Material tools, strategic arenas and temporal openness: Emerging phenomena linking information systems and strategy practice research

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Material Tools, Strategic Arenas and Temporal Openness: Emerging Phenomena Linking Information Systems and Strategy Practice Research

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Abstract. An increasing interest in human actions and practices in the social sciences, and in organizational and management literature, has led to a concentration of such practices in strategy literature. This paper reviews how the practice turn in social theory has influenced the information systems and strategy domains in joint research ventures. In particular, there is a synergy between information systems research and the strategy-as-practice domain, through growing interest in the practice perspective in the IS field and technology foci in strategy work. We focus on two broad research phenomena, where collaboration between the fields continues to emerge, and where connections between information systems and strategy work have been prominent in recent years. First, we review material tools in strategy and the ‘arenas’ or spaces in which strategy practice occurs. We then examine the emerging notion of openness in information technology-driven forms of strategizing. In doing so, we highlight facets of potential collaboration between IS and strategy researchers, and how this can encourage new novel research encounters to be brought to the forefront in the study of materiality and technologies in strategy.

Keywords: Information Systems, Practice Theory, Strategy-as-practice, Openness, Strategizing, Information Technology, Materiality, Strategic Arenas, Open Strategy

1 Introduction

Scholars have noted an existing synergy between information systems (IS) and strategy research, with IS researchers working on issues relating to strategy for over four decades [2]. Increasingly, there is relevance between IS research and the strategy-as-practice domain [3], which explores the micro, human side of strategy work, particularly through historic interest in the practice perspective in the IS field (e.g. [4]). There have also been examples in recent years where strategy research, particularly the strategy-as-practice domain, have taken increasing interest in how contemporary technologies influence strategy work. Examples include strategy tools-in-use (e.g. [5, 6]), materiality in strategy (e.g. [7]), and information technology (IT)-driven openness in the
activity of strategizing (e.g. [8, 9]). Growing attention to the more human actions and practices in the social sciences, and in organizational and management literature, has ultimately led to a concentration of in-depth practices in strategy literature [1].

In this review, we focus on promising and novel research agendas and approaches which are exploring emerging techno-organizational phenomena in the aforementioned synergy between the IS and strategy fields. We intend to provide a brief, illustrative overview of emerging areas of IS research, particularly those relating to the practice perspective of strategy tools-in-use, materiality in strategy and strategizing activity through IT. This intends to highlight promising steps towards the joint potential of these streams of research. In doing so, we first offer a more detailed review of strategy-as-practice, whilst highlighting how IS research is increasingly relevant to this human, micro-level focused perspective of strategy. We then review literature relating to two broad, emerging phenomena in the relationship between IS and strategy. The first focuses on strategy tools and materiality in the arenas or spaces in which strategy practice occurs, and probes how IS researchers are well placed to collaborate with strategy scholars on such issues. The second explores the emerging notion of openness in strategic practice, and how IS researchers can bring expertise from open domains in the IS fields, such as open-source, crowdsourcing and the wisdom of crowds. In exploring these, we suggest that collaboration between IS and strategy researchers can encourage new novel research contributions to be brought to the forefront in the study of IS use in strategy work.

2 Practice theory and emerging synergies between IS and strategy research

The practice perspective in strategy research, labelled strategy-as-practice, has emerged through the process school of strategy, and as a research area which is interested in the detailed activities that constitute strategy-making [10]. Whilst researchers have praised the contribution of the process approach to strategy, especially in opening the black box of the organization (e.g. [11]), it has also been recognized that there are a number of limitations existent in process research, which are being addressed by the strategy-as-practice domain [12]. Early strategy-as-practice work surmises that strategy has too often been conceptualized as something that organizations have, when a stronger focus is needed to view what strategy practitioners do [11], [13]. Whittington [12] links the origins and rise of strategy-as-practice with the practice turn in social theory, dating back to the 1980’s. Numerous disciplines have been impacted by this practice turn, including IS, learning and knowing, management, technology and decision-making; amongst various others [14]. Strategy-as-practice research has been described as being European in nature and geographical distinction, and as a critique of orthodox, primarily North American strategy research, which focuses more on macro level, economic analyses [15]. For example, some acknowledge that the discipline of strategy seems to have lost touch with the human being, with a re-focus needed to closely investigate the actions and interactions of the strategy practitioner (e.g. [3], [16]). Carter and colleagues [15] position practice approaches as exploring the “nitty-
gritty of strategy formation”. A consensus exists in strategy-as-practice literature regarding three core focal points (e.g. [3], [17], [12]), these being; practices, practitioners and praxis. Vaara and Whittington [7] emphasize that strategy-as-practice research “has provided important insights into the tools and methods of strategy-making (practices), how strategy work takes place (praxis), and the role and identity of the actors involved (practitioners)”.

The relationship strategy-as-practice has with other research is also an important consideration, with these relationships being a discussion point in much strategy-as-practice literature. For example, the aforementioned link to the process perspective of strategy [3], [18], which made important advances in human aspects of strategy research and supported the development of more dynamic theories. The relationship between the strategy-as-practice agenda and the resource-based view is also notable, not least for its focus on internal resources and capabilities such as organizational culture, knowledge and the general ‘know-how’ of actors. More recent are connections between strategy and IS research. One prominent example is in connecting the strategy-as-practice domain to IS strategy research (e.g. [19, 20], [2]). Galliers [21] opines that increasingly IS strategy and business strategy will become interlinked, due to the likelihood that organizational processes and strategies are unlikely to be without technological components. Peppard et al. [20] call for more research which focuses explicitly on IS practitioners, such as the *technē* and *phronēsis* of IS professionals, managers, executives and consultants. Peppard and colleagues note that there have been calls for such research in the past, but these have fallen on deaf ears. An overview of research agendas indicates that much literature in the field has focused on the techniques, tools, frameworks, and methodologies of IS strategy, whereas the micro processes related to IS strategy are less common, with only a small selection of the research considering IS strategy as a social process. Whittington [2] links the two fields according to IS themes and the strategy-as-practice focus points of praxis, practices and practitioners to illustrate an example agenda which moves towards a more intimate focus on linking strategizing activity with larger social phenomena [22]. Table 1 highlights this illustrative agenda [2].

**Table 1.** Illustrative IS strategy and strategy-as-practice joint research agenda (from Whittington [2])

<table>
<thead>
<tr>
<th>IS themes</th>
<th>Strategy-as-practice focus</th>
<th>Illustrative research agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>The internal life of process</td>
<td>Praxis: Episodes of strategizing activity</td>
<td>Episodes of IS strategizing</td>
</tr>
<tr>
<td>Technologies-in-use</td>
<td>Practices: Sociomaterial technologies in strategizing activity</td>
<td>Excel, social media and big data in strategizing</td>
</tr>
<tr>
<td>Influence of IS specialists</td>
<td>Practitioners: Potential for agency in strategizing activity</td>
<td>Relative competence (political and discursive) of IS strategists</td>
</tr>
</tbody>
</table>
Through this illustrative agenda, and a link with IS research, strategy-as-practice research becomes more than an isolated part of organizational theory, linking it to sociologies of technology, knowledge, economic institutions and social change [22]. For example, Seidl and Whittington [22] argue that strategy-as-practice can enlarge its scope by exploring flatter or taller ontologies. Flatter ontologies extend the scope of strategy-as-practice research by bringing in a range of sites, both local and distant, and a variety of actors, both human and non-human. With a tall ontology, Seidl and Whittington [22] highlight that strategy-as-practice researchers can expose the likely sites and shapes of practice innovation. For example, new technologies and more democratic forms of strategy praxis.

3 Example emerging IS and strategy research phenomena

Following an overview of the practice perspective of strategy, and emphasis of linking between strategy and IS through Whittington’s [2] illustrative agenda, we highlight example emerging phenomena and research which tie closely with these notions. In particular, we focus on two primary areas of interest to IS and strategy scholars and practitioners: strategy tools, arenas and materiality in strategy, and openness in strategy. Interest in these two areas has been exemplified in recent years through papers at workshops (e.g. ECIS 2015 workshop on open research and practice in IS), conferences (e.g., AMCIS, 2014, EGOS 2015, ICIS 2015, EURAM 2016, OpenSym 2016 and PACIS 2016), journal special issues (e.g. issue in Journal of Strategic Information Systems, and an upcoming issue in Long Range Planning) and recent formation of an AIS Special Interest Group on Open Research and Practice (SIGOPEN).

3.1 Material tools and strategic arenas

A number of strategy researchers have begun to cast strategy formulation as a process that is both social and material in nature. This stream of research examines how strategy formulation is enabled and constrained by the technology through which strategy-making tools are accessed and used (e.g. [6, 7], [23]). Although management and strategy scholars have spent several decades exploring the ways in which people use these tools (e.g. [24]), only recently has attention shifted to the significant reality that these strategic tools are abstract frameworks that are made concrete through the use of various technologies, such as management systems [25], PowerPoint [5], and new media (e.g. social media, smartphones) [26]. Whittington [2] expresses that IS research has already embraced practice theory to move away from focus on designed properties, to focus on what people actually do with technologies in their ongoing and situated activity (e.g. [4]). It is only now that strategy scholars are beginning to catch up with materiality and technology in strategizing activity. For example, Vaara and Whittington [7] provide an important insight into the material tools and methods of strategy-making, and identify a need to go further into the analysis of social practices to see the full potential of the strategy-as-practice perspective. They outline the recognition of
materiality in strategy work as one of five directions to expand the domain. In particular, they note that practice scholars should focus on human actors, but also on non-human actors including technologies, especially as the two are becoming more entwined in contemporary strategy work. Similarly, Jarzabkowski and Pinch [27] focus on ways of bringing socio-materiality into strategy work, drawing on the IS field to suggest affordances, scripts and accomplishing as potentially valuable approaches.

Other strategy researchers have focused on arenas or spaces in which strategy work happens, as a means of exploring socio-material practice (e.g. [28, 29, 30]). These novel approaches echo Whittington’s [2] call for adopting in-depth methodologies with tight empirical focus on episodes of strategy and technologies in use [31, 32]. For example, Koch and Friis [28] and Friis [29] focus on staged arenas of strategy in the form of strategy workshops and strategy sub-projects, as a means of understanding more about the mutual entanglement of the social and material practices of practitioners and devices in the formulation of strategy. They adopt both strategy-as-practice and IS approaches to address the specific materialities characterized by strategy tools. They describe strategy devices as an overarching term for physical or abstract material elements in strategizing practices, where arenas are the physical place for the occasion of an act. Jarzabkowski and colleagues [30], like Whittington [2], focus on the need for strategy-as-practice research to address the material aspects of strategic work. Their study draws on video-ethnography to study strategy in distinct spaces and explore construction of strategy through “multimodal constellations of semiotic resources”.

Relating back to the illustrative agenda by Whittington [2], even this brief commentary of example literature demonstrates an explicit link to notions of technologies in strategy, and episodes of strategizing using IS, highlighting just a handful of possible facets of IS in strategy work, and the potential for collaboration between the two fields. There exists an ample joint agenda for IS and strategy-as-practice in exploring still further the practices that are concealed in the processes and technologies of strategizing [2]. The combination of IS expertise, strategy knowledge and novel research methodologies has potential to deliver equivalent insights to those revealed in studies of information tools-in-use and materiality [4], [32], [2].

3.2 Openness in strategy

Open phenomena in strategy have become a focus of attention for scholars and practitioners in recent years. In particular, there has been focus on how IT can facilitate involvement of a wider range of stakeholders in the generation of strategic content and knowledge [33], and in the actual practice of strategy [34]. Additionally, IT is being used in organizations to communicate and be transparent about strategy; for example through increased blogging by top management about strategic directions [35]. Research could perceivably emphasize one of these areas, or be positioned to consider the dynamics of multiple perspectives. This phenomenon has been labelled ‘open strategy’ or ‘open strategizing’ (e.g. [33, 44]) to reflect the IT-enabled shift in how strategies are developed in organizations. The perception that inclusion of a wider range of both internal and external actors, and increased transparency of actions can bring benefit to an
organization, demonstrates a clear link between open strategy and other open movements popular with IS researchers. For example, IS researchers have taken particular notice to how IT enables and drives openness (e.g. [36]). With this in mind, open phenomena in strategy, and the role of IT in enabling temporal forms of openness in strategizing, are increasingly of interest to those in the IS field (e.g. [37, 38], [9]).

Matzler et al. [39, 40] have formulated what they consider to be two primary benefits core to the open strategy approach. The first of these is particularly relevant to the connection between IS and strategy research. They note that open strategy allows knowledge to be congregated from all parts of an organization, tapping the wisdom of the crowd. In this benefit, they emphasize crowdsourcing principles as potentially core to open strategy processes. Also highlighted is the use and significance of social IT platforms, which feature widely in literature as being of substantial importance to allowing strategy processes to be more open, meaning employees can participate in open discussions and contribute strategic ideas. This is where IS researchers have already started to contribute to open strategy work, especially through exploring the transformative role of IT in temporal forms of strategic openness (e.g. [41], [38], [9]). In particular, there has been interest in specific tools and processes for open strategy such as crowdsourcing and open-sourcing (e.g. [42], [8]), and IBM’s Jamming technologies ([34], [9]). Matzler [43] has described open strategy as a social-software based strategy approach, expressing that IT and the contribution of IS research is central to this emerging phenomenon. There are already significant calls for building potential collaboration between IS and strategy researchers in this area of openness in strategy. For example, Whittington et al. [44] propose a research agenda which highlights a number of connections with the IS domain, and bringing IT into strategy work. A number of research questions regarding social software use for strategy practice [45] also more indirectly contribute to an agenda for IS and strategy research, from both an external and internal actor perspective. In an attempt to define open strategy, Tavakoli et al. [38] highlight a lack of input from the IS field, and call for more focus by IS researchers on the role of IT in opening strategy-making to a wider range of organizational actors.

Although in its infancy, it is evident through a brief review of open phenomena in strategy that this is a further expanse in which IS and strategy researcher collaboration can continue to thrive, and innovate with research approaches and methodologies. These include examining temporal forms of strategizing, and exploring the multitude of different technologies enabling forms of openness.

4 Conclusion

The IS field has longstanding interests both in practice theory and in the role of IS in strategic practice. Strategy-as-practice researchers increasingly recognize the significance of contemporary technologies in strategizing activity. Therefore, many potential avenues for mutual exchange and collaboration exist between these two fields. The focus on the two emerging areas in this review intends to illustrate possibilities for collaboration, rather than exhaust them. The role of IS in strategy is a pressing issue, with
the increasingly technological nature of strategy work, and there exists abundant op-
portunity for significant collaboration to build on some of the novel and innovative
work being carried out by both IS and Strategy scholars. To conclude, we again echo
Whittington’s [2] earlier call for alliance between the two fields, where the opportunity
is rife to take a practice-theoretic approach and use intimate methodologies capable of
appreciating practitioner skills as performed in actual praxis. We hope this review pro-
vides foundation for insight and discussion amongst interested colleagues in both fields.

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