

SISP as practice: de-isolating SISP activity across multiple levels

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Date of deposit	4 May 2022
Document version	Author's accepted manuscript
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Citation for published version	Hughes, J., & McDonagh, J. (2021). SISP as practice: de-isolating SISP activity across multiple levels. <i>Journal of Strategic Information Systems</i> , 30(2), [101658].
Link to published version	https://doi.org/10.1016/j.jsis.2021.101658

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Abstract

The strategic information systems planning (SISP) literature has retained a narrow focus on organizational level activity to date. Limited empirical research has explored SISP's multi-level interlinkages and complexities. Studies that have attempted to explore the micro activity of strategizing via a practice-based perspective have had their significance to academic and practitioner audiences questioned on grounds of micro-isolationism. Using a strategy as practice (SAP) lens, this study investigates how senior managers practice SISP through case studies of two public sector organizations (PSOs). The research's primary contribution is a multi-level framework representing the practice of SISP. We 'de-isolate' SISP activity by empirically revealing how it is linked across macro, meso, and micro levels by SISP's practitioners. Relating seemingly mundane strategic activity to matters of consequence has proven an enduring issue. Yet, at a time when organizations are facing grand challenges of increasing frequency and scale, we argue that the situating of day-to-day information systems (IS) strategy work within its broader context has never been more important. We propose a future research agenda premised upon moving 'upstream' to position SISP relative to grand challenges and 'downstream' to capture more open and inclusive forms of SISP.

Keywords: strategic information systems planning; strategy as practice; micro-isolationism; grand challenges; open strategy.

1. Introduction

This study employs a strategy as practice (SAP) lens (Jarzabkowski and Spee, 2009; Whittington, 2018, 2006) to explore strategic information systems planning (SISP) through case studies of two public sector organizations (PSOs). The realized activity or ‘work’ of SISP and its associated multi-level complexities are conspicuously under-researched in the extant academic literature. Studies exploring how practitioners ‘do’ SISP are primarily located at the organizational level (Mirchandani and Lederer, 2012) and have a tendency to focus on SISP’s broader processual characteristics (Shimada et al., 2019). As a result, the granular details of how SISP is practiced is a less explicit focus. Equally, the linkages between SISP activity and macro-level contextual factors are under-explored. How organizations plan their strategic information systems (IS) in the context of highly competitive marketplaces (Ravichandran, 2018) and an evolving, uncertain societal landscape remains largely unknown (Seidl and Whittington, 2014). As a result, information asymmetries exist about how SISP actually takes place, by whom, and by what means (Peppard et al., 2014).

The research question addressed by this study is: “How is SISP practiced by senior managers in PSOs?” SISP tends to reside within the remit of senior managers, with their support of, and involvement in IS initiatives cited as crucial to planning success (Ragu-Nathan et al., 2004; Young and Jordan, 2008). The public sector is a suitable context on account of the inherent multi-level intricacies therein and the increased possibility of gaining comprehensive access to study the topic of investigation. Yet, there is a lack of SISP research situated in the public sector, resulting in enduring recommendations for more IS-related studies to involve PSOs (Rocheleau, 2007; Rubin, 1986). The adoption of a SAP-based lens is appropriate for a number of reasons. The SAP literature has had an increasingly influential role in IS strategizing research (Chantias et al., 2019). Our study builds upon the proposals of Marabelli and Galliers (2017) in its focus on the everyday praxis encompassed within SISP. To better understand

strategizing, the focus of strategy research “needs to become less exclusively concerned with company performance, more with the performance of the strategists themselves” (Whittington, 1996: 734). A SAP lens’ ability to place the practitioner in context and link micro activity with grander phenomena makes it a suitable tool for addressing the identified gap in knowledge. In doing so, we ‘de-isolate’ SISP activity by presenting a framework that counters arguments against SAP-based research premised upon micro-isolationism, i.e. a concern that such research will remain of limited value for academic and practitioner communities if lower-level activities are not connected to broader processes and outcomes at the organizational-level and beyond (Kouamé and Langley (2018). We reveal SISP’s inherent complexity (Galliers, 2006) by capturing how it is co-created by a broad spectrum of practitioners across multiple levels.

The importance of research exploring IS strategy’s micro activities and the situating of this activity within its wider context is underscored by emergent areas of inquiry across the wider business and management disciplines. Within the strategic management and organization studies communities, the literature elucidates the role of strategy in addressing grand challenges (Jarzabkowski et al., 2019) or ‘strategic meta problems’ (Seidl and Werle, 2018), and how open forms of strategizing are enabling the involvement of a more diverse range of practitioners from both inside and outside of organizational boundaries (Appleyard and Chesbrough, 2017; Dobusch et al., 2019; Whittington et al., 2011). The wider IS community has also started to consider the role of IS strategy in relation to grand challenges (Leonardi et al., 2016; Majchrzak et al., 2016) and more inclusive modes of strategizing (Morton et al., 2020; Tavakoli et al., 2017), but much work is yet to be done.

The primary contribution of our study is the introduction of a new conceptual framework that theorizes the practice of SISP at macro, meso, and micro levels. The framework captures the importance of evolving technological and societal landscapes and the bi-directional linkage of activities between levels enacted by SISP’s practitioners. We demonstrate the widening of

SISP's participatory boundaries to account for strategic activity beyond the senior executive cohort. Consequently, this article is principally positioned to be of significance to members of the IS scholarly community with an interest in IS strategy, but it should also be of relevance to an IS practitioner audience. Work of this nature contributes to the field as it grapples with establishing a research-led tradition where "the interventions based on academic research offer significantly better effect rates than any intuitive or experience-based approach that is not science-based" (Siponen and Baskerville, 2018: 251).

The remainder of this paper is structured as follows. First, relevant literature is drawn upon to position the current study. Then, the materials and methods employed are detailed. Subsequently, we introduce and explain our conceptual framework and its constructs. Each construct is operationalized through examples of realized SISP activity uncovered during fieldwork. We close by discussing the study's contribution to knowledge and the richness of this domain for future research.

2. Theoretical background

This section introduces core constructs associated with SAP and developing areas in strategy research that align with a practice perspective. It then proceeds to present gaps identified in the SISP literature by drawing upon the utilized SAP lens for novel viewpoints.

2.1. SAP and emergent avenues in practice-based inquiry

SAP research prioritizes "the doing of strategy; who does it, what they do, how they do it, what they use and what implications this has for shaping strategy" (Jarzabkowski and Spee, 2009: 69). In doing so, it renders the micro activities associated with strategy work visible (Netz et al., 2020). A SAP perspective contends that for strategizing to take place, all sorts of additional components are required, inclusive of routines, procedures, and discursive elements

(Jarzabkowski and Kaplan, 2015; Kaplan and Orlikowski, 2013; Whittington, 2003).

Fundamental constructs of a SAP lens are encompassed by the ‘3Ps’ framework comprised of practice, praxis, and practitioners (Tsoukas, 2018; Whittington, 2006; 2002). Strategy practices are the “various routines, discourses, concepts and technologies through which strategy labor is made possible...” (Jarzabkowski and Whittington, 2008: 101). They are oftentimes bundled and interrelated (Schatzki, 2005), providing the boundaries within which strategic activity occurs and offering behavioral, cognitive, procedural, discursive, and physical resources to strategists (Jarzabkowski et al., 2007; Mirabeau et al., 2018). Yet, they do not enforce rigid boundaries, but rather allow for iteration and adaptation (Vaara and Whittington, 2012). Praxis encapsulates the “vast social enterprise of day-to-day activity” (Campbell-Hunt, 2007: 794). Whilst SAP research focuses on micro activity (Seidl and Whittington, 2014; Whittington, 2018), it is the context within which the activity occurs that is factored into classifying the level of praxis (Jarzabkowski and Spee, 2009). The macro-level is typically associated with action that may shape a specific industry or sector. Organizational level activity is encompassed by the meso-level, such as a SISP initiative or change program. The micro-level concerns praxis below the organizational level where the context of action is largely confined only to those practitioners involved. Finally, extant research has established the identity of strategy’s practitioners. They include managers and consultants directly linked to strategizing, and the policy-makers, media, business schools, and gurus who have a more discreet role in shaping strategy practice (Cabantous et al., 2018; Jarzabkowski and Whittington, 2008). Practitioners are inter-related with both practices and praxis as it is prevalent organizational practices that engender strategy practitioners with agency (Garud et al., 2018; Jarzabkowski et al., 2007). Additional elements of a SAP perspective include the meetings or ‘strategic episodes’ associated with strategizing (Hendry and Seidl, 2003; Jarzabkowski and Seidl, 2008) and an appreciation of the social dimension of strategy work

(Langley and Lusiani, 2015; Spee and Jarzabkowski, 2011; Vaara and Whittington, 2012).

In recent years, there has been growing interest amongst the strategy scholarly community in extending inquiry beyond traditional organizational boundaries to explore the role of strategy in addressing macro-level ‘grand challenges’ (Ferraro et al., 2015; Jarzabkowski et al., 2019). Similarly, focus has shifted from more traditional, hierarchical forms of strategy work towards approaches that are more open and inclusive (Hautz et al., 2017; Whittington, 2019). Grand challenges are defined as “large-scale, complex, enduring problems that affect large populations, have a strong social component and appear intractable” (Jarzabkowski et al., 2019: 120). Related research is concerned with organizational responsibilities for taming what Reinecke and Ansari (2016) label ‘wicked problems’ and exploring complexities associated with the co-ordination of a wide range of stakeholders (Olsen et al., 2016). As such, grand challenges tend to reside beyond conventional organizational borders and are very much ‘macro’ from a SAP-based levels perspective. Foundations for this avenue of study are found in influential work primarily located in the management and organization studies domains (Cloutier and Couture, 2017; Howard-Grenville et al., 2019; Jarzabkowski and Bednarek, 2018). Research topics have included issues of societal significance such as business responses to climate change (Wright and Nyberg, 2017), strategic collaborations exploring the issue of water as a critical resource (Seidl and Werle, 2018), and inter-organizational paradoxes against the backdrop of the insurance protection gap grand challenge (Jarzabkowski et al., 2019).

There has also been increasing attention from researchers directed towards more open and inclusive approaches to strategy work. Open strategy is defined as “...a practice that involves upper echelon and non-upper-echelon organizational members as well as stakeholders from outside the organization” (Tavakoli et al., 2017: 178). Its introduction has instigated the involvement of more diverse cohorts of strategy practitioners (Appleyard and Chesborough,

2017; Stjerne et al., 2020) and resulted in a reduction of problematic information asymmetries (Mack and Szulanski, 2017; Yakis-Douglas et al., 2017). Technology platforms represent a suitable vehicle for broadening participatory boundaries, resulting in IT-enabled open forms of strategy stimulating interest from the IS community (Morton et al., 2020; 2019). Extant case-based research has proposed practical methodologies for how collaborative open strategic planning can be implemented within organizations (Amrollahi and Rowlands, 2018; 2017). Baptista et al.'s (2017) research connecting IT and social media with more open forms of strategy has been extended by practice-based perspectives on open strategy that have unpacked managers' micro-strategizing activity so as to "understand the work of strategists and their use of IT-tools" (Morton et al., 2020: 2). However, this research avenue is yet under-developed, specifically in relation to open forms of SISP as distinct from open forms of wider organizational strategy facilitated by IT tools (Morton et al., 2017).

2.2. Casting a SAP lens on the SISP literature

Ward and Peppard (2002: 118) define SISP as "thinking strategically and planning for the effective long-term management and optimal impact of information in all its forms." SISP is more complex than an exercise during which the technical merits of an array of alternative solutions are evaluated in an abstract manner (Galliers, 2006). Rather, it is iterative and dynamic, with assumptions needing to be tested and viewpoints sought from practitioners internal and external to the organization (Galliers, 2011; 2006; 2004). The social dimension is of particular importance due to the disparate organizational backgrounds of the practitioners involved (Cecez-Kecmanovic et al., 2014; Essén and Värlander, 2019), echoing the centrality of social considerations in SAP research.

The SAP lens presented in Section 2.1 was cast upon existing research in the SISP domain, responding to appeals for disciplinary diversity from the IS community (Te'eni et al., 2015). Appendix I presents a high-level view of the reviewed literature comprised of 249

papers: 159 are classified as empirical research with the remaining 90 categorized as conceptual studies. The literature spans the timeframe 1971-2019. With transparency representing a key basis for evaluating a review's trustworthiness (Templier and Paré 2017), Appendix II provides a full listing of the reviewed literature. Table 1 categorizes the 159 empirical papers by Jarzabkowski and Spee's (2009) typology through charting the level of praxis and type of practitioner. Praxis is measured at three levels: macro, meso, and micro. Practitioners are classified into three groups: individual actor (intra-organizational), aggregate actor (intra-organizational), and aggregate actor (extra-organizational). One of the strengths of the adopted typology is the clear identification of those domains which feature a body of literature relating to its particular combination of praxis and practitioner (i.e. A, B, E, F, and H) and those that are lacking in the presence of any such studies (i.e. C, D, G, and I).

The only study at the macro-level is Cui et al.'s (2017) research exploring e-commerce enabled social innovation in rural China. It resides in Domain F (i.e., macro – aggregate actor/intra-organizational) as the explored praxis is at the level of the villages included in the study, i.e. it focuses on the collaborating activities of a range of practitioners across multiple organizations as they combat poverty in three distinct communities. At the meso-level, there were studies featuring all three practitioner categories located in each of Domains B, E, and H. Domain B features research that focuses on individual, intra-organizational practitioners and meso-level praxis. The reviewed literature includes 16 such studies. Examples include Beath's (1991) work on the role of the IS champion (individual, intra-organizational practitioner) and how they sell their vision of IS within the organization, and Mirchandani and Lederer's (2014) investigation into the impact of CIO autonomy on procedural justice and planning effectiveness in subsidiaries of multinational organizations. Domain E includes research examining the role of aggregate, intra-organizational practitioners and praxis at the meso-level. This domain incorporates the majority (140) of the reviewed empirical studies. Examples of research in

<u>Level of Praxis</u>			
Macro	C Total Studies: 0	F Total Studies: 1	I Total Studies: 0
Meso	B Total Studies: 16	E Total Studies: 140	H Total Studies: 1
Micro	A Total Studies: 1	D Total Studies: 0	G Total Studies: 0
	Individual Actor (Intra-organizational)	Aggregate Actor (Intra-organizational)	Aggregate Actor (Extra-organizational)

Type of Practitioner

(Adapted from Jarzabkowski and Spee, 2009)

Table 1. Typology of the SISP literature by type of practitioner and level of praxis

Domain E include Basu et al.'s (2002) paper on senior management's involvement in SISP and Leidner and Milovich's (2014) work on middle managers, specifically concerning their awareness of and involvement in SISP being linked to the type of IS strategy adopted by organizations. Only one study examining the praxis of extra-organizational practitioners was

discovered and it is situated in Domain H; Henningsson and Øhrgaard (2016) investigate the role of external consultants in relation to acquisition IT integration. The authors point to there being limited knowledge concerning the role of external consultants in the IS strategy domain, thus aligning with the findings of the current study. At the micro-level only one study was identified: Essén and Värlander's (2019) research in Domain A (i.e., micro - individual actor). It focuses on the technology-afforded, micro-level praxis of individual rheumatologists during the development of an e-health service in Sweden.

The use of Jarzabkowski and Spee's (2009) typology offers a fresh perspective on the SISP literature. It reveals that existing research is predominantly confined to the meso-level. These findings provided an impetus for the current study, leading to the formulation of our research question and the motivation to contribute a holistic, multi-level understanding of SISP.

3. Materials and methods

As reflected in our research question, the aim of the current study was to develop a better understanding of how senior managers practice SISP in a public sector setting. Our philosophical orientation aligns with interpretivism (Klein and Myers, 1999; Orlikowski and Baroudi, 1991; Walsham, 1995a). Interpretive research methods in IS are aimed at understanding the meanings imbued in human and social interaction, placing researchers in the social setting of the study and engaging with the participants so as to get a sense of how interactions take place from the participants' perspective (Chen and Hirschheim, 2004). Consequently, an interpretive case-based approach (Myers, 2009; Walsham, 1995b) adopting a SAP lens (Jarzabkowski and Spee, 2009; Whittington, 2018; 2006) proved suitable for a study aiming to extract rich insights (Walsham, 2006). The employed approach aligns with calls for more pluralistic perspectives (Delbridge and Fiss, 2013; Galliers, 1993; Mingers,

2001) and answers explicit appeals from the IS community for more practice-based research employing in-depth fieldwork (Tavakoli et al., 2017).

Theory building from case studies may begin with the selection of a suitable guiding theory (Walsham, 1995b). The 3Ps framework detailed in Section 2.1 assumed such a role. Its choice is congruent with Pan and Tan's (2011: 168) selection criteria of it being “at the appropriate level of analysis, insightful, and whose concepts and propositions represent a close fit with the empirical reality”. Two cases were chosen as the foundation from which to build theory. Both cases were located within the same segment of the public sector, facilitating comparisons between similar firms (McLaren et al., 2011) whilst limiting cross-industry differences (Dess et al., 1990; Weill and Olsen, 1989). The use of multiple cases enabled common patterns to be identified and associations made with their real-world context (Leonard and Higson, 2014). The case studies were conducted sequentially, affording the researchers time to reflect on the first case before proceeding to the second. We acknowledge requests for ethnographic studies (Sanday, 1979; Watson, 2011) in SAP research (Jarzabkowski et al., 2015) and the inherent strengths of ethnography, inclusive of its in-depth approach to inquiry that result in the opportunity to uncover “small epiphanies” (Locke, 2011: 637). However, the chosen research strategy allowed us to unearth rich insights without some of the more negative aspects associated with ethnographic work (Myers, 1999). The adoption of a SAP-based lens provided an important dimension that comfortably aligned with the goals of the wider study: an ability to capture a greater level of detail as to the ‘doing’ of SISP by situated practitioners.

3.1. Research context

Our study is grounded in two case studies (from herein referred to as PS1 and PS2) of EU-based PSOs and their 2010-2012 (PS1) and 2011-2015 (PS2) IS strategies. It proved an appropriate context due to the growing importance of IS across the EU in the aftermath of the 2008 financial crisis (European Commission, 2010a, 2010b). Both cases are non-commercial

state agencies headquartered in the capital city of their host country, with several regional facilities located across the nation. They are of similar size in terms of revenue (with annual technology-related budgets of €2-3 million) and employee count (200-300). Each organization views IS as integral to its functioning. Senior managers actively participate in the planning of their IS strategies and similar findings were predicted from each case. The risk-averse nature of the public sector coupled with a drive for standardization across EU markets resulted in contextual factors playing a prominent role.

IS are central to PS1's service offering, with the organization's core operations intrinsically linked to its IS. The organization functions in a highly regulated context. A Government-wide recruitment embargo enforced in response to the global financial crisis had rendered the hiring of a new member of senior management in the form of a CIO-type Head of IS a cumbersome and ultimately failed initiative for the organization. Despite a challenging economic climate, PS1 remained committed to taking precautionary measures to provide a service that limited its clients' exposure to risk. PS1 operated with a 'top management team', which was the organization's primary decision-making body. Its Head of IS was not part of the top management team, and as such was the only functional head to be excluded. The Head of IS instead reported to an IS oversight committee that was composed of top management team members and a disparate array of practitioners from across the organization. PS1's 2010-2012 IS Strategy was a first formalized attempt to create a defined IS strategy, emerging from the wider organization's strategic plan.

In PS2, IS are viewed as having a crucial enabling role in assisting with the delivery of organizational objectives. Indeed, such had been the IS function's prominence that it was viewed as a victim of its own success with increasingly high expectations of what it could and should deliver. The timeframe for PS2's IS strategy (2011-2015) was purposely chosen by the organization to align with its wider strategic plan for the same timeframe, the primary European

regulatory body's strategic plan, and an additional, key governing body's strategic plan for the 2011-2015 period. This finding highlights a drive for the deepening of collaborative ties both internally and with European State regulators. PS2 was in possession of a CIO-type Head of IS who effectively led their function and undertook a multitude of activities to align IS with the wider business. This Head of IS was viewed as possessing a dual skillset that spanned both IS expertise and wider business acumen.

3.2. Data collection

Multiple data collection methods are normally employed during typical interpretive, case-based research (Myers, 2009; Venkatesh et al., 2013). A multi-method approach can enrich research findings and strengthen their credibility due to data triangulation (Huang et al., 2014; Miles and Huberman, 1994). Data were collected from secondary data sources and interviews with key informants. Secondary data were the focus of initial data collection efforts and were comprised of documentation and archival records. Documentation included government reports, strategy-related publications, and IS strategy-related reports. Archival records comprised minutes of IS strategy meetings and relevant internal memos. The sourcing of such documentation was primarily from governmental and host organization websites. Interviewees and other organizational informants facilitated the collection of these materials in instances when sources proved difficult to obtain. The researchers' accumulated knowledge of each field site contextualized the study and aided the interview process by enhancing our ability to question and probe interviewees.

We employed a semi-structured interview design (Kvale, 1996; Mojtahed et al., 2014). Interviews can "bring us arguably closer than many other methods to an intimate understanding of people in their social worlds" (Hermanowicz, 2002: 480), making the method particularly appropriate for retrieving rich, qualitative data. The study's semi-structured interviews adhered to an agreed-upon protocol concerning recording techniques, the descriptive process, whether

or not feedback would be provided, and additional ethical concerns (Myers and Newman, 2007). Interviews lasted between forty-five minutes and one hour and forty-five minutes. A total of 31 practitioners participated in the interview process: 17 from PS1 and 14 from PS2. Interviews with the highest-ranked organizational employee (the CEO) were scheduled so that they were conducted during the latter stages of fieldwork. In PS1, all eight senior managers (SM) who were involved in the practice of SISP were interviewed, in addition to seven middle managers (MM) who were either identified by the researchers or via a senior manager's recommendation as being insightful. Senior managers were defined as the CEO and their heads of functions. Middle managers were defined as direct reports of the heads of functions. Two external consultants (EC) with whom senior managers engaged during the practice of SISP were also interviewed. In PS2, all seven senior managers who participated in SISP were interviewed, in addition to seven middle managers. Upon completion of the interviewing schedule, the researchers deemed additional interviews to be unnecessary on the grounds of data saturation having been reached (Urquhart and Fernández, 2013).

3.3. Data analysis

Upon evaluating various coding techniques (Charmaz, 2006; Corbin and Strauss, 2008; Maykut and Morehouse, 1994), the coding strategy proposed by Maykut and Morehouse (1994) was employed. Maykut and Morehouse's (1994) technique is largely based on the coding principles of grounded theory and proved highly rigorous. It involves nine discrete cycles of analysis. We employed an open approach to coding, remaining open to unexpected findings. At each stage of the analytical strategy, we were cognisant of the adopted SAP lens, allowing us to surface SAP-related constructs from the data. Examples of the coding process for each of the four core themes are displayed in Table 2. The table shows how the coding technique employed was realized in practice, i.e. the initial open-code attached to an interview

Quote	Open Code	Sub-theme	Theme
PS1 – SM6: <i>“I have sought approval from the Department to appoint a Chief Information Officer, and I have got approval. However, the salary for which I have got the approval won’t let me appoint anybody.”</i>	Practice - macro - negative influences	At the public sector level	Theme 1: The role of macro-level contextual factors during the practice of SISP by senior managers
PS2 - MM1: <i>“The (EU body) has looked at the new model that we have within IS, with the IS side and the business services side and project management, business analysis, and the process side. They have sort of semi-adopted our structure here, over there, in a roundabout way.”</i>	Structure of IS function - technical structure	The practice of structuring the IS function	Theme 2: The role of intra-organizational meso and micro-level practices during the practice of SISP by senior managers
PS1 - SM6: <i>“In terms of the facilities around (PS1), and what our needs and requirements are, obviously working with (External Consultant) for those few years was very beneficial, and I still would meet them out occasionally and bounce ideas off them.”</i>	Consultants - positive perceptions of their role during SISP	Senior managers’ engagement with external consultants during the practice of SISP	Theme 3: The role of associated practitioners during the practice of SISP by senior managers
PS2 - SM5: <i>“I think actually it is an ability, you have to be articulate, you have to be able to communicate, you have got to be able to sell your ideas, and you have to make people understand.”</i>	Communication - importance of	The role of dual skillsets in enabling effective communication	Theme 4: The role of the social dimension during the practice of SISP by senior managers

Table 2. Illustrative coding chart

quotation, the sub-theme to which it was assigned having passed through the additional phases of coding, and under which of the four themes it ultimately resides.

4. Findings and analysis

Having employed a case-based, qualitative research approach utilizing a SAP lens, the foundations of our conceptual framework can be traced to the cycles of data analysis that were guided by the adopted coding technique. The outcome was four themes encapsulating the

practice of SISP by senior managers in PSOs:

Theme 1: The role of macro-level contextual factors during the practice of SISP by senior managers

Theme 2: The role of intra-organizational meso- and micro-level practices during the practice of SISP by senior managers

Theme 3: The role of associated practitioners during the practice of SISP by senior managers

Theme 4: The role of the social dimension during the practice of SISP by senior managers

The four themes are visually displayed in Figure 1. Activity discovered at each level drew upon routinized norms or tools, i.e. practices. Macro-level practices are placed upstream relative to organizational SISP activity. The three discovered practices were Sectoral, Technology, and Advisory Practices. The three SISP-related practices drawn upon at the meso-level were Structural, SISP Episodic, and Social Practices. Moving downstream, the three micro-level practices employed were Integrative, Communication, and Co-creation Practices. It was apparent that activity at each level did not occur in isolation. The construct of inter-level linkages is visually incorporated into the framework by the arrows linking the focal meso-level to both the macro and micro levels, and also by the broken arrows linking the macro and micro levels. The inter-level linkages capture the iterative, dynamic nature of the practice of SISP by senior managers.

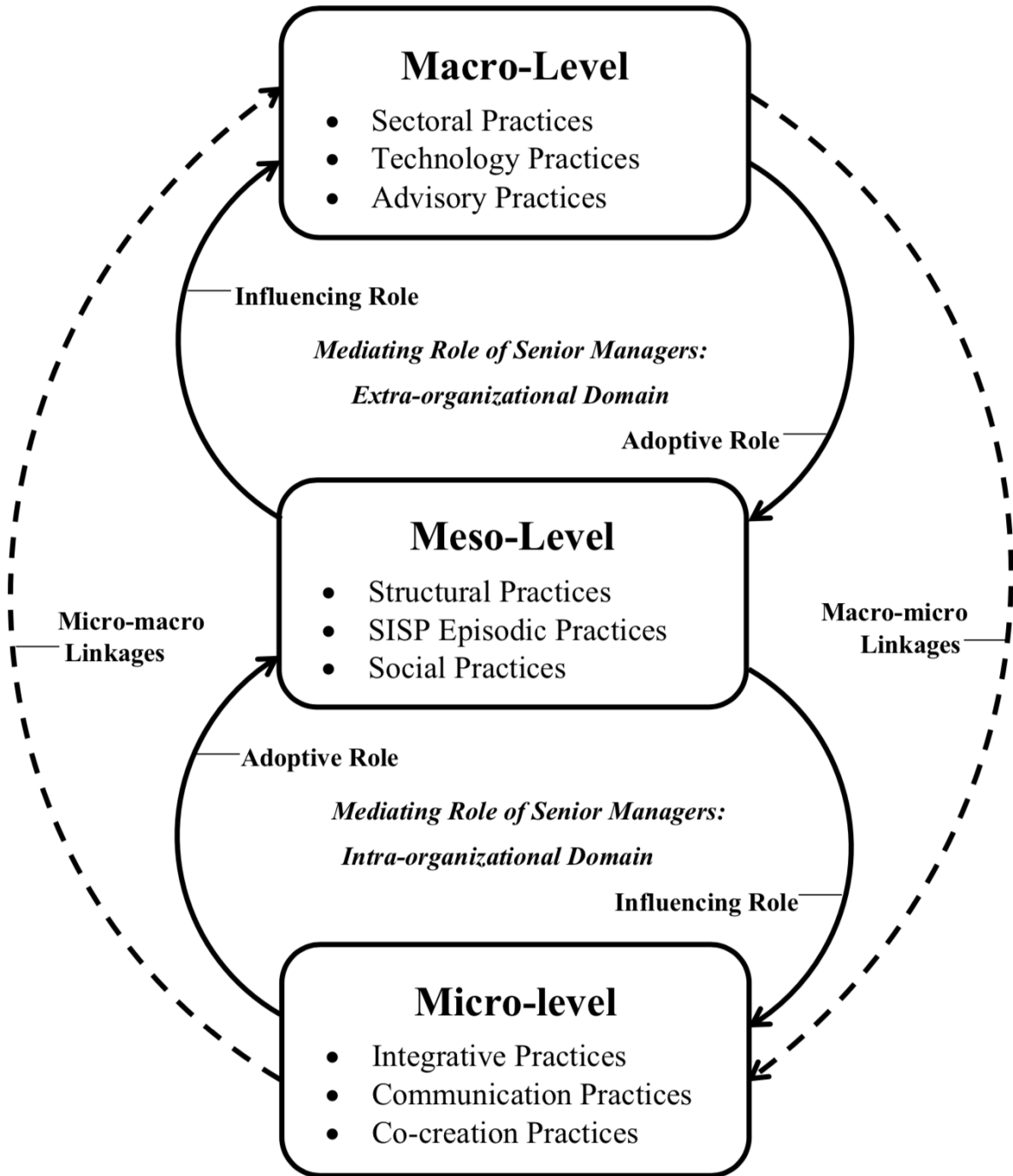


Figure 1. SISP as practice: De-isolating SISP activity across multiple levels

Each construct is now introduced and discussed. To retain a grounding in the ‘doing’ of SISP, the constructs are operationalized via a series of vignettes from the PS1 and PS2 case studies. A high-level guide to the nine identified practices across macro, meso, and micro levels and the connecting arrows between levels that represent inter-level linkages is provided in Table 3.

4.1. The macro-level realm and associated practices

The macro-level pertains to the institutional field, explaining activity within a specific market, sector, or industry. Three practices in the form of Sectoral Practices, Technology Practices, and Advisory Practices were identified.

4.1.1. Sectoral Practices: Governmental policies – EU or national

Due to the study’s focus on SISP occurring at a time of unfavorable economic conditions, Sectoral Practices were found to have a largely restrictive impact on how senior managers practiced SISP. This was particularly true for PS1’s senior managers. The organization was unable to recruit a CIO-type Head of IS due to financial impediments.

PS1 – SM6: *“I have sought approval from the Department to appoint a Chief Information Officer, and I have got approval. However, the salary for which I have got the approval won’t let me appoint anybody. We are not going to get anybody with that experience and caliber for that salary.”*

4.1.2. Technology Practices: Technology-specific public sector policies

PS1’s senior managers expressed an interest in the practice of shared services, meeting with a related governmental department in an attempt to ascertain the options available to the organization. The legal branch of the government was highlighted as being a possible host of such services. It transpired that there existed very little infrastructural capability to successfully enact a realized practice of shared services. In PS1, EC2 described the “nonsense” of a move

Section	Element	Description
4.1.	Macro-level	Institutional level (market/sector/industry)
4.1.1.	Sectoral Practices	Governmental policies – EU or national, e.g. budget-cutting
4.1.2.	Technology Practices	Technology-specific public sector policies, e.g. sharing services
4.1.3.	Advisory Practices	Consultant-led tools and methodologies, e.g. business process re-engineering
4.2.	Meso-level	Organizational level
4.2.1.	Structural Practices	Organizational placement of the IS function and Head of IS
4.2.2.	SISP Episodic Practices	SISP-related formal or informal meetings of practitioners
4.2.3.	Social Practices	Facilitators of communication and understanding
4.3.	Micro-level	Sub-organizational level
4.3.1.	Integrative Practices	Formalize the interface between senior and lower-level practitioners
4.3.2.	Communication Practices	Enablers of social interaction between senior and lower-level practitioners
4.3.3.	Co-creation Practices	Leverage expertise within functions
4.4.	Inter-level linkages	Connections between realms of practice
4.4.1.	Meso-macro linkages	Adoptive and influencing roles of senior managers between meso and macro levels
4.4.2.	Meso-micro linkages	Adoptive and influencing roles of senior managers between meso and micro levels
4.4.3.	Macro-micro linkages	Adoptive and influencing roles of middle managers between macro and micro levels

Table 3. SISP as practice: Description of constructs

to shared services without appropriate support, and that governments get swept away by such practices and “*forget about how to develop the fabric of the organization.*”

4.1.3. Advisory Practices: Consultant-led tools and methodologies

PS2’s internal IS capabilities and practice of SISP were held in high esteem by its practitioners. A possible reason for this was the organization’s continued adoption of Advisory Practices through the use of a consultancy house for its 2011-2015 IS Strategy. In doing so, the

organization avoided the stagnation its CEO identified as a possible outcome from non-engagement with external expertise:

“It would be unthinkable that we wouldn’t be challenged by external people when we are in particular doing a strategy on IS. So, using an external consultant was absolutely fundamental and we wouldn’t have done it without their help.”

4.2. The meso-level realm and associated practices

The meso-level realm incorporates practices that occur at the organizational level. Three categories of practice were discovered in the form of Structural Practices, SISP Episodic Practices, and Social Practices.

4.2.1. Structural Practices: Organizational placement of the IS function and Head of IS

PS2’s senior managers actively engaged in Structural Practices that resulted in both its IS function and Head of IS acquiring an equitable status with their related functions and functional heads. The organization continually built upon a unique IS structure that incorporated change management. The boundary-spanning nature of its change management component facilitated IS-business interactions, which subsequently assisted IS-centric initiatives.

PS2 – SM4: *“So we have a great change management too, but everything we do has IS’s support behind us, and then (the Head of IS) has a wonderful team that is, I must say, whenever there is anything, they are there to help.”*

4.2.2. SISP Episodic Practices: SISP-related formal or informal gatherings of practitioners

PS1’s senior managers’ SISP Episodic Practices for its 2010-2012 IS Strategy were predominantly devised and facilitated by a single external consultant. Interviews were conducted with senior managers in addition to disparate organizational practitioners. Focus

group and collaborative working sessions were held with key personnel. Each meeting or SISP episode formed the context from which the 2010-2012 IS strategy ultimately emerged.

PS1 – SM7: *“We did it with our own team and as I say, (the External Consultant) oversaw a lot of it and, actually he did, he went through all of the interview notes, we kept the interview notes, we kept all the recommendations.”*

4.2.3. Social Practices: Facilitators of communication and understanding

The PS2 case study exhibited robust Social Practices that were utilized by its senior managers. The aforementioned Structural Practices enabled ease of communication amongst its senior managers. An open-door policy was employed, facilitating informal modes of social interaction. PS2’s Head of IS formed a healthy working relationship with their CEO. The nurturing of their own dual skillset, a proven record of achievement, and consistent delivery of results were contributing factors, leading to a supportive CEO and wider senior manager cohort.

PS2 – SM7: *“The standard was so high in terms of the use of IT around the house, the leadership that was there in the department with the Director, and I keep telling them they are a unique person. They are not a classic kind of an IT person because they are also, they have a unique title of being Director of IT and Change Management, and that is unique enough in an individual.”*

4.3. The micro-level realm and associated practices

The micro-level realm incorporates practices that occur below the organizational level, usually enacted within functions and incorporating organizational employees below the senior manager level. Three distinct practices were identified at the micro-level: Integrative Practices, Communication Practices, and Co-creation Practices.

4.3.1. Integrative Practices: Formalize the interface between senior and lower-level practitioners

For PS1's 2010-2012 IS Strategy, Integrative Practices were driven by the employed external consultant. Focus group sessions and collaborative working sessions provided forums for senior and middle manager engagement, whilst an extensive interviewing phase also incorporated a disparate range of middle managers. A middle manager described the disillusionment felt due to their lack of interaction with senior managers, with senior managers viewed as an exclusive cohort with whom SISP-related dialogue proved negligible:

"There is a bit of a disconnect sometimes I think between what is going on in IS and what is going on in the business. IS don't necessarily always hear what is going on in the business."

4.3.2. Communication Practices: Enablers of social interaction at the interface of senior and lower-level practitioners

The requirement for IS to be relatable to contexts beyond the IS function proved to be an enduring theme for SISP across management levels. PS2's Head of IS encouraged social interaction and communication amongst IS middle management and practitioners located elsewhere in the business. It is in contrast to the much more isolated functions discovered in PS1, in which Communication Practices were largely absent barring sporadic informal interaction amongst a limited number of middle managers.

PS1 – MM3: *"Well, there is no forum as things stand. The only way we can do that is to submit business cases and explain ourselves, and hopefully, they don't get shot down without us being given the opportunity to explain why we think they are needed."*

4.3.3. Co-creation Practices: Leverage expertise within functions

In the PS2 case study, it became apparent that the organization leveraged Co-creation Practices. It had a highly experienced IS middle manager who assumed a boundary-spanning

role. PS2's Head of IS formed a close working relationship with this particular practitioner, who was recognized by interviewees as being highly capable in both the IS and wider organizational domains. This IS middle manager was responsible for the development of an IS application that rapidly became established as an industry standard at the European-level. A senior manager described their role within the organization:

"I mean (Middle Manager) is just an absolute genius and a lovely guy to work with and works so, so hard. He has led so much..."

4.4. Inter-level linkages between realms of practice

A defining feature of the conceptual framework is the inter-level linkages represented by the connecting arrows between levels. It is senior managers who play a mediating role between the focal meso-level and both the macro, extra-organizational and the micro, intra-organizational domains. How senior managers chose to either adopt or influence practices emanating from the macro and micro realms played a significant role in how they practiced SISP. Middle managers were discovered to link macro and micro levels in a limited number of instances.

4.4.1. Linking the meso-level to the macro-level

Macro-level Advisory Practices were discovered to play an integral role in shaping meso-level practices in each organization. For PS1 in particular, a senior manager described the key influence of the single external consultant employed:

"We had a number of meetings with (External Consultant) and some of them were interesting and, you know... very good meetings I would say. I suppose their teachings and their learnings would, you know, they were challenging, and they challenged us."

For the influencing role of senior managers and the upward arrow representing meso-macro linkages, an explicit example resides in the recognition PS2's Structural Practices garnered at the EU-level.

PS2 – MM1: *“The (EU-level governing body) have looked at the new model that we have within IS with the IS side and the Business Services side and Project Management side. They have sort of semi-adopted our structure here, over there, in a roundabout way. They wouldn't call it the same thing because it wouldn't be the thing to do.”*

4.4.2. Linking the meso-level to the micro-level

From an upward micro-meso perspective and the adoptive role of senior managers therein, a senior manager from PS2 described how the organization utilized a range of micro-level Integrative Practices that enabled middle managers to engage with senior managers on SISP-related matters on a reoccurring basis: *“... we have a structure, I have monthly meetings, and I have one-on-one meetings with my managers all the time. They are in and out, I have an open-door policy and I have reviews with staff...”*

Looking at meso-micro linkages and the influencing role of senior managers, the PS1 case study illustrated the impact that SISP Episodic Practices at the meso-level can have in boosting the participation of lower levels of management.

PS1 – SM6: *“Then from talking to the IS manager and his staff, and opening up their perspectives to other viewpoints, I think has been helpful. So, I think that they are, there are some very good people there.”*

4.4.3. Linking the macro-level to the micro-level

Concerning downward macro-micro linkages, PS2's middle managers expressed their cognizance of wider macro-level strategies and initiatives. For working groups operating at the

micro-level, middle managers confirmed that EU strategies influenced their praxis during Integrative Practices.

PS2 – MM4: *“We would be very aware of what the (EU-level organization) strategy is, what the European Commission... and we would be involved in the working group so we would have a fair view of the strategy, and I know I would talk regularly with my colleagues in IS about what impact that would have on us in the future.”*

An illustrative example of upward micro-macro linkages was uncovered in the PS2 case study. An in-house application developed by a prominent middle manager resulted in its adoption at the EU-level. It became an industry standard as subscriptions increased on an exponential basis. This may be viewed as a Co-creation Practice at the micro-level directly influencing Technology Practices at the industry or macro-level.

PS2 – MM4: *I think that with some of the new initiatives that we have developed in-house; you have probably heard of (Application). We are actually making the strategy for them because it is sort of, we are bringing the rest of Europe along with us in some instances.”*

5. Discussion

The IS strategy and SAP research domains share a synergistic relationship (Chaniyas et al., 2019; Whittington, 2014), with the possibility of IS strategy research being “rejuvenated by insights from the emerging strategy-as-practice literature” (Marabelli and Galliers, 2017: 347). We contend that this study provides an empirical example of how this can be achieved. A multi-level framework encapsulating the practice of SISP by senior managers in a public sector context has been presented. Drawing on a SAP lens, we first revealed that the SISP literature has a narrow field of study, with a predominant focus on activity at the meso-level. We then explained how the practice of SISP is not isolated at the organizational level, but rather

is composed of interlinked bundles of practices enacted by a range of contributing practitioners across multiple levels.

To scaffold this section, our framework will provide the basis for discussion, at the core of which is an assertion premised upon the value of de-isolating the activities of SISP practice. We argue for the ‘opening up’ of SISP research to further account for its multi-level complexities and interlinkages. In doing so, we set forth a research agenda that moves ‘upstream’ from organizational-level SISP to explore linkages with macro-level activity and ‘downstream’ to capture the work of SISP at the micro-level. Studies adopting a SAP-based lens are uniquely positioned to address these avenues; they can ‘zoom in’ (Nicolini, 2009) to focus on micro activity, but also counter possible critiques premised upon micro-isolationism by linking the micro realm with larger-scale phenomena (Seidl and Whittington, 2014).

5.1 Moving upstream: SISP and grand challenges

It is timely to first position the current study relative to research at the macro-level, i.e. the markets, sectors, and industries in which organizations operate. The macro-level has become ‘more macro’ in an increasingly globalized marketplace that has not only brought heightened levels of competition but also poses challenges beyond those of traditional commerce (Wright and Nyberg, 2017). Yet, little is known about SISP activity located at the macro-level or the linkages between organizational SISP and the macro environment in which it is situated. Our review of the SISP literature revealed just a single study that explicitly explored macro-level activity; Cui et al.’s (2017) work examined the role of strategy and e-commerce enabled social innovation across three villages in remote locations in China, where a range of organizations co-operated to diminish the effects of poverty. In the midst of a global health crisis unprecedented in modern times, we posit that now is an appropriate moment for SISP researchers to design studies that address shortcomings in our understanding of macro-level SISP activity and the bi-directional linkages between organizational SISP and macro-

level conditions.

To instill purpose into this line of study we propose exploring the practice of SISP relative to grand challenges, thus aligning with recent research directions in the wider management and organization studies disciplines (Ferraro et al., 2015; Jarzabkowski et al., 2019; Jarzabkowski and Bednarek, 2018; Olsen et al., 2016). The current study was undertaken in the aftermath of one such grand challenge. Whilst a number of years removed from the 2008 financial crisis, the remnants of its effects were still present in the identified Sectoral, Technology, and Advisory Practices. In PS1, the practice of sharing services across governmental departments was explored as a cost-cutting measure but did not receive adequate support. Similarly, prevailing budget restrictions were discovered to have rendered the recruitment of a CIO-type Head of IS unfeasible. As a result, an external consultant was utilized in an attempt to bridge this apparent expertise deficit. The impact of this bundle of macro-level practices upon organizational-level SISP was apparent.

A starting point could go beyond reactionary responses to macro-level conditions to instead encompass investigations into how organizations proactively contribute to alleviating the impact of broader societal issues. The most universally recognized set of grand challenges is the United Nations' (UN) Sustainable Development Goals (SDGs), which are focussed on protecting the planet, ending poverty, and engendering prosperity for all (George et al., 2016; Howard-Grenville et al., 2019). The list of 17 goals forms a rich resource from which IS researchers may seek inspiration. Research questions might address how IS strategies are planned in the context of such strategic meta problems, by whom, and by what means (Seidl and Werle, 2018). Studies of this nature would prove of interest to the IS scholarly community and have relevance for practitioner audiences by providing a scientific view of SISP under challenging conditions (Siponen and Baskerville, 2018). Formative studies have signaled the importance of work that contributes to our understanding of technology's role in addressing

societal issues (Cui et al., 2017; Leonardi et al., 2016; Oreglia and Srinivasan, 2016; Venkatesh et al., 2016). Technologies have been shown to empower women both socially and economically in low income and rural communities (Oreglia and Srinivasan, 2016), address financial exclusion in remote areas of Brazil (Leonardi et al., 2016), and combat infant mortality in India (Venkatesh et al., 2016). Within the SISP domain research of this nature is limited; Cui et al.'s (2017) study of community-based attempts at addressing poverty is an isolated example. We argue that the SISP domain would be enriched by moving 'upstream', aligning with the view of Majchrzak et al. (2016) that it is the societal importance of grand challenges that would imbue research of this nature with significance and value.

5.2 *Moving downstream: Open and inclusive SISP*

Shifting attention from the meso-level to the micro or sub-organizational level represents an opportunity to account for more open and inclusive forms of strategizing (Gegenhuber and Dobusch, 2017; Whittington, 2019). The micro-level normally encapsulates the strategic activity of practitioners beneath the senior management cohort within organizational functions (Jarzabkowski and Spee, 2009). Our casting of a SAP lens upon the SISP literature revealed just one study that explicitly focused on SISP activity located below the organizational level; Essén and Värlander's (2019) work explored how technology-enabled practices at the micro-level instigated institutional change in Swedish rheumatology. This shortcoming confirms Peppard et al.'s (2014: 3) claims concerning the lack of research "eliciting the micro processes of IS strategy". We argue that ignoring SISP activity at this level results in an incomplete picture of how SISP is practiced. To correct these gaps in knowledge, we propose explorations into open forms of SISP as a suitable approach for moving SISP research 'downstream'.

Our casework revealed clear linkages between micro-level SISP activity and the organizational-level. Integrative Practices at the micro-level were shown to afford the opportunity for senior managers and lower-level employees to collaborate on strategic issues.

Similarly, Communication Practices were employed in PS2 to facilitate social interactions between IS employees and practitioners located across the wider organization. In one distinct instance, links further upstream to the macro-level were identified; Co-creation Practices facilitated by PS2's organizational structure and an IS middle manager's boundary-spanning capability resulted in the development of a technology that quickly became an industry standard at the EU-level. This represents an example of the value in de-isolating micro-level SISP activity and tracing its potential to shape practice outside traditional organizational boundaries, providing an additional example of micro-macro linkages following Essén and Värlander's (2019) work.

Moving beyond the current study's findings, extant literature provides promising foundations from which SISP researchers may build. Open forms of strategy have been shown to imbue many benefits, rendering more strategically relevant information available, expanding participation in strategic conversations, and promising "increased transparency and inclusion regarding strategic issues" (Hautz et al., 2017: 298). We contend that there is a compelling case for researchers to explore open forms of SISP. From methodological and theoretical perspectives, the study of open forms of strategy has been shown to form a natural synergy with practice-based inquiry across the strategy and IS disciplines (Amrollahi and Rowlands, 2018; 2017; Mack and Szulanski, 2017). In the wider strategic management realm, Splitter et al. (2019) provide practice-theoretical perspectives on open strategy by identifying new open strategy practices. In the IS domain, Morton et al. (2020; 2017) have looked to establish open strategy as a practice, calling for more research into the role of technology in open strategy. Similarly, in Tavakoli et al.'s (2017) review of the open strategy literature, the authors employ a SAP lens as a theoretical foundation in their conceptualization of open strategy.

Through building upon extant studies, we argue that the SISP research domain would benefit from studies that de-isolate SISP activity by exploring linkages between micro-level

activity and related meso and macro-levels. We further assert that a SAP-based lens represents an appropriate tool to assist researchers in establishing such connections to broader organizational and institutional-level phenomena. An improvement in our understanding of how SISP is practiced in more inclusive ways at the micro-level and subsequently linked to upstream SISP activity presents equally convincing business and ethical cases (Dobusch et al., 2019).

6. Conclusion and implications

The motivation for this study was to enrich SISP research through the development of a ‘practice turn’ (Schatzki et al., 2001), which we have labeled ‘SISP as practice’. To aid our SISP theorizing, extant conceptual work provided a foundation upon which to build, particularly that of Galliers (2004, 2006, 2011) and subsequently Marabelli and Galliers (2017). Our study extends prior work by contributing a new theoretical framework grounded in empiricism. It de-isolates SISP activity across multiple, inter-linked levels. The inclusion of multiple levels responds to criticisms of SAP research that suggest it focuses only on micro-level activity at the expense of a more holistic understanding of the phenomenon under investigation (Seidl and Whittington, 2014). The presented framework is not positioned as a tool for learning how to ‘do’ SISP. Rather, it is intended as a sense-making device (Weick, 1995), there to encourage open and inclusive questioning from a diversity of contributing practitioners (Marabelli and Galliers, 2017).

Our approach facilitates comparison and generalisability (Seidl and Whittington, 2014), and so we hope this study motivates further SAP-based research investigating SISP in different contexts. A limitation of the current study is its focus on the case studies of two EU-based PSOs. Whilst a suitable approach for an exploratory study of this nature, further research could

be positioned in the private or voluntary sectors, in non-EU geographic locations, and with a principal focus on practitioners other than senior managers. Similarly, research adopting an alternative methodological approach such as ethnography could provide additional, novel perspectives. Across each suggested avenue, we advocate the merits of incorporating a SAP-based lens.

Encouraged by the study's findings, we argue that future research should focus attention on two opposite yet related directions. First, moving upstream will improve our comprehension of the relationship between organizational SISP activity and the macro-level realm, which is of heightened importance in the context of grand challenges. Moving downstream, research exploring more open, inclusive forms of SISP would represent an appropriate research avenue by which to capture micro-level SISP activity. As demonstrated, a SAP lens can assist in linking activity across multiple levels, negating prior critiques premised upon micro-isolationism. We view these as impactful, meaningful pathways for the IS strategy community to remediate Peppard et al.'s (2014) identified gap in our understanding of how IS strategizing takes place 'in practice'.

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