Power as Present-in-Actions in mundane information systems work

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Abstract

The Information Systems (IS) field has not consistently dealt with the importance of power in theory, research, or practice, because of epistemological and theoretical challenges for studying power in IS. In responding to these issues, we develop an accessible "power-sensitive" framework, using the Episodic/Systemic view of power and an Activity Theory (AT) view of organizational practices. We draw on two cases of IS work. The first case focuses on information technology (IT) organizations in Bulgaria, the second on a global development sector non-government organization (NGO) in Thailand. Much of the IS literature emphasizes cutting-edge innovations; in contrast, this paper highlights mundane yet widespread IS applications, such as email and spreadsheets. We elaborate on lessons learned from the cases and develop a power-sensitive framework to support IS researchers and practitioners who aim to acknowledge power in different IS contexts. The paper has two main aims and contributions: to illustrate how power can be articulated using the episodic/systemic view and AT by providing a more dynamic perspective that goes beyond traditional views of power as possessive, hierarchical and static; and to deploy the cases strategically as part of a broader call for more consideration of power in IS research and to the important insights such a focus can provide. We argue against simply ignoring power or considering it as a "nuisance" in IS research. Instead, we argue that power is endemic to IS work and an integral part of everyday IS practices. We characterize this view of power as "present-in-actions" in IS.

Keywords:

Information systems, episodic power, systemic power, activity theory, practice, framework

1 Introduction

This paper stems from an awareness that "power" has long been marginalized, effectively "missing-in-action" in Information Systems (IS) research. We argue that power should be a core research agenda in IS – not elided as outside of rational models (Markus, 1983), not seen as a "nuisance" (Introna, 2003) or an abstract notion, nor as predominantly a possession of powerful agents or organizations. Rather, we suggest that power dynamics are endemic to IS work, evident in actions and responses to actions. We characterize this view of power as "present-in-actions" and provide an innovative lens to explain power in this context. The lens combines the episodic/systemic view of power with Activity Theory (AT), a practice-oriented theory. This novel conceptual lens goes beyond traditional, possessive, hierarchical or static frames of power, and aims to assist in providing a better, more complete, understanding power as an integral aspect of organizational practices.

This paper has two main aims and contributions. Firstly, we demonstrate how the episodic/systemic view and AT articulate power dynamics as present-in-actions in two qualitative case studies. Secondly, we deploy the cases strategically as evidence of and examples in support of a broader call for more research on power in the IS field. In support of this second aim, we argue for the value of practice-based approaches to understand power in IS. We further advocate for more accessible field-specific resources on power, such as the accessible power-sensitive framework we develop in the paper. This framework emphasizes several components: the importance of contexts when studying power in IS; the benefit of drawing on existing power and practice lenses and theories; and sharing lessons learned with other researchers and practitioners. We argue that an accessible framework for power dynamics such as this has not previously been available to IS researchers, despite theories of power and practice having been expounded upon previously. Without accessible resources, researchers and practitioners often question how power and practice can be understood. Therefore, the power-sensitive framework developed in this paper

guides researchers and practitioners by focusing on the IS context, in questioning how we can understand power and use practiced-based perspectives to help study power, and how we can draw out lessons about power dynamics in similar IS contexts.

The analysis starts with a series of questions to clarify the key terms we use. Firstly, what is power? Secondly, why should we study power in IS? Thirdly, what do we mean by saying that power is "missing-in-action" in IS? Fourthly, what do we mean when we advocate viewing power as present-in-actions? Fifthly, what is a practice-based view? And finally, what does "mundane IS work" mean? In the following paragraphs, we provide explanations for each of these questions.

What is power? Power has traditionally been conceptualized as hierarchical and as a resource possessed by actors. More recently, power has also been understood as diffused across people, practices and objects, including IS (Lawrence, Malhotra, & Morris, 2012; Pozzebon & Pinsonneault, 2012). It can be expressed in conflicts or through overt resistance, but it can also be less noticeable, normalized and freely accepted by those controlled or exploited (Clegg, Courpasson, & Phillips, 2006; Clegg, 1989). It can be viewed as negative and constraining, or progressive and productive (Clegg et al., 2006; Foucault, 1980). While it is argued in this paper that power can be all these things, in the past the emphasis has been on negative or static views of possessive or individual power. In contrast, this paper equally emphasizes relational, fluid, and productive power, evident in increasingly networked, digitalized, information and knowledge rich work environments. The rationale in this paper is that the emergence and exercise of power (even from actors who possess it) is not static. The exercise of power triggers responses and behaviors from other actors. As such, power is dynamic and fluid. One type of power can lead to another type of power. Understanding such power transitions as present-in-actions requires ongoing research (Blackler, 2011).

Why should we study power in IS? A pragmatic justification concerns well-documented IS failures (e.g., Standish Group CHAOS Report, 2015). IS researchers point to "stubbornly high" failure rates, complexity, politics, and marginalized stakeholders as failure factors (e.g., Dwivedi et al., 2015). In parallel with this, understanding the darker side of technologies is important as these demonstrate problematic impacts of IS which implicate power dynamics, such as bias in machine learning or algorithms (Faraj, Pachidi, & Sayegh, 2018); technostress or overload (Tarafdar et al., 2016); diversity, inclusion and "digital enforcement" (Díaz Andrade & Techatassanasoontorn, 2021), or surveillance (Van Dijk, 2014).

Is it fair to claim that power is "missing-in-action" in IS literature? This question suggests that something is unexpectedly missing, absent or inactive, which is why we lament the point that power has not been studied sufficiently or consistently enough in the field of IS. Markus' (1983) seminal paper on politics in a management information system (MIS) implementation showed how an IS can transform data and power in an organization. Yet, despite Markus' foretelling, IS research on power remains limited, with occasional exceptions (e.g., Walsham, 2001; Koch, Leidner & Gonzalez, 2013; Willcocks & Lioliou, 2011). As a result, it remains unclear how diverse forms of power interact and how different forms of power enact responses from other actors in organizations and networks.

What does it mean to advocate a view of power as present-in-actions? We refer here to describing IS contexts and work practices, through rich descriptions and qualitative nuance, such as in case studies, to understand power as part of the routine actions of IS managers and workers. We mean acknowledging the diversity of IS work practices. Power is a complex phenomenon, concerning amongst other things: different interacting circuits (e.g., episodic, dispositional, and facilitative as noted by Clegg, 1989); how diverse power forms interact and the effects of power at different hierarchical levels (Koch et al, 2013); how power can be confrontational or silent, normalized in

routine work (Willcocks & Lioliou, 2011; Kelly, 2018), or how stakeholders perceive power in different ways (Simeonova, 2018). Thus, if power is dynamic and fluid, we must try to understand power "in the wild" - as present in specific IS work contexts. This is what we mean by power as present-in-actions[1]. We need to understand contexts, zoom in to see micro actions, or zoom out to see networked stakeholders' interactions.

What is meant by a "practice-based" view? Practice-based perspectives emphasize the "doings" and "sayings" (Schatzki, 2001a: 58-61) of people working in or discussing their real-life, in-situ work contexts. We build on the "practice turn" (Whittington, 2006), which saw scholars privileging people's situated actions as the unit of analysis. Practice-orientations derive from diverse authors (e.g., Bourdieu, 1977; 1990; Giddens, 1979; Lynch, 1993; Schatzki, 2001b), constitute alternative ways of understanding social phenomena, and provide alternate means of explaining social phenomena without centering explanations on idealized models, rational-actors, individualized behavior, macro structures or rigid sociological categories (Reckwitz, 2002). Practice orientations share common themes and conceptual antecedents. They are often applied using diverse qualitative methodologies (e.g., ethnography, ethnomethodology, action research, case studies, or discourse analysis). Practice orientations provide IS researchers and practitioners with a 'middle ground' that recognizes the roles of agency and structure. They are also beneficial for studying power because they elaborate on the detailed processes connecting people with IS. Practice orientations provide subtle lenses for studying power, which Reckwitz (2002) terms "praxiological" sensitivities (i.e., theory that is sensitive to in-situ actions and micro-level patterns of behavior[2]). Therefore, one can argue that viewing power as present-in-actions requires articulating the everyday activities of IS work. Practice orientations scaffold such descriptions

[1] We use present-in-actions as a plural form intentionally, rather than the singular or uncountable form "action". This is to stress the multiple actions involved in power dynamics.

[2] The paper does not aim to compare diverse practice theories, nor the merits of diverse terminology (e.g., "practice", "activity", "everyday work", "context" etc.) used in the broad literature under the practice umbrella. The intention in the paper is to emphasize how practice views help understand power in IS.

and feature centrally in the framework developed.

The last question asked, what is "mundane IS work"? What do we mean by this? We do not mean the novel implementations, disruptive innovations or cutting-edge designs prominent in IS research. Instead, we focus on widespread, already-established technologies such as email, social media, databases and reporting systems that account for much, if not most, IS-mediated work. Thus, the term "mundane IS work" is used throughout this paper to emphasize these common and pervasive IS work routines, activities and practices that occur daily within and between organizations.

The paper is structured as follows. Section 2 reviews literature on the foundational areas of the paper: power in IS; the episodic/systemic view of power, and the AT view of practice as activities. Section 3 explains the methodology applied in researching the cases. Section 4 outlines findings from the two qualitative case studies. For each case, illustrative examples of power and practice are described and analyzed using the episodic/systemic plus AT lens. Section 5 discusses implications from the cases and outlines the power-sensitive framework. Section 6 provides a conclusion, noting the paper's contributions - and its limitations.

2 Conceptual foundations

This section reviews literature on power in IS, arriving at the episodic/systemic power lens, which is capable of distinguishing between diverse types of power. We also describe AT, a practice-oriented lens that incorporates concepts that facilitate understanding of IS work.

2.1 Power in information systems research

As has been noted by several scholars (e.g., Willcocks 2004; Willcocks and Lioliou 2011),

whilst power is described as an integral characteristic of organizations, with some exceptions (e.g., Jasperson et al., 2002; Koch et al., 2013; Orlikowski & Baroudi, 1991; Silva, 2007; Simeonova et al., 2020), power dynamics are mostly under-theorized in studies of IS in organizations.

IS studies that study power often focus on hierarchical or episodic forms of power (e.g., managers and employees) and the strategic actions of self-interested 'rational' actors, rather than power in its diffused, cultural or systemic forms (Lawrence et al., 2012). Studies also tend to focus on unidirectional rather than multi-directional forms – in other words, the static exercise of power, not the dynamic and fluid aspects of power and its multi-directional responses (Cendon & Jarvenpaa, 2001; Dhillon, Caldeira, & Wenger, 2011; Fleming & Spicer, 2014; Simeonova et al., 2020; Simeonova & Galliers, 2021). They tend to consider innovative IS designs, novel implementations or change initiatives, such as automation systems and enterprise systems (Azad & Faraj, 2011; Dhillon et al., 2011), rather than established, mundane organizational practices and technologies.

Introna (2003: 239) observes that power is often not researched nor understood in IS, often being categorized as a "nuisance", arguing that these nuisances help constitute the very field of IS. Additionally, according to Silva (2007), the IS field continues to hold epistemological and theoretical beliefs that unwittingly obstruct the study of power in IS. Silva (2007: 165-6) argues that, "[g]iven the hidden nature of power and politics … an epistemological approach that emphasizes the interpretations of meanings, intentions and actions would be most suitable for making sense of such a complex phenomenon". Because of these limitations, Silva and others (e.g., Jasperson et al., 2002) conclude that power dynamics in IS lack sufficient theorization - the theories used to study IS phenomena often fail to provide a theoretical foundation. Additionally, Fleming and Spicer (2014: 38) observe that, "[a]s with any analytical concept, the changing

world of organizational life requires theories of power that are up-to-date and current with the emerging trends shaping business and society". This, in summary, IS needs better, more relevant views of power in the current day and age.

When accounted for in IS research, power concepts have been imported from other fields, particularly social theory. For example, Silva and Backhouse (2003) use Clegg's (1989) "circuits of power" to study the institutionalization of IS. Clegg's framework has also been used to study the creation and institutionalization of IS security standards (e.g., Backhouse et al., 2006), the inscription of power in IT governance (Medaglia et al., 2021), and system development methods (Backhouse et al., 2006; Clegg, 1989; Rowlands & Kautz, 2021; Silva & Backhouse, 2003).

A Foucauldian conceptualization has dominated IS studies through an emphasis on the use of IS for surveillance or to create an electronic 'panopticon' (e.g., Webster, 1995; Zuboff, 1988; Doolin, 2004; Allen et a., 2013). Doolin (2004) followed a Foucauldian perspective in examining disciplinary power exercised through surveillance. Some studies have used Bourdieu's perspective on power, incorporating participation; discourse; discursive practices, and meaning (e.g., Levina & Vaast, 2008; Levina & Orlikowski, 2009; Azad & Faraj, 2011). Others (e.g., Dhillon et al., 2011) have utilized Hardy and Leiba-O'Sullivan's (1998) framework, which highlights the following power dimensions: as a resource or power over resources; as participation in decision-making (i.e., excluding the less powerful); as preventing conflict through hierarchy (i.e., in respect of the status quo), and as disciplinary action over non-conforming agents. Elsewhere, Bergman, Lyytinen and Mark (2007) utilize boundary objects as objects that transform power and help to mobilize resources for negotiation and consensus building. Fleming and Spicer (2014: 38) note that, "[w]hile it is widely recognized that power is a central part of organizations, there is no doubt that it still has rather negative connotations, something that is perhaps derived from popular perceptions about its nature and effects of

power". In light of the above, we argue that diverse types of power should be included in IS research to incorporate multiple and nuanced perspectives; in other words, understanding power as a dynamic and fluid phenomenon that unfolds during practices and responses from different actors.

2.2 Episodic power, systemic power and mundane IS work

The episodic/systemic lens, as developed by Lawrence et al. (2012: 105), defines power as "… the dimension of relationships through which the behaviours, attitudes, or opportunities of an actor are affected by another actor, system, or technology". We use this conceptualization given that it emphasizes actors, systems and technologies, thereby enabling understanding of diverse forms of power, and not privileging negative or static connotations over productive and dynamic considerations.

This section explains the episodic/systemic forms of power - their dynamics and interaction – focusing on how such forms of power feature in mundane IS work. We theorize that these power forms do not exist in isolation, that they may interact and transform between the different forms, thereby demonstrating the dynamic and fluid aspects of power.

Episodic power is considered to be a hierarchical resource used to serve self-interest and unevenly distributed within organizations (Kärreman, 2010; Lawrence et al., 2012). Episodic power is exercised through authority, legitimacy, control, coercion and resource dependency (Clegg, 1989; Göhler, 2009), as well as through resistance and self-interest (Cendon & Jarvenpaa, 2001). Thus, this perspective represents power *over*, and is characterized by control and self-interest (Clegg et al., 2006; Göhler, 2009). IS can be utilized as instruments of power by reinforcing power structures (Doolin, 2004; Hussain & Cornelius, 2009), for example through design and control of surveillance, monitoring or control systems (Simeonova &

Galliers, 2021; Simeonova et al., 2020).

In contrast, systemic power is "vested in social and cultural systems, rather than in individual actors" (Lawrence et al., 2012: 106). From this perspective, power is diffused throughout diverse social relations; for example, in technical, cultural or bureaucratic systems, processes and practices (Lawrence et al., 2012). This perspective resonates with power *to*, which is characterized as a diffuse capacity, property, ability or form of empowerment (Göhler, 2009). Thus, systemic power is identified with "situations in which the behaviours, beliefs, or opportunities of actors shift in response to changes in rules (formal or informal) of meaning or membership, or changes in the technologies" (Lawrence et al., 2012: 106). Manifestations of systemic power would include the use of IS to cooperate, to communicate, to serve community interests, to empower others, to network, to build transparency, trust, and social relations or capital (Cendon & Jarvenpaa 2001; Leonardi et al, 2013; Leong et al., 2019; Simeonova et al. 2020; Simeonova & Galliers, 2021).

Episodic power connotations predominate in the literature whereby power is considered to be hierarchical and actors at higher levels in the hierarchy control resources and dominate interests (Galinsky et al., 2008; Raman & Bharadwaj, 2012). Lower hierarchical levels are not provided equal consideration in decision making (Bunderson & Reagans, 2011; Heizmann, 2011). This follows that knowledge is power, and that when actors share knowledge, they lose their competitive advantage (Lawrence et al., 2005; Wang & Noe, 2010). Examples of manifestations of systemic power in the literature are observed in organizational culture (Blackler, 2011), shared goals and alignment with organizational goals (Contu, 2013; Willem & Scarbrough, 2006), empowerment through removing resource constraints, participation in decision making, the reduction of administrative obstacles (Chuang et al., 2016), and transparency and communication between different hierarchical levels (Leonardi et al. 2013; McAfee, 2006).

2.3 Activity Theory

This section explains the rationale for using Activity Theory (AT) and the key notions of the theory. It also describes how AT helps to identify and understand episodic/systemic power within activity systems and networks.

AT is based on the concepts of the cultural-historical works of Vygotsky (1978). This has strong links to Marxist philosophy and is focused on learning and development (the zone of proximal development). AT was popularized by the work of Engeström (1987, 2015) and Bødker (1989) amongst others in management and IS research. We draw on the contemporary contributions of Engeström, Karanasios, Miettinen inter alia (Engeström et al., 1999; Karanasios et al., 2021; Miettinen et al, 2009) in unpacking the use of AT in organization studies and IS.

Historically, and with rare exceptions (e.g., Blackler & McDonald, 2000; Avis, 2007; Daniels & Warmington, 2007; Engeström, 2008b; Reid, 2012), AT research has not consistently focused on power per se. This is because it has not been "easy to depict and analyze hierarchical power relations within a single activity system" (Engeström 2008b: 6). Power has often been considered secondary to AT concepts of emancipation or conflict, or is in some ways latent behind proxy terms such as politics or control. More recently, there have been efforts to demonstrate more explicitly how AT can articulate power relations in IS (e.g., Foot, 2014; Kelly, 2018; Schirmer & Geithner, 2018; Simeonova, 2018). These are contributions upon we build on in this paper.

AT emphasizes a focus on object-oriented and mediated activity. It brings activity into the center of organizational analysis (Spender, 1995). The object is the problem situation, focus or thing that subjects (actors' and agents') work to transform (Engeström et al., 1999; Blackler, 2009),

using “tools” in order to achieve “outcomes”. Objects of activity are, however, constantly in transition and under construction (Hasu & Engeström, 2000); continually on the horizon “*as the object is co-configured time and time again*” (Engeström, 2000: 973). This process of a subject using “tools” to act upon an object is governed by cultural-historical “rules and norms”, a “community”, and the “division of labor”, which form an activity system (Karanasios 2018).

An activity is governed by explicit and implicit rules and norms, which guide appropriate behavior. Activities take place within a community (Engeström, 1987), comprising individuals, groups or organizations who, while distinct, share the same general object and interact with the subject. This perspective highlights the “multiple-voices” that surface via the interactions between the community and the subject (Engeström, 2001). Additionally, activities are viewed as the outcomes of labor and its organization, and are thus divided by roles and hierarchies that form a division of labor.

As illustrated in Figure 1, a major contribution of AT to IS research is the notion of tool-mediated activity. That is, AT integrates tools and technologies with the social context, combining them into a single analytical unit - the activity. This facilitates a socio-technical analysis (Karanasios 2018). In other words, tools mediate an activity and are extensions of human agency (Karanasios, 2018). AT also helps to understand how multiple activity systems interact (e.g., a management team, a work unit, a client), and how each activity’s object of work contributes to a “common” or “shared” object. These connections help configure new interests, new activities and new objects of work (Nardi, 2005; Schirmer & Geithner, 2018; Karanasios & Allen, 2013; Foot, 2014). This perspective follows calls from activity theorists to study more expansive activities and networks that are more in line with contemporary distributed and digitally-mediated ways of organizing (Karanasios et al., 2021; Spinuzzi, 2020; Engeström & Sannino, 2020).

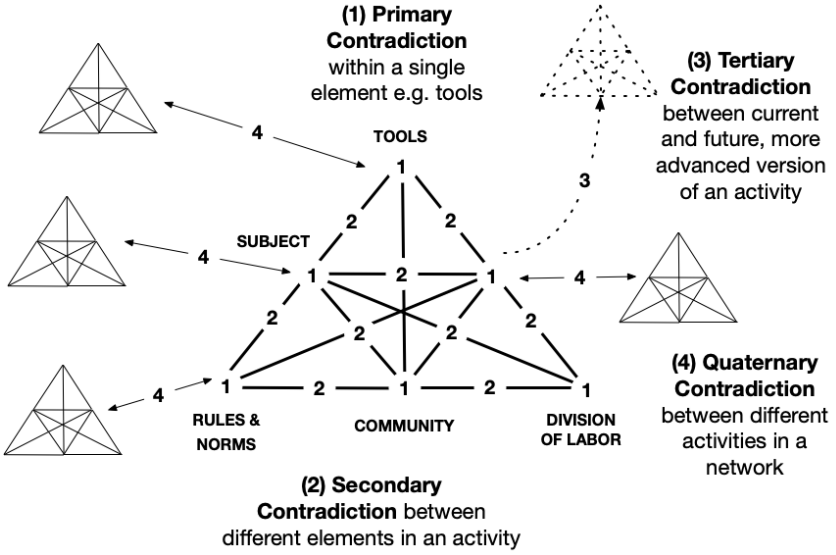

Figure 1. AT systems and four types of contradictions

Episodic and systemic forms of power can influence the mediating tools and relationships between subjects, objects and other components of the activity system. Indeed, power in activities flows via technologies, rules and objects, influencing the connections within a broader network of activity systems (Engeström 2008b; Miettinen et al., 2009). For example, episodic power could be exercised to control access to particular tools or resources, while systemic power might be diffused through the rules and norms that manage the interactions within the activity system. At the same time, IS, as mediating tools, can either enable or constrain the exercise of episodic and systemic forms of power. An IS, for instance, could reinforce episodic power through monitoring and surveillance, or it could enhance systemic power through collaboration and empowerment.

Power can also be understood as an aspect of the rules that govern activity systems and norms of behavior (Blackler, 2011). Similarly, power is ascribed in communities that participate in activities. For example, Raman and Bharadwaj (2012) explain how non-authoritative influence, based on negotiations, can exert influence, even when work roles are relatively equal or balanced. Such influence can be understood as a productive, systemic type of power. Other

manifestations of systemic power can be observed within communities of practice; for example, when community activities are unified around a common goal (Contu, 2013).

Power can also be observed in the division of labor. Examining the division of labor can clarify who does what in relation to the object of the activity. Which members of the community participate in which types of actions, why, and using which tools? Such relationships are typically mediated by historical power structures and patterns of interactions within the community, as well as between the community and the broader culture/society of which they are a part (Foot, 2014). From an episodic perspective, power stems from hierarchical relations where individuals at lower levels are compelled to follow the instructions and patterns of behavior set by those at higher levels of hierarchy (Kärreman, 2010; Raman & Bharadwaj, 2012). Thus, the division of labor may also influence the use of tools through hierarchy, control, coercion and surveillance, - as well as through empowerment, transparency or opportunities to voice opinions.

A fundamental concept in AT is the notion of contradictions, as illustrated in Figure 1. Groleau et al. (2012: 654) consider contradictions as the "dynamic dimension of activity theory". Contradictions can surface in different elements of the activity, such as in tools, divisions of labor, rules, objects of work - between these elements or between activities (Ilyenkov, 1974; Engeström, 2001). An important consideration is that contradictions are not always immediately discernable (Karanasios 2018). Analytically, they are manifest in the form of tensions, breakdowns, disputes or conflicts within and between elements of activity systems (Engeström & Sannino, 2011; Allen et al., 2013; Karanasios, 2018; Kuutti, 1999). In AT studies, four forms of contradiction are identified as being deployed to analyze case contexts: primary (occurring within single activity elements, e.g., tools); secondary (between elements, e.g. between tools and community); tertiary (between current and future versions of activities), and quaternary (between different, networked activities).

While contradictions are typically linked with a negative force, they can be opportunities for innovation and learning (Engeström 2001). They are not considered hurdles to be 'jumped over' to achieve goals or fix problems, such as in, "throwing more money at a contradiction, establishing a new division of labor, or creating new tools will not make them go away" (Foot, 2014: 337). This view aligns with the focus of this paper, in that it emphasizes the point that power is structurally inscribed in activity systems and contradictions. Such contradictions require change within and outside an activity in order to resolve conflicts, dilemmas and facilitate collective learning, as this transforms an activity over time.

Contradictions serve as analytical and explanatory mechanisms highlighting the connections between different activities or elements, power and the voices/perspectives of different actors (Daniels & Warmington, 2007; Schirmer & Geithner, 2018). It follows that contradictions are indicative of struggles and conflicts, thereby calling for an analysis of power and control (Daniels, 2004; Daniels & Warmington, 2007). Daniels and Warmington (2007) argue that closer inspection of labor-power interaction within activities can help to understand emergent contradictions and their manifestations within activities. Schirmer and Geithner (2018) expand on this idea by illustrating how the concept of contradictions - and their resolution - serves as a central notion that links power with learning and change. This is because contradictions can be considered the result of former resolutions and power in the historic development of an activity, and also as the trigger of important learning processes - "expansive learning" (Schirmer & Geithner, 2018) in other words.

In this study, hierarchical power imbalances, characteristic of episodic power, may be manifested in contradictions through conflicts between actors' goals or resource accessibility. Systemic power can be manifested in contradictions through the rules, norms or cultural

dimensions of the activity system, exacerbating tension between actors, communities, or other AT system elements. As episodic and systemic forms of power interact and transform, they can influence the development and transformation of activity systems. Recognizing and understanding these power dynamics can help identify areas of improvement, innovation or change within and between the activity systems.

Thus, in this study, we theorize power in AT as fluid, changing over time and best understood as part of AT elements, technologies, rules, and objects of work. Episodic and systemic forms of power functions through the AT elements influence the development and transformation of activity systems. Power is the medium of collaborative action (Blackler, 2011). Recognizing and understanding such power dynamics, therefore, helps to identify opportunities for control, innovation, learning and change and transformation in AT.

3 Two cases of power in IS contexts

This paper draws on empirical data from two case studies with a view to demonstrating how the episodic/systemic lens, combined with AT, assists in theorizing power dynamics as present-in-actions. This methodology section orients the reader to the case approach and selection rationale, the case data and analytical focus, as well as important information from each case's context.

3.1 Case study approach and selection rationale

We draw on two qualitative case studies (Walsham, 1995, 2006; Yin, 2018), which enable generalization from data to theory and theorizing power dynamics as present-in-actions in mundane IS use (Lee & Baskerville 2003, 2012). Case studies provide data and understanding and can therefore render rich descriptions of power and other complex or hidden phenomena (Leong et al., 2015; 2019; Blackler, 2011; Klein & Myers, 1999; Du et al., 2019). In addition to being suitable for evidencing and theorizing diverse phenomena, case studies facilitate the

study of power dynamics and practices in context enabling to understand their different forms, connotations, responses and transformations (Klein & Myers, 1999; Chanias et al, 2019; Du et al., 2019).

The cases we select are relevant in that they: evidence episodic/systemic power; articulate different power dynamics (by zooming-in to analyze a single activity system - an organization in case one and zooming-out to analyze a network of organizations in case two), and to feature widespread, mundane technologies such as email and spreadsheets, not innovative designs or cutting-edge systems.

3.2 Case data and focus of analysis

This section describes the data generated in each of the cases and provides insights into how we analyzed and theorized power in mundane IS work.

Case one is based on IT organizations in Bulgaria (Simeonova, 2018). The case examined management-employee hierarchical relations. Specifically, we considered how these relations influence information and knowledge sharing, and the use of email systems and social media, to communicate and share knowledge and information within organizations. We focus on dominant episodic hierarchical power but also the systemic power responses from employees and the interactions and transitions of power in practice.

Case one data were collected from interviews with managers and employees across ten organizations to provide multiple perspectives on power and mundane IS use such as with email communication and knowledge sharing (Klein & Myers, 1999). Interviews centered on how managers and employees used IT to conduct routine work, the types of IT used and the benefits or challenges encountered. Participants elaborated on rules/controls over communications; hierarchy; tensions in communication, and control over the technology they used. Participants commented on how and why some tools were preferred over others at different levels of the

organization. The AT analysis focused on a single activity system and demonstrated multiple perspectives and power enactments as well as the interaction of different forms of power between management and employees.

Case two draws on wider research exploring power/data/knowledge relations in the development sector with a focus on the use of mundane IS reporting tools, word documents and spreadsheets. While in case one, the researcher was an interviewer, the role of the researcher in case two involved providing evaluation advice to the Thai NGO. In this instance, the researcher acted as an evaluation consultant as well as a researcher, participating in NGO activities and acting as a participant-observer (Kelly, 2019). The data were collected through emails, document sharing, meetings, fieldwork trips, interviews, workshops and observations. Data were selected according to the prevalence of episodic/systemic power relations evident in NGO activities.

Table 1 summarizes key components of each case, including the organizational context; research focus; forms of empirical data, and the episodic/systemic and AT analysis.

Case	**Case One**	**Case Two**
Organization and sector	IT organizations	Development sector non-governmental organization (NGO)
Country	Bulgaria	Thailand
IS work focus	Email communications; knowledge sharing	Reporting systems (online forms, MS Word reports); data sharing (database, spreadsheets, MS Excel)
Level of analysis	Intra-organization department interactions; intra-organizational; Manager – employee interactions	NGO Manager – employee interactions; External organizations (NGO – local health authorities); International funders – NGO grantee reporting interactions
Empirical data descriptions	10 organizations, 20 interviews with managers and employees	10 field interviews with NGO CEO and employees; 12 NGO team meetings; 6 workshops; review of spreadsheets and 34 reports
Role of researcher	Interviewer	Participant-observer

Analysis of practice	AT division of labor, rules, norms, community; contradictions between strict hierarchy and IS workarounds; object of work	AT tools, rules and norms, division of labor, community; contradictions within activity network of funders / NGO / health partners / beneficiaries (inter-organizational and international)
Analysis of power	Episodic power evident in the hierarchy, rules, and control in using IS; systemic power in responses, workarounds	Episodic and systemic power in normalized funder – NGO compliance systems, and NGO data sharing with local health organizations
Limitations	Focus on one sector (IT sector) which may not generalize to other sectors	Focus on single NGO; aid sector funding mechanisms may not generalize to other sectors

Table 1: Summary of key components of the research design

4 Findings and analysis

This section outlines findings from the episodic/systemic and AT analysis of each case.

4.1 Case one: Knowledge sharing within IT organizations in Bulgaria

Case one focuses on power issues in intra-organizational knowledge sharing and communications in Bulgarian IT sector organizations. We illustrate different perspectives on the use of mundane IS for knowledge sharing and the transient dynamics of episodic/systemic power. In this case, email acts as a tool for employees' work activities. For managers, it is the preferred tool for knowledge sharing and communication because it acts as a means of surveillance and control, while also reinforcing hierarchical structures and the division of labor. Employee use of social media is restricted and controlled by managers to maintain power structures, based in part on concerns that social media could circumvent management and the centralization of knowledge (Wang & Noe, 2010; Koch, Gonzalez, & Leidner 2012). Paradoxically, this limits knowledge sharing which could benefit the organization. However, these rules and norms maintain the status quo. The activity system analysis[i] of case one (Figure 2) highlights the need to balance episodic

and systemic power, enabling management control and employee communication to coexist for organizational benefit.

The case demonstrates how the strict episodic power of control and surveillance enacted by managers triggers systemic power by employees through informal sharing practices, workarounds, creation of informal networks and use of IS. Thus, the exercise of episodic power from management leads to systemic power responses from employees. These different forms of power exist in parallel even though episodic power predominates in this case.

The episodic/systemic power and AT analysis for case one is outlined as a single activity system in Figure 2. The activity system demonstrates power dynamics in knowledge sharing in organizations. Different stakeholder perspectives (i.e., managers/employees) are explicated and contrasted. This activity system analysis of case one explores the power dynamics, demonstrating how differing perspectives and goals of managers and employees contribute to power redistribution that influences knowledge sharing and communication practices. This activity system is described as follows.

- Subjects: managers and employees within organizations. These subjects have different perspectives on knowledge sharing tools. Managers focus on control, while employees prioritize informal knowledge sharing. Secondary contradiction between subject and rules and norms.
- Tools: email and social media are the primary tools for knowledge sharing and surveillance. Managers favor email for control, while employees value email and social media tools despite management restrictions.
- Object: Knowledge sharing is the object, with a primary contradictions arising from the differing perceptions and goals of managers and employees.
- Rules and norms: Formal and informal rules governing communication include email,

social media restrictions.

- Division of labor: Hierarchical structures influence power dynamics, with managers using the hierarchy power for control.
- Community: The community characterizes power dynamics and knowledge sharing practices, with the hierarchical Bulgarian culture influencing managers' control and employees forming informal networks for collaboration.

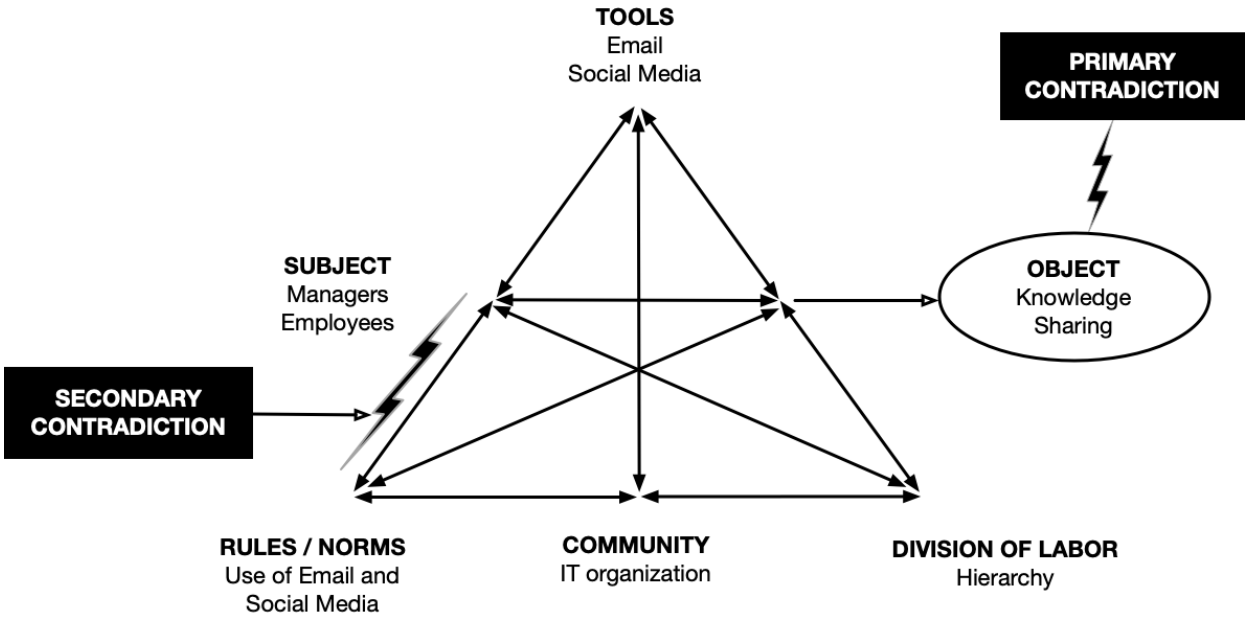

Figure 2: Case one AT system, contradiction, and power

Episodic Power – Controlling communication

Bulgarian culture is hierarchical in that it is characterized by high levels of bureaucracy and control. The main source of power within Bulgarian organizations is inscribed in organizational hierarchy and control, which exerts an episodic form of power. One manager explained that "*the hierarchical structure is easier for managing people*" and communication and behavioral rules and norms are followed within this context, including the use of IS. This hierarchy instils a strict system of prescriptions, social roles and responsibilities, as well as rules and norms that govern

communication and knowledge sharing activities. As the manager continued to explain these rules and norms:

> "… provide a frame around how people are supposed to react, how to deal with clients' requests, how to provide adequate answers, and how to find the answers" (Manager, firm 2)

Implicit and explicit rules regarding the use of emails are inscribed into work practices to reinforce the structure:

> "… part of the organizational culture about complying with regulations when writing an email – who is copied, who needs to be asked about taking decision, who is responsible" (Manager, firm 6)

> "… And for the important emails, the employees have to copy [the manager] in so that I receive this correspondence" (Manager, firm 5)

As these comments suggest, email is used as a tool not only for communication and information sharing, but also for control and surveillance to enforce rules, because of its ability to provide a 'trail':

> "[email and telephone] conversations are recorded, so that it's known who said what and who did what. If there's a problematic situation with a client, I can listen to the records and check the behavior of the employees and whether they did their job adequately" (Manager, firm 1)

> "… there are common rules for the whole organization for everyone to follow, for example sending email with a copy to the relevant people so that everything can be tracked" (Manager, firm 8)

Hierarchical control - as episodic power - is also evident in management's opposition to social media as an organizational knowledge sharing tool because of perceptions that it could disrupt and 'decentralize' knowledge and power by breaking down silos (Leonardi et al., 2013). Different hierarchical levels utilize and perceive social media and its effects differently (Koch, Gonzalez, & Leidner 2012). Many senior managers in the Bulgarian organizations that formed part of the study have implemented radical measures to restrict access to social media.

> "I took the measure to restrict access through the IP address and also to record how long each person spends on every website, so that I can control communication" (Manager, firm 5)

Episodic and systemic power are inscribed in the work activity in the tools; rules and norms; subjects; objects, and division of labor. From a management perspective, tools are used to control and monitor activities and are governed by strict rules to restrict their use through hierarchy, power and control. From an employee's perspective, tools enable knowledge sharing activities where the response of employees is either in compliance with the control and the restricted use of tools or in finding workarounds. Tensions are manifested around the rules and use of tools, with informal knowledge sharing norms emerging in organizations as "*people prefer to talk*" and "*different groups are formed*". These circumvent hierarchy and restrictions, and the tools used for surveillance and monitoring, in order to allow employees to complete their tasks.

Systemic power – circumventing control through workarounds

Employees emphasized that restrictions around the communication tools are unproductive:

> "It is not helpful to restrict the use of social media as it is very convenient to share knowledge and communicate" (Employee, firm 5).

Employees circumvent formal rules by accessing tools through their non-corporate devices which are not monitored or restricted:

> "… to avoid the restrictions people use their devices to communicate and share knowledge" (Employee, firm 6).

Additionally, where people trust each other and they know who knows what, they ask their colleagues directly, without following the prescribed procedure: "*people have formed informal online work groups/networks to communicate*" (Employee, firm 8).

Informal networks are also formed off-line for convenient communication. Such examples demonstrate that organizational restrictions lead to workarounds, informal groups/networks and communications, and the use of non-corporate IS tools. Thus, systemic traits of power arise from the informal networks and use of IS.

In summary, the managers rely on episodic power to control knowledge sharing, which enacts a systemic power response by employees through workarounds and empowerment through informal knowledge sharing.

Interaction of episodic (increasing control) and systemic power (facilitating knowledge sharing)

Interestingly, some managers recognize that the strict exercise of episodic power might be considered as being restrictive and that people communicate informally. Notwithstanding, controlling communication continues as the preferred management approach. The management response to workarounds differs. Some managers suggest that employee workarounds could lead to punitive restrictions from management, such as banning the use of non-corporate IS and dissolving informal networks. This can be considered as an episodic power response from management. Other managers explained that they facilitate such practices and informal networks to support employee work and acknowledged the convenience of using these tools to share knowledge. Therefore, a systemic power response from employees could enact a systemic power response from management. These occurrences evidence power as dynamic and fluid in practices, responding to the exercise of episodic/systemic power.

Power dynamics in case one were prominent between managers and employees and focused on management control of tools for knowledge sharing. Rules and norms were established to control email use among employees, social media was blocked, and employees' use of web sites was monitored. This suggests that episodic, hierarchical power largely trumped the systemic power of knowledge sharing amongst the employee community. Managers aimed to control communication and knowledge sharing, viewing open communications as a threat to episodic power. The analysis of case one therefore demonstrates power dynamics in activity systems are dominated by episodic forms of power. The case also demonstrates instances of systemic forms of power in employee workarounds and informal knowledge sharing activities.

The primary contradiction in the activity system of case one is therefore the perception and control of the object (i.e., knowledge sharing). Employees recognize the use-value of knowledge sharing to solve problems, while managers perceive knowledge sharing activities as tokens that should be controlled through monitoring the tools that enable the activities. This primary

contradiction of the perception of knowledge sharing and its management lead to a secondary contradiction between the subject and the rules as the strict rules instilled by managers provokes employee workarounds and informal knowledge sharing to circumvent the rules, hierarchy and controls. The benefits of collaborative tools for knowledge sharing are outweighed by the strict hierarchy, rules and the need to continuously monitor communication. This explains the prevailing use of emails as a knowledge sharing tool within the Bulgarian organizations studied. Sharing knowledge is governed by hierarchy and control, where power stems from the division of labor and is manifested through strict rules and procedures – episodic power.

4.2 Case two: Compliance and knowledge sharing in global development

Case two focuses on the development sector, a local Thai hospital (a public health authority) and, most importantly, a Thai NGO called HTSG. We draw on five examples from collected data to illustrate the power relations in the NGO's activities. Such "aid chains" of many organizations are typical and accepted in global development (Wallace et al, 2006), and power relations are evident in interorganizational compliance processes, learning and knowledge sharing activities. Case two highlights episodic/systemic power in a network of activities (Blackler, 2009; Engeström et al, 1999; Karanasios and Allen, 2013).

HTSG is a small NGO in northern Thailand with around 25 employees. It provides healthcare services for marginalized, ethnic minority communities in mountainous and remote terrains. HTSG runs short-term projects, funded by the EU, USAID, international NGOs, private philanthropic organizations and the UN. Their IS-mediated activities are not high-tech. They use 'old' desktops, laptops and 'mundane' software (e.g., MS Word, Excel) and funder reporting IS. They can be described as digital novices.

Activity theorists have shown how contemporary activities are dispersed (Engeström 2009). In

this case, power is theorized as fluid, relational, changing over time and experienced differently by different stakeholders. HTSG's aid work is co-configured via "distributed agencies" (Blackler & Regan, 2009: 164) within the aid chain. Two contradictions are emphasized in this network of activities. The first contradiction is quaternary, occurring between funder and NGO compliance activities (Figure 3). The second, is tertiary, occurring between HTSG's current state prioritizing engagement and field work, and its future state as it transforms towards more digital and IS intensive work (Figure 4).

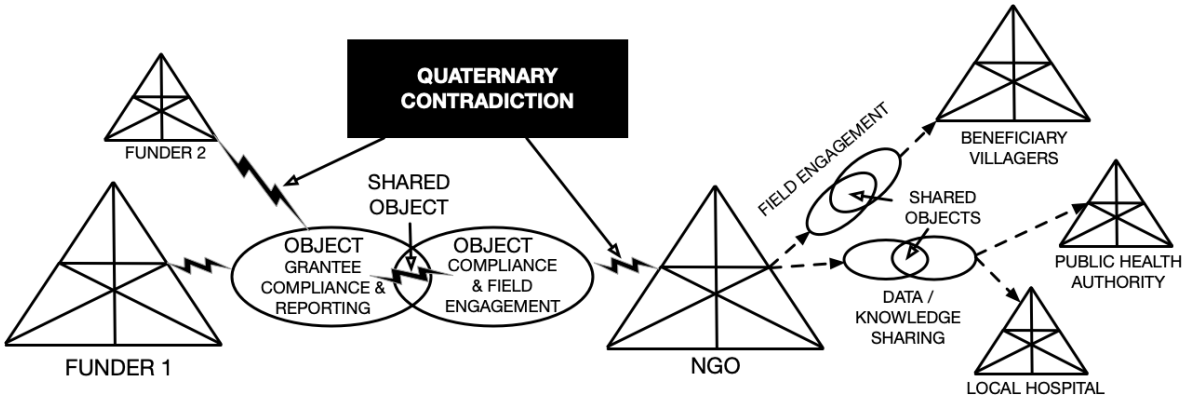

Figure 3: Case two AT network, power relations, and quaternary contradiction

The funder's object of work is to ensure NGO compliance with funding conditions, ensuring their grantee is compliant and meets project objectives. For HTSG, reporting and compliance involve increased office-based work using funder-controlled IS, which require time, computers, employees, and expertise. HTSG's object of work is to comply, but also to maintain resources for field engagement with their beneficiaries, visits to villages which take days of travel, training and understanding beneficiary contexts, problems and needs. The contradiction means compliance work draws resources away from fieldwork. This quaternary contradiction features episodic and systemic power interactions, evident in the shared funder-NGO object of work and the network of activities.

Tensions in this case are partially evidenced in several ways: in the CEO's comments regarding HTSG's precarious funding environment; in confusion caused by funder compliance systems and technologies, and in HTSG needing to bring in foreign, English-speaking employees who were skilled at writing reports and using international funder IS. However, unlike some AT studies, conflicts were not explicit. This is important to note in terms of power relations because aid sector IS, digital work norms (systemic), and funder financial power (episodic) are normalized and freely accepted by small NGOs. Such power is difficult to overtly resist and is best understood as normalized, silent, masked (Engeström, 2008b), or submerged (Kelly, 2018) [3]. The following findings from the case data illustrate diverse power relations in the case.

Episodic power – finance and funding

This example concerns HTSG's reliance on a typical episodic, resource-based power – financial funding. HTSG shares knowledge with international funders via grant applications, project reports, monitoring, evaluating, and constructing knowledge according to the shifting priorities of the funders (Leal, 2007). In this way funding acts as a financial constraint, an economic resource, and an episodic form of power. HTSG's CEO recognizes that its financial sustainability is precarious:

> "We're facing a challenging time for our future. Some of our programs may need

[3] Historically, power featured in colonial relations. Today, it is evident in global development funding, reporting, consultancy, and technology processes (Wallace et al, 2006; Brigham & Hayes, 2013). Since the 1990s, sector reliance on IS and digital assets has increased (Walsham & Sahay, 2006; Heeks, 2010; Thompson, 2008), with calls for a new "Amazon" to fix "old aid" (Quaggiotto, 2007). This reflects a broad transformation some call "development 2.0" (Thompson, 2008; Kelly, 2018). Today, a few dozen large agencies dominate aid finances, deploy advanced IS, and exert power in funding markets, over millions of small NGOs that lack IS capacity and financial stability.

> to close … they aren't funded for the long term, but for one or two years only. The funding environment is really difficult for us" (Khun, CEO, 2015).

Finance is an episodic form of power evident in this case, impacting the NGO's activities, technology use, division of labor, work rules and norms.

Systemic power – diverse compliance norms and IS

The case also shows the systemic array of normalized compliance rules, processes and IS practices that configure HTSG's activities. Grant applications, funder reports, performance indicators and impact evaluations must align to funder prescriptions, language (English predominantly), niche interests, document templates and IS. Such information and knowledge sharing involves complicated online systems for grant applications and project reporting, and requires the use of common technologies such as MS Word and Excel. Responding in this context requires significant development expertise, language skills, IT and data management capacities. HTSG struggles to meet such routine requirements, even though these have become business norms in the sector.

HTSG complies with multiple funder timeframes for periodic reporting, due diligence, mid-term and end-of-project evaluations, plus impacts reports. To complicate things, different funders have different systems, niches, rules, templates, forms, IS and timeframes, as explained by an intern brought in by HTSG from the US to help compile such reports:

> "There are different application forms, different project templates, funder evaluation forms, and reports, so it's kinda confusing! … There are clusters of reporting periods, like December, July, half-year reports, annual reports too".

(Susan, HTSG report writer, 2014)

Such an array of digitized compliance processes, timeframes, requirements and information sharing is not an example of episodic power. Rather, it is systemic, diffused across diverse organizations, IS, business processes, skillsets and timeframes. Diverse funder IS and compliance prescriptions enact a normalized, distributed array of controls, which configure the NGO's activities, rules and norms, object of work, data collected, and even skills and resource needs. Information technology, office templates, and web-based reporting systems are tools used that enable and mediate this data/knowledge sharing. The power here is systemic, diffused across many funder systems, norms, and IS.

Systemic power – digital processes, leaving the field

Digitally intensive processes are transforming HTSG leading to more and more office work, digitized data, and knowledge work. This has an impact on HTSG's equipment, training, hiring and particularly, fieldwork, with target beneficiaries in remote villages. This is a challenge for HTSG. Until recently, employees were hired for fieldwork and significant time for village visits was prioritized. The shift away from fieldwork, towards office work, documentation, representation, communication and evaluation is a challenge for HTSG as they have limited skills, human resources, time to travel into mountainous areas, and the necessary equipment to support them. It implicates IS in the audit society or audit cultures of control (Strathern, 2000; Harper, 2000; Kelly, 2019), and means the NGO's activity rules, tools and division of labor move towards digitally-mediated office work. These activity and power transformations reduce field engagement with village beneficiaries.

This shift is evidenced in HTSG requesting interns from a prominent US Ivy League university-

affiliated program, the Princeton in Asia (PIA) Fellowship[4]. Since 2013, PIA Fellows have interned at HTSG for one or two years. During the study, three interns worked at HTSG: Susan (2014-2015), Cherry and Mia (2015-2016). These interns were recent US graduates who brought technological/digital literacy, research, statistical competence and English language skills to support HTSG's accelerating volume of office work, reporting, grant applications, evaluations, and funder liaison. This is a systemic "capabilities" form of power, exacerbating sector inequalities between global development NGOs with technology/digital capabilities, and small, local NGOs who are digital novices, resource poor, and struggling to compete in global funding markets where digital products demonstrate expertise and legitimacy (Kelly, 2018, 2019). Thus, HTSG needed staff with digital skills as well as computing resources (activity subjects, rules and tools), as their object of work becomes more digitally mediated.

Systemic power – empowerment following episodic compliance

Despite these episodic (funding) and systemic power relations (funder compliance, data/knowledge intensification, and increasing digital pressures), HTSG is thus simultaneously creating new opportunities locally, to productively work, run projects, and pursue their agenda moving forward. Empowerment through strengthening data management, IS capabilities, and developing new opportunities is important. Although funder compliance regimes and data/knowledge shape HTSG's activities, they do not do so exhaustively. Thus, after successful funding applications and compliance, there arises an element of empowerment for HTSG that enables them to do their own productive work. Compliance and sharing knowledge involve contested negotiations between diverse stakeholders (Blackler, 1995), in which power is coercive and controlling in one sense (compliance regimes, audit cultures, data/knowledge intensity), while it is also productive (empowering, learning, digital capability improvements). Power is thus fluid, relational and distributed across subjects via a network of different activities.

[4] See https://piaweb.princeton.edu

In other words, empowerment can emerge from episodic or systemic controls, in this case where the NGO creates new opportunities and objects of work with beneficiaries.

Systemic power – data/knowledge sharing with partners

A clear example of systemic empowerment occurs when HTSG shares project data with doctors at a local hospital and a regional public health authority. A report excerpt shows HTSG were acquiring new digital capabilities, for example by creating a digital database, training volunteers to collect data, and improving communication with partners:

> "Project improving communication among local networks, Muang A Hospital and Muang B Public Health Offices [5], with greater in-depth knowledge sharing being established and more communication between volunteers and hospital." (HTSG Healthcare Project Report, 2013)

The report excerpt shows HTSG's knowledge-sharing activities in a non-coercive, systemic way. There was no financial exchange and HTSG were not in a hierarchical relationship with the local health partners. Sharing was not for compliance. Rather, it developed because of HTSG's interactions with village beneficiaries, their village volunteer network, and their ongoing learning about the use of digital data. HTSG had more accurate health data from villages than public health authorities who rarely visited remote villages. As such, this collaboration, using mundane tools (e.g., basic laptops and spreadsheets), produced an outcome (more accurate health data) that was shared between villages, HTSG, doctors, a local hospital and the health authority. This is not cutting-edge IS, but mundane, albeit one with both healthcare and relationship-building outcomes. It shows HTSG's data sharing as a systemic, productive form of power, part of their learning and transformation, and reflected in the opportunity they created, to set a new object of work with local

[5] "Muang" (เมือง) in Thai means district or city in English. Real place names removed for anonymity.

health partners.

HTSG is experiencing a transformation, learning to evaluate, use IS, collect data, build knowledge, and communicate in English with diverse funders, using mundane IS, such as spreadsheets, and report templates. This transformation is unavoidable if HSTG aims to survive, market itself and build its reputation in development 2.0's competitive funding markets (Kelly, 2019). As HTSG transforms, it leads to new data intensive capabilities, but less fieldwork; productive power in terms of digital opportunities, but destructive power through neglect of marginalized beneficiaries. Power here is systemic, fluid and relational across different stakeholders and activities. It is therefore limiting and transformative.

Power and transformation are evident in the activity network too. As evidenced in case details, a quaternary contradiction can be identified between the funding organizations and HTSG, mediated by diverse IS, rules and divisions of labor that constitute the funder compliance process. However, a tertiary contradiction is also evident in the NGO's temporal transformation, between its existing state prioritizing tangible beneficiary fieldwork and visits to work with remote villagers face-to-face, and its future state prioritizing digital intensities, digital data, IS, office work, employee roles, and skills. HTSG is struggling, and also learning, divided between commitments fieldwork, and digital capability development (see Figure 4). There are power relations (compliance but also empowerment) in this transformation towards increasing digital, office-based work, away from field engagement with beneficiaries.

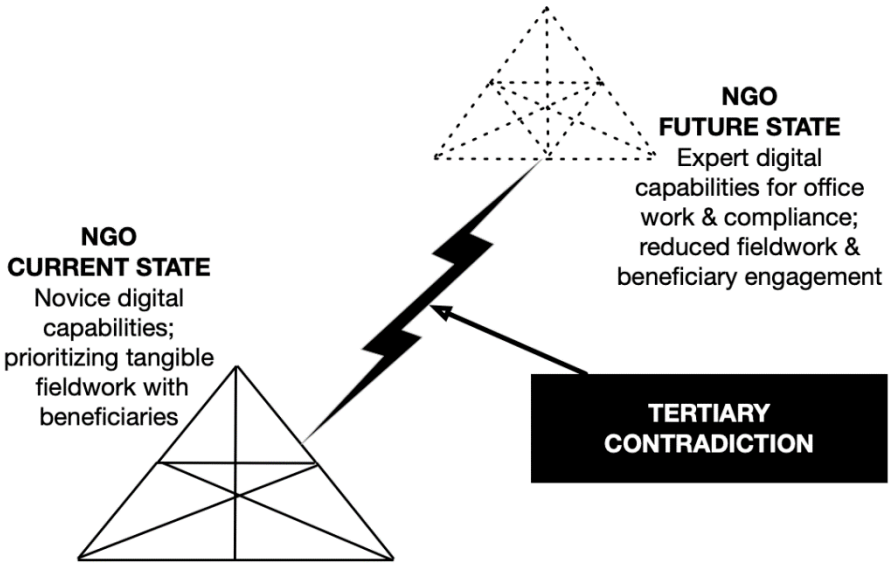

Figure 4: Case two power relations and tertiary contradiction

In summary, case two illustrates that power is not only about asymmetric power distributions (Muthusamy & White, 2005), exploitation or control (Silva, 2007). Power is also transformative, empowering and productive. The case represents multi-decade, sector-wide shifts towards development 2.0 (Thompson, 2008; Heeks, 2010; Quaggiotto, 2007; Kelly, 2018, 2019), where many small NGOs must compete with and comply with large, digitally-intensive aid agencies in global funding markets. The case demonstrates fluid episodic and systemic power dynamics generated in sector activity networks.

5 Discussion, implications, and a power-sensitive framework

As stated earlier, this paper has two aims. The first is to illustrate how the episodic/systemic lens and AT can articulate power as present-in-actions. The second is to strategically deploy the cases to support calls for and to illustrate how to identify and understand power in IS. In particular, we employ the value of practice-based approaches to generate power-sensitive analysis, models, and concepts. Historically, few IS researchers have called for more research on power (e.g., Markus, 1983; Zuboff, 1988; Jasperson et al., 2002; Willcocks, 2004; Silva, 2007). We argue, and

demonstrate, that practice orientations such as AT can assist in the study of power in a digital world. They help to understand possessive or hierarchical power, and also the more fluid, context-rich nuances of systemic power dynamics, even when power is relatively unnoticed or silent, inscribed in routine IS work, mediated by mundane technologies.

Given the ongoing contemporary problems associated with IS - its failure rates (Dwivedi et al, 2015, Standish, 2015), its 'dark side' (Tarafdar, 2016), digital enforcement (Díaz Andrade & Techatassanasoontorn, 2021) - the concerns of historical calls to focus more on power remain pertinent. They also warrant new approaches and tactics for dealing with power, such as new concepts, cases, lessons and frameworks to support researchers as well as practitioners.

5.1 Theoretical implications

Two lessons or implications follow from the analysis of these two cases that are relevant to IS researchers, designers and practitioners. The first is that episodic control and systemic community responses are linked. The second is that power dynamics are distributed and endemic throughout activity systems and networks, part of contradictions, and not isolated in single elements, single locations, subjects or technologies. These two lessons respond to the earlier argument that power has not featured sufficiently in the extant IS literature.

5.1.1 Theoretical implication 1: episodic controls provoke systemic community responses

The AT analysis demonstrates how episodic power (e.g., management controls, compliance, finance, rules, regulations, constraints) configures mundane IS work and may provoke systemic power as the community seeks opportunities to avoid such controls (e.g., as in the case one workarounds). Episodic power over IS limits access to information. However, community trust, social relations and opportunities for sharing (e.g., new power responses, new activities, new shared objects) may circumvent episodic controls (e.g., as in case two data sharing with the

hospital). Subjects seek ways to resolve power constraints and tensions arising from contradictions. Community relations in activity systems and networks can support communications, data/knowledge sharing, trust and innovation, chiming with other research on power as inscribed in activity communities (e.g., Contu, 2013). Even stifling IS controls can - perhaps counter-intuitively - provoke systemic power, and even empowerment, as in case two, thereby showing how power is fluid in IS work contexts.

5.1.2 Theoretical Implication 2: power is present-in-actions, in activities and networks

Our analysis of the two cases illustrate how power is not isolated or fixed in one activity element, but endemic across activity systems and networks. Power is evident in: tools (e.g., emails, reporting templates, databases, social media); the division of labor (e.g., hierarchy, compliance regimes); in community resistance through searches for new networks or workarounds (Malaurent & Avison, 2016), and in alternative/informal ways of circumventing restrictive control in IS work (Davison et al. 2013). The cases show that empowerment, knowledge exchange and reduction of administrative obstacles (Chung et al., 2016; Leong et al., 2019) can be - again possibly counter-intuitively - provoked by IS-mediated controls, and can result in opportunities for autonomy, collaboration and collective agency. This response is common in AT studies, where contradictions can lead to innovations and transformations. However, if contradictions remain unresolved, further pressure and stagnation can result.

Power dynamics occur between managers and employees, departments and internationally-networked organizations, mediated through mundane IS, such as emails, social media and spreadsheets. As Blackler (2011: 732) argued, AT researchers should note Hardy and Clegg's (1996) observation that power is best theorized not as a possession, but as "the medium of collective action".

Thus, power is fundamentally part of the situated unfolding of IS-mediated activities (Nicolini,

2009, 2012; Blackler, 2011; Kelly, 2018), present-in-actions, and is identifiable in AT elements, contradictions, objects of work, systems and networks. It can appear fixed and controlling in one time and place (e.g., financial control), but fluid over time or across new relationships (e.g., in new workarounds and management responses to such workarounds). It can change as agents act and respond to power, resolve conflicts, find workarounds, struggle, learn, collaborate, comply, and use mundane IS. Practice-based perspectives such as AT (Groleau et al., 2012) can be useful to understand these power relations, allowing us to discern coercive controls, hierarchies, social norms, learning and agency, and empowerment - whether more visible, or more unclear, masked (Engeström, 2008b) or submerged (Kelly, 2018).

As discussed earlier, IS researchers and practitioners have not had access to flexible models that explicate power and practice as core tenets of everyday IS work. Power has been, too often, missing-in-action. Therefore, we develop a power as present-in-actions framework in the following section.

5.2 Towards a power-sensitive framework

This paper began by acknowledging power as missing-in-action in much IS research, advancing the argument and backing calls (e.g., Orlikowski & Baroudi, 1991; Jasperson et al., 2002; Willcocks, 2004; Willcocks & Lioliou, 2011) for power to be a central component in IS research and practice. As noted, power has traditionally been understood to be episodic, hierarchical, concentrated and constraining (Silva, 2007). As we have demonstrated, it can also be perceived to be systemic, productive, empowering and distributed across subjects, tools, rules, communities and networks.

We have used the episodic/systemic lens on power and AT to illustrate how one view of practice can help to analyze diverse types of power in IS contexts. The framework developed (Figure 5)

collates these threads to signpost how existing views of power and practice can inform IS researchers and practitioners. Such power-sensitive models and frameworks are but one part of what is required if IS as a field is to be more accepting of, and explicit and proactive about, power.

5.2.1 Why do we need a power-sensitive framework?

If power is missing-in-action, then IS models and methods need more power-sensitive approaches. Popular IS textbooks, methods and models used in research and practice - from IS success criteria or stakeholder management, to information and knowledge management models - mostly deal with power as a marginal concern (Dwivedi et al, 2015; Kelly, 2018; Kelly, 2019). Critical IS scholarship on power does devote time and energy to the topic, but too often in ways that do not easily "trickle-down" into practice (Harris, 2016: 177-178).

The framework developed herein incorporates power as a part of IS contexts in what is hoped to be an accessible and extendable way. Power is central, with illustrations given as key concepts, and examples from the two cases being highlighted. Readers can use the framework to reference and understand alternative views on power and practice. We argue that the framework is needed to make power relations more audible and visible in IS research and practice.

5.2.2 How does the framework work?

The framework signposts considerations, conceptual resources and case examples to facilitate understanding of IS power and practice. Figure 5 develops the four questions signposted in the introduction of the paper as four quadrants, namely: (1) IS contexts; (2) IS power; (3) IS practices; and (4) IS lessons learned. These framework components are depicted as a four-step process and provide conceptual resources that researchers and practitioners can draw upon. Actionable examples from this research are provided to illustrate how the framework works in practice by

utilizing an episodic/systemic view on power and AT.

The quadrants on power and practice signpost various topics and concepts, with references. These are not exhaustive - many other views on practice and power exist, such as in the technology-as-practice (Orlikowski, 2000) or sociomateriality (Orlikowski, 2007; Leonardi & Barley, 2008). Having said that, the framework aims to introduce concepts and perspectives for readers who aim to acknowledge and learn more about power in IS contexts. To better understand conflicts or contradictions, the AT view (Engeström, 1987; Allen et al., 2014) can be useful. To understand the network of human/non-human actors that emerges during the evolution of a new technology with diverse stakeholders, software, hardware etc, actor network views (Latour, 2005; Callon, 1986) are well-suited.

Similarly with power, the episodic/systemic view (Lawrence et al., 2012) highlights concentrated versus culturally diffused power. Foucauldian surveillance, used in previous IS research (e.g., Zuboff, 1988; 2019), is included in the framework, as well as other Foucauldian concepts relevant to IS, such as governmentality or biopower (e.g., Foucault, 1991; Foucault & Rabinow, 1984). Depending on the reader's IS context and focus, different power/practice views will be more or less relevant. The framework signposts key perspectives and concepts for readers to develop further understanding.

The aim of this paper has not been to detail all the advantages of every view of power and practice in IS. The aim has been to exemplify concepts, outline illustrative cases, signpost usable resources, and instill interest in seeing power through practice in mundane, common IS use.

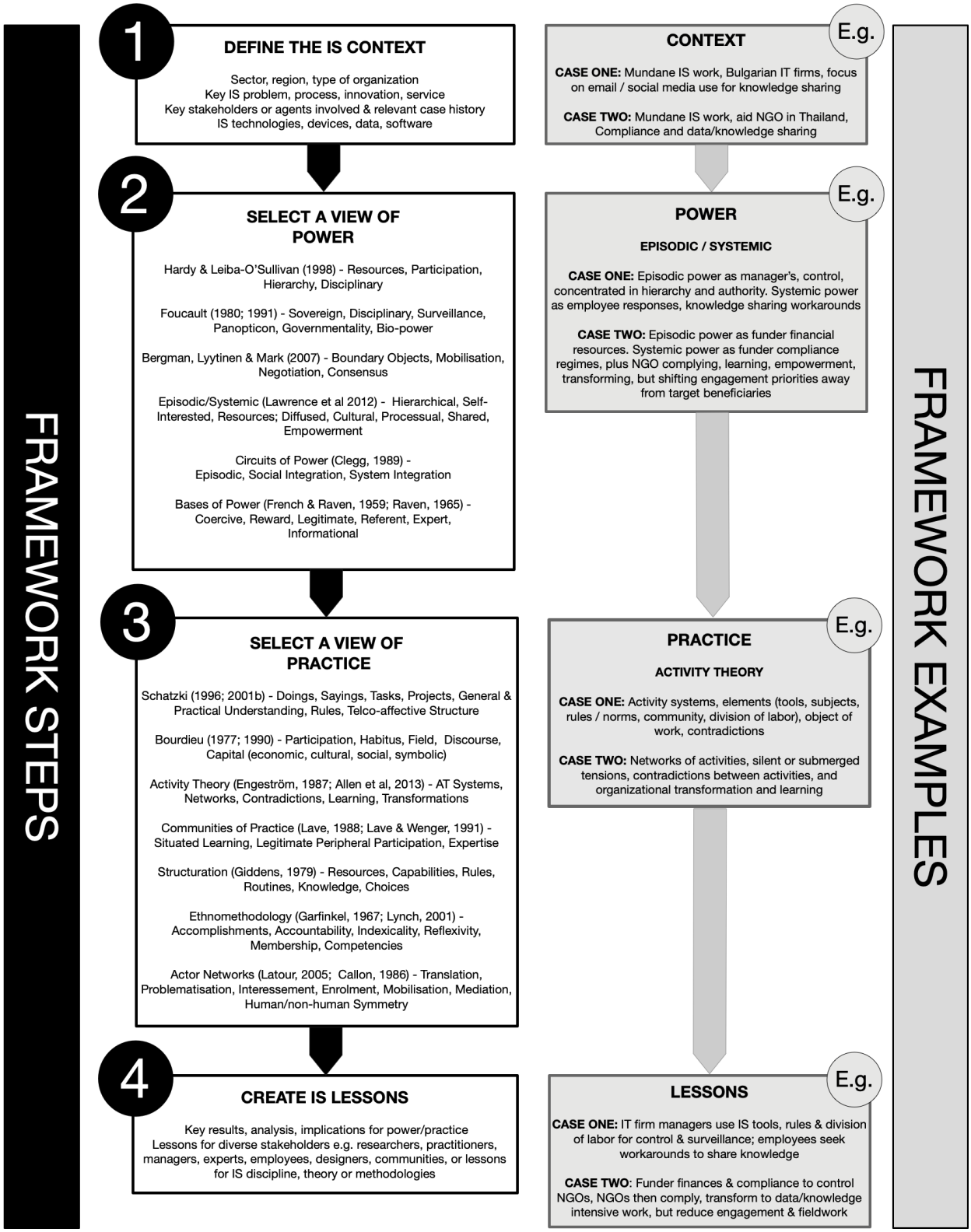

Figure 5: Framework highlighting IS (1) Contexts, (2) Power, (3) Practice, and (4) Lessons

The framework is illustrated by the actionable examples emerging from this research and they summarize how the framework can be used in practice by research and practitioners. The IS context of these actionable examples is the use of mundane IS for data and knowledge sharing, which are email and social media (case one) and reporting systems and spreadsheets (case two). The perspective on power in these case studies is the episodic/systemic view of power which allow to understand power as hierarchical possession, control, resource dependence and also as fluid and empowerment. The practice view followed is AT which allowed to demonstrate contradictions between episodic control of tools and rules, and systemic power in community workarounds or data/knowledge sharing with new partners. In case one, contradictions lead to avoiding episodic controls and in case two contradictions lead to learning, transformation and development. Figure 5 shows how to use the framework by defining a context, selecting views of power and practice, and by creating subsequent lessons for IS researchers and practitioners.

The framework can help researchers beyond the examples provided in this paper. For instance, it can be used to inform the study of how AI systems lead to increased surveillance in the workplace, allowing managers or supervisors to monitor workers which might increase power imbalance. Or it could be used to study how AI systems lead to empowerment and development. The framework could also be particularly useful to study digital innovation and digital inclusion.

In sum, we argue that the framework provides the following benefits. First, it emphasizes power as present-in-actions but does not over-stipulate how power in practice should be viewed. The framework guides but does not prescribe. The framework is intentionally basic, and thus open, flexible and accessible, allowing for adaptation and extension by IS researchers. Second, the framework generalizes across different IS contexts and technologies. The framework's aim is to encourage IS theory and practice to incorporate power and to better understand power dynamics. This is especially important in a time when it is increasingly evident that IS do, intentionally or not,

contribute to local and global power inequalities. The framework is thus not limited to a single sector, technology or case. In contrast, it is flexible across IS researcher and practitioner contexts, technologies, as well as across diverse types of power and practice.

6 Conclusion

The paper was motivated by awareness that power has long been marginalized and missing-in-action in IS research. We outline two major contributions: we demonstrate how the episodic/systemic view and AT articulate power dynamics as present-in-actions and we develop a power-sensitive framework to support researchers and practitioners to acknowledge power in IS, to research it, and to respond to it.

Analyzing the two cases, we show that power is not only episodic, possessive, hierarchical or controlling, but is also productive, empowering, systemic, relational and fluid across time and between stakeholders. Power is present-in-actions in mundane IS activities that constitute daily work for the millions of individuals who use common IS technologies such as email, databases, social media or reporting systems.

This paper also has limitations. It utilizes case studies drawn from larger projects and thus describes how power relations are configured in particular contexts. It does not exhaust the relative merits of diverse approaches to practice and power. Rather, the aim has been to use specific power and practice lenses while highlighting other existing power and practice lenses that might be used to understand power dynamics. Finally, power-sensitivity requires on-going development to account for contemporary concerns such as digital change, datafication, AI, digitalization.

In terms of future research, more IS studies are needed that incorporate power and practice, and

importantly, translate scholarly results into accessible, power-sensitive lessons, tools, checklists, and frameworks for academics and practitioners to use.

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