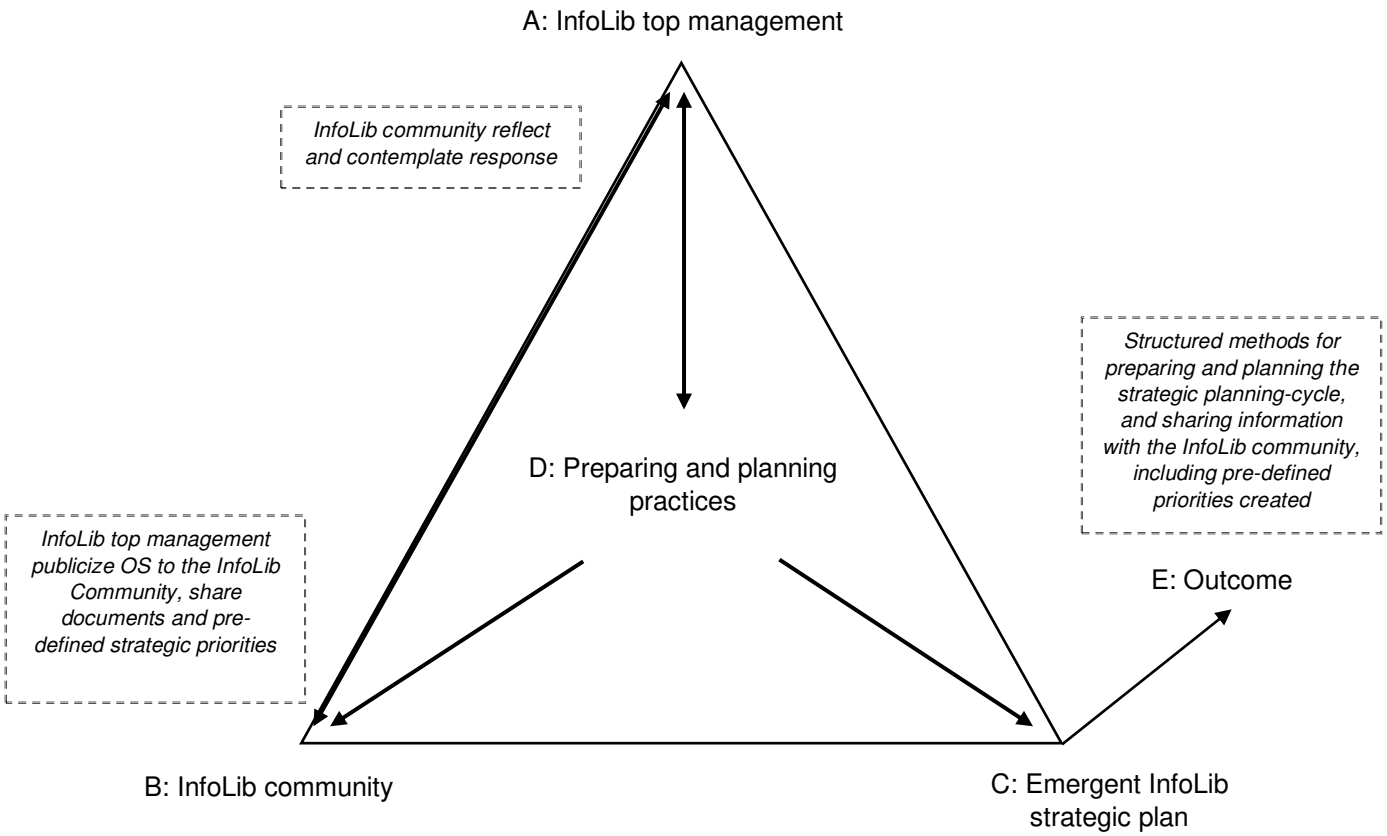


Figure 3: Activity system for preparing and planning IT-mediated practices

Responses from the community showed agreement that top management inviting the community to help develop the strategy had started a shift to a more open culture, and that top management had made numerous tools available through which strategy could be discussed.

> "*The strategy is decided by the board […] and ordinary members don't have a huge amount of say. I find it quite interesting to see the whole process [open strategy and strategy development] go through*" (InfoLib Member and Library Professional, DCM 1)

> *"It was being pushed out (via webpages and blogs) […] I thought that was something that was catching. There was certainly plenty of opportunity [to respond/engage]"* (InfoLib Member and University Lecturer, DCM 1)

In terms of the emergent strategic plan, this phase was essential to the emergence of a draft outline of the strategy in the electronic planning document which held the views of top managers and was a starting point for discussion in enabling a strategy to be developed and refined to encompass the values of the community. The outcome of

phase one was to ensure greater transparency of the strategy by making the draft strategy visible to the whole organizational community.

Phase two, September 2015 - December 2015: Generating and evaluating strategy

In phase two, the activities of top managers switched to generating and evaluating strategy. Top management and the community discussed and deliberated strategic values and priorities for the organization using a variety of IT-tools.

A web-based questionnaire gathered 701 responses to the draft strategy and InfoLib's CEO argued that this provided:

> *"A clear and open channel [...] enabling people to share constructive criticism openly"* (InfoLib CEO, DCM 1)

Top managers designed the questionnaire to gather opinions on the five strategy areas in the electronic planning document (i.e. vision and mission, values, strategic priorities, campaigns and programmes, and developing the business model) and the draft strategic priorities. Open-text comment boxes allowed the community to add further comments. This was a crucial step in managers actively engaging the InfoLib community and capturing their views. The community critically reviewed the vision and mission statements in the draft outline of the strategy, and expressed their own opinions around specific strategic priorities (e.g., for advocacy):

> *"Your vision is not a vision, it's a statement. A vision is something to aspire to […] The second part of the mission just does not really make sense"*

> *"Be more active - Actively promote. Be an advocate to parliament, media, key strategic planners involved with libraries etc."* (Questionnaire Responses, DCM 3)

A further thirty responses were received via email, which senior managers and the board considered valuable input to the strategy. Managers emphasized the importance of using a variety of IT-tools to gather a diversity of views:

> *"Although representing a relatively small number of InfoLib's networks, groups and associated groups, these comments nevertheless provided a valuable body of specific commentary"* (InfoLib Senior Manager B, DCM 1)

E-mail responses were primarily from interest groups. The Government Information Group, for example, agreed with and elaborated on the strategic priority of expanding professional development activities for information management professionals:

> *"GIG welcomes InfoLib's increasing focus on IM, and encourages further development in this area across the next five-years and beyond. We believe that such a focus should be holistic"* (Email Response, DCM 5)

The web-based questionnaire and email were part of an activity system for inclusive strategizing; activity here focused on top managers soliciting input from the community. Social media platforms (Twitter, Facebook, and LinkedIn) were similarly used to engage with the InfoLib community. According to InfoLib management, they ensured:

> *"A simple, intuitive and accessible channel for engagement, debate and discussion"* (InfoLib Management, DCM 6)

The CEO emphasized that use of social media, particularly Twitter, allowed ongoing input:

> *"There is no better way to hold an ongoing dialogue with a large distributed group of people. The power of the hashtag to draw that stuff together is absolutely amazing"* (InfoLib CEO, DCM 1)

The use of social media by top managers came through dedicated pages on a range of social media platforms, and utilization of a designated hashtag on Twitter (#InfoLib2020). The community could use the pages and hashtag to express opinion and ideas on the strategy. Social media messages were monitored by top management on an ongoing basis using online analysis tools such as Tweetdeck. The information generated in OS was captured by using a digital 'Storify' archive; a means of social media storytelling. This was created to capture and formulate a list of tweets and messages, filtering out any that were deemed irrelevant whilst keeping the

community updated about key ideas and developments. Social media were also used to encourage further participation and engage the community, with updates on strategy work routinely posted across organizational and top managers' accounts:

> *"This autumn InfoLib will run a collaborative project to develop our new strategy to 2020 #InfoLib2020"* (InfoLib Twitter Account, DCM 4)

> *"Over 100 responses by the 2nd day! Really valuable ideas! #InfoLib2020"* (InfoLib Top Management Account, DCM 4)

Using social media, the community was able to observe the evolving strategy work of top management and to express, through various platforms, their own strategic views. In sum, questionnaire, email, and social media practices saw top managers demonstrate their skilled work in receiving and collating rich views and needs and carefully analyzing these. In terms of the emergent strategic plan, this helped build on the draft priorities outlined by top management in the electronic planning document and begin to further build the strategy with the community's views considered (see *Figure 4*).

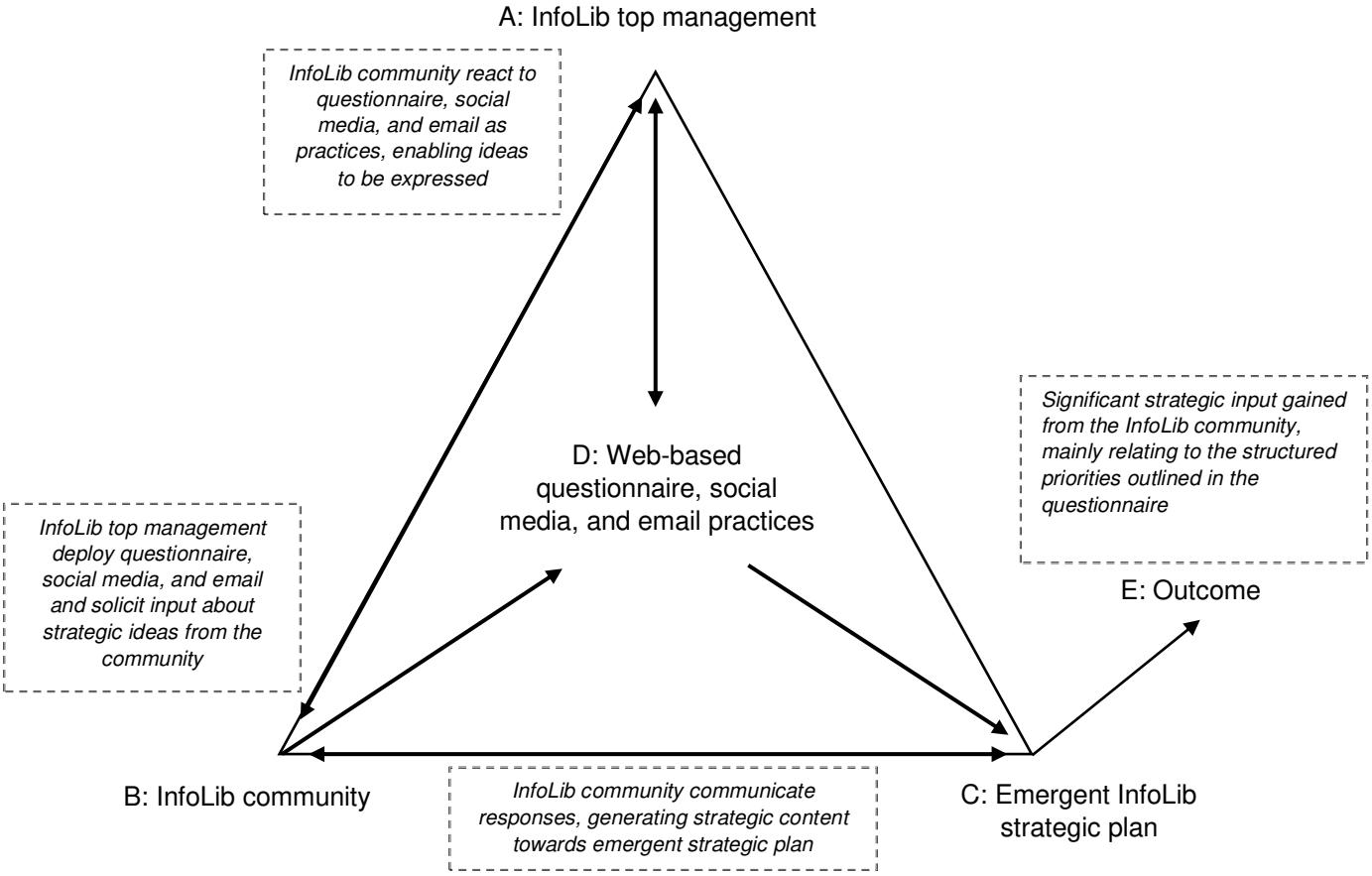


Figure 4: Activity system for web-based questionnaire, social media, and email IT-mediated practices

The outcome was that the significant strategic input gained from the community was used to build and refine the strategy. This added depth and refinement to the structured priorities outlined in the original electronic planning document (input included advocacy against the closure of public libraries, the need for lower membership fees, and the need to give more attention to the different areas/specialities of the community – e.g., information management).

A second use of social media came as InfoLib top managers organized a two-hour strategy discussion with the community on Twitter. This generated approximately 1650 Tweets and was an opportunity for the CEO, in particular, to strategize openly with the community, focusing on twelve questions set jointly by top management and the community. This Twitter discussion enabled inclusive, asynchronous discussion to

take place. Top management experienced and responded to criticisms and heard the needs of the community. The emerging strategy could then respond to these needs. For example, there was focus on the lack of professional support and the high cost of membership:

> *"@InfoLibCEO Invest in those of us at the beginning of our career. Your fees are preventative, advancement prospects are bleak for us"*
>
> *"Thanks @InfoLibMember1 – we're sensitive to that reality & it has really been brought home #TwitterDiscussion"*
>
> *"Completely agree with this. We should not have to pay the same as our managers!"* (Twitter Discussion, DCM 4)

A similar interactive dialogue took place offline: thirty face-to-face discussion events were organized and held across the UK. Top managers used PowerPoint presentations, tailored to the nature of professional groups present, to engage the community and to outline the priorities gathered so far. This highlighted how the strategy was forming from the original draft strategy in electronic planning document. After the presentation, the room was opened for further discussion. Top managers emphasized the importance of the Twitter and face-to-face discussions and the community were positive about the opportunity to have in-depth dialogue with top managers:

> *"If you really want to get a dialogue going, you need to talk to people because that gives you something that sits behind the responses that they'll give you through a survey"* (Member and Government Information Professional, DCM 1)
>
> *"The fact that they were coming out to listen to people was very good […] our network is very diverse […] around that table it's the voices of lots of different people with lots of experiences and lots of different priorities"* (Member and Public Librarian, DCM 1)

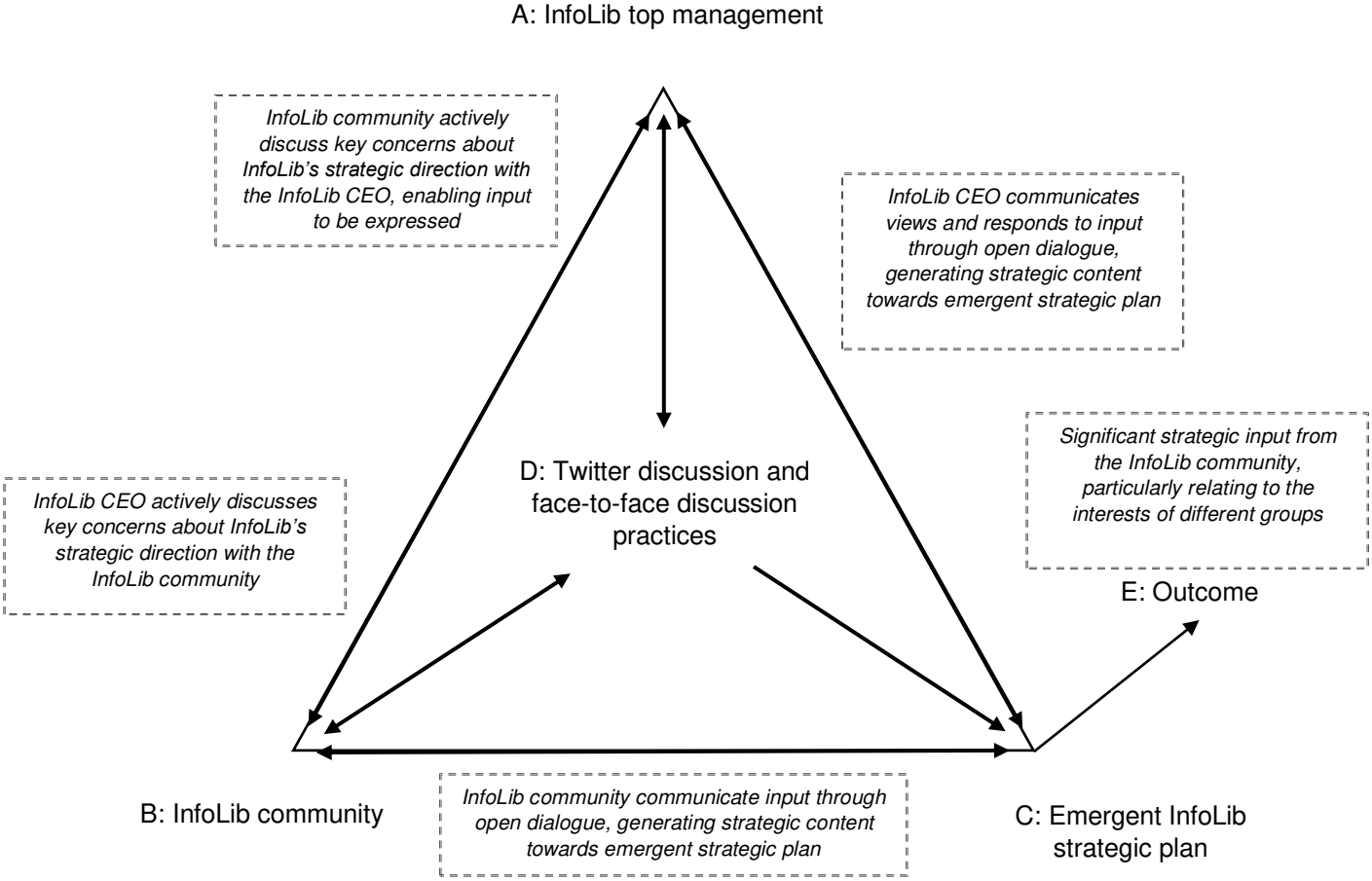


Figure 5: Activity system for Twitter discussion and face-to-face discussion IT-mediated practices

Through Twitter and face-to-face discussions top managers engaged in inclusive strategic discussions and debated priorities for the strategy, helping to refine the emerging plan and actively build a new vision for the future (see *Figure 5*). The outcome was that strategic input from different professional groups (e.g., librarians, information managers, government information professionals) and those in different geographic areas, ensured the strategy catered to the range of voices in the community. The views gathered from the community stressed the need to develop the membership model and improve its value, to have improved communications between top management and special interest groups, and improve access to the headquarters for members to use this space (e.g., for networking, training).

Phase three, December 2015 - January 2018: Communicating and implementing strategy

Phase three was focused on top managers converting the ideas and opinions into a formalized plan which could be communicated to the community before implementation:

> *"We brought the responses together and synthesized everything. I put as little interpretation and as much 'these are the facts, this is what people are telling us' […] People either said 'yes that's what I meant', or 'no you've misunderstood this bit' […] It triggered a further wave of discussion"* (InfoLib CEO, DCM 1)

> *"There are genuinely things I can point to which were directly co-created; one of which is actually our vision […] all three words were from member discussions. The inclusion of standards and innovation as one of our five priorities was directly down to conversations […] there are things in there which are validation, but also things that were directly created by the community"* (InfoLib Chair of Board, DCM 1)

Thus, through OS top managers were able to first 'synthesize' a strategic plan that represented the views of the community and second to continue the open dialogue to further shape the strategy. The finalized strategy was adapted from the draft strategy in crucial ways as the organization's community coalesced around the 'facts' contained within. For example, specific aspects of the strategy were 'co-created' - the precise wording of InfoLib's vision and mission were drawn directly from the interactions held online with its community. Further, the priorities in the strategy were revised substantially through OS, for example, the membership demanded top management focus more on standards and innovation ('open sharing of best practice and standards to support sector development') as a priority.

The CEO emphasized that continued engagement had not ended with analyzing and communicating the strategy: top management would continue championing the views of the community in the strategy implementation:

> *"We published the full dataset […] I've done a lot of Twitter chat and follow-up conversation. We can honestly say that this is what people want us to be doing […] you then have to show leadership in the 'how' […] turn that into an operational campaign*

that works and so the case is to co-create the strategy but then have the tactics to achieve that strategy" (InfoLib CEO, DCM 1)

Top management also reflected that InfoLib has a clear divide in its community which the CEO described as two opposing 'tribes':

"We've got two tribes in our membership with fairly opposing views about what the correct path to the next five-years ought to look like. I don't think we can synthesize those into one direction […] we'll be an advocate and champion for what we've got today, and we'll try and grow from that a progressive agenda" (InfoLib CEO, DCM 1)

Top managers quickly realized that their role could not be defined purely in terms of giving directions. Instead, they saw value in continued interaction with the community, to understand their needs, and how to implement these needs over-time.

Subsequently, top managers recognized that although they could focus the strategy on several headline priorities, its actual implementation was more about facilitating relationships and a dialogue with disparate groups to manage their specific needs:

"Organizing the responses was straight forward. Quite quickly the feedback centered around five or six key concepts […] it was very consistent. With the more detailed stuff, you put that in a plan and say that's an ongoing relationship and a conversation that we need to have with that particular group" (InfoLib Senior Manager A, DCM 1)

Social media, and webpages and blogs, hosted a summative report of key inputs and a draft strategic plan (published January 2016), and a final strategic plan (published July 2016). To top managers, these outputs were essential in ensuring ongoing transparency and dialogue with the community. As explained by the CEO, the strategic plan needed to demonstrate action and commitment to transforming InfoLib. This included transparency through having activities for ongoing strategic planning, such as utilizing project management social media platform Trello to indicate InfoLib's progress in realizing the priorities of the strategy. Further, a digital dashboard has enabled top managers to gain ideas, thoughts and have an ongoing dialogue with the community. This indicates a change to strategy work as top management facilitate

means by which to maintain communication with the community and through which they can strategize together:

> *"We are crystallizing the strategy into a document […] but then maintaining this as an open Trello board […] We can have it as a guide, when we get to the AGM each year we can look at how we are performing against the strategy […] the great thing about leveraging technology is that you can have a dynamic version of the document that coexists with the crystallized version of the strategy"* (InfoLib CEO, DCM 1)

> *"One of the things we've started is a digital dashboard […] that says these are the objectives we set, we've made this much progress, and what are the next steps? People are discussing these (on the dashboard) and it's creating a dialogue for meeting the priorities we set out together. There is a genuine opportunity to shape where the organization goes"* (InfoLib Board Member A, DCM 1)

InfoLib demonstrated that they were committed to actioning the community's priorities, and many of the strategic inputs from the community have been acted on. OS has thus led to tangible organizational transformation:

> *"We've got some headline outcomes which we need to hit […] we've got to be visible, which means press and media, we've got to be influential, which means going to meet Members of Parliament, we've got to be profitable, which means a sustainable business model […] We've got a pretty clear steer from the membership […] you can turn those into KPIs"* (InfoLib Senior Manager A, DCM 1).

For example, InfoLib's decision to launch a national advocacy campaign against the closure of public libraries in early 2016, and their response to calls for more affordable membership by launching a new membership model in 2018 demonstrate the achievement of some of the finalized headline priorities (which were; advocacy, workforce development, member services, standards and innovation, operations and governance) in the strategy so far. Further, changes to the membership model were strategized with members through social media and the web-based questionnaire, with the community able to decide on new costing categories for the transformed model, demonstrating continued instances of engagement and a shift towards top management sharing rather than imposing some decision-making:

> *"If enough people have put their hands up for the new model then we will implement from March […] if a lot of people don't put their hands up then we will simply retain the*

former model. It's a really neat way of saying to the membership – 'the decision is in your hands'" (Board Member B, DCM 1)

Thus, these illustrative examples capture how digital work has transformed InfoLib and the logic of strategy in how it includes its community in shaping the organization towards newly outlined headline priorities.

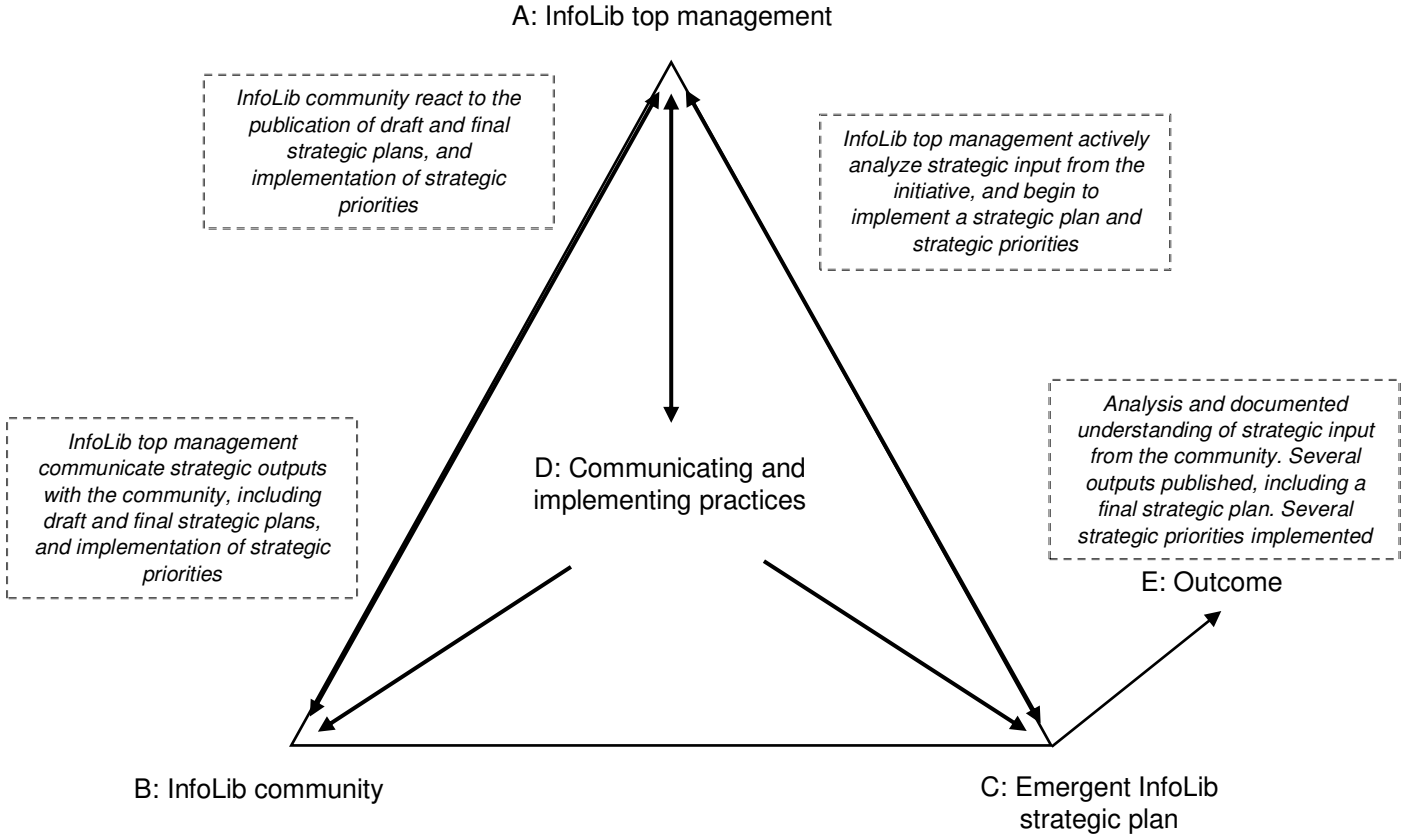


Figure 6: Activity system for communicating and implementing IT-mediated practices

In terms of the emergent strategic plan, top management captured and responded to the views of the community through sharing outputs, continuing engagement, and implementing finalized strategic priorities (see *Figure 6*). The priorities of the strategy were refined through phase two of the planning-cycle, and as was emphasized by the chair of the board this enabled verification of the outline of strategy by top managers whilst adding further depth and new priorities. For example, the vision and mission statement were developed from language used by the community in their responses, headline priorities were significantly altered according to the community's needs and

concerns, and the strategy was put into action around specific advocacy campaigns and a radical change to the organization's membership model. The outcome ensured increased visibility and credibility of InfoLib and its top managers, and it is evident in the notable organizational transformation that has been seen so far. It is recognized that transformation takes time but will continue to occur consistent with the shared priorities in the plan as top management and the community continue to strategize together. Indeed, InfoLib management outlined this as a culture shift towards an open organization, with digital work mechanisms (e.g., using Trello and the digital dashboard) established to ensure means of continued inclusive and transparent strategizing:

> *"The aim is to make this a genuinely open institution […] keeping that belief and behaviour. It would be a mistake to have a one-off process and then revert back […] if we fail to learn how to be a different, open-network institution I don't think there's a long-term chance of our survival. If the choice is between openness or death, then we'll choose openness. The next five-years of doing that will be crucial"* (InfoLib CEO, DCM 1)

These new collective, practices for developing, communicating and implementing strategy evidence that the very nature of strategy work has been revolutionized at InfoLib.

Discussion

There is a growing body of work which argues the nature of strategy is changing to become more open and that this entails substantially different ways of working for strategists (Whittington et al., 2011; Hautz et al., 2017). It has also been identified that IT (and particularly social media) are often the tools that unlock openness (Tavakoli et al. 2017; Morton et al., 2019). While researchers have started to identify factors that facilitate OS (for example, the requisite capabilities (Baptista et al., 2017a)), this case study shifts focus to examine the work of strategists and their IT-mediated practices.

Our study has shown that significant aspects of strategist's work are now enabled by IT. Although analog strategizing is still important in strategy work, we show that much of the work of strategists in OS is what can be termed digital work. This section draws together our findings to show how digital work drives different modes of OS and how this interacts with the development and implementation of strategy.

Modes of open strategizing and the digital work of strategists

Our findings show four prominent activity systems (*Figures 3-6*), which capture the work of strategists – InfoLib's top managers – when using IT to craft a new strategy. To show strategy work through IT-mediated practices (i.e. the dominant activity occurring (Jarzabkowski, 2005)), we label these as *modes of OS*: (i) Broadcasting, (ii) Soliciting, (iii) Collaborating, and (iv) Actioning (*Table 3*). It is in these modes that digital work by top managers is demonstrated and translated into organizational transformation. Each draws together what managers *do*, when the mode is used in the strategy process (phases), the IT-mediated practices through which the strategy takes place, the flow of activities involved (arrows in activity systems), the type of openness generated (inclusion/transparency), and the outcome for InfoLib's strategy.

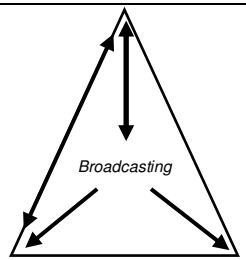
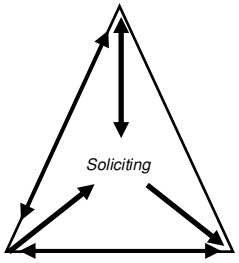
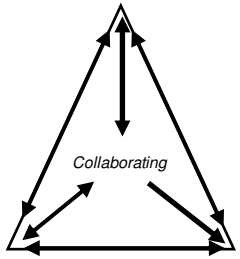
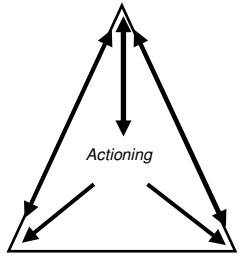
OS Mode	Strategy Phase(s) (Tavakoli et al. 2017)	Dominant IT-Tool(s)	Dominant Flow of Activity	Activity System	Open Strategy Dimension	Strategic Outcomes
Broadcasting	1) Preparing and Planning 3) Communicating and Implementing	• Social media • Webpages (Including online documentation) • Blogs	Proposed strategy content broadcast via IT-tools from top management to organizational community.		Transparency	Draft outline of strategic plan rendered visible to organizational community (electronic planning document). Revised draft and final strategy plans and a summation report containing raw input from OS for verification and transparency.
Soliciting	2) Generating and Evaluating	• Social media • Web-based questionnaire • Email	Top management solicits views from organizational community based on specific strategy content.		Inclusion	Depth and refinement to draft priorities outlined in the electronic planning document - particularly advocacy against the closure of public libraries, the need for cheaper membership, and more attention for the different areas of the community.
Collaborating	2) Generating and Evaluating	• Twitter • PowerPoint (deployed for Face-to-face interactions)	Continuous exchange between top management and organizational community, fed-forward to shape strategy content.		Inclusion	Strategic input to ensure the strategy catered to all voices in the community. Input stressed the need to develop the membership model and improve its value, have improved communications from top management, to support special interest groups, and improve access into the headquarters for members.
Actioning	3) Communicating and Implementing	• Webpages • Blogs • Social media	Synthesis by top management of OS views, knowledge and information – this is made visible to organizational community and used to adapt the formal strategic plan and guide its implementation.		Transparency	Increased visibility and credibility of top manager's and InfoLib and notable organizational transformation demonstrated. Transformation will continue to occur consistent with the shared priorities in the plan as top management and the community continue to strategize together.

Table 3: Modes of open strategizing, the digital work of strategists, and their relevance to strategic outcomes

Broadcasting: In this mode, top managers use IT to render proposed strategy content visible to the community. This is consistent with increasing transparency in OS whereby strategies are broadcast to particular stakeholders. This was an important step for top managers to start what they called the 'layers of engagement' as Broadcasting was used in phases 1 and 3 of the strategy process as an anchor for achieving an open dialogue. Tools including social media, InfoLib webpages, and blogs by top management were used to make strategy content available to the community. Top managers broadcast an outline of a strategy to start the OS process in phase 1 and to 'lock-in' and communicate-back finalized strategy content to be implemented in phase 3. By making the strategy transparent, top managers were then able to switch to more inclusive and participative modes of OS to either generate and refine or implement the strategy.

Soliciting: Top managers switched to Soliciting in phase 2, where their priorities were to generate and evaluate strategy content. This mode makes explicit reference to the strategic plan in seeking the views of the community. Top management requested thoughts, ideas, and deliberations about the strategy through tools including a web-based questionnaire, email and social media. The work of InfoLib top management entailed using these tools to collate views; analyzing and evaluating them to inform the development of the strategy. For example, the organization's mission and vision were crafted by soliciting views specifically on these areas of the strategy. Further, the five draft priorities outlined by top management changed significantly and the final five priorities informed by the community were substantially different (as can be seen in our data when comparing the original electronic planning document with the final strategic plan). Although inclusive, the mode of Soliciting offers no route for ongoing

conversations about strategy; managers switched to Collaborating as a mode for establishing an interactive dialogue.

Collaborating: This mode demonstrated live discussions between top management and the community using Twitter and PowerPoint as tools. Here, strategy was negotiated and refined, and emergent ideas were captured by top management. These tools enabled live, inclusive discussions with the community which were used to feed-forward views to develop the strategy (reflected in the flows of activity in *Figure 5*). This mode saw a substantive shift in the strategic plan as it progressed from the emergent themes and strategy content made visible via Broadcasting in Phase 1 towards a plan that was emerging through the input of the community. Emergent strategy initiated by the community included the provision of professional development for members and revisions to InfoLib's membership model. Collaborating also helped to establish consensus about aspects of the strategy introduced by top management such as the need for increased advocacy for public libraries (this coming from various voices in the community, not just public librarians).

Actioning: In this mode, the work of top managers focused on the implementation of what had been learnt through OS into the formal strategy. This mode is distinct from Broadcasting because it involves the synthesis of knowledge, views and information gathered and incorporated into the strategic plan. When Actioning was complete, top managers switched to Broadcasting their decisions for implementing the strategy. Actioning was seen in various forms such as the direct translation of the community's views into the wording of InfoLib's strategic vision, mission, and objectives. Furthermore, Actioning guided the formulating of the strategy around newfound

priorities such as advocacy campaigns and defining a jointly-developed membership model. This is in stark contrast to the 'closed' or conventional strategy work previously seen in the organization. Actioning is also distinct from Soliciting and Collaborating: while top management draws on the views of the community, it does not involve the community in finalizing the plan. It is therefore consistent with Whittington et al.'s (2011, p.535) assertion that inclusion does "not extend the decision rights with regard to strategy". The case has shown that much OS work was completed before managers switched to Actioning. The final decision over what was included in the strategic plan remained primarily with top management and Actioning thus shows how top managers translate the views of the community into the strategic plan.

The digital work of strategists and organizational transformation

Our study shows that the work of strategists now entails a substantial amount of digital work (through the use of social media, blogging, and a range of such tools) to help enable OS and to craft and implement strategy. Our framework (*Figure 7*) connects the micro-level modes of OS with the more enduring changes produced by strategy – in other words, it shows a situated change perspective (Orlikowski, 1996) of OS. The framework illustrates that the four modes of OS are supported by IT that enables *informating-up* and *informating-down* at different phases to help realize InfoLib's *transformation*.

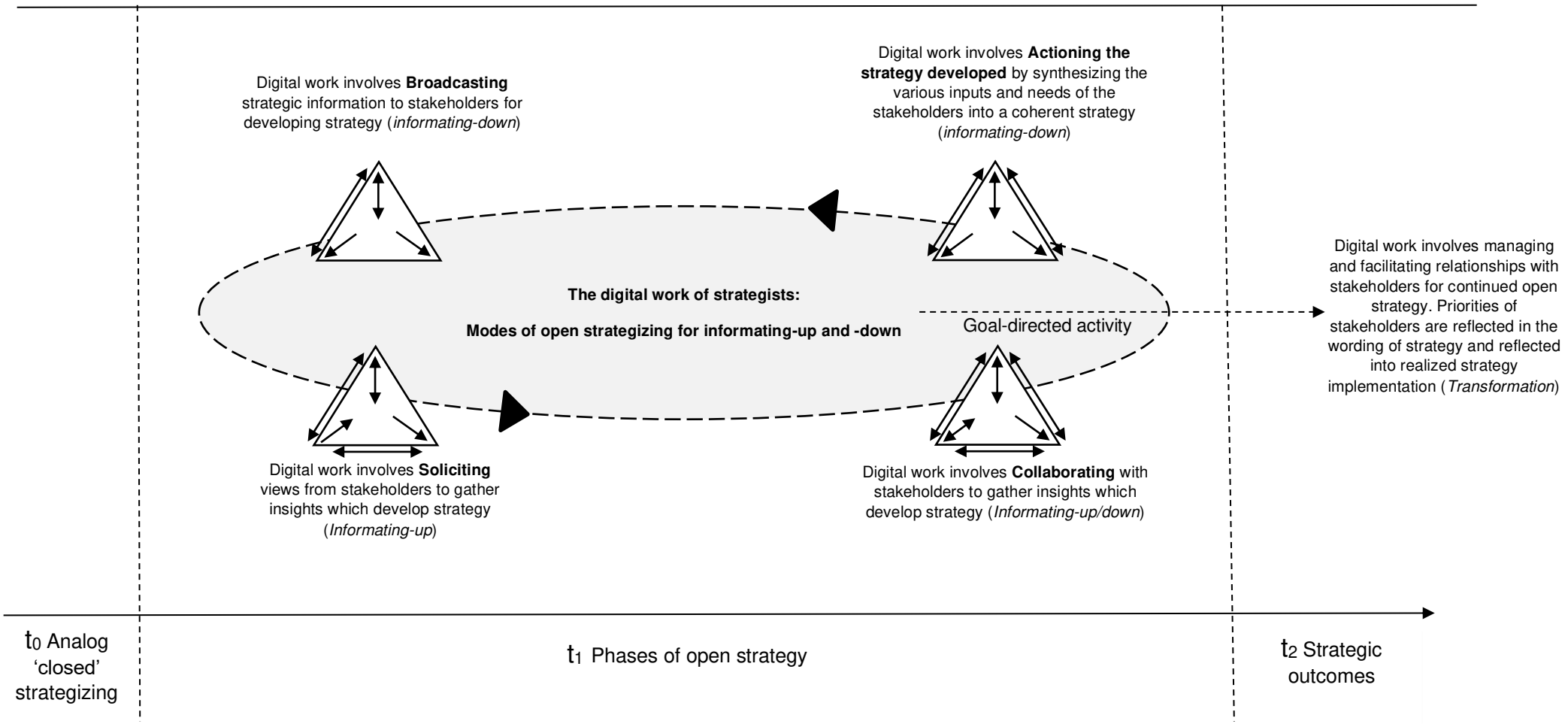


Figure 7: The digital work of strategists over time in open strategy for enabling organizational transformation

Informating-up was seen in the modes of Soliciting and Collaborating. Through digital work, top managers identified and adopted new information that they could apply to their new strategy. Furthermore, *informating-down* in Broadcasting, Actioning and Collaborating enabled top managers to distribute information to the InfoLib community for further engagement in strategizing and to communicate priorities for implementing their strategy and guiding *transformation* (Zuboff, 1988; Vial, 2019). Although analog work is still present in strategy it is IT that primarily enables OS. The digital work of strategists drives heightened inclusion and transparency in strategy: For example, Twitter facilitates massive online discussions unlocking Collaborating as a mode of OS; whilst the web-based questionnaire and social media platforms were used in various activities such as Broadcasting strategic plans, Soliciting views from the community, and Actioning to implement the strategy. It is interesting that top managers did not, however, pursue *automation* through IT (Dehning, 2003). This can be attributed to the often unstructured and ambiguous nature of the information used in OS. Of course, in time, IT-based tools such as algorithmic decision-making may become part of automated strategizing processes (Newell and Marabelli, 2015; Vial, 2019). In sum, the digital work of top managers in OS provides the organization with different and novel ways to shape its strategy over time (moving from more 'closed' strategy towards phases of open strategy which guide strategic outcomes).

Implications and Limitations

This research captured the digital work of strategists –using OS to develop and implement a strategy of change for a large professional association. By zooming-in on the activity systems that underpin OS, we reveal that strategists (in this case top managers) use digital work in a variety of ways to guide strategy development and

implementation. Our research sheds new light on how organizations are transformed. In this case, the organizational transformation is apparent in both (i) the strategy of change itself and (ii) the setting in place of ongoing practices of transparency and inclusion. These findings demonstrate the role of digital work in OS and shed light on the changing nature of work for strategists, which is inextricably linked with them undertaking digital work. This is timely and enhances our understanding of IT-enabled strategizing (Whittington, 2014) and begins to explain some of the benefits of OS for organizational transformation (Vial, 2019).

We recognize that the generalizability of our research is limited because it involves a single case in a specific type of organization. Arguably however, there are still common elements in strategy work that unite all organizations: the need to provide a clear vision and mission, the establishing of headline priorities for the organization, and to engender legitimacy in strategic plans (Lawrence, 1991). In this sense our research offers novel insight to managers about different phases of OS which may prompt managers to consider when in the strategy process modes such as Broadcasting or Collaborating may be of benefit. There is of course scope for further research to build upon this study. We see potential to investigate the cues and motivations that lead managers to use specific modes. More research could add further empirical examples which show the digital work of strategists in OS and help build practical examples of how managers can guide organizational transformation through digital work.

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