

**Examining Information Systems-Enabled Workplace Inclusion For Disabled
Employees**

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ABSTRACT

The dominant information systems (IS) paradigm, grounded in functionalism, often forces standardization over flexibility and diversity as well as ignores competing views or needs of technologies and their use in organizations across stakeholders reinforcing pre-existing structural barriers. This dissertation examines these issues in the social inclusion context that particularly needs to uncover various human effects and challenge structural inequality. This work recognizes the need to use a critical lens to identify and address the tension between the functionalist perspective informing IS design and the need of IS design to empower marginalized groups. This research provides an alternate approach to designing IS that emphasizes individual differences and needs, facilitates multiple stakeholder inputs, emancipates marginalized groups, and integrates more holistically in a historical, social, and political environment.

This dissertation specifically focuses on utilizing specialized accommodation management systems to integrate disabled employees into the workplace. The three-paper dissertation draws on exploratory research with disabled employees and organizations, combined with historical data and discourse analysis. From an industry level, the first paper focuses on the interpretations, legitimation, and mobilization of the organizing vision of accommodation management systems. From an organizational level, the second paper examines IS legitimation strategies and legitimation monitoring activities over time from a multi-dimensional value generation perspective. From a design science research perspective, the third paper examines collective IS use in the accommodation process and develops the critical disability design theory for transforming nonideal configurations to an ideal type of networked use with team task interdependence, which fits better with the social characteristics of the accommodation process and results in better employees' accommodation experiences.

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Introduction

Information systems (IS) have been shown to improve operation efficiency and effectiveness, reduce business costs, and increase organizational financial values in many IS studies (Dong et al. 2009; Galy and Saucedo 2014; Karim et al. 2007; Kohli 2007; Subramani 2004). These IS studies have historically focused on a functionalist perspective in their examination of technology, which views society as composed of different parts and emphasizes ableism and social order, homogeneity, normality and generality (Campbell 2008; Chatterjee et al. 2009; Williams and Patterson 2019). The dominant IS paradigm, grounded in functionalism, is essentially based on the assumption that there is agreement existing among all groups as these decisions regarding IS design are made. However, this is often not true. Such IS design usually focuses on the dominant groups. Often the dominant groups are more likely to be at the table to determine the diversity of use cases and how these cases are prioritized. It is well documented in the IS literature how certain users may have more visibility and voices in an organization and thus are able to impact the system design and implementation (Lyytinen and Newman 2015; Wagner and Newell 2007). Thus, the absence of marginalized voices when decisions are made emphasizes several downsides of the functionalist perspective in IS research. First, this perspective forces standardization over flexibility and diversity, which reinforces homogeneity and ableism (Leonardi 2011; Pelletier 2010). Second, this perspective ignores competing views or needs of technologies and their use in organizations across stakeholders reinforcing pre-existing structural barriers (Chatterjee et al. 2009; Stahl 2012). This dissertation examines these issues in the social inclusion context that particularly needs to uncover various human effects and challenge structural inequality (Sarker et al. 2019; Sawyer and Jarrahi 2014; Stahl 2012). This work recognizes the need to use a critical lens to identify and address the tension between the functionalist perspective informing IS design and the need of IS design to empower marginalized groups. This research provides an alternate approach to designing IS that emphasizes individual differences and needs, facilitates multiple stakeholder inputs, emancipates marginalized groups, and integrates more holistically in a historical, social, and political environment.

An emerging trend considers IS as an important tool to enable and enhance social inclusion in the IS social inclusion literature (Annabi and Lebovitz 2018; Carter and Grover 2015; Trauth 2017; Trauth and Connolly forthcoming). Social inclusion is the process of improving participation in

economic and social life, particularly for people who are disadvantaged, through enhancing opportunities, access to resources, voice and respect for rights (Trauth 2017; Trauth and Connolly forthcoming). Particularly, social inclusion at work means involvement, productivity, and social interaction of disadvantaged individuals (Annabi and Lebovitz 2018). This provides new opportunities for researchers to examine IS use, effects, strategies, and design, including the following aspects. First, IS that enable and enhance social inclusion require organizations to include disadvantaged groups' perspectives and generate diverse values instead of solely focusing on dominant groups' perspectives and pursuing traditional financial values. Addressing these requirements needs new IS design and strategies. Second, the social inclusion context asks organizations to examine the relationship between business costs and benefits for promoting inclusion. This asks for reconsidering IS design and strategies.

This dissertation is positioned in IS social inclusion research, examining relevant new issues such as IS legitimation strategies from a multi-dimensional value generation perspective as well as IS use and design considering disadvantaged individuals' needs, social interactions, and structural inequality. It employs a critical lens to reveal and address the need of a new IS design theory in the social inclusion context to handle issues of historical IS design focusing on a functionalist perspective. It establishes a research stream of the intersection of the critical IS social inclusion research and the mainstream IS research such as organizing vision, IS legitimation, collective IS use, and IS design.

This dissertation specifically focuses on utilizing specialized accommodation management systems to integrate disabled employees into the workplace. Through extensive communications and exchanges with disability and accommodation experts, I have found that many organizations are still using generic IS tools such as office applications (e.g., email or spreadsheet) for tracking/communicating accommodation decisions, while others have adopted specialized in-house or third-party accommodation management systems. Generic IS tools are inconsistent with streamlining and also challenging for sharing the same information with various stakeholders (e.g., disabled employees, human resources staff, supervisors, and information technology staff) in the accommodation process.

The first paper of this dissertation examines the reasons behind the decision to adopt specialized accommodation management systems using the organizing vision lens. From an industry level, it focuses on how the organizing vision of accommodation management systems has been shaped and spread across some organizations. Following organizing vision research practice, this first paper conducts a discourse analysis, combined with exploratory research with IS practitioners.

The second paper of this dissertation, from an organizational level, focuses on three organizations that have used accommodation management systems. Through the analysis of the three case studies, it examines how these organizations make IS legitimate and monitor legitimation activities over time from a multi-dimensional value generation perspective.

The third paper of this dissertation, from a design science research perspective, examines how to transform collective IS use in the accommodation process. Through exploratory research with disabled employees from various organizations and a design science research approach, it develops the critical disability design theory to transform nonideal configurations of collective IS use to an ideal type of networked use with team task interdependence, which fits better with the social characteristics of the accommodation process and results in better employees' accommodation experiences.

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Paper One: The Organizing Vision of Accommodation Management Systems: An Integrated Framework

Abstract

In the accommodation context, many organizations are using generic IS tools such as office applications (e.g., email or spreadsheet) for tracking and communicating accommodation decisions, while others have adopted specialized accommodation management systems. The present study investigates the reasons behind the decision to adopt specialized accommodation management systems using the organizing vision lens. Through a combination of discourse analysis and exploratory research, it specifically examines the interpretations, legitimation, and mobilization of the organizing vision of accommodation management systems. It builds a theoretical framework for the organizing vision of specialized IS in the accommodation process. The present study contributes to research and practice by (1) revealing an organizing vision of accommodation management systems and providing a better understanding of the relationship between IS innovation's adoption and organizing vision development; (2) demonstrating empirical use of the organizing vision theory in the social inclusion literature and highlighting the uniqueness of IS organizing visions in the social inclusion context; (3) establishing a research stream at the intersection of the organizing vision literature and the social inclusion literature; and (4) informing companies and vendors of the importance and strategies of applying specialized IS in the accommodation process.

Keywords: Organizing vision, social inclusion, accommodation management systems.

1. INTRODUCTION

Accommodations are often necessary in order to include disabled people¹ in the workplace. According to the Equal Employment Opportunity Commission (EEOC) and Title I of the Americans with Disabilities Act (ADA), accommodations need to be requested, negotiated, implemented, and monitored (United States Department of Justice Civil Rights Division 1990; United States Equal Employment Opportunity Commission 2002). Through extensive communications and exchanges with disability and accommodation experts, I have found that many organizations do not have effective accommodation processes. Information systems (IS) have been shown to facilitate business processes and positive organizational change (Strong and Volkoff 2010). The action of adopting IS in the accommodation process is influenced by various stakeholders and institutional factors in a community (Williams-Whitt et al. 2016). At the Fifth Global Business and Disability Network Annual Meeting in Geneva, Switzerland in 2018, business leaders from various organizations suggested the need to streamline the accommodation process. However, many organizations are still using generic IS tools such as office applications (e.g., email or spreadsheet) for tracking and communicating accommodation decisions, while others have adopted specialized in-house or third-party accommodation management systems. Generic IS tools are inconsistent with streamlining and also challenging for sharing the same information with various stakeholders (e.g., disabled employees, human resources (HR) staff, supervisors, and information technology (IT) staff) in the accommodation process.

Thus, in this research, I aim to understand the reasons behind the decision to adopt specialized accommodation management systems using the organizing vision lens. Specifically, I focus on how the organizing vision of accommodation management systems has been shaped and spread across some organizations.

In its early stage, an IS innovation's adoption is influenced by institutional factors (Davidson et al. 2015; Marsan et al. 2012; Swanson and Ramiller 1997). An organizing vision represents an

¹ We recognize that there is still a debate in the disability community regarding identity-first versus person-first language (Ferrigon and Tucker 2019). There are valid arguments on both sides. In this paper, we use identity first language, which is more in line with the social inclusion aspect and the critical lens we apply, and will continue to learn from research and seek more guidance from self-advocates to inform our work and the language we use.

institutional view of how an IS comes to be applied across organizations (Ramiller and Swanson 2003; Swanson and Ramiller 1997; Wang 2009). It is shaped by stakeholders' discourse and institutional forces in a community (Gosain 2004; Ramus 2017; Swanson and Ramiller 1997). The community's ongoing discourse impacts the decision to apply an innovation by prospective adopters as well as their and other participants' interests in shaping the organizing vision (Swanson and Ramiller 1997). Therefore, the organizing vision theory is an appropriate lens for this research because it enriches our understanding of how an innovation's adoption is influenced and developed by stakeholders' discourse and institutional forces in a broader community (Rao and Kenney 2008; Ramiller and Swanson 2003).

Organizing visions serve three basic functions to facilitate IS innovations (Swanson and Ramiller 1997). These functions include: (1) interpretation: presenting an innovation's essential features to prospective adopters; (2) legitimation: justifying a perception that the action to adopt the innovation is appropriate and reasonable; (3) mobilization: motivating vendors and market forces to promote the innovation (Kaganer et al. 2010; Miranda et al. 2015; Swanson and Ramiller 1997). These functions can help us examine the formation and spread of the organizing vision of specialized accommodation management systems and thus understand how some organizations have adopted these IS. I investigate the following research questions based on the three functions:

RQ1: What have been the interpretations of specialized IS in the accommodation process across organizations?

RQ2: How has the specialized IS discourse legitimized specialized IS in the accommodation process?

RQ3: How has specialized IS in the accommodation process been promoted?

I address these research questions through a combination of discourse analysis and exploratory research. Organizing vision studies should examine relevant discourse concerning an innovation in a community (Davidson et al. 2015; Swanson and Ramiller 1997). To collect a wide variety of texts regarding IS in the accommodation process, I draw from management and disability literature concerned with the accommodation process, disability organization and company reports, disability institution reports and papers, trade press and mainstream media articles, as

well as disability and accommodation federal laws and regulations. However, since research papers and industry and media publication have not paid sufficient attention to specialized IS in the accommodation process, I also collect exploratory interview data from two vendors of accommodation management services and products as well as three organizations that have adopted in-house accommodation management systems. Then, through qualitative content analysis (Strauss and Corbin 1998), I build a theoretical framework for an organizing vision of specialized IS in the accommodation process.

The present study's contributions to organizing vision research and social inclusion research in IS include: (1) revealing an organizing vision of specialized accommodation management systems and providing a better understanding of the relationship between IS innovation's adoption and organizing vision development. I discover that early adopters apply specialized IS in their accommodation processes because of better compliance, improved efficiency and morale for HR specialists, and improved employee experience, which draw on the organizing vision of the specialized IS; (2) demonstrating empirical use of the organizing vision theory in the social inclusion literature and highlighting the uniqueness of IS organizing visions in the social inclusion context. First, policy makers and institutional arrangements play an important role in the development of IS organizing visions in the social inclusion context. Second, the organizing vision of IS in the social inclusion context is often part of a broader social inclusion discourse. Third, IS practitioners along with the alliances give new meanings of technology used to enable social inclusion. Fourth, connecting financial benefits with social inclusion helps legitimize IS used to improve social inclusion; (3) establishing a research stream at the intersection of the organizing vision literature and the social inclusion literature. Applying an organizing vision lens to social inclusion topics help understand the adoption and diffusion of IS innovations in an institutional environment. It offers insights on how discourse and community develop organizing visions and motivate adoptions. On the other hand, integrating the social inclusion research and the organizing vision lens provides novel insights on the legitimation of IS innovations. It is important to connect IS with a business problematic and accordingly attach new and rich meanings of IS that can help with financial benefits and social inclusion simultaneously; and (4) informing companies and vendors of the importance and strategies of applying specialized IS in

the accommodation process. These strategies include focusing on disabled employees' interactive experiences and utilizing resources in the community to build promotion channels.

2. THEORETICAL FOUNDATIONS

2.1. Basic Functions of Organizing Visions

Swanson and Ramiller (1997) define an organizing vision as “a focal community idea for the application of IS in organizations” (p. 460), which is an institutional view of how new technology comes to be applied and diffused among organizations (Swanson 2002). The institutional stakeholders, such as adopters, IT vendors, consultants, investors, journalists, analysts, academics, and other institutional entrepreneurs, are interested in developing the IS discourse, forming a shared organizing vision of the IS innovation, and thus shaping the diffusion of the IS innovation among organizations (Paré et al. 2020; Suddaby and Greenwood 2005; Swanson and Ramiller 1997). There are three basic functions by which organizing visions facilitate and shape diffusion of IS innovations (Swanson and Ramiller 1997, 2004). These functions are (1) interpretation, (2) legitimation, and (3) mobilization.

Interpretation essentially means what an IS innovation is. Through an organizing vision lens, IS innovations are social choices that are shaped by stakeholders' discourses and institutional arrangements (Currie 2004; Rao and Kenney 2008). The organizing vision is an abstract representation of an IS innovation, which represents a community's effort to develop a common discourse that explains the IS innovation's expected uses and purpose relative to its broader social, technical, and economic context (Davidson et al. 2015; De Vaujany et al. 2013; Swanson and Ramiller 1997). In the present study, I examine what have been the interpretations of specialized IS in the accommodation process across organizations.

Legitimation is the process in which the underlying rationale for adopting an IS innovation is influenced by the IS discourse and further reflected, adjusted, and accepted as part of the organizing vision itself (Ramiller and Swanson 2003; Swanson and Ramiller 1997). The legitimation process for an IS innovation is often influenced by the reputation and authority of those who help promote the innovation in a broader context (Currie 2004; Swanson and Ramiller 1997). The legitimation process is also often linked to business concerns regarding adopting the

innovation (Swanson and Ramiller 1997). In the present study, I understand the legitimation for adopting specialized accommodation management systems by examining how the specialized IS discourse has legitimized specialized IS in the accommodation process and influenced such IS innovation outcomes.

Mobilization means that the organizing vision further helps promote the material realization of an IS innovation (Currie 2004; Swanson and Ramiller 1997). Vendors promote new IS products and services drawing on the images provided by the organizing vision (Swanson and Ramiller 1997). In the present study, I examine how specialized IS in the accommodation process has been promoted.

2.2. Institutional Production of Organizing Visions

To gain a holistic understanding of organizing visions and how the three basic functions come to take place, I need to examine the structure of organizing visions and the forces and factors influencing up this structure (Swanson and Ramiller 1997). I adapt the framework of organizing vision proposed by Swanson and Ramiller (1997). This framework consists of six components: (1) discourse, (2) community, (3) IS practitioner subculture, (4) business problematic, (5) invention and adaptation of core technology, as well as (6) innovation adoption and diffusion (see Figure 1). This framework is useful to understand the shape and spread of the organizing vision of specialized accommodation management systems because it explains the process of how institutional factors influence the innovation's adoption and diffusion from the organizing vision perspective. This framework is helpful to examine the role of discourse in the application of the innovation in the community. The framework is also applied to early adopters like some organizations that have adopted specialized accommodation management systems. The early institutional processes shape an organizing vision that early adopters follow and the organizing vision is further developed according to institutional factors and discourse in the community.

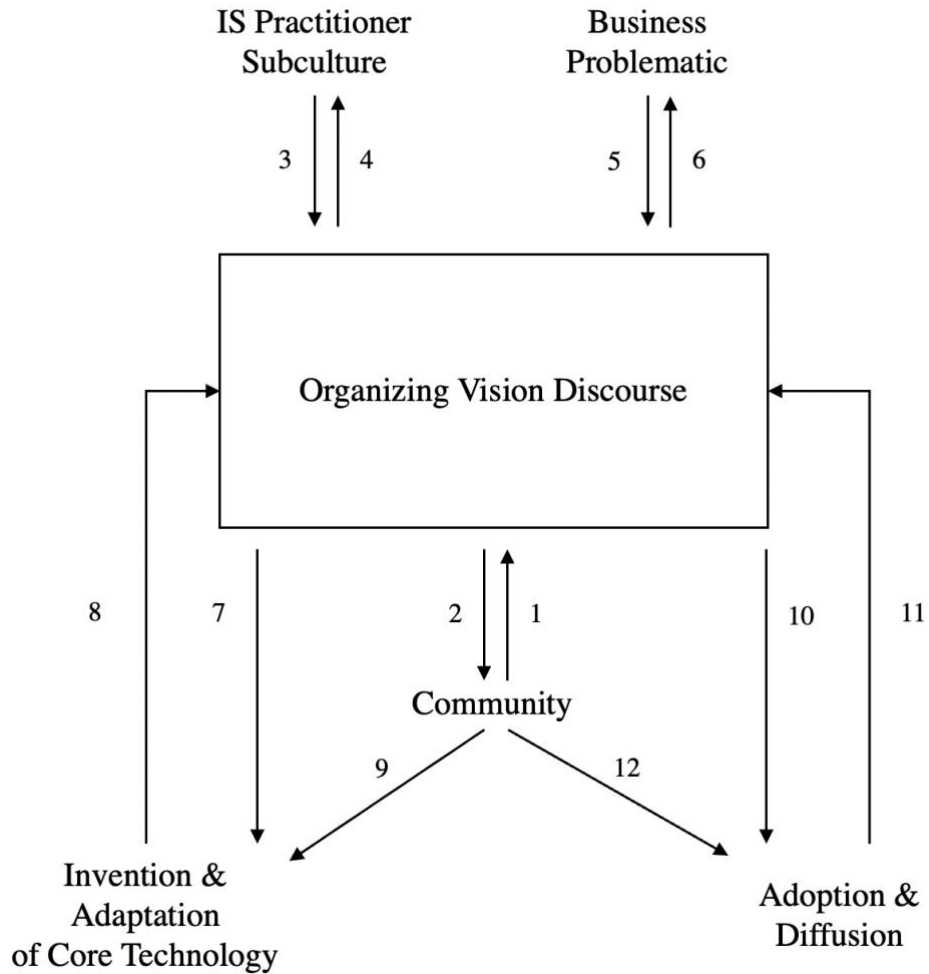


Figure 1. Institutional Production of Organizing Visions (Adapted from Swanson and Ramiller 1997, pp. 462)

(1) Discourse: The organizing vision is emergent in discourse of a technology, which accordingly drives the development of the vision of the technology (Currie 2004; Swanson and Ramiller 1997). A discourse may start quietly, the organizing vision emerging in an uncertain form (Swanson and Ramiller 1997). Over time, a variety type of texts enriches the discourse, reinforcing buzzwords of the organizing vision (Currie 2004; Swanson and Ramiller 1997). Whether the organizing vision becomes popular, or its discourse disappears depends on the vision’s distinctiveness and plausibility (Currie 2004; Davidson et al. 2015; Swanson and Ramiller 1997).

(2) Community: Community is the reason why a discourse of an innovation exists. Organizing vision starts with a discussion of the innovation by stakeholders in the community. These stakeholders include IT vendors, policy makers, consultants, investors, journalists, analysts, academics, adopters, and other institutional entrepreneurs (Paré et al. 2020; Suddaby and Greenwood 2005; Swanson and Ramiller 1997). The community impacts the development of the discourse because stakeholders decide how to describe the innovation (see Arrow 1 in Figure 1). In turn, as the discourse unfolds, the community finds its way to tell a story about the innovation and the discourse exposes emergent opportunities to attract new participants in its development (Prince et al. 2014; Swanson and Ramiller 1997, see Arrow 2 in Figure 1). To my knowledge, only a few articles have applied the framework of organizing vision proposed by Swanson and Ramiller (1997) into empirical settings (Currie 2004; De Vaujany et al. 2013). However, the concept of discourse and community prevails in the existing organizing vision literature (Barrett et al. 2013; Davidson et al. 2015; Miranda et al. 2015; Nielsen et al. 2014). One focus of the relationship between discourse and community is to answer the question: why do some IS innovations diffuse widely, while others do not? (Barrett et al. 2013; Davidson et al. 2015) From the organizing vision perspective, whether or not an organizing vision sustains in a community depends on the vision's distinctiveness and plausibility and the stakeholders in the community will judge these features of the organizing vision (Davidson et al. 2015; Swanson and Ramiller 1997). These features are reflected in the interpretations, legitimation, and mobilization of the innovation by the stakeholders (Barrett et al. 2013; Davidson et al. 2015; Nielsen et al. 2014).

(3) IS practitioners' subculture: IS practitioners are the stakeholders who promote an innovation as their jobs, therefore, they are very interested in developing the discourse of the innovation. IS practitioners share specialized language and knowledge of the innovation (Swanson and Ramiller 1997). They often have specific structures and approaches to promote the innovation (De Vaujany et al. 2013). Thus, these IS practitioners form a subculture, which impacts the development of the organizing vision (see Arrow 3 in Figure 1). Specifically, the IS practitioners evaluate the distinctiveness and plausibility of the organizing vision and make their efforts to strengthen the vision's distinctiveness and plausibility. Reciprocally, the organizing vision affects the practitioners' subculture (see Arrow 4 in Figure 1). The evolution of the vision may

change how the IS practitioners view themselves and thereby adjust their roles in promoting the innovation in order to fit with the organizing vision (Swanson and Ramiller 1997).

(4) Business problematic: During the development of an organizing vision, the business problematic also plays an important role (Swanson and Ramiller 1997, see Arrow 5 in Figure 1). The business problematic determines the practical issues the organizing vision can address for organizations (Swanson and Ramiller 1997). The business problematic could be related to financial, operation, and broader social issues. It shows the practical importance of the organizing vision. Thus, it is a core resource for the legitimation of the organizing vision. However, the business problematic is not always part of an original vision; instead, it becomes clearer as the stakeholders share a better understanding of the innovation and what it can do for the business beyond the confines of the IS area (Davidson et al. 2015, see Arrow 6 in Figure 1. Swanson and Ramiller's (1997) paper does not have this arrow and I add it in the model.). Moreover, the business problematic can take turns which either approve or disapprove a particular organizing vision or even do both at the same time from different stakeholders' perspectives (Davidson et al. 2015; Swanson and Ramiller 1997). For example, a study focusing on the organizing vision of personal health records (PHRs) finds that reducing organizational costs as the business problematic favors the organizing vision from organizations' perspective, whereas it appears less appealing from individual consumers' perspective, which results in limited adoption of PHRs (Davidson et al. 2015).

(5) Invention and adaptation of core technology: An organizing vision gives meanings to a technology (Swanson and Ramiller 1997, see Arrow 7 in Figure 1). It can assign a new meaning to an existing technology. It can also provide core capabilities to a new technology (Swanson and Ramiller 1997). Over time, organizing visions also affect the evolution of technologies by creating expectations (Rosenberg 1982, 1994; Swanson and Ramiller 1997). Reciprocally, since it is necessary to make sense of a technology before it can be widely applied in a community, technology itself drives the creation of its organizing vision (Swanson and Ramiller 1997, see Arrow 8 in Figure 1). Similarly, over time, technologies influenced by organizing visions can motivate their designers to contribute to their discourses (De Vaujany et al. 2013; Swanson and Ramiller 1997). Sometimes the limit of the capabilities of a technology may constrain and

obstruct the building of an organizing vision (Swanson and Ramiller 1997). During this reciprocal process, the community makes sense of the meanings of the IS innovation and helps develop and spread the discourse of this innovation, which in turn impacts the invention and adaptation of the core technology (see Arrow 9 in Figure 1).

(6) Innovation adoption and diffusion: The formative shaping of the organizing vision is received when the organizing vision is still an uncertain form (Swanson and Ramiller 1997). The formative shaping is related to the early adoption of the innovation. As the plausibility and distinctiveness of an organizing vision are widely affirmed, alliances that support the vision are formed (De Vaujany et al. 2013; Swanson and Ramiller 1997). The formative shaping of the organizing vision continues evolving, which affects the innovation's further adoption and diffusion (Swanson and Ramiller 1997, see Arrow 10 in Figure 1). Several organizing vision studies focus on early adoption and diffusion of organizing visions and discover the development dynamics of the visions (Davidson et al. 2015; Ramiller and Swanson 2003). For instance, the PHRs study illustrates the drift and shift of the organizing vision without widespread diffusion for over a decade (Davidson et al. 2015). Such organizing vision remains underdeveloped or becomes divergent, then the adoption and diffusion will likely cease (Davidson et al. 2015; Swanson and Ramiller 1997). On the other hand, adoption and diffusion also have reciprocal effects on the evolution of the organizing vision (Swanson and Ramiller 1997, see Arrow 11 in Figure 1). They offer pragmatic evidence and successful stories to prospective adopters regarding the vision's validity and importance (Ramiller and Swanson 2003; Swanson and Ramiller 1997). The community supports and provides resources to these adopters (Swanson and Ramiller 1997, see Arrow 12 in Figure 1).

3. METHODOLOGY

Organizing vision studies should examine relevant discourse concerning an innovation in a community (Davidson et al. 2015; Swanson and Ramiller 1997). I collect a variety of data sources through a combination of discourse analysis and exploratory research. Then, through qualitative content analysis, I answer the three research questions regarding the three basic functions of a specialized IS organizing vision as well as build an integrated framework for the organizing vision of specialized IS in the accommodation process.

3.1. Data Collection Procedures

Table 1 summarizes the types of sources I collected. First, I conducted a systematic literature review of peer-reviewed research papers concerned with the accommodation process. Then, I used a combination of systematic search, snowball sampling, and theoretic sampling to assemble disability organization and company reports, disability institution reports and papers, trade press and mainstream media articles, as well as disability and workplace accommodation federal laws and regulations that contributed in substantial ways to the specialized accommodation IS organizing vision in the United States (Davidson et al. 2015; Kim et al. 2011). However, since research papers and industry and media publication have not specifically paid sufficient attention to specialized IS in the accommodation process, I also conducted exploratory interviews with accommodation IS vendors and organizations that have adopted in-house accommodation management systems to gain a comprehensive understanding of the organizing vision of specialized accommodation management systems.

Table 1. Types of Sources for Specialized IS Texts Used in the Study

Sources for Specialized IS Texts	Number
Peer-reviewed research papers <ul style="list-style-type: none"> • Papers published in 19 management journals • Papers published in 27 disability journals 	271
Industry and media publication <ul style="list-style-type: none"> • Disability organization and company reports • Disability institution reports and papers • Trade press and mainstream media articles 	120
Disability and workplace accommodation federal laws and regulations <ul style="list-style-type: none"> • Laws related to disability and workplace accommodation • Executive orders related to the laws 	14
Exploratory interviews and archival documents <ul style="list-style-type: none"> • Three interviews from two vendors • Twelve interviews from three organizations • Thirteen archival documents 	28

3.1.1. Peer-reviewed Research Papers

Since IS literature has not paid enough attention to the accommodation process, it is necessary to broaden my literature review beyond the confines of the IS literature. Scholars from management and disability studies have explored questions relevant to disability and accommodations for over 30 years. I conducted a systematic literature review of peer-reviewed management and disability articles that address workplace accommodations for disabled people. This review included not only studies that related to accommodations in the workplace, but also those that explored the

general perceptions and treatment of disabled employees because a specialized accommodation management system is part of treatment of disabled employees and its organizing vision is influenced by the general perceptions of disabled employees. The methodology for conducting this review was informed by the steps described in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Liberati et al. 2009).

Relevant journals were selected within the 25 highest-ranking journals in each category of the Journal Citation Reports (JCR). These categories included: Management, industrial relations & labor, rehabilitation, and developmental psychology (as of September 26, 2019). As a result, a total of 46 journals were included (see Appendix A).

Search terms were developed based on the target population, workplace context, and specific topics related to accommodations as well as informed by previous reviews on similar topics (see Table 2 and Table 3). Terms between domains were connected with ‘AND’ and within domains were connected with ‘OR’. Minor modifications to the search strategy were made within individual journals where necessary. No date limit in terms of the beginning point of the searches was set.

Table 2. Search Terms for Management Journals

Category	Search Terms ^a
Population	disab*
Context	employ*; occupation*; organization; work*; manager
Topic	accommodation*; stigma; identity; bias; ADA litigation; intention* to work; career transition; supported employ*; support*; quality of life; well-being; inclusion; diversity; discrimination; collaboration

^a Search terms were adapted from Dwertmann (2016); Follmer and Jones (2018).

Table 3. Search Terms for Disability Journals

Category	Search Terms ^a
Population	disab*
Context	employ*; occupation*; rehabilitation; vocation; work*
Topic	accommodation*; stigma; employee acceptance; employer attitudes; supported employ*/competitive employ*; support*; transition; quality of life; satisfaction; well-being; inclusion; training; socialization; social life; disclosure; discrimination; collaboration

^a Search terms were adapted from Hedley et al. (2017); Jahoda et al. (2008); Lindsay et al. (2018); Vornholt et al. (2013); Williams et al. (2007).

Following the initial search for journal papers, article titles and abstracts were reviewed to select potentially relevant studies for full text review. The inclusion criteria involved the following: articles that addressed the topic of accommodation and disabled employees, as well as contained

at least a subset of disabled employees, who were 18 years of age or older, within the study population. Through backward and forward referencing, additional articles were identified during full text review. Eighty-six articles from management journals and 185 articles from disability journals were included in this review (see Figure 1 and Figure 2).

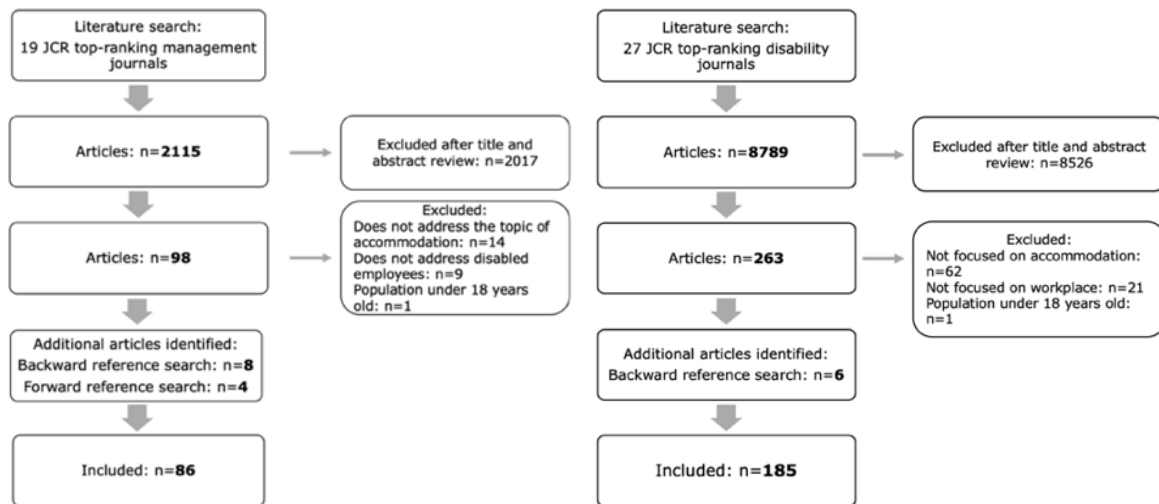


Figure 1. Search Process for Management Journals Figure 2. Search Process for Disability Journals

3.1.2. Industry and Media Publication

Two phases were conducted for collecting industry and media publication. In the first phase, I searched disability institutions, disability organizations, and companies that published disability and inclusion-related papers and reports that I was aware that they had done a lot of work in disability inclusion. Then I expanded searches by backward and forward snowballing to examine references cited in the relevant papers, reports, and websites for additional disability organization and company reports, disability institution reports and papers, as well as trade press and mainstream media publications. In the second phase, to test if the theoretical saturation had been reached from the search in the first phase (Eisenhardt 1989), I searched diversity and inclusion reports or websites for the top 50 Fortune firms in 2021. I sampled Fortune firms because larger organizations often adopt innovations earlier and their discourses are likely to legitimize the innovations and thus impact later adopters' decisions (Fligstein 1993; Han 1994; Miranda et al. 2015; Swanson and Wang 2005). Among the top 50 Fortune firms in 2021, 37 firms published diversity and inclusion-related reports; 13 firms did not publish specific diversity and inclusion-related reports but created diversity and inclusion-related websites. I found these top 50 Fortune

firms reports and websites added minimal incremental learning into the phenomena I observed from the articles found in the first phase (Eisenhardt 1989). Table 4 presents some examples of industry and media publication I collected.

Table 4. Examples of Industry and Media Publication

Publication Sources	Year	Titles of Industry and Media Publication
National Council on Disability	2007	Empowerment for Americans with Disabilities: Breaking Barriers to Careers and Full Employment
Forbes	2011	Global Diversity and Inclusion: Fostering Innovation through a Diverse Workforce
Disability:IN	2015	Disability Equality Index 2015
	2020	Disability Equality Index 2020
McKinsey&Company	2015	Why Diversity Matters
	2018	Delivering through Diversity
	2020	Diversity Wins: How Inclusion Matters
Accenture	2018	Getting to Equal: The Disability Inclusion Advantage
	2020	Enabling Change: Getting to Equal 2020: Disability Inclusion
Employer Assistance and Resource Network on Disability Inclusion	2018	Federal Agency Employment Statistics: A Framework for Disability Inclusion
Job Accommodation Network	2018	Accommodation and Compliance Series: Workplace Accommodations: Low Cost, High Impact
	-	Leave Management and Accommodation Tracking Software (https://askjan.org/solutions/Leave-Management-and-Accommodation-Tracking-Software.cfm)
Google	2019	Diversity Annual Report 2019
	2020	Diversity Annual Report 2020
	2021	Diversity Annual Report 2021
Microsoft	2019	Diversity and Inclusion Report
AT&T	2020	Loud & Clear: AT&T Diversity, Equity, & Inclusion Annual Report
IBM	2020	Diversity & Inclusion Report
Verizon Communications	2020	Human Capital Report

3.1.3. Disability and Workplace Accommodation Federal Laws and Regulations

I summarized seven major disability and workplace accommodation federal laws and regulations in the United States in Table 5. The Rehabilitation Act of 1973 prohibits employment discrimination against disabled individuals. Section 501 of the Rehabilitation Act of 1973 is applied to federal agencies and Section 503 is applied to federal contractors with any contract more than \$10,000. Title I of the ADA of 1990 prohibits employment discrimination based on disability and mandates the reasonable accommodation provision (United States Department of Justice Civil Rights Division 1990). It is applied to the private sector as well as state and local government employers with 15 or more employees (United States Department of Justice Civil Rights Division 1990). The ADA Amendments Act of 2008 (ADAAA) broadens the definition of the term “disability” including diabetes, multiple sclerosis, major depression, bipolar disorder, and other disabilities not originally covered in the ADA (United States Equal Employment Opportunity Commission 2011). As a result of the ADAAA and the EEOC’s final rule to implement the ADAAA, it has become easier for individuals seeking the law’s protection to demonstrate that they

meet the definition of “disability” (United States Equal Employment Opportunity Commission 2011). The Office of Federal Contract Compliance Programs (OFCCP) issued a final rule implementing Section 503 of the Rehabilitation Act of 1973 that requires federal contractors that 7% of their workforce be disabled people (Office of Federal Contract Compliance Programs 2013). The EEOC issued a final rule implementing Section 501 of the Rehabilitation Act of 1973 that requires federal agencies that 12% of their workforce be disabled people, among which 2% of their workforce be people with targeted disabilities (significant disabilities such as traumatic brain injury, deaf or serious difficulty hearing, blind or serious difficulty seeing even when wearing glasses, significant mobility impairment, and significant psychiatric disorder) (United States Equal Employment Opportunity Commission 2017). This rule also suggests setting a centralized accommodation fund. I also collected seven executive orders that were issued related to these major laws and regulations and stated disability and workplace accommodation requirements for covered organizations (see the detail of these executive orders in Table 9). Since medical leave is a common accommodation for disabled employees, I also looked into the relationship between the ADA and the Family and Medical Leave Act (FMLA). When employees exhaust 12 weeks of leave under the FMLA and still cannot return to work due to their medical condition, an interactive dialogue is necessary to determine if extended medical leave is an ADA qualifying situation (United States Equal Employment Opportunity Commission 2002). If an extended leave poses an undue hardship on the business, the employer needs to demonstrate why (United States Equal Employment Opportunity Commission 2002).

Table 5. Major Disability and Workplace Accommodation Federal Laws and Regulations in the United States

Year	Titles of Laws and Regulations	Disability and Workplace Accommodation Compliance	Covered Organizations
1973	Section 501 of the Rehabilitation Act of 1973	Prohibit employment discrimination against disabled individuals	Federal agencies
1973	Section 503 of the Rehabilitation Act of 1973	Take affirmative action to employ and advance in employment qualified disabled individuals	Federal contractors with any contract more than \$10,000
1990	Title I of the ADA of 1990	Prohibit employment discrimination based on disability and mandate the reasonable accommodation provision	Private sector and state and local government employers with 15 or more employees
2008	The ADA Amendments Act of 2008 (ADAAA)	Broaden the definition of the term “disability”	Private sector and state and local government employers with 15 or more employees
2011	Final Rule to Implement the ADAAA	Amend the ADA regulations to reflect the changes made by the ADAAA	Private sector and state and local government employers with 15 or more employees
2013	Final Rule to Implement Section 503 of the Rehabilitation Act of 1973	Define the term “disability” consistent with the definitions in the ADAAA. Set a utilization goal of 7% of workforce to be composed of disabled individuals	Federal contractors with any contract more than \$10,000
2017	Final Rule to Implement Section 501 of the Rehabilitation Act of 1973	Mandate the goal of having 12% of workforce to be composed of disabled individuals and 2% of workforce to be composed of people with target disabilities. This rule also suggests setting a centralized accommodation fund.	Federal agencies

3.1.4. Exploratory Interviews and Archival Documents

I contacted eight vendors through email and LinkedIn in 2020. Two of these vendors were willing to participate in interviews. Vendor interviews were conducted between October 2020 and February 2021. I conducted a total of three semi-structured interviews with two senior executives in the two vendor organizations. An interview protocol (see Appendix B) with open-ended questions was used to gain insights into their accommodation management systems, organizational structures, and promotion strategies. The average interview length was 55 minutes. I found that currently ten major vendors exist in the field and systems currently used in the accommodation process have similar structures, roles, tasks, and processes. Therefore, the results from these two vendors’ interviews can be generalized. I also collected relevant archival files from these two participant organizations and other major vendor organizations’ websites. See Paper Two in this dissertation for the methodology of the exploratory research with three organizations that have adopted in-house accommodation management systems.

3.2. Data Analysis

I analyzed the qualitative data following a dialogical process between data and theory (Eisenhardt 1989; Klein and Myers 1999). This analysis followed Strauss and Corbin’s (1998) coding process of open, axial, and selective coding (Eisenhardt 1989). The NVivo 12 software

package was used to support coding and analysis. The first step, open coding, identified descriptive categories. For the included peer-reviewed research papers, two literature review spreadsheet tables were created for management journals and disability journals respectively. These tables were used to record a variety of items for the included reviewed papers, including authors, publication year, journal title, article title, keywords, research questions, claimed gap, theoretical lens, hypotheses/propositions, results, claimed contributions, limitations, data source, research design, and disability type. I conducted a sentence-by-sentence analysis for these items in the two literature review spreadsheet tables for the included peer-reviewed research papers. For industry and media publication, I searched keywords “disab*” and “accommodat*” and then analyzed the texts that included these keywords. For exploratory interviews and archival documents, I conducted a sentence-by-sentence analysis. In addition, I analyzed seven major disability and workplace accommodation federal laws and regulations in the United States as institutional arrangements that require organizations to include disabled employees and provide accommodations to them and thus form a community in which organizations design an effective accommodation process and adopt specialized IS in the accommodation process to comply with laws and regulations. These resulted in 284 open codes covering the broad set of concepts in all the types of sources for specialized IS texts used in the present study.

Then axial coding was initiated to explore subcategories and rearrange categories within each case. Through axial coding, I reorganized the open codes to answer each research question I proposed. The next step, selective coding, focusing on developing theoretical themes, aggregated different categories into a coherent picture. Through selective coding, I identified the themes to explain the three basic functions (interpretation, legitimation, and mobilization) of the organizing vision of specialized IS in the accommodation process. Table 6 presents examples of several passages and how they were coded from open, axial, to selective codes. The detailed results and discussion are presented in Section 4 and 5.

Table 6. Coding Examples

Specialized IS Texts	<u>Open (underlined) and Axial (italic) Codes</u>	Selective Codes Developing Theoretical Themes
<p>The accommodation and networking practices designed to support and retain workers with disabilities were somewhat less common than the recruitment and communication practices presented earlier. One exception is having a formal process for accommodation, which 83% of organizations/units (federal contracts) had implemented. Only about a third of organizations/units reported having the following practices in place: a designated budget for accommodations, mentoring program or a disability-focused employee resources groups (ERGs). Among organizations who had the practices currently in place, between 5% and 27% (depending on the practice) initiated the practice as a result of the recent regulations; and 22% to 35% of organizations expanded the practices. Having a formal process for accommodation (35%) was the practice most commonly expanded and having a disability focused ERG was the most commonly initiated practice (27% initiated the practice).</p>	<p><u>Technologies used in the accommodation process</u> <i>Interpretations of specialized IS in the accommodation process</i></p>	<p>What have been the interpretations of specialized IS in the accommodation process across organizations? Formal accommodation process, special budget for providing accommodations, other resources for supporting stakeholders in the accommodation process.</p>
<p>Champions are, compared with other companies in the sample, performing above-average financially. Champions achieved – on average – 28 percent higher revenue, double the net income and 30 percent higher economic profit margins over the four-year period we analyzed. Disability Inclusion Champions were, on average, two times more likely to outperform their peers in terms of total shareholder returns compared with the rest of the sample. Companies that have improved their Disability Equity Index score over time were four times more likely to have total shareholder returns that outperform their peers, compared to nonimprovers. On average, improvers’ total shareholders returns outperform industry peers by 53 percent, while other companies outperform their peers by only 4 percent.</p>	<p><u>Disability inclusion improving organizational financial performance</u> <i>Disability inclusion discourse</i></p>	<p>How has the specialized IS discourse legitimized specialized IS in the accommodation process? Disability inclusion discourse: Disability inclusion bringing benefits for organizations.</p>
<p>By providing [stakeholders] with the knowledge of all the different laws and all of that. It helps them make sure they are taking the big picture into perspective as far as the reducing litigation at least costs of litigation by having the fact they being able to document that they took all the right steps that they follow the processes. They did all those things not only does it limit the amount of cases that go to litigation, but it also will reduce the amount [of costs].</p>	<p><u>Changes brought by IS—documentation, formal process, comply with laws</u> <i>Compliance with laws</i></p>	<p>How has specialized IS in the accommodation process been promoted? Benefits of accommodation management system: Better compliance.</p>

4. RESULTS

I present the results from the specialized IS texts by answering each research question I proposed and thus explain the interpretation (Section 4.1), legitimation (Section 4.2), and mobilization (Section 4.3) of the organizing vision of specialized IS in the accommodation process.

4.1. Interpretation

RQ1: What have been the interpretations of specialized IS in the accommodation process across organizations?

Regulation documents, academic articles, and the vendors' and organizational stakeholders' depiction interpreted what a specialized IS in the accommodation process is. The interpretations of a specialized IS have also evolved over time, consisting of (1) a formal accommodation process, (2) an interactive process, (3) specific roles for coordinating the accommodation process, (4) a special budget for providing accommodations, and (5) other resources for supporting stakeholders in the accommodation process. These concepts are depicted in detail in Section 4.1.1-4.1.5.

4.1.1. Formal Accommodation Process

The concept of a formal accommodation process first appeared in the Title I of the ADA, which recommends that covered employers establish guidelines for the reasonable accommodation process. The subsequent regulations reinforced this concept. The Executive Order 13164 which was issued in 2000 required federal agencies to establish a formal accommodation process. This process should be written and accessible on federal agencies' websites. The instructions for Management Directive 715 (MD-715), which the EEOC issued in 2008 to help federal agencies establish and maintain effective programs under Section 501 of the Rehabilitation Act of 1973, re-emphasized the requirement of establishing a formal accommodation process.

Several academic studies reported the status of having a formal accommodation process in organizations. A 2002 study found that 70% of 403 surveyed federal agencies reported having a formal accommodation process (Bruyère et al. 2002). By 2014, 43.8% of 675 surveyed private sector employers reported having a formal accommodation process (Erickson et al. 2014). By 2019, 95% of 320 surveyed federal agencies reported having a formal accommodation process

(Enayati et al. 2019). The exploratory interviews also alluded to this concept. Prior to adopting a specialized IS in the accommodation process, most organizations used generic IS tools such as office applications (e.g., Excel spreadsheet or word document) for tracking accommodation information. The specialized IS helps them create a formal accommodation process from request, negotiation, implementation, to ongoing support as well as track all the information in the system.

4.1.2. Interactive Process

The core concept of an interactive process was depicted in both the regulations and the vendors' and organizational stakeholders' narratives. The EEOC suggests that an employer should engage in an interactive dialogue with an employee because the disabled individual has the most knowledge about their accommodation needs (United States Equal Employment Opportunity Commission 2011). Moreover, the specialized IS in the accommodation process was also highlighted by the vendors and organizational stakeholders as a tool to facilitate the interaction between disabled employees and other stakeholders (e.g., HR staff, supervisors).

First, everyone involved in the accommodation process can access related information in the specialized IS so they can collaborate based on shared information. This specialized IS practice is different from a generic IS practice such as using an Excel spreadsheet to track accommodation information. Through a generic IS approach, an HR person who manages the spreadsheet has to talk to a supervisor who does not access the same information. In contrast, a specialized IS allows the involved stakeholders to share the same information.

Second, the interactive process lets both disabled employees and other stakeholders ask questions over and over until both sides reach a solution of whether/how to accommodate. As a vendor illustrated, "it seems to me that [the HR people] also have a learning curve to practice in the system with the employees. Then the HR people will get better in the process."

Third, an interactive process is beneficial for understanding disabled employees' individual needs since different people have various accommodation needs. The specialized IS provides an opportunity to discuss individual needs instead of throwing the same type of accommodation on anyone.

4.1.3. Specific Roles for Coordinating the Accommodation Process

The concept of specific roles for coordinating the accommodation process was depicted in a regulation. The MD-715 required federal agencies to report the EEOC annually regarding their designated roles for coordinating the accommodation process. From the vendors' and organizational stakeholders' depiction, these specific roles often include medical support specialists and accommodation specialists, both often housed in the HR department. Research showed that by 2014, nearly 75% of 675 surveyed private sector employers reported having specific roles to coordinate the accommodation process (Erickson et al. 2014).

4.1.4. Special Budget for Providing Accommodations

Also evident in the regulations was the suggestion of a special budget for providing accommodations. Executive Order 13548 which was issued in 2010 identified strategies for retaining disabled employees in federal agencies including the use of special budget for providing accommodations. The final rule the EEOC issued to implement Section 501 of the Rehabilitation Act of 1973 suggested federal agencies set a special budget for offering accommodations (United States Equal Employment Opportunity Commission 2017). One organization that adopted an in-house accommodation management system indicated in an interview that it centralized its budget for providing accommodations. By 2014, approximately 19.1% of 675 surveyed private sector employers reported having a special budget for providing accommodations (Erickson et al. 2014). By 2018, about a third of surveyed 235 federal contractors reported placing an accommodation special budget (Von Schrader and Bruyère 2018). By 2019, 94% of surveyed 320 federal agencies reported having an accommodation special budget (Enayati et al. 2019).

4.1.5. Other Resources for Supporting Stakeholders in the Accommodation Process

The concept of other resources for supporting stakeholders in the accommodation process appeared in the MD-715, which required federal agencies to report the EEOC annually including providing all supervisors and employees with training resources for the accommodation process. The three organizations that participated in interviews provided a variety of training resources to supervisors or disability-focused employee resource groups (ERGs). By 2018, about a third of

surveyed 235 federal contractors reported having mentoring program or a disability-focused ERGs (Von Schrader and Bruyère 2018).

4.2. Legitimation

RQ2: How has the specialized IS discourse legitimized specialized IS in the accommodation process?

Underlying the interpretations of the specialized IS in the accommodation process were legitimizing claims that specialized IS would result in better accommodation performance. However, since research papers and industry and media publication have not paid sufficient attention to specialized IS in the accommodation process, I analyzed two vendors’ and three organizations’ perspectives about such IS innovation outcomes. As I analyzed the coded data from research papers, industry and media publication, as well as federal laws and regulations, I recognized the importance of first understanding a broader context of the specialized IS discourse, such as (1) institutional arrangements, (2) disability alliances across industries, (3) diversity discourse, and (4) disability inclusion discourse. These discourses influence the specialized IS discourse, which in turn legitimizes specialized IS in the accommodation process and influences the IS innovation outcomes. I summarize the notable events including the specialized accommodation management IS regulations, activities, and publications in Table 7. I consider regulations such as laws and executive orders as discourses because these institutional arrangements are a big driver to build a community in which organizations design an effective accommodation process and adopt specialized IS in the accommodation process to comply with laws and regulations.

Table 7. Notable Events in the Specialized Accommodation Management IS Organizing Vision Discourse (1990-2021)

Year	Specialized accommodation management IS regulations, activities, and publications
1990	The ADA of 1990 was signed into law. It prohibits discrimination based on disability and requires covered private sector and state and local government employers to provide reasonable accommodations.
1992	The Disability Management Employer Coalition (DMEC) was founded in California with the objective of providing a place for disability professionals to talk and share best practices around integrated disability management.
1996	The first national DMEC Annual Conference was held.
1998	Executive Order 13078 was issued to increase employment of disabled people. The Presidential Task Force on Employment of Adults with Disabilities (Task Force) was established. It specifies that federal agencies should be a model employer of disabled people. It states that the Task Force should cooperate with federal agencies and private sector employers to increase the employment rate of disabled people.

2000	Research was published to examine the response of 1268 employers (865 private sector employers and 403 federal agencies) to the ADA and the Rehabilitation Act of 1973. Forty-eight percent of the private sector employers and 62% of the federal agencies reported keeping data on accommodations to fulfill reporting requirements (Bruyère 2000).
2000	Executive Order 13163 was issued to call for federal agencies to hire 100,000 disabled people by 2005.
2000	Executive Order 13164 was issued to require federal agencies to establish written and accessible procedures on their websites for the provision of reasonable accommodations as well as track information for the provision of reasonable accommodations.
2002	Research was published to address the Task Force mandate that relates to federal agencies as a model employer of disabled people. Seventy percent of 403 federal agencies reported having a formal accommodation process (Bruyère et al. 2002).
2007	The Office of Disability Employment Policy (ODEP) and U.S. Department of Labor funded a cooperative agreement with Syracuse, Rutgers, and Cornell universities to develop and validate a methodology for case studies of disability and corporate culture.
2007	Research showed that among the Fortune 100 companies, 39 had diversity policies that explicitly mentioned disability (National Council on Disability 2007).
2008	The ADAAA was signed into law. It broadens the definition of the term “disability”, including diabetes, multiple sclerosis, major depression, bipolar disorder, etc. that are not covered in the original text of the ADA. As a result of the ADAAA and EEOC’s regulations, it has become easier for individuals seeking the law’s protection to demonstrate that they meet the definition of “disability”.
2008	The EEOC issued the instructions for Management Directive 715 (MD-715) that contain policy guidelines for establishing accommodation policies and procedures and require federal agencies to report them annually, including establishing written procedures for providing accommodations, designating an official or other mechanism to coordinate or assist with processing accommodation requests, providing all supervisors and employees with training materials of the provision of accommodations, as well as evaluating the effectiveness of the accommodation policies, practices, and procedures.
2009	Executive Order 13518 was issued to increase employment of veterans in federal agencies.
2010	The Presidential Protecting Our Workers and Ensuring Reemployment (POWER) Initiative was issued to extend prior workplace safety and health efforts of the federal agencies including speeding employees' return to work in cases of serious injury or illness.
2010	Executive Order 13548 was issued to call for federal agencies to add 100,000 disabled people to the workforce by 2015. It identifies strategies for retaining disabled workers in federal employment including the use of centralized funds to provide reasonable accommodations.
2011	The EEOC issued a final rule implementing the ADAAA that amends the ADA regulations to reflect the changes made by the ADAAA.
2011	Executive Order 13583 was issued to establish a coordinated government-wide initiative to promote diversity and inclusion in the federal workforce.
2011	Forbes published a global diversity and inclusion report, recognizing a lack of diversity related to disability. European companies are more likely to look at disability.
2012	The first DMEC FMLA/ADA Employer Compliance Conference was held.
2013	The OFCCP issued a final rule implementing Section 503 of the Rehabilitation Act of 1973 that requires employers with covered federal contractors that 7% of their workforce be disabled people.
2014	Research was published to focus on 675 private sector employers' policies and practices related to the employment of disabled people. Nearly three quarters had a designated office or person to address accommodation issues. Slightly less than half (43.8%) had a formal accommodation process. Approximately one in five (19.1%) had a centralized accommodation fund (Erickson et al. 2014).
2015	Disability Equality Index (DEI) for private sector employers was published for the first time.
2017	The EEOC issued a final rule implementing Section 501 of the Rehabilitation Act of 1973 that requires federal agencies that 12% of their workforce be disabled people, among which 2% of their workforce be people with targeted disabilities. This rule also suggests setting a centralized accommodation fund.
2018	Research was published to examine the initial impact of Section 503 Rules on 235 federal contractors' practices related to the employment of disabled people. Eighty-three percent had a formal accommodation process. Only about a third reported having the following practices in place: a centralized accommodation fund, mentoring program or a disability-focused employee resource groups (ERGs) (Von Schrader and Bruyère 2018).
2018-2020	Research papers and industry reports were published to indicate that disability inclusion can improve organizational financial performance, innovation, and employee morale (Accenture 2018, 2020; Job Accommodation Network 2018; Loiaco and Ren 2018; Waisman-Nitzan et al. 2019).
2019	Research was published to focus on 320 federal agencies' practices related to the employment of disabled people. Ninety-five percent had a formal accommodation process. Ninety-four percent had a centralized accommodation fund (Enayati et al. 2019).
2020	Led by New York State Comptroller Thomas P. DiNapoli and Oregon State Treasurer Tobias Read, a global investor group representing more than \$2.8 trillion in combined assets and 22 signatories, issued a Joint Investor Statement on Corporate

	Disability Inclusion on Global Accessibility Awareness Day 2020, calling on private sector companies they invest in to create inclusive workplace for disabled people.
2020	Ninety-four percent of 247 private sector employers that participate in DEI have a formal accommodation process.
2021	Executive Order 14035 was issued to specify that federal agencies must be a model for Diversity, Equity, Inclusion, and Accessibility (DEIA).

4.2.1. Institutional Arrangements

Institutional arrangements generally promulgated the specialized IS discourse, which in turn legitimized specialized IS in the accommodation process and influenced such IS innovation outcomes. These institutional arrangements have two layers. The first layer is institutional arrangements related to disability inclusion. Multiple laws and regulations issued in 2000, 2009, and 2010 required federal agencies to increase their employment rate of disabled employees. The American Community Survey (ACS) 2008-2016 data shows that since 2011, at least 10% of federal employees identify as having a disability, whereas only roughly 5% of private sector employees do so. When organizations hire more disabled employees, they become more willing to provide accommodations to make these employees more productive (Price and Gerber 2001; Solstad Vedeler and Schreuer 2011).

The second layer is institutional arrangements specifically related to accommodation. From the Rehabilitation Act of 1973 to the ADA of 1990, these laws require covered federal agencies and private sector employers to provide accommodations. For federal agencies and federal contractors, multiple executive orders and rules require them to establish a formal accommodation process, designate specific roles for coordinating the accommodation process, and providing other resources for supporting stakeholders in the process. More than half of the federal agencies and federal contractors reported that these laws and regulations had significantly influenced their accommodation practices, especially for establishing a formal accommodation process (Bruyère et al. 2002; Von Schrader and Bruyère 2018).

4.2.2. Disability Alliances across Industries

The disability alliances that support for improving workplace disability inclusion establish inclusive atmosphere and encourage organizations to participate in disability inclusion activities, which is a starting point for organizations to be motivated to use IS to facilitate their accommodation processes. In 2015, Disability:IN, a non-profit resource for workplace disability

inclusion, published the Disability Equality Index (DEI) for private sector employers for the first time. The DEI is a benchmarking tool that helps the Fortune 1000 and America's top 200 law firms by gross revenue (Am Law 200) analyze their disability inclusion policies and measure their actions that they can take to achieve disability inclusion and equality. Over the course of the DEI from 2015 to 2020, the number of private sector employers that participate in the DEI has increased from 48 to 247, with a total workforce of 11 million people. On average, 5.5% of current employees in these participating companies identify as having a disability. The number of top-scoring companies (scored 80 and above) is 205 out of 247 in 2020 (DISABILITY:IN 2020). Sixty percent of participating companies track accommodation metrics. Among the top 50 Fortune firms in 2021, 26 firms scored 100% on the DEI in 2020, 3 scored 90%, 2 scored 80%, and 19 did not participate in the DEI.

In addition, the Disability Management Employer Coalition (DMEC) is an industry association for disability and absence management, representing over 14,000 disability and absence management professionals from across the U.S. and Canada. The DMEC was founded in 1992 in California with the objective of providing a place for disability professionals to talk and share best practices around integrated disability management. The first national DMEC Annual Conference was held in 1996 in San Diego. The first DMEC FMLA/ADA Employer Compliance Conference was held in 2012 in Minneapolis. The specialized absence/accommodation management products and services have been presented in these conferences. These events impact the trend of the specialized IS discourse and the IS innovation outcomes. As a vendor indicated, it began creating the specialized IS for absence requests for its clients to comply with the FMLA in 2013 and then expanded the specialized IS for other accommodation requests to comply with the ADA in 2015. Moreover, the Job Accommodation Network (JAN) specifically focuses on providing information on accommodations for organizations. JAN was founded in 1983 by the United States Department of Labor's Office of Disability Employment Policy (ODEP), located in West Virginia University. Initially, Jan consulted primarily on sensory disabilities such as hearing, vision, touch, or speech disabilities. Since the ADA was implemented, more individuals and organizations have sought accommodation consultant services from JAN. JAN receives over 53,000 inquiries per year on average by 2021 (https://en.wikipedia.org/wiki/Job_Accommodation_Network).

4.2.3. Diversity Discourse

The diversity discourse has evolved over time and has increasingly recognized the importance of differing abilities. The 2011 Forbes Global Diversity and Inclusion report recognized a lack of diversity related to disability (Forbes 2011). This report found that European companies were more likely to look at disability (Forbes 2011). Many diversity annual reports by private sector employers headquartered in the U.S. did not include disability until very recent years. Among the top 50 Fortune firms in 2021, 14 firms specifically mentioned accommodation for their job applicants and employees. For example, in 2019, the Google Diversity Annual Report published data from employees who had chosen to self-identify as having a disability for the first time (Google 2019). The percentage of employees who had been self-identified as having a disability was 7.5% (Google 2019). In 2021, the Google Diversity Annual Report included an independent section named Accessibility & Disability Inclusion and talked about accommodations for the first time (Google 2021). This report mentioned “For every interview we offer, our Candidate Accommodations team works to make sure all candidates have the accommodations they need during interviews, including extended time, a sign language interpreter, CART captioning, and more” (pp. 28, Google 2021).

4.2.4. Disability Inclusion Discourse

Research and practice have increasingly recognized integrating disabled employees can improve organizational financial performance, innovation, and employee morale. These discourses have two layers. The first layer is disability inclusion bringing benefits for organizations. One industry report shows that companies that champion disability inclusion (compared with other companies in the sample of the 140 U.S. companies) significantly outperform their peers across key financial performance measurements including revenue, net income, profit margins, and shareholder returns (Accenture 2018, 2020). If companies embrace disability inclusion, they will gain access to a new talent pool of more than 10.7 million people, which will bring innovation through diverse perspectives and ideas (Accenture 2018, 2020; Loiacono and Ren 2018). Moreover, studies indicate that all employees benefit from a more diverse and inclusive workplace (Dong et al. 2013; Kaye et al. 2011). They suggest that working alongside disabled employees makes non-disabled employees more aware of how to make the workplace more inclusive and better for everyone

(Dong et al. 2013; Kaye et al. 2011). When a company is more disability inclusive, employee turnover rate is lower by up to 30% (Accenture 2018).

The second layer of the disability inclusion discourse is providing accommodations bringing benefits for organizations and employees. Studies show that organizations that provide accommodations for disabled employees report multiple benefits as a result, including (1) accommodations allow organizations to retain talents; (2) accommodations eliminate the costs of training a new employee; (3) accommodations improve disabled employees' interactions with coworkers; (4) accommodations increase overall productivity; and (5) accommodations increase overall employee morale (Job Accommodation Network 2018; Schartz et al. 2006; Waisman-Nitzan et al. 2019).

4.2.5. Outcomes of Specialized IS in the Accommodation Process

The two vendors' and three organizations' interviews along with relevant archival files highlighted outcomes of specialized IS in the accommodation process, including: (1) an interactive process helps make more informed decisions and improve collaboration; (2) a formal process legitimizes disability accommodations; (3) a specialized IS improves efficiency and morale of the HR team; and (4) a specialized IS helps reduce legal risks and litigation costs.

First, an interactive process provided by the specialized IS helps organizations make more informed decisions. It helps make sure that stakeholders ask all the questions and gather all the needed information before they make an accommodation decision. In addition, all the stakeholders involved in the accommodation process have access to the specialized IS and can see related information in the system. This makes sure that they communicate based on shared information and collaborate at each step throughout the accommodation process.

Second, a formal process offered by the specialized IS legitimizes disability accommodations. Take medical leave as an example. Prior to adopting a specialized IS, a perception that if someone was on a leave of absence that they were gaming the system or abusing their rights often existed. After adopting a specialized IS by putting a formal process in place, organizations are able to make the process very transparent to every employee and follow the process for everyone who requests

a medical leave. Knowing that a formal process is followed, people understand a fair decision that is going to be made and someone really does need the accommodation.

Third, a specialized IS improves efficiency and morale of the HR team. Prior to adopting a specialized IS, the HR team is loaded with a lot of paperwork and manual accommodation procedures. The automation function of the specialized IS improves efficiency for the HR team. It automates out of the routine tasks that are not value added and then allows the HR specialists to focus on the people that need their help the most. These specialists can be more strategic in how they work. As a result, such specialized IS practice improves morale of the HR team.

Fourth, a specialized IS helps reduce legal risks and litigation costs. It limits legal risks and litigation risks because stakeholders follow all the steps and document related information in the system and thus the chances of making a bad decision that could cause potential lawsuits are smaller. Organizations also have accommodation-related information handy in the specialized IS when they need to share such information with the EEOC. Additionally, the specialized IS also provides stakeholders with resources of different laws and regulations that help them take the big picture into perspective when making accommodation decisions.

4.3. Mobilization

RQ3: How has specialized IS in the accommodation process been promoted?

Four themes emerged from the two vendors' interviews along with other major vendors' archival files regarding the promotion of specialized IS in the accommodation process, including: (1) promotion channels; (2) promotion teams; (3) benefits of accommodation management systems; and (4) meanings of accommodation management systems.

First, vendors use various channels to promote their accommodation management products and services. The first channel is the DMEC as the largest absence and disability management organization in the U.S. The major vendors in the field are often the sponsors of this event. They present their latest products, services, and strategies regarding absence and accommodation management in this event. The second channel is Google AdWords and other search engines.

The third channel is through consultants. Organizations often work with consultants to define their accommodation policies, practices, and processes. If the solution is outsourcing, these consultants would help promote vendors' products and services that fit with the organizations' practices.

Second, vendors provide a variety of teams to help organizations with accommodation management. For example, one of the vendors I interviewed has a marketing team, IT development team, quality assurance team, implementation team, and customer success team. In particular, the implementation team and the customer success team are the frontlines to support organizations to successfully implement and operate the accommodation management system. From the beginning of a project, the implementation team discusses with a client about their accommodation management needs and configures the accommodation management software to meet the client's needs. During the post-implementation stage, the customer success team meets with the client regularly to monitor the outcomes of the accommodation management system and make any changes the client may need.

Third, evident from the vendors' interviews along with other major vendors' archival files are five major benefits of adopting an accommodation management system, including (1) formal and consolidated accommodation process, (2) improved efficiency, (3) labor costs reduction, (4) better compliance, and (5) improved employee experience. These benefits are highly related to the discourse of accommodation management systems. (1) The first benefit is a formal and consolidated accommodation process. As a vendor indicated, "You want to make sure you're taking all the right steps that you're treating people the same way every time that an accommodation has [been] requested." (2) The second benefit is improved efficiency. The clients of the vendors reported saving a significant amount of time when using an accommodation management system to process accommodation requests. (3) The third benefit is associated with improved efficiency, which also reduces costs. For instance, an organization may need a team of 20 if they process accommodation requests manually on spreadsheets and email merges. After adopting an accommodation management system, the organization can reduce the cost of labor by having a team of 10. (4) The fourth benefit is better compliance. With the increasing number of lawsuits related to disability and accommodation, organizations need to have a better solution

to comply with laws and regulations. An accommodation management system can help organizations conduct right steps in the accommodation process and document related information. (5) The fifth benefit is improved employee experience. According to the vendors I studied, an accommodation management system along with a formal accommodation process can help provide accommodations employees need and increase employees' productivity in the workplace.

Fourth, IS vendors help construct the organizing vision of the specialized accommodation management systems, create meanings of the specialized IS, and thus promote the specialized IS to more clients. These vendors create and promote the meanings of the specialized accommodation management systems through their websites, their presentations at the DMEC, and other marketing documents. They center the meanings of the specialized IS on taking care of employees. The specialized IS focusing on interactive processes will improve employees' accommodation experiences, enable inclusion and empathy at work, and increase employees' productivity and morale.

5. DISCUSSION

I integrated the results and filled them into the framework of the institutional production of the organizing vision (see Figure 2) so that we can have a better and more holistic understanding of how the organizing vision of the specialized IS has evolved as well as highlight the important aspects in this process.

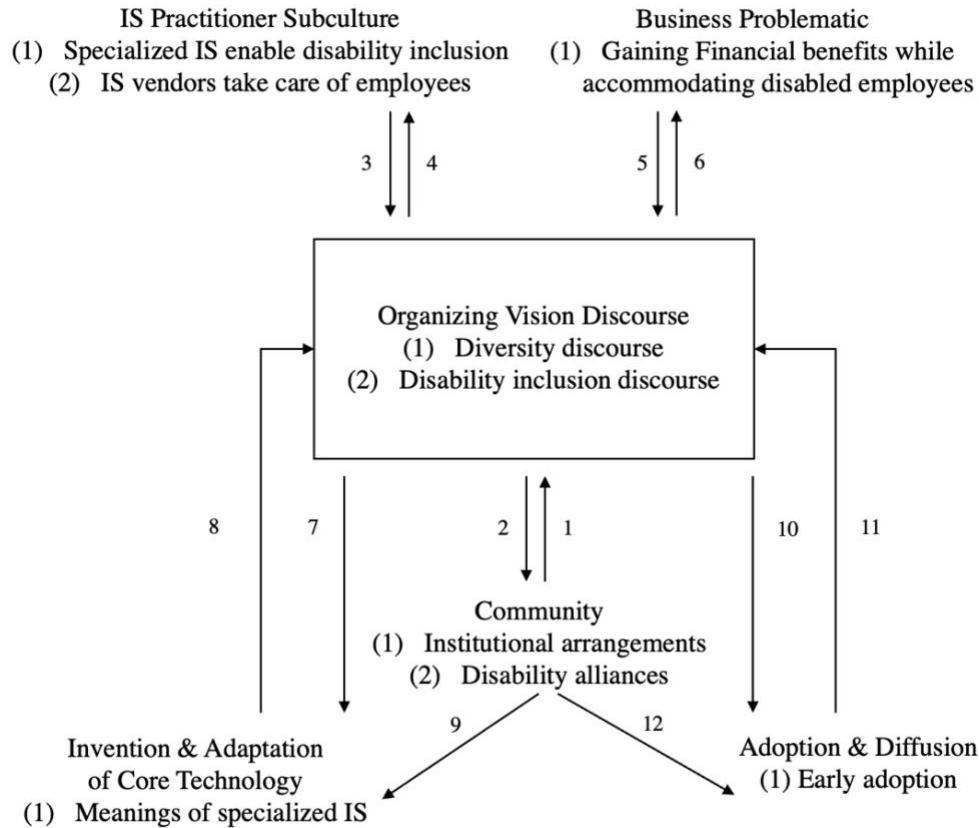


Figure 2. Institutional Production of the Organizing Vision of Specialized IS in the Accommodation Process

5.1. Discourse

The discourse of specialized IS in the accommodation process is part of the diversity discourse and the disability inclusion discourse. A major challenge in social inclusion practices (particularly, disability inclusion in the present study) is the awareness issue (Kaye et al. 2011; Moon and Baker 2012; Solstad Vedeler and Schreuer 2011; Stergiou-Kita et al. 2014). This also reflects in the development of the organizing vision discourse. Not until recent years, the industry and research community has recognized diversity includes people with differing abilities and integrating disabled employees can improve organizational financial performance, innovation, and employee morale. The evolution of such diversity and disability inclusion discourse is a foundation to further develop the discourse of specialized IS to facilitate the accommodation process for disabled employees. Only when organizations start to understand the

importance of diversity and disability inclusion, they are willing to invest in the specialized IS and improve disabled employees' experience.

5.2. Community

In the accommodation context, institutional arrangements play an important role in forming a community of the application of specialized accommodation management systems. The laws and regulations related to disability and accommodation have made the interpretations of specialized accommodation management system clear over time. This system consists of a formal process, an interactive process, specific roles for coordinating the accommodation process, a special budget for providing accommodations, and other resources for supporting stakeholders in the accommodation process. Since these laws and regulations mainly require federal agencies' compliance, federal agencies take part in the organizing vision discourse earlier than private sector employers do. The private sector employers' disability alliances had not been formed until ten years ago. Two milestone events were the first DMEC FMLA/ADA Employer Compliance Conference that was held in 2012 and the DEI for private sector employers that was published in 2015. This finding has implications for other similar settings of mandated compliance regarding IS implementation, such as IS security de jure standards implementation in government organizations (Backhouse et al. 2006; Smith et al. 2010). In these settings, we need to pay attention to the role of policy makers and institutional factors in the development of the discourse.

5.3. IS Practitioner Subculture

The IS practitioners (specialized IS vendors) play a critical role in the development and spread of the specialized IS discourse. They contribute to the knowledge of specialized accommodation management systems, promotion channels, as well as promotion teams. Technology used in the specialized accommodation management systems is not a new state-of-the-art technology. This technology is not much different from the technology used in a system through which new employees request computers. As indicated earlier, the awareness issue is a major challenge in social inclusion topics. Once the disability alliances across industries were created (Two milestone events: the first DMEC FMLA/ADA Employer Compliance Conference was held in 2012 and the DEI for private sector employers was published in 2015), specialized IS vendors

began providing these products and services to their clients around 2015. Since then, these vendors have constructed the organizing vision of the specialized IS. Although such system may not have a new state-of-the-art technology, this system is unique in fitting with the characteristics of the accommodation process, such as interactive discussions among stakeholders, mandated legal compliance, and social inclusion components. This organizing vision and the IS practitioner subculture have reciprocal effects on one another over time. The specialized accommodation management system that fits with the social characteristics of the accommodation process is considered as a tool to enable disability inclusion. Reciprocally, many vendors set up their missions and values as taking care of employees by focusing on interactive processes, integrating data in one system, and offering fair and consistent procedures.

5.4. Business Problematic

The business problematic for the specialized accommodation management systems relates the organizing vision to organizations' financial benefits. Many organizations concern about business costs of providing accommodations (Breen et al. 2019; Coole et al. 2013; Ekberg et al. 2016; Kaye et al. 2011; Khayatzadeh-Mahani et al. 2020; Kuznestsova and Yalcin 2017). Since 2018, research and practice have increasingly recognized that integrating disabled employees can improve organizational financial performance, innovation, and employee morale, which outweigh the costs of providing accommodations (Accenture 2018, 2020; Job Accommodation Network 2018). Specifically, disability inclusion can bring benefits for organizations as well as providing accommodations can bring benefits for both employees and organizations. This trend addresses organizations' cost concerns and strengthens the disability inclusion discourse. This trend also intertwines with the formation of the disability alliances, which further legitimizes and promotes the use of specialized IS to facilitate the accommodation process and integrate disabled employees into the workplace.

5.5. Invention and Adaptation of Core Technology

The organizing vision of the specialized accommodation management systems addresses the organizational application of the technical artifacts. Over time, this application evolves, from only designing a formal process, to emphasizing interactive dialogues, to assigning specific roles to coordinate the process. This progress is heavily influenced by the institutional

arrangements as well as the disability alliances. Moreover, with the reinforcement of the diversity discourse and the disability inclusion discourse over time, the organizing vision of the specialized IS gives meanings to the technical artifacts, including better compliance, improved efficiency and morale for HR specialists, more inclusive experiences for disabled employees, and better financial performance for organizations.

5.6. Innovation Adoption and Diffusion

The adoption of the specialized accommodation management systems is still in its early stage. To my knowledge, no disability associations have collected the data about how many organizations have adopted a specialized accommodation management system. From the two vendors I interviewed that were actively involved in the DMEC, one had around 40 clients, the other had around 200 clients, across various industries and organizational sizes in the U.S. The major reasons why the organizations have adopted the specialized IS include better compliance, improved efficiency and morale for HR specialists, and improved employee experience. These reasons for adoption match the current organizing vision discourse of the specialized IS. I believe as the overall diversity and disability inclusion discourse become increasingly important in society, more and more organizations will seek a better way to include and accommodate their employees. As academic researchers, we should also contribute to this important discourse regarding how to utilize IS to enable social inclusion. We could gather more evidence and experiences from vendors and early adopters of specialized accommodation management systems. Although all the specialized accommodation management systems have similar structures, roles, tasks, and processes, it is interesting to compare the third-party and in-house accommodation management systems and study the trends of the discourses of the two types of specialized IS.

6. CONTRIBUTIONS AND FUTURE RESEARCH

This study contributes to organizing vision literature by building an organizing vision of specialized IS in the accommodation process. The specialized IS consists of a formal and interactive accommodation process, special budget for providing accommodations, and other resources for supporting stakeholders in the accommodation process. The outcomes of the specialized IS include helping organizations comply with laws, increasing HR staff's efficiency

and morale, as well as improving disabled employees' interactive accommodation experiences. This organizing vision is part of a broader diversity discourse and disability inclusion discourse. Institutional arrangements initiate this organizing vision by mandating disability employment and accommodation provision. Disability alliances give more meanings of this organizing vision such as disability inclusion improving organizational financial performance. IS practitioners promote this organizing vision by focusing on enabling social inclusion and taking care of employees. Early adopters apply specialized IS in their accommodation processes because of the benefits delivered by this organizing vision including better compliance, improved efficiency and morale for HR specialists, and improved employee experience. Compared to the organizing vision literature in the healthcare context (Davidson et al. 2015; Paré et al. 2020) and the Internet of Things (Currie 2004; Prince et al. 2014), the plausibility of an organizing vision often includes increasing efficiency and improving customers' experiences. A significant difference between the organizing vision of specialized accommodation management systems and other IS innovations' organizing visions is that the former does not directly reduce organizational business costs like other IS often do. In contrast, many organizations concern about business costs of providing accommodations, which negatively affects the adoption of specialized IS in the accommodation process. Therefore, it is important to emphasize the business benefits of adopting such IS such as improving organizational financial performance and innovation by integrating disabled employees and various perspectives into the workplace. Moreover, IS innovations are often influenced by complex institutional arrangements such as government and industry regulation as well as societal values (Currie 2004; Davidson et al. 2015). The organizing vision of specialized accommodation management systems echoed the existing literature regarding this finding.

Moreover, this study contributes to social inclusion literature by demonstrating empirical use of the organizing vision theory in the social inclusion literature. First, since the social inclusion context often involves legislators and mandate such as digital inclusion in underdeveloped countries and regions as well as Web accessibility (Lazar et al. 2004; Mbiti and Weil 2011; Selwyn 2004), we need to pay attention to the role of policy makers and institutional factors in the development of the organizing vision of such IS. Second, since the awareness issue is a major challenge in the social inclusion context, the organizing vision of such IS is often part of a

broader social inclusion discourse. Third, the IS used to enable social inclusion may not be a new state-of-the-art technology. IS practitioners along with the alliances play an important role in giving new meanings of the technology and performing the interpretations, legitimation, and mobilization of the organizing vision of this technology. Fourth, the social inclusion context is also associated with a business problematic. Connecting financial benefits with social inclusion helps address organizations' cost concerns and legitimize the investment in specialized IS to facilitate the accommodation process.

Further, this work establishes a research stream at the intersection of the organizing vision literature and the social inclusion literature. IS research has many emerging opportunities to contribute to social inclusion such as designing accessible websites and mobile apps for everyone, providing Internet access to include different groups, and offering telecommunications for developing countries and regions. Applying an organizing vision lens to these social inclusion topics help understand the adoption and diffusion of these IS innovations in an institutional environment. It offers insights on how discourse and community develop organizing visions and motivate adoptions. On the other hand, integrating the social inclusion research and the organizing vision lens provides novel insights on the legitimation of IS innovations. As discussed above, it is crucial to connect IS with a business problematic and attach new and rich meanings of IS that can help with business and enable social inclusion simultaneously.

In addition, this research offers practical implications for vendors by informing them of the strategies of promoting specialized IS by focusing on disabled employees' interactive experiences, a formal and consolidated process, as well as accommodation compliance. It also provides insights on promotion channels and teams such as utilizing resources in the alliances. In addition, it offers implications for companies of the importance of applying specialized IS in the accommodation process.

7. CONCLUSION

Accommodations are often necessary to integrate disabled people into the workplace. However, many companies are still using generic IS tools to manage their accommodation processes, while others have adopted specialized accommodation management systems. The present study used

the organizing vision lens to investigate the reasons behind the decision to adopt specialized accommodation management systems. It specifically examined the interpretations, legitimation, and mobilization of the organizing vision of accommodation management systems. It built an integrated framework for the organizing vision of specialized IS in the accommodation process in order to provide a better and more holistic understanding of how the organizing vision has evolved as well as highlight the important aspects in this process. The present study also demonstrated empirical use of the organizing vision theory in social inclusion literature and emphasized the uniqueness of IS organizing visions in the social inclusion context. Moreover, this work offered companies and vendors of the importance and strategies of applying specialized IS in the accommodation process.

APPENDIX A

Table A1. Included Management Journals

Journal Title	Journal Impact Factor	Category
Academy of Management Annals	12.289	Management
Academy of Management Review	10.632	Management
Journal of Management	9.056	Management
International Journal of Management Reviews	7.6	Management
Academy of Management Journal	7.191	Management
Annual Review of Organizational Psychology and Organizational Behavior	7.179	Management
Personnel Psychology	6.93	Management
Leadership Quarterly	5.631	Management
Journal of Applied Psychology	5.067	Management
Journal of Organizational Behavior	5	Management
Journal of Human Resources	3.857	Industrial Relations & Labor
Sloan Management Review	3.036	Management
Human Resource Development Quarterly	3	Management; Industrial Relations & Labor
Human Resource Management	2.934	Management
Human Resource Management Journal	2.834	Management; Industrial Relations & Labor
Work and Occupations	2.655	Industrial Relations & Labor
Administrative Science Quarterly	2.63	Management
Industrial and Labor Relations Review	2.198	Industrial Relations & Labor
Journal of Industrial Relations	1.714	Industrial Relations & Labor

Table A2. Included Disability Journals

Journal Title	Journal Impact Factor	Category
Autism	3.898	Developmental Psychology
Autism Research	3.697	Developmental Psychology
Journal of Attention Disorders	3.656	Developmental Psychology
Journal of Autism and Developmental Disorders	2.786	Developmental Psychology
Journal of Learning Disabilities	2.578	Rehabilitation
Journal of Fluency Disorders	2.349	Rehabilitation
Psychiatric Rehabilitation Journal	2.27	Rehabilitation
Journal of Occupational Rehabilitation	2.242	Rehabilitation
Annals of Dyslexia	2.171	Rehabilitation
Learning Disabilities Research & Practice	2.077	Rehabilitation
Disability and Rehabilitation	2.054	Rehabilitation
Journal of Intellectual Disability Research	1.941	Rehabilitation
Research in Developmental Disabilities	1.872	Rehabilitation
Research in Autism Spectrum Disorders	1.799	Rehabilitation; Developmental Psychology
Research and Practice for Persons with Severe Disabilities	1.795	Rehabilitation
Journal of Applied Research in Intellectual Disabilities	1.769	Rehabilitation
Journal of Speech Language and Hearing Research	1.749	Rehabilitation
American Journal on Intellectual and Developmental Disabilities	1.742	Rehabilitation
Brain Injury	1.665	Rehabilitation
Disability & Society	1.613	Rehabilitation
Intellectual and Developmental Disabilities	1.582	Rehabilitation
Dyslexia	1.568	Rehabilitation
Journal of Deaf Studies and Deaf Education	1.556	Rehabilitation
Learning Disability Quarterly	1.525	Rehabilitation
Journal of Intellectual & Developmental Disability	1.467	Rehabilitation
Focus on Autism and Other Developmental Disabilities	1.327	Rehabilitation; Developmental Psychology
Journal of Disability Policy Studies	0.854	Rehabilitation

APPENDIX B

Interview Protocol

(For vendors)

Organization: _____

Interviewee (Title and Name): _____

Introductory protocol: Thanks for taking the time to talk with me. The goal of this research is to look at workplace accommodation processes and the role of information systems (IS) play in these processes.

During the interview, I will focus on your experiences with your accommodation management products and services.

I have sent you the consent form. Do you have any questions before we begin?

If answer is “YES”, answer questions and then proceed to interview questions.

If answer is “NO”, proceed to interview questions.

Would it be okay if I record this interview?

If answer is “NO”, confirm that you will not be recording the interview and continue with interview.

If answer is “YES” [I turn on the recording.] I just have to ask you again so we have it on the recording, would it be okay if I record this interview?

Background items for interviewee:

1. Please briefly describe your experience with disability/accommodation products/services.
[ORG-STRUCTURE] What is the structure of departments related to the accommodation management software? How many people are in the departments?

[YEAR OF EMPLOYMENT] How long have you been at your organization?

Overall accommodations: These questions look at accommodation management software you are familiar with.

2. Please walk me through your accommodation management products/services.

[PRODUCT/SERVICE] How long have you developed your accommodation management products/services?

[USER] How many organizations have used your accommodation management products/services? What industries are your clients in?

[IS] What part of the accommodation process (when employment/at work) uses accommodation management software? (a blank sheet of paper)

[IS-FEATURES] What are the features of IS?

[IS-FEATURES-CONTROL] How does an organization use IS to track accommodations/disabled employees cases?

Does the software help order accommodations? Who enters the order? Does the software help implement accommodations (IT ticketing system)? Who enters the ticket?

How does your accommodation management software integrate into organization's current computer management systems?

What kinds of analysis reports, if any, does IS generate? (trends, costs) Who have access to analysis reports?

In what ways has IS made the tracking/organization of the accommodation process better? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-INFO] What information do you fill in? How do you enter/sort data? Who enter the historical information into IS? (standard(?) entry forms, upload files?) If entry forms, could you send me an example? Can you provide me an example? How do you store/delete historical data? Who has access to data? Who can delete data?

What is the interface like? What is the navigation like? Could you send me a screenshot/template?

What, if anything, would you change about this part of IS (i.e., improvements)?

Are IS organized so that they adequately support different types of disabilities and accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Are IS organized so that they adequately support different types of job duties/departments? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Are IS organized so that they adequately support different state law requirements? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-COMM] What IS are used for communication among stakeholders? In what ways? (When implementing accommodations) What, if anything, would you change about this part of IS (i.e., improvements)?

How internal stakeholders communicate with each other? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-MISSING] What are other features of IS? What is missing in those IS that would be helpful to an organization?

[IS-STRUCTURE] How well do the features of IS match the structure of the accommodation process?

[IS Outcomes-Disclosure and Request] How does IS impact the disclosure and request rate? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Request Approval] How does IS impact the decisions to approve accommodation requests? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Communication] How does IS impact the communication and collaboration among stakeholders in the accommodation process? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Implement Decisions] How does IS impact the decisions to implement accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Quality of Accommodating] How does IS impact the quality of accommodating? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Social Inclusion] How does IS used in the accommodation process impact reputation and moral of organizations? (more disabled applicants and retention, supervisors' and coworkers' attitudes) Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Legal] How does IS impact litigation costs/risks for organizations? (fewer charges) Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-INTRO-PROMOTION] How did you promote IS to clients? How might go into a response? What is your business model? Who pays for the services (insurance, government)?

[IS-INTRO-COST] How much does your accommodation management software cost?

[IS-INTRO-IMPLEMENTATION] What is the process of the IS implementation like? How does an organization work with you during implementation?

[IS-INTRO-GO LIVE] How does an organization support IS in the accommodation process? In what ways do you support the organization?

[IS-INTRO-FACTORS] Do you know what prompted an organization to introduce IS into the accommodation process?

[IS-INTRO-FACTORS] Who/Which department, if any, had the greatest influence on the decision of adopting IS in the accommodation process? [Could I talk with them?]

[IS-INTRO-CHANGES] How IS changed the previous accommodation process? What, if any, were the issues with the previous process? How are such issues resolved now?

[Training]

What kinds of trainings (including what) do you provide to users? When (before, implementation, after) provides trainings? Who provides trainings? Who attends trainings?

Accommodation process: These questions look at the accommodation process you are familiar with.

3. When using your accommodation management products/services, please walk me through the accommodation process in an organization. Where does it fit into the accommodation process? (Use an example of accommodations)

[Steps] (a blank sheet of paper)

[Disclosure and Request] How do disabled employees disclose their disabilities and request accommodations? Who do they disclose and request to?

[Request Approval Factors] What factors impact (facilitate and/or impede) the approval or denial of requested accommodations?

[Gather Documentation] How does an organization gather documentation for approving accommodation requests?

[Negotiation] How do stakeholders communicate after an accommodation request is made? What kinds of things might go into a response?

[Negotiation Factors] What factors impact (facilitate and/or impede) the exploration and decision making of accommodation options?

[Implementation-Procurement] How does an organization buy accommodations if needed?

[Implementation-Tracking] How does an organization document accommodations?

[Implementation] In what ways, if any, does an organization communicate to employees when implementing accommodations? (How to install/use them?) What kinds of things might go into a response?

[Ongoing Support] In what ways, if any, does an organization communicate to employees with disabilities after an accommodation request is implemented? What kinds of things might go into a response?

Two possible causes: (1) Nature of disability changes or (2) Accommodation itself wears out/is old and needs to be upgraded.

[Ongoing Support-Disability Changes] Sometimes disabilities change and require new or different accommodations. Please describe your experiences with such type of ongoing support.

[Ongoing Support-Outdated Accommodations] Sometimes accommodations become old or obsolete. Please describe your experiences with such type of ongoing support.

[People] Who (stakeholders/departments) are involved in the process? (a blank sheet of paper)

[Role] What role does each person play?

[Coworkers] Are coworkers engaged in the process? If so, how?

[Greatest Influence] Who, if anyone, has the greatest influence on the outcome of an accommodation?

[Policy and Legal]

[Accommodation Process-Legal] How does your accommodation management software comply with laws, policies, and regulations such as the ADA or state laws? Could you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Reflection questions for interviewee:

[Reflection-IS] What have been benefits and/or challenges about the use of IS? [If answer is challenge] How do you evaluate IS? Are there any issues? How have you dealt with those issues? [If answer is benefit] What problems does your accommodation management software solve? How IS-FEATURES might address AP-CHALLENGES?

Thank you so much for answering the questions so far. We're just about at the end. Is there anything else that you would like to add? Is there anything that you thought I should have asked about the accommodation process, but didn't? Is there anything you feel I missed or didn't give you a chance to respond?

This has been great. You have given me a lot to think about. Thanks so much for your valuable input.

Do you have any forms, process chart, policy chart, training materials, you might be willing to share?

Do you mind if I contact you if I have any additional questions after I look over my notes? YES or NO

Do you have any suggestions about who else I should talk to next? Team members in your organization and your clients?

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Paper Two: The Information Systems Legitimation Strategies From A Multi-dimensional Value Generation Perspective

Abstract

Research on information systems legitimation (IS) strategies has largely focused on the contexts where organizational groups can agree on the value generated by IS and the power relations among different groups are balanced. However, the existing studies cannot explain IS legitimation in the contexts where dominant groups and marginalized groups may have conflicting interests in the multi-dimensional values generated by IS. The intent of this research is to closely examine IS legitimation from a multi-dimensional value generation perspective. Through the analysis of three empirical case studies, I build a theoretical model to specifically examine the selection and execution of IS legitimation strategies according to external contingencies, social characteristics of organizational processes, and organizational identities. Moreover, this work emphasizes the importance of the IS normative legitimation strategy in a multi-dimensional value generation context and uniquely identifies three approaches of the normative strategy raising awareness of marginalized groups and addressing power inequality, including individual, social, and moral approaches. The findings can be generalized to the traditional economic value generation context where there are disagreement and power inequality among various groups.

Keywords: Information systems (IS) legitimation strategies, strategies selection and execution, IS normative legitimation strategy, multi-dimensional value generation perspective.

1. INTRODUCTION

Making information systems (IS) legitimate and accepted by stakeholders is essential for successful assimilation of IS in organizations (Flynn and Du 2012; Flynn and Hussain 2004; Hussain and Cornelius 2009; Kaganer et al. 2010). Legitimacy refers to “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.” (p. 574, Suchman 1995). The IS legitimation process focuses on construing a new IS practice as congruent with organizational norms, values, beliefs, and definitions (Johnson et al. 2006). When the two sides are not consistent, users may take actions to undermine the use of IS. Hence, IS legitimation process is complex and should be closely examined on how to resolve the inconsistency gap.

Studies investigating the legitimation process identified four IS legitimation strategies used by organizations (Kaganer et al. 2010; Lynn et al. 2018; Paré et al. 2020; Rosati et al. 2021): cognitive, pragmatic, normative, and regulative. Cognitive strategies relate to the spread of knowledge about an IS innovation (Kaganer et al. 2010; Lynn et al. 2018). Pragmatic strategies are associated with traditional economic and rational view of an IS design (Golant and Sillince 2007; Lynn et al. 2018; Paré et al. 2020). Normative strategies, in contrast, are in line with the altruistic pro-social logic of promoting social justice and well-being (Kaganer et al. 2010; Paré et al. 2020). Finally, regulative strategies are related to conformation with laws and regulations (Lynn et al. 2018; Rosati et al. 2021). Contextualized in the fields of healthcare, social media, and blockchain, the existing IS legitimation studies have largely focused on the role cognitive and pragmatic strategies play in highlighting tangible benefits of the IS, such as improvement on operational performance and financial values (Kaganer et al. 2010; Lynn et al. 2018; Paré et al. 2020; Ramiller and Swanson 2003; Rosati et al. 2021). As an exception, Ramotar and Baptista (2013) have focused on pragmatic and normative IS legitimation strategies in the enterprise social media context. They found that it is effective to combine these two contradicting IS legitimation strategies and mask normative strategies with economic concerns by encouraging knowledge sharing among different groups using the enterprise social media for the purpose of commercial gains (Ramotar and Baptista 2013). This approach of masking normative strategies with economic concerns is valuable in contexts where (1) all groups impacted by the IS are in agreement about the value it generates and (2) power relations among different groups are

balanced. However, this view may have limited applicability in contexts where IS may serve to generate multi-dimensional values for organizations and different groups have divergent interests in these values. In such contexts, marginalized groups may have conflicting goals with dominant groups and organizations that primarily pursue traditional economic values. Thus, marginalized groups and dominant groups may not easily agree on the decisions pertaining to IS development. Moreover, power inequality among these two groups, which has been created and perpetuated in a political, social, and historical context, results in unequal access to information and unequal representation or influence on decision making (Campbell 2008; Hosking 2008; Myers and Klein 2011; Rioux and Valentine 2006). Therefore, masking normative strategies with economic concerns does not consider non-economic forces and the diverse interests of various groups. Moreover, this approach does not address structural inequality between marginalized groups and dominant groups (Chatterjee et al. 2009; Stahl 2012). These influence the achievement of IS legitimacy.

This research aims to answer the following question: How do organizations make IS legitimate from a multi-dimensional value generation perspective? The present study is contextualized in the workplace accommodation process setting for disabled employees where IS serve to generate multi-dimensional values and different groups have divergent focuses on these values. I examine how to use IS legitimation strategies to achieve IS legitimacy through three empirical cases. Additionally, the existing studies have mainly focused on the selection of IS legitimation strategies, however, they have not investigated the execution of these strategies, which causes ambiguity in how IS legitimation strategies actually work. The present study goes further and examines the execution of IS legitimation strategies in order to provide an in-depth understanding of how to achieve IS legitimacy over time and highlight the importance of IS legitimation monitoring activities.

This research offers insights into how to select and execute IS legitimation strategies to help achieve IS legitimacy from a multi-dimensional value generation perspective. I discover that organizations select and execute different IS legitimation strategies according to external contingencies, social characteristics of organizational processes, and organizational identities. Moreover, organizations need to adjust IS legitimation strategies according to organizational

identities as IS legitimation monitoring activities. When organizational identities do not fit the marginalized group's interest, organizations tend to adjust the pragmatic strategy to compromise on diverse values and focus on the dominant group's interest. When organizational identities fit the marginalized group's interest, organizations may strengthen the normative strategy to emphasize diverse values and empower the marginalized group. This study highlights the importance of the normative legitimation strategy in a multi-dimensional value generation context. This work uniquely identifies three approaches of the normative legitimation strategy promoting social welfare and values, including individual, social, and moral approaches. The theoretical and practical implications of executing the three approaches of the normative strategy include considering individual differences and social factors as well as addressing structural inequality between disabled employees and the dominant group in organizations.

2. LITERATURE REVIEW ON IS LEGITIMATION AND RELEVANT STRATEGIES

As stated earlier, the definition of legitimacy is based on the Suchman's (1995, p. 574) interpretation of legitimacy as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions." In this study, I am particularly interested in IS legitimation, which is the process of obtaining IS legitimacy.

The IS legitimation studies have mainly focused on (1) individual adoption of IS within organizations (Davis 1989; Goodhue and Thompson 1995; Venkatesh and Davis 2000; Venkatesh et al. 2003), (2) process studies of IS legitimation within organizations (Du and Flynn 2010; Flynn and Du 2012; Flynn and Hussain 2004; Flynn and Puarungroj 2006; Hussain et al. 2004), (3) legitimation strategies across organizations (Kaganer et al. 2010; Lynn et al. 2018; Pawlowski et al. 2006; Swanson and Ramiller 1997; Wang and Swanson 2007), and (4) variations in IS legitimation (Barrett et al. 2013; Davidson et al. 2015; Garud et al. 2002; Guillemette et al. 2017; Miranda et al. 2015; Nicolini 2010; Nielsen et al. 2014; Wang 2009).

(1) Individual IS adoption studies: The individual adoption studies emphasize individual behavior intention or satisfaction concerning IS acceptance. Well-established models such as the Technology Acceptance Model (TAM) (Davis 1989), TAM 2 (Venkatesh and Davis 2000),

Task-Technology Fit (Goodhue and Thompson 1995), and the Unified Theory for the Acceptance and Use of Technology (Venkatesh et al. 2003) fall under this category. A major limitation of these studies is that they focus on the technological value of innovations and the characteristics of individual adopters, but do not adequately identify the social processes influencing the adoption outcomes (Lynn et al. 2018; Silva 2007).

(2) IS legitimation process studies: Another stream of research examines the process of IS legitimation. These studies focus on how IS project teams seek IS legitimacy within organizations. They reveal that the legitimation seeking process is a continuous process, which involves the iteration of legitimation gaining, maintaining, and repairing activities.

Flynn and Hussain (2004) proposed a Legitimation Activity Model, later updated to the Integrated Legitimation Activity Model (Du and Flynn 2010), to describe a micro-political process of a legitimation seeker (LS) seeking legitimation from a legitimation provider (LP). A LS is often an IT manager and a LP is a user of the IS. A legitimation structure that presents what is or is not an acceptable social practice includes an object (the artefact, belief, or activity which is legitimated or not), the reasons for granting/withholding legitimacy, underlying values of the reasons, and the granting or withholding of legitimacy for the object (Flynn and Hussain 2004; Hussain et al. 2004). The legitimation process includes constructing a desired legitimation structure (target) by LS, identifying LPs who are concerned about IT-related changes, learning legitimation structures of LPs, comparing the target to legitimation structures of LPs, carrying out tasks to close a legitimacy gap between perceptions of the IS by its users and the norms in an organization, granting legitimacy, and monitoring legitimacy (Du and Flynn 2010; Flynn and Du 2012; Flynn and Hussain 2004; Flynn and Puarungroj 2006; Hussain et al. 2004; Klein and Hirschheim 1989). In order to close the legitimacy gap, tasks need to be carried out, such as changing some IS characteristics, or, alternatively, changing organizational norms (Flynn and Du 2012; Soh and Sia 2004).

(3) IS Legitimation strategy studies: An increasing number of studies recognize the role of institutional entrepreneurs in promoting IS diffusion through discourse in the focal community, which leads to another aspect of the mainstream IS legitimacy studies—legitimation strategies

across organizations. The legitimation strategies studies are highly related to organizing vision studies and institutional theory. From an institutional perspective, legitimation strategies are applied to form an organizing vision, garner legitimacy for an IS innovation, and thus promote the adoption and diffusion of the IS innovation (Wang 2010). This stream of studies looks at IS legitimacy in a collective environment where adopters, IT vendors, consultants, investors, journalists, analysts, academics, and other institutional entrepreneurs are interested in developing the legitimation discourse, forming a shared organizing vision of the IS innovation, and thus shaping the diffusion of the IS innovation among organizations (Paré et al. 2020; Suddaby and Greenwood 2005; Swanson and Ramiller 1997).

Swanson and Ramiller (1997) define an organizing vision as “a focal community idea for the application of IT in organizations” (p. 460), which is an institutional view of how a new technology comes to be applied and diffused among organizations (Swanson 2002). The three basic functions of organizing visions help facilitate and shape diffusion of IS innovations (Swanson and Ramiller 1997, 2004). These functions are legitimation, interpretation, and mobilization. The function of legitimation is related to the soundness of the rationale to adopt an innovation, the fitness of major business and organizational needs, as well as the reputation of social actors who promote and adopt the innovation (Kaganer et al. 2010; Swanson and Ramiller 1997).

Wang and Swanson (2007) investigate two types of legitimation strategies (cognitive and sociopolitical). Cognitive legitimation strategies highlight “the spread of knowledge” about an innovation (Wang and Swanson 2007). Cognitive strategies underscore the importance of developing coherent labels and content of the organizing visions for an IS innovation. Sociopolitical legitimation strategies require community members to accept an innovation as “appropriate and right” (Aldrich and Fiol 1994, p. 648). It is critical for institutional entrepreneurs to incorporate definitive success stories from users and vendors into the organizing vision for an IS innovation.

Kaganer et al. (2010) extend Wang and Swanson’s work and delve deeper into understanding the role of legitimation in shaping diffusion of IS innovations. Kaganer et al. examines four

legitimation strategies and institutional basis on which legitimation is granted. Several categories of legitimation strategies exist in the literature (Aldrich and Fiol 1994; Stryker 1994; Suchman 1995). Except cognitive legitimation, studies classify pragmatic, normative, and regulative legitimation (Kaganer et al. 2010). The institutional basis for cognitive and pragmatic legitimation is cultural-cognitive, for normative legitimation is normative, and for regulative legitimation is regulative. Kaganer et al. (2010) later refine the generic legitimation strategies and construct the IT legitimation taxonomy IT vendors employ to pursue legitimacy of Computerized Physician Order Entry systems. Several subsequent studies apply the IT legitimation taxonomy proposed by Kaganer et al. (2010) and the four legitimation strategies in the healthcare, social media, and blockchain industry (Lynn et al. 2018; Paré et al. 2020; Rosati et al. 2021). First, as mentioned earlier, cognitive strategies relate to the spread of knowledge about an IS innovation, consisting of system, implementation, and diffusion-related strategies (Kaganer et al. 2010; Lynn et al. 2018). Second, pragmatic strategies are associated with traditional economic and rational view of an IS design and involve the evaluation of the IS's utility and self-interest to stakeholders, encompassing value, alliance, and reputation-related strategies (Kaganer et al. 2010; Lynn et al. 2018; Paré et al. 2020; Rosati et al. 2021). Third, normative strategies are in line with the altruistic pro-social logic of promoting social justice and well-being (Kaganer et al. 2010; Paré et al. 2020). The existing studies related to IS legitimation strategies have unanimously found that institutional entrepreneurs focus more on cognitive and pragmatic strategies (Kaganer et al. 2010; Lynn et al. 2018; Paré et al. 2020; Rosati et al. 2021). The social orientation of the normative strategies makes them more difficult to accomplish through traditional self-interested and rational approaches of IS development (Kaganer et al. 2010). Last, regulative strategies are consistent with compliance strategies conforming to laws and regulations (Kaganer et al. 2010). Strictly speaking, they can only be used when the aspects of an IS use are mandated by a formal authority (Kaganer et al. 2010).

While it is important to understand legitimation strategies developed by institutional entrepreneurs, this stream of existing studies focuses more on the shared vision of IS innovations and the traditional institutional perspective of stability and similarity. It does not account for the dynamics of competing discourses as they emerge in the legitimation process (Barrett et al. 2013;

Nielsen et al. 2014). Thus, we know less about how these strategies interplay and legitimize IS innovations.

(4) Variations in IS legitimization studies: This stream of studies mainly highlights variations in IS legitimization discourses by diverse actors in the focal community. These studies account for actors' diverse interests across organizations and examine how the ensuing dynamics influence the diffusion of IS innovations.

Wang (2009) indicates that people and organizations who have diverse interests that motivate them to adopt an innovation evolve dynamically in the focal community. They may replace an unpopular vision with more popular visions and refocus their attentions on certain legitimization discourses (Davidson et al. 2015). Similarly, Barrett et al. (2013) focus on the dynamics of competing legitimization discourses of key actors that influences the diffusion of IS innovations. A dominant institutional entrepreneur may actively ignore the existing organizing vision and develop their own organizing vision. The resulting contention for control of legitimization discourses is an intensely political process (Garud et al. 2002). IS innovations are embedded in these competing discourses which reflect and shape the values that guide the diffusion of IS innovations. Competing discourses, if persuasive, may serve as resources to provide actors with opportunities to set one norm or value against the other or to create new ones (Barrett et al. 2013; Nicolini 2010). Through reorganizing existing discourses or creating new ones, IS innovations are legitimized. Furthermore, Nielsen et al. (2014) reveal a complex and nonlinear process in which an IS was first introduced to increase efficiency and effectiveness (cognitive legitimization strategies) in the Danish home care field. Later, the idea of the IS usage was redefined and appropriated according to multiple and sometimes conflicting perceptions about the IS usage among diverse actors. Because different stakeholders have various understandings of what is legitimate, they draw on different purposes to make sense of IS (Guillemette et al. 2017). For instance, the dominant stakeholders first pursue efficiency and effectiveness; however, over time, users and trade unions focus more on social well-being brought by the IS usage. However, this study does not look into and theorize how each IS legitimization strategy is used to achieve IS legitimacy. Ramotar and Baptista (2013) investigates two IS legitimization strategies (pragmatic and normative) in the enterprise social media context. They suggest that co-opting contradicting

IS legitimation strategies and balancing their practices (market and community) are effective in achieving legitimacy of the IS that supports commercial gains and social relationships (Ramotar and Baptista 2013). The main goal of the enterprise social media is in line with traditional economic values seeking by sharing knowledge among different groups to improve sales efficiency and effectiveness. This study identifies that the “market” driven group seeks IS legitimacy by masking normative strategies with market concerns (Ramotar and Baptista 2013). For instance, the sales effectiveness group uses normative strategies to encourage knowledge sharing among different groups using the enterprise social media for the purpose of commercial gains. However, this research does not consider non-economic values and the diverse interests of various stakeholders that may have unequal access to information and unequal representation in decision making pertaining to the IS development.

The present study synthesizes existing streams of IS legitimation studies, specifically focusing on how different IS legitimation strategies interplay and help achieve IS legitimacy in a multi-dimensional value generation context. To reach this goal, I examine the legitimation strategies for accommodation management systems in three organizations.

3. METHODOLOGY

To understand the IS legitimation strategies in a multi-dimensional value generation context, I collected data from multiple sources within the three organizations that used accommodation management systems. Data analysis followed open, axial, to selective coding within each case as well as cross-case patterns search.

3.1. Case Study Context

Accommodations are often necessary to integrate disabled employees into the workplace effectively. According to Title I of the Americans with Disabilities Act of 1990 (ADA) as well as the accompanying guidance of the Equal Employment Opportunity Commission (EEOC), accommodations need to be requested, negotiated, implemented, and monitored (United States Department of Justice Civil Rights Division 1990; United States Equal Employment Opportunity Commission 2002). Some organizations use accommodation management systems to facilitate accommodation requests, negotiation, implementation, and monitoring processes prescribed by

the ADA and EEOC. Accommodation management systems are supposed to improve disabled employees' accommodation experiences and work productivity as well as promote social inclusion, which means that the IS bring about multi-dimensional values for organizations. Moreover, disabled employees may have conflicting interests with other stakeholders and overall organizations. Thus, the accommodation context fits with my research interest providing an in-depth understanding of how different IS legitimation strategies are selected and executed from a multi-dimensional value generation perspective.

3.2. Site Selection

To gain access to organizations, first, I contacted disability and accommodation experts in the field and conducted an initial research introduction meeting with each of these experts who showed interests in participating in this research. These experts introduced us to organizations that used IS in their accommodation processes. Together, I interviewed seven organizations, among which three organizations used specialized accommodation management systems to operate their processes. The four other organizations, also large organizations except one, used spreadsheets for tracking accommodations and had a database to store accommodation-related information but lacked a systematic method to facilitate the entire process. As I talked with disability and accommodation experts, I found that the current accommodation management systems used in different organizations have similar structures, roles, tasks, and processes. Therefore, I was able to use these three organizations that used specialized accommodation management systems to study how to select and execute different IS legitimation strategies.

Organization A is a multinational telecommunications organization headquartered in the United States with over 100,000 employees (see Table 1). It operates numerous retail stores with a manager (supervisor) per store. This organization developed an in-house accommodation management system to replace an outsourcing accommodation service in 2020. As the first phase of the transition project, this system currently covers medical leave requests for disabled employees.

Organization B is a multinational computing organization headquartered in the United States with over 100,000 employees (see Table 1). It is well known for its data-driven innovation and

professional talents with great character and skills. This organization developed an in-house accommodation management system to operate its accommodation process in 2019.

Organization C is a multinational computing organization headquartered in the United States with over 300,000 employees (see Table 1). It has been one of the leaders in recruiting underrepresented groups (e.g., women, LGBTQ people, people of color, and disabled people) and building a community culture that promotes equal opportunities. Some disabled employees in Organization C developed its in-house accommodation management system in 2009.

Table 1. Field Sites

Site Name	Industry	Number of Employees	Year of Introduction of the Current IS
Organization A	Telecommunications	>100,000	2020 (Phase 1)
Organization B	Computing	>100,000	2019
Organization C	Computing	>300,000	2009

3.3. Data Collection

Data collection was conducted between September 2020 and June 2021. I conducted a total of 12 semi-structured interviews in the three organizations, mostly with human resources (HR) and accommodation specialists, but also with an IT manager and supervisor (see Table 2).

Interviewees were selected based on their level of engagement in the accommodation processes and in the use of their accommodation management systems. It is worth noting that Organization B had three accommodation specialists in charge of accommodation requests in the United States and Organization C had two accommodation specialists overall, so the two selected interviewees with one accommodation specialist in Organization B and Organization C respectively were representative. An interview protocol (see Appendix A) with open-ended questions was used to gain insights into their accommodation management systems and participants' experiences in the accommodation process. The average interview length was 60 minutes. Due to confidentiality concerns, I was unable to conduct interviews with disabled employees from the same organizations. Besides the interviews, archival files such as medical evaluation form, interactive dialogue form, accommodation procedure, disability policy, and organizational mission and values were also collected from participants.

Table 2. Distribution of Interviews across Different Roles

Site Name	Total # of Interviews	Role	# of People	# of People	
				Interviewed Once	Interviewed Twice
Organization A	8	HR manager	1	0	1
		Accommodation specialist	3	3	0
		IT manager	1	1	0
		Supervisor	1	0	1
Organization B	2	Accommodation specialist	1	0	1
Organization C	2	Accommodation specialist	1	0	1
Totals: 12 interviews					

3.4. Data Analysis

I analyzed the qualitative data following a dialogical process between data and theory (Eisenhardt 1989; Klein and Myers 1999). This analysis followed Strauss and Corbin’s (1998) coding process within each case and then searched cross-case patterns (Eisenhardt 1989). The NVivo 12 software package was used to support coding and analysis. The first step, open coding, identified descriptive categories through a sentence-by-sentence analysis. As illustrated in Table 3, I attached descriptions to every interviewee statement to summarize core topics. This resulted in 172 open codes covering the broad set of concepts in 12 interviews.

Then axial coding was initiated to explore subcategories and rearrange categories within each case. I focused on the relationship between IS and the accommodation process and discovered that IS help facilitate the accommodation process from different dimensions, such as *balancing legal requirements and business needs*, *addressing variations of disabilities*, and *empowering disabled employees* (see Table 3). I also found that external contingencies are a big driver for the case study organizations to develop their in-house accommodation management systems. At this point, I started reviewing relevant literature such as IS legitimation that constructs IS practices as congruent with organizational norms and values. I went back and forth among data, coding, and literature, which helped generate more theoretical and abstract codes as the selective codes as presented in the following paragraph.

Selective coding, focusing on developing theoretical themes, aggregated different categories into a coherent picture. Through selective coding, I found that the case study organizations apply four

IS legitimation strategies, including cognitive, pragmatic, normative, and regulative strategies, which echo the existing literature. I also identified that these organizations use specific approaches of the pragmatic strategy, including bilateral and separation approaches, and specific approaches of the normative strategy, including individual, social, and moral approaches, to meet various organizational goals.

Once within-case analysis was completed, I searched for cross-case patterns across the three organizations. First, I refined and integrated nine dimensions of the three organizations' journey to accommodation compliances. Second, I recognized that the three organizations select and execute their IS legitimation strategies according to external contingencies, the characteristics of organizational processes, and organizational identities. Moreover, I found that these organizations adjust their IS legitimation strategies and approaches over time. Table 3 presents examples of several passages and how they were coded from open, axial, to selective codes within each case as well as cross-case patterns. The detailed results are presented in Section 4.

Table 3. Coding Examples

Site Name	Interview Texts	<u>Open (underlined)</u> and <i>Axial (italic)</i> Codes	Selective Codes Developing Theoretical Themes
Organization A	<p>HR manager: “As I was working with [supervisors], I was seeing this trepidation with the [supervisors] when they would receive the medically supported accommodation that they just felt they had to approve it as is. And either that or if they understood they could do the interactive dialogue, they really didn’t understand the flexibility that they have with the interactive dialogue... I recognize that to protect [Organization A] to make sure that we’re doing the mandatory legally required interactive process...this team works with [supervisors] to offer them questions that they can ask that can help understand what the employee’s need is and how we can accommodate that and meet the needs of the business.”</p>	<p><u>A new team in the accommodation management system was created to meet legal requirements and the needs of the business.</u></p> <p><i>IS help balance legal requirements and business needs</i></p>	<p>IS pragmatic legitimation strategy balancing accommodation compliance and financial benefits using a bilateral approach</p>
Organization B	<p>Accommodation specialist: “They’re self-serve accommodations. That’s something like noise cancelling headphones or if someone is deaf or hard of hearing and needs a sign language interpreter... We have a page... that just has a list of different [accommodations] that people can get that don’t have to go through the accommodation process.”</p> <p>“When it gets complex like neurodiverse... that would come to [an accommodation team] directly just because it’s going to be more complex. There’s going to be a lot of nuances around it and how we can best support and that’s where we go into talking about technology and different ways to support the individuals.”</p>	<p><u>Changes brought by IS—Self-serve accommodation process</u></p> <p><u>Different types of disabilities</u></p> <p><i>IS help address variations of disabilities</i></p>	<p>Individual approach of the IS normative legitimation strategy addressing individual needs through different types of IS</p>

<p>Organization C</p>	<p>Accommodation specialist: “Why we develop this [accommodation management system] is really to make sure all employees are confident being themselves in the workplace and are able to express their own personality in the workplace so that they can be as productive as possible within the work environment. It’s really to the benefit of the [organization] in terms of revenue and business efficiency, and also from an employee perspective to feel included in the entire organization...”</p>	<p><u>The objective of the system—</u> <u>Employees’ well-being and</u> <u>organization’s benefits</u> <i>IS help empower disabled employees</i></p>	<p>Moral approach of the IS normative legitimation strategy identifying underlying beliefs and empowering marginalized groups by integrating disabled employees and various stakeholders in the IS development process</p>
<p>Cross-case Patterns</p>	<p>Organization A: “I recognize that to protect [Organization A] to make sure that we’re doing the mandatory legally required interactive process...this team works with [supervisors] to offer them questions that they can ask that can help understand what the employee’s need is and how we can accommodate that and meet the needs of the business.”</p> <p>Organization B: “Once we go in to start the interactive process, having the employee only talk with [an accommodation specialist] directly... having [a confidential conversation with] someone that’s not their manager usually [helps] people [become] willing to talk a little bit more about what their needs are...”</p> <p>Organization C: “The HR [support team] [is] basically kind of the interface between the manager and the employee... to facilitate the conversation. If the original conversation between the manager and [the] employee is difficult, the HR [support team] will start interacting with both manager and employee to try to find common grounds for further discussion.”</p> <p>Organization C: “...we [accommodation specialists] work with some executives from legal, finance, HR, and</p>	<p><i>Nine dimensions of the three organizations’ journey to accommodation compliances:</i></p> <p>(1) <i>external contingencies</i> (2) <i>creating a formal process</i> (3) <i>documenting related information</i> (4) <i>handling financial issues</i> (5) <i>considering social interactions</i> (6) <i>addressing individual needs</i> (7) <i>HR specialist role</i> (8) <i>maintaining disability data security</i> (9) <i>organizational identities</i></p>	<p>Adjusting and executing IS legitimation strategies according to organizational identities</p> <p>Adjusting IS legitimation strategies:</p> <p>Organization A and B’s individualistic identity focuses more on a self-interest view and traditional economic value generation, which makes them select the pragmatic strategy to balance accommodation compliance and financial benefits</p> <p>Organization C’s collective identity emphasizes social welfare and social value generation, which allows it to strengthen its normative strategy by transitioning the HR specialists’ role to a mediator role</p> <p>Executing different approaches of IS legitimation strategies:</p> <p>Organization A’s flexible identity affects its bilateral approach to execute the pragmatic strategy by providing specialists’ consulting support for supervisors in the accommodation process</p> <p>Organization B’s bureaucratic identity affects its separation approach to execute the pragmatic strategy by</p>

	<p>procurement to put [the accommodation process] in place ...some of our developers were living with disabilities themselves. The main leader of this program [had a disability] and so [they] developed this [accommodation] process based on [their] experience living with a disability to make sure that this [accommodation management system] really [meets] the needs of employees with disabilities.”</p>		<p>assigning accommodation specialists to talk with disabled employees and supervisors separately</p>
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4. RESULTS

As I analyzed the coded data from the three organizations, four legitimation strategies, including cognitive, pragmatic, normative, and regulative strategies, emerged in the accommodation context, which echoed the existing literature. In this section, first, I present the three organizations' journey to accommodation compliances from different dimensions as well as summarize the IS legitimation strategies utilized in each organization (see Section 4.1 for Organization A, Section 4.2 for Organization B, and Section 4.3 for Organization C). Then, I analyze the cross-case patterns (see Section 4.4), highlighting the selection and execution of the IS legitimation strategies according to external contingencies, the characteristics of organizational processes, and organizational identities as well as IS legitimation monitoring activities over time.

4.1. Organization A's Journey to Accommodation Compliance

4.1.1. External Contingencies

In 2020, Organization A developed an in-house accommodation management system to replace an outsourcing accommodation service. This action is influenced by the societal trend that recognizes the importance of integrating disabled employees (Accenture 2018, 2020; Job Accommodation Network 2018; Loiacono and Ren 2018; Waisman-Nitzan et al. 2019), which in turn requires better accommodation compliance and services. As the first phase of this transition project, the in-house accommodation management system currently covers medical leave requests for disabled employees, which accounts for 90% of accommodation requests in Organization A.

Large organizations such as Organization A are increasingly forced to comply with disability and accommodation law and regulations because they have larger financial resources than small businesses and thus have fewer reasons to argue that accommodations cause an undue hardship on the business, as the HR manager indicated:

“The burden of proof on [the case study organization] to say that we have a hardship for an accommodation is very high because we're a [large organization]. There's not a lot of accommodations we can't accommodate.” – *HR manager, Organization A*

The core of an accommodation process is an interactive dialogue about an employee’s accommodation options between the employee and their employer (United States Equal Employment Opportunity Commission 2019). If an organization fails to engage in interactive dialogues, the reputation and monetary costs of accommodation litigation are huge.

“There’s a lot of litigation around job accommodations for failure to accommodate, failure to engage in the interactive process... if we settle with the EEOC, many times that is public... [job accommodation settlement] is published on the EEOC website and it also receives a lot of media attention.” – *HR manager, Organization A*

4.1.2. Creating a Formal Process

To prevent a bad accommodation decision that may cause legal issues, Organization A follows a formal process that is guided by rules and regulations as well as supported by specialists. Figure 1 presents Organization A’s accommodation management system operation process. In particular, the accommodation management system creates a step that escalates an accommodation request to its accommodation support team when the request is modified or denied by a supervisor (see Figure 1, Step 14). The HR manager referred to this step as “a fail-safe”:

“We have a fail-safe in place so that supervisors can’t just deny an accommodation because we know how important it is to make sure that we accommodate whenever possible.” – *HR manager, Organization A*

An accommodation support specialist confirmed this:

“[Supervisors] are not allowed to deny [a request] until they have discussed it with [an accommodation support specialist].” – *Accommodation support specialist, Organization A*

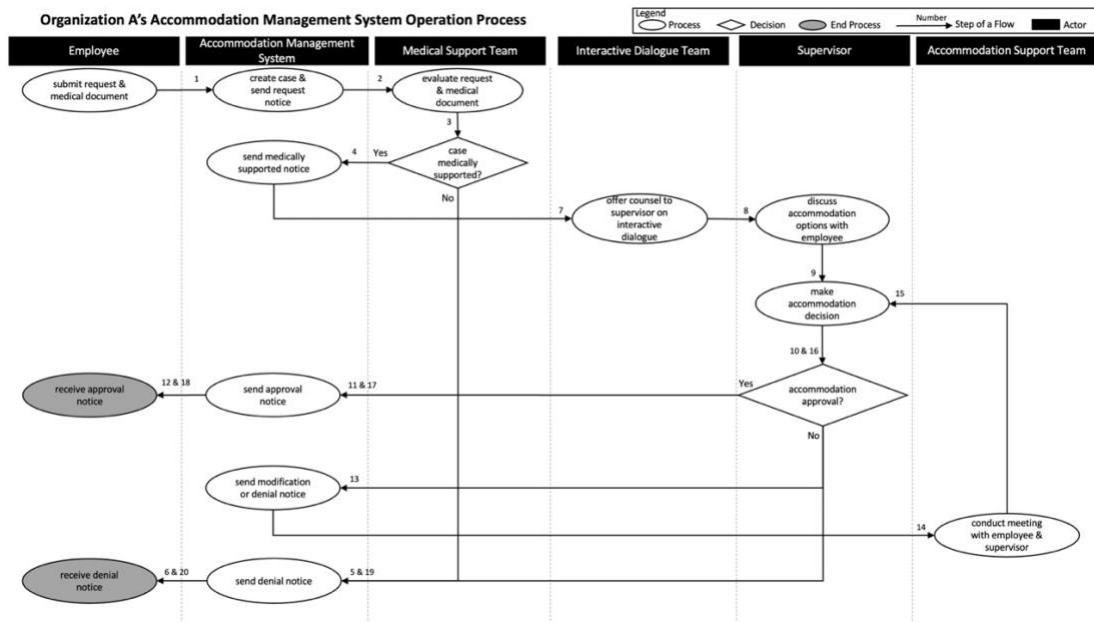


Figure 1. Organization A's Accommodation Management System Operation Process

4.1.3. Documenting Related Information

In addition to creating a formal process and fail-safe, the accommodation management system documents related information such as interactive dialogues so that organizations can have accommodation-related information handy when they need to share such information with the EEOC.

“With the [accommodation management system], we require [supervisors] before they can respond in any way to approve, modify, or deny, they must fill out and tell us about their interactive dialogue. It’s automatically stored. What we were finding is true litigation on job accommodations--there were a lot of missing forms for interactive dialogue. Now for every single job accommodation, we have a documented interactive dialogue. The quality is skyrocketing, just going through the roof because we’re forcing the supervisors to hold the interactive dialogue.” – *HR manager, Organization A*

4.1.4. Handling Financial Issues

Many organizations worry that business costs of providing accommodations, such as absent hours, monetary expenditures, would have negative effects on financial benefits (Breen et al. 2019.; Coole et al. 2013; Ekberg et al. 2016; Kaye et al. 2011; Khayat-zadeh-Mahani et al. 2020;

Kuznetsova and Yalcin 2017; Yosef et al. 2019). This worry is confirmed in Organization A. The HR manager mentioned that they “have a lot of absenteeism associated with job accommodation”, and “83% of all of their medically supported job accommodations were supported as written”. Organization A is required to accommodate disabled employees, however, as a business, it needs to get their employees back to work and maintain financial benefits. To address this controversial issue, Organization A forms an interactive dialogue support (IDS) team in its accommodation management system to counsel supervisors on how to have interactive dialogues with employees and accommodate them based on their individual situations prior to the conversation between supervisors and employees (see Figure 1, Step 8). The HR manager demonstrated the need of this team as follows.

“As I was working with [supervisors], I was seeing this trepidation with the [supervisors] when they would receive the medically supported accommodation that they just felt they had to approve it as is. And either that or if they understood they could do the interactive dialogue, they really didn’t understand the flexibility that they have with the interactive dialogue... I recognize that to protect [Organization A] to make sure that we’re doing the mandatory legally required interactive process...this team works with [supervisors] to offer them questions that they can ask that can help understand what the employee’s need is and how we can accommodate that and meet the needs of the business.” – *HR manager, Organization A*

The IDS team helps make a compromise between accommodation compliance and financial benefits. This team utilizes two specific approaches to help reduce absenteeism and protect the business: (1) reviewing an employee’s attendance record to decide accommodations, (2) offering a flexible schedule instead of granting a medical leave. First, the IDS team helps decide accommodations based on an employee’s attendance history. Once a leave request is medically supported, the IDS team conducts an analysis of the attendance history of the employee who requests the leave. According to the EEOC, determining whether granting a leave would cause an undue hardship may consider the length and frequency of the leave (United States Equal Employment Opportunity Commission 2016). Besides, if an employee’s medical condition prevents him/her from performing one or more essential job functions even with a reasonable accommodation, this situation would pose an undue hardship (United States Equal Employment

Opportunity Commission 2016). Organization A considers an employee who has been off work on disability for a long period of time (e.g., an employee who has only worked 10% or 15% of their scheduled hours over the last five years) as not being able to perform one of the essential job functions. Thus, the IDS team advises supervisors not to approve this medical leave. On the contrary, in regular cases, the IDS team guides supervisors to grant a medical leave; even if sometimes supervisors may want to deny a request, the IDS team suggests that they consider alternatives for accommodating the request. To address this issue, the IDS team is designed to support supervisors' accommodation decision-making.

Second, the IDS team advises supervisors to provide flexible schedule instead of granting a medical leave. Organization A found that 83% of their medically supported requests were approved as written. By bringing in the IDS team that helps supervisors conduct interactive dialogues modifying requests and offering flexible scheduling, the organization reduces absence hours and improves financial benefits by not always approving accommodation requests as written. Considering the example below:

“...let's say that an employee has a job accommodation that was medically supported for 40 hours of time in a month to attend physical therapy. What we typically saw from the field is that [a supervisor] would just say okay, it's approved. Instead of just approving that across the board, [the IDS team] works with the supervisor... to move the employee's off day so that one of their days off is on a day that they can attend physical therapy... instead of just giving them 40 hours of medical leave, maybe we don't give them any leave and we just offer flexible scheduling... let's say there was once a week eight hours times 4. That's 32 hours right there, if we just move their off day... We're able to have the interactive dialogue with the employee, still accommodate them, but not have so much absenteeism...” – *HR manager, Organization A*

A couple of months after the IDS team was introduced, the preliminary result showed that it resulted in a 75% reduction in the number of absence hours and gave back about \$75,000 in efficiencies.

4.1.5. Considering Social Interactions

During the pre-implementation phase, Organization A forms focus groups that includes disabled employees to test accessibility of its accommodation management system. Organization A wants to make sure that this system is easy to use and accessible to all types of users.

During the implementation phase, Organization A switches from formal legal communications to relaxed causal communications in its accommodation management system. The goal is to make everyone involved in the accommodation process feel more relaxed and understand the process easier.

“In the written communications, one of the things that we did was we tried to lighten up our written communications. Instead of saying, dear employee, we have received your medical and here is your medical supported accommodation with a whole bunch of legal mumbo-jumbo in it, which was very difficult for employees to understand and used to cause a lot of questions... we might say something along the lines in parentheses... but try to keep it really casual. Historically [our organization] is very formal in its speech and uses a lot of legal jargon... This we found and received good feedback that the relaxed communication is easier to understand... so folks are more relaxed about the entire situation... We have better tools that are easier to understand and simpler to use for everybody involved, this should help alleviate litigation.” – *HR manager, Organization A*

4.1.6. HR Specialist Role

The accommodation support team in Organization A is responsible for counseling supervisors and disabled employees when an accommodation request is modified or denied by a supervisor and helping make accommodation decisions. During the post-implementation phase, to balance the accommodation compliance and the organization’s financial benefits, the IDS team is formed to counsel supervisors on how to conduct interactive dialogues with disabled employees and accommodate them based on their individual situations, as mentioned in Section 4.1.4.

4.1.7. Maintaining Disability Data Security

The ADA requires organizations to treat any medical information disclosed by an employee as a confidential medical record (United States Equal Employment Opportunity Commission 2000). An in-house accommodation management system is better at maintaining disability data security than an outsourcing system because an internal system can access to disability data in a more appropriately restricted way compared to a third-party system (Hu et al. 2012; Li et al. 2012). One of the major reasons why Organization A transitioned to an in-house accommodation management system was that the vendor's system was not allowed to have access to the organization's internal systems due to the confidentiality issue. The vendor had to ask HR staff in the organization for relevant information to determine eligibility of an accommodation request, increasing turnaround times. In contrast, the in-house system is connected to relevant internal systems so it can easily and quickly retrieve data. For instance, it can automatically retrieve an employee's job descriptions using their employee ID they entered when requesting an accommodation, which saves the manual checking time.

4.1.8. Organizational Identities

Organization A operates numerous retail stores often with a manager (supervisor) in each store. These retail store supervisors are very busy with all aspects of a store operation. Such organizational and task structure in which individuals' separation from others makes supervisors rely more on themselves, which in turn makes individuals value self-interest more than the other's welfare. A self-interest view is also supported by a reward structure recognizing individuals rather than partnerships or groups. This finding matches with individualistic identity in the existing organizational identity literature (Brickson 2000, 2005, 2007). These studies indicate that organizational and task structure emphasizing individuals' separation from others along with reward structure promoting individual competition will generate a self-interest view, motivate individual performance rather than pursuing the other's welfare, and thus activate an individualistic identity.

In addition, Organization A's operation structure of numerous retail stores with a manager (supervisor) in each store indicates that it has a flexible identity. The flexible organizations are

characterized by relatively few layers of hierarchy and a degree of participation in decision-making (Alvesson and Robertson 2006).

4.1.9. Summary of IS Legitimation Strategies in Organization A

The empirical data shows that Organization A uses the cognitive legitimation strategy to comply with laws by creating a formal process with HR specialists’ support and documenting related information. It uses the pragmatic strategy to balance accommodation compliance and financial benefits by forming the IDS team to help reduce absenteeism and protect the business. It uses the normative strategy to consider social interactions by testing accessibility of IS and relaxing the formality of written communications in IS. It uses the regulative strategy to maintain disability data security by connecting the accommodation management system with internal HR systems. The four IS legitimation strategies used in Organization A are shown in Table 4.

Table 4. IS Legitimation Strategies in Organization A

Cognitive Strategies	Pragmatic Strategies
<ul style="list-style-type: none"> • Creating a formal process • Documenting related information • HR specialist role 	<ul style="list-style-type: none"> • Handling financial issues • HR specialist role
Regulative Strategies	Normative Strategies
<ul style="list-style-type: none"> • Maintaining disability data security 	<ul style="list-style-type: none"> • Considering social interactions

Cognitive legitimation strategies are used to make sense of the spread of knowledge about an IS (Kaganer et al. 2010; Lynn et al. 2018). In the accommodation context, such knowledge mainly helps organizations better comply with law and regulations and reduce litigation risks. By applying the cognitive legitimation strategy, Organization A adopts specific approaches, such as a formal process, a fail-safe in place, and documentation, to convey the key features of its accommodation management system that helps comply with accommodation regulations.

Pragmatic strategies are related to self-interest and utility to organizations’ influential stakeholders, often based on the economic-rationalistic models within the IS research tradition (Golant and Sillince 2007; Lynn et al. 2018; Paré et al. 2020). These strategies demonstrate how an IS meets these economic and rational needs so that the IS can get stakeholders’ support (Kaganer et al. 2010; Paré et al. 2020). By applying the pragmatic strategy, Organization A

forms a special team to advise supervisors on how to conduct an interactive dialogue with employees in order to reduce absenteeism and protect the business. The reason why Organization A selects the pragmatic strategy to handle financial issues is that it has an individualistic identity, which focuses on a self-interest view and economic value generation. Existing studies have identified a legitimation gap between the desired legitimation structure (target) and IS practices (Du and Flynn 2010; Flynn and Hussain 2004). I recognize that to close the gap, organizations need to apply IS legitimation strategies to make IS practices reach the target shaped by organizational identities. Organization A's individualistic identity forms its desired legitimation structure (target). After implementing its accommodation management system, Organization A finds that its IS legitimation strategies do not fit well with its individualistic identity. These strategies cause conflicts between financial benefits and accommodation compliance. Therefore, Organization A needs to adjust its legitimation strategies in order to make the IS practices meet the target shaped by their individualistic identity. Organization A's legitimation structure is based on an individuals' separation oriented organizational and task structure. In this case, it is easier for the traditional dominant group that has more resources and voice to put their interests first such as efficient operation and financial benefits. This concerns an accommodation management system that would fit with the organization's self-interest view by focusing more on the financial benefits when making accommodation decisions. Therefore, the individualistic identity makes Organization A to select the pragmatic strategy to balance the accommodation compliance and its financial benefits.

The normative strategy Organization A selects is to consider social interactions by testing accessibility of IS and relaxing the formality of written communications in its accommodation management system. I identify that this approach focusing on the social approach belongs to the normative legitimation strategy that is based primarily on the altruistic pro-social logic of promoting social justice and welfare (Kaganer et al. 2010; Suchman 1995). Extensive communication among stakeholders is an important social characteristic of the accommodation process (Howlin et al. 2005; Nevala et al. 2015; Shaw et al. 2008). The accommodation management system helps stakeholders who use this IS better understand the accommodation process. Thus, testing accessibility of IS and relaxing the formality of written communications are beyond the merely regulative and economic views; instead, they mainly serve a purpose of

improving disabled employees' and other stakeholders' experiences, which is in line with the altruistic pro-social logic.

Regulative strategies are based on IS designs in line with legal or regulative practices (Lynn et al. 2018; Rosati et al. 2021). In the accommodation context, the regulative strategies and the cognitive strategies serve the same purpose—complying with laws and regulations. However, the cognitive strategies are more relevant with how to use the functions of an IS to help with legal compliance, while the regulative strategies are directly based on IS practices in congruence with legal compliance. By applying the regulative strategy, Organization A maintains disability data security by connecting an in-house accommodation management system with internal HR systems.

4.2. Organization B's Journey to Accommodation Compliance

4.2.1. External Contingencies

In 2019, Organization B developed an in-house accommodation management system. The main goal of this project is to better comply with laws and manage the accommodation process. Organization B needs to make sure that it meets disability and accommodation legal requirements including both federal and state laws. If some states do not have up-to-date laws or supportive laws, Organization B tends to lean on the most inclusive and supportive laws in the country to accommodate disabled employees in those states.

4.2.2. Creating a Formal Process

Organization B creates a formal process using its accommodation management system. Figure 2 presents Organization B's accommodation management system operation process. The accommodation support team plays a central role in this process. The accommodation specialists in the support team discuss accommodation options with disabled employees and supervisors separately and make accommodation decisions.

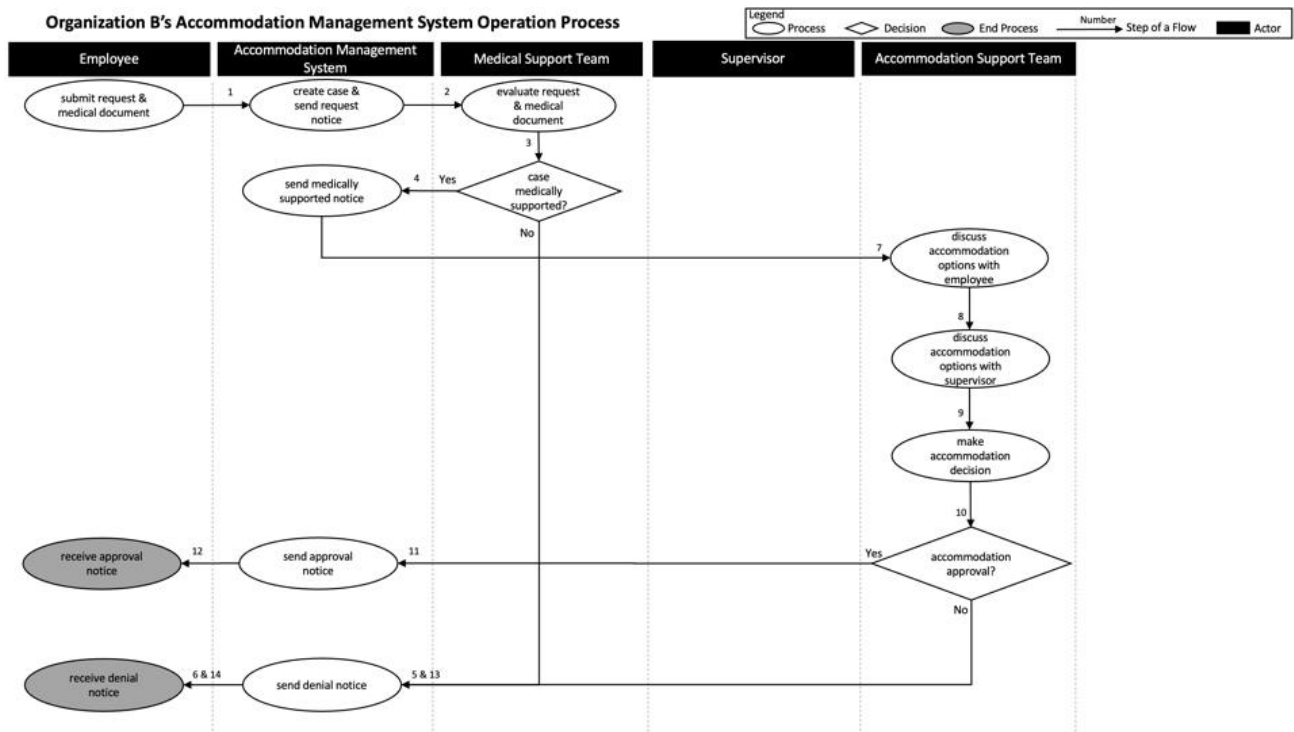


Figure 2. Organization B's Accommodation Management System Operation Process

4.2.3. Documenting Related Information

Organization B provides a one-stop shop to document all the information so that it is easier to track information when complying with laws.

“That’s where all of our notes are kept. Any email correspondence, any documentation that submitted is all house there. It’s kind of a one-stop shop where you can click the person’s name and we’ll give you all the information on the case.” – *Accommodation specialist, Organization B*

4.2.4. Handling Financial Issues

The worry that business costs of providing accommodations would have negative effects on financial benefits is confirmed in Organization B. This organization utilizes its accommodation support team to make sure that the legal compliance and the financial benefits are balanced.

“[The accommodation team] will work with the manager making sure that it’s sufficient for the business that the accommodation request is reasonable for the business. If not, then we kind

of go back and forth because we're trying to find what works best for the individual and also for the business.” – *Accommodation specialist, Organization B*

Organization B sets up the accommodation support team to communicate with an employee and supervisor separately instead of having a conversation between an employee and supervisor (see Figure 2, Step 8 and 9), which is helpful for both legal compliance and financial benefits because accommodation specialists have sufficient accommodation-related knowledge to inform an accommodation decision that meets both legal requirements and business needs. The accommodation specialists in Organization B makes themselves well known in the organization. If one needs to go through the accommodation process, they are aware that they need to reach out to the accommodation team for their expert help. An accommodation specialist in Organization B identified the expert role:

“We [the accommodation team] are kind of our frontline and then we're kind of the experts and taking more of the complex cases that need of expert guidance to handle.” – *Accommodation specialist, Organization B*

4.2.5. Considering Social Interactions

During the pre-implementation phase, Organization B also includes disabled employees to test accessibility of its accommodation management system. Organization B aims to build its system for all types of users, which means making sure that disabled employees can access this system and interact with other stakeholders effectively by using this system.

During the implementation phase, Organization B continues considering social interactions in the accommodation process instead of solely following technology rules. An accommodation specialist in Organization B gave an example that when an employee requests a new accommodation, the specialist who worked with this employee on accommodation requests before would take care of this new case instead of signing it to a random specialist in the accommodation system. The benefit of this practice is that the specialist has built a relationship with this employee and would better serve their needs.

“Say someone had an accommodation couple of years ago and was asking for a new accommodation that’s completely different and usually, we’ll check in with the other person, say hey, you’re working with this person a long time ago. Is this a case that you’re still going to be moving on with or is it okay to throw back into the round robin? Sometimes just a lot of historical context makes a lot easier. They say I have a relationship with this employee. I’ll take this case just because it’ll be easier for us to kind of know each other.” – *Accommodation specialist, Organization B*

4.2.6. Addressing Individual Needs

Organization B has two tracks for accommodation requests: a self-serve accommodation process for simple accommodation requests and an interactive accommodation process for complex accommodation requests. The distinction between simple and complex accommodation requests is often based on disability types. Simple accommodation requests are associated with certain disabilities that need accommodations that can be simply provided, such as noise cancelling headphones or sign language interpreters. Complex accommodation requests are often related to neurodiverse and other disabilities that involve a lot of nuances when providing accommodations, as an accommodation specialist in Organization B indicated:

“When it gets complex like neurodiverse... that would come to [an accommodation team] directly just because it’s going to be more complex. There’s going to be a lot of nuances around it and how we can best support and that’s where we go into talking about technology and different ways to support the individuals.” – *Accommodation specialist, Organization B*

Different IS can help with various individual needs and allow for some flexibility to choose a process people are comfortable with. For simple accommodation requests, employees can choose to go on to an internal accommodation webpage to purchase their needed accommodations directly (billed to Organization B) or request accommodations in the accommodation management system so that they can have an interactive dialogue with accommodation specialists. For complex accommodation requests, the accommodation management system coupled with specialists support can help.

“People with disabilities are able to access information without talking to anybody if they don’t feel comfortable. But [it] also allows if they go to the [accommodation] page and say you know what, I don’t want this. It’s a lot of information. I want to talk to somebody directly. They have access to do that as well. So, we kind of let people decide how much they want to be interactive with [accommodation specialists] from the beginning so they can either take this independent route or we’re here to support them from the start.” – *Accommodation specialist, Organization B*

4.2.7. HR Specialist Role

Organization B conducts confidential interactive dialogues by accommodation specialists. Organization B advises an employee to directly communicate with its accommodation support team instead of having a conversation with their supervisor because this will avoid simple denial of accommodation requests by supervisors who are not as familiar with disability and accommodation laws as accommodation specialists as well as help keep the conversation confidential between the employee and the specialist.

“Once we go in to start the interactive process, having the employee only talk with [an accommodation specialist] directly... having [a confidential conversation with] someone that’s not their manager usually [helps] people [become] willing to talk a little bit more about what their needs are...” – *Accommodation specialist, Organization B*

On the other hand, Organization B also advises a supervisor to directly communicate with its accommodation support team instead of having a conversation between a disabled employee and supervisor, which is helpful for both legal compliance and financial benefits, as discussed in Section 4.2.4.

4.2.8. Organizational Identities

Organization B believes that a professional team with relevant expertise can solve problems more effectively (see Section 4.2.4), which means its task structure based on individuals does not encourage interpersonal interaction. Under this task structure, individuals are motivated to seek

positive personal outcomes instead of being inspired to pursue the other’s welfare. Thus, Organization B has an individualistic identity.

In addition, Organization B’s structure of making a professional team as a central point of contact indicates that it has a bureaucratic identity. The social structure in the bureaucratic organizations is hierarchical, which creates demands for individuals who are willing and able for role taking (Cooper 2018; Maravelias 2003). The bureaucratic organizations drive stakeholders into specified patterns of interaction (Maravelias 2003; Negoita et al. 2018).

4.2.9. Summary of IS Legitimation Strategies in Organization B

The empirical data shows that Organization B uses the cognitive legitimation strategy to comply with laws by creating a formal process with HR specialists’ support and documenting related information. It uses the pragmatic strategy to balance accommodation compliance and financial benefits by assigning the accommodation support team to discuss accommodation options with disabled employees and supervisors separately. It uses the normative strategy to consider social interactions by testing accessibility of IS and assigning specialists manually based on their existing relationships with disabled employees and address individual needs through different types of IS. It uses the regulative strategy by providing specialists support to conduct confidential interactive dialogues. The four IS legitimation strategies used in Organization B are shown in Table 5.

Table 5. IS Legitimation Strategies in Organization B

Cognitive Strategies	Pragmatic Strategies
<ul style="list-style-type: none"> • Creating a formal process • Documenting related information • HR specialist role 	<ul style="list-style-type: none"> • Handling financial issues • HR specialist role
Regulative Strategies	Normative Strategies
<ul style="list-style-type: none"> • HR specialist role 	<ul style="list-style-type: none"> • Considering social interactions • Addressing individual needs

The cognitive legitimation strategy helps Organization B create a formal process with HR specialists’ support and provide a one-stop shop to document related information, which helps comply with disability and accommodation laws and answer any questions related to accommodation the EEOC may have.

The pragmatic strategy Organization B selects ensures that its accommodation management system addresses the organization's financial needs. Organization B assigns accommodation specialists to communicate with supervisors and disabled employees separately instead of conducting conversations between supervisors and disabled employees. The reason behind this choice to balance financial benefits and accommodation compliance is Organization B's individualistic identity. Organization B emphasizes more on individuals than interpersonal collaboration. Organization B's pragmatic legitimation strategy may facilitate a competitive experience. Under this circumstance, the traditionally dominant group that has more resources and support would more easily pursue their own interest. Thus, Organization B's pragmatic legitimation strategy helps the IS practices achieve the balance between financial benefits and accommodation compliance.

The social approach of the normative strategy Organization B executes focuses on testing accessibility of IS and assigning specialists manually based on their existing relationships with disabled employees. By applying the normative strategy to emphasize social interactions, Organization B creates a more inclusive accommodation process for disabled employees. Moreover, Organization B addresses individual needs through different types of IS. I identify that this approach focusing on the individual approach belongs to the normative legitimation strategies. Individualized service is an important social characteristic of the accommodation process (Gourdeau et al. 2018). Emphasizing individual needs would improve disabled employee's accommodation experiences, which is in line with the altruistic pro-social logic.

The regulative strategy helps Organization B provide specialists support to conduct confidential interactive dialogues so that the practice of its accommodation management system can comply with regulations that require privacy and security of disability information.

4.3. Organization C’s Journey to Accommodation Compliance

4.3.1. External Contingencies

In 2009, Organization C developed an in-house accommodation management system to improve legal compliance and operational efficiency of its accommodation process. As stated earlier, this action was mainly influenced by the ADAAA that broadened the definition of the term “disability” which made individuals seek the law’s protection easier (United States Equal Employment Opportunity Commission 2011).

4.3.2. Creating a Formal Process

Organization C forms a formal process using its accommodation management system. Figure 3 presents Organization C’s accommodation management system operation process. In particular, an HR support team mediates difficult conversation between disabled employees and supervisors when an accommodation request is disapproved (see Figure 3, Step 13).

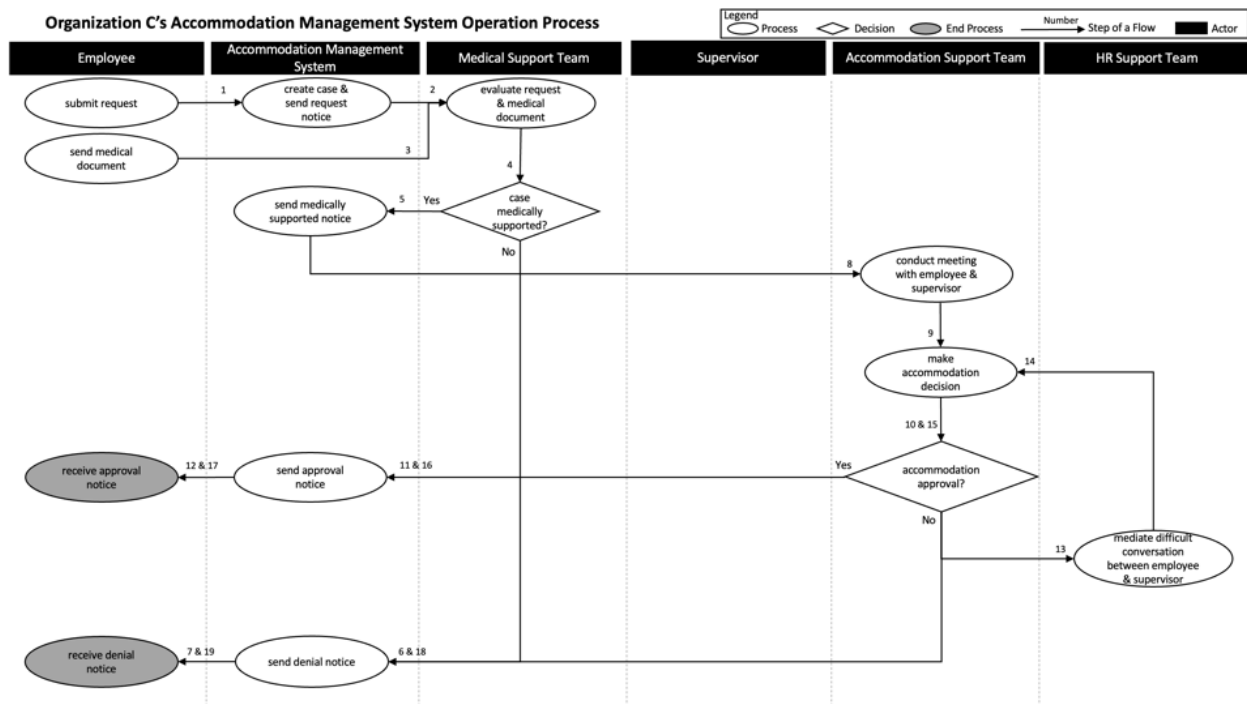


Figure 3. Organization C’s Accommodation Management System Operation Process

4.3.3. Documenting Related Information

An in-house accommodation management system coupled with an HR support team help achieve the legal compliance goal by documenting related information and providing specialists support

for relevant issues. Organization C documents accommodation-related information in its accommodation management system.

4.3.4. Handling Financial Issues

Organization C includes disabled employees in the IS development (see Section 4.3.5). Organization C adopts centralized financial planning for accommodations based on disabled developers' experiences. It is likely that disabled developers have experienced the anxiety and fear of reluctance and rejection from supervisors who concern about business costs of providing accommodations. An accommodation specialist described the creation of this system,

“...we [accommodation specialists] work with some executives from legal, finance, HR, and procurement to put [the accommodation process] in place ...some of our developers were living with disabilities themselves. The main leader of this program [had a disability] and so [they] developed this [accommodation] process based on [their] experience living with a disability to make sure that this [accommodation management system] really [meets] the needs of employees with disabilities.” – *Accommodation specialist, Organization C*

Providing a special budget for accommodations allows supervisors and departments not to concern about paying for accommodations that otherwise might occupy resources for other activities, which makes the approval of accommodation requests easier and improves employees' accommodation experiences.

“...if you're telling [managers] that they will have an employee that requires an accommodation and that they will have to pay for the accommodation, they will be more reluctant to welcome some who need an accommodation within their team, regardless of whether it's related to disability or medical condition, etc. In order to remove this obstacle, from the managers' experience to help them be as inclusive as possible, we could discuss recovery process--instead of having to use their own budget to pay for the accommodation, they don't pay anything. It's really a very helpful and very powerful method to really help our employees and managers be totally inclusive because the cost component is removed from the conversation.” – *Accommodation specialist, Organization C*

4.3.5. Considering Social Interactions

During the pre-implementation phase, Organization C includes different departments in the process, such as legal, finance, HR, and procurement. Particularly, some developers of this system are disabled people, who know how to equally support and include disabled employees based on their own experiences and build these guides into this system.

Integrating disabled employees in the IS development makes Organization C recognize the importance of providing disabled employees with an IS to improve their accommodation experiences. The moral belief is that all employees are valued and should be able to be themselves at work.

“Why we develop this [accommodation management system] is really to make sure all employees are confident being themselves in the workplace and are able to express their own personality in the workplace so that they can be as productive as possible within the work environment. It’s really to the benefit of the [organization] in terms of revenue and business efficiency, and also from an employee perspective to feel included in the entire organization...”
– *Accommodation specialist, Organization C*

4.3.6. Addressing Individual Needs

Organization C addresses individual needs through different processes. When employees need to renew accommodations, Organization C addresses their needs according to their disability types. If an employee has a stable condition, they do not need to issue a new request in the accommodation management system; instead, they directly ask the accommodation team to renew their accommodation without any further examination or discussion, as illustrated in the following example.

“If an employee requires an update of their Jaws license [for people who have vision disabilities], there’s no need to issue a new request. They will just ask for renewal of the existing license and they will get it without any further examination or discussion... They just refer to the

previous accommodation they received, and it will be automatically granted.” – *Accommodation specialist, Organization C*

However, if the employee’s condition is evolving, they need to issue a new request using the accommodation management system and have a conversation with the medical team to assess “whether or not a new accommodation is needed”.

4.3.7. HR Specialist Role

In Organization C, accommodation specialists are responsible for conducting a meeting with both a disabled employee and their supervisor in order to make accommodation decisions. To improve disabled employees’ accommodation experiences, Organization C adjusts the role of an HR support team over time. This HR support team handled a variety of HR-related issues including accommodation issues when the accommodation management system was initially introduced. This team is well known within the organization. If disabled employees or supervisors have any accommodation questions, they will reach out to this team. If these questions are related to legal requirements, the HR support team will connect supervisors with the legal team in the organization. Since in very occasional cases (fewer than 10% of all the accommodation cases) a supervisor and an employee may have a misunderstanding or disagreement over accommodation options, the HR support team has gradually been transitioned to a mediator role when such challenging situation occurs. Organization C encourages disabled employees to communicate with their supervisors about their accommodation issues. If a conversation between a supervisor and employee becomes challenging, it is likely that the supervisor is not listening carefully about the accommodation request or the employee is not comfortable sharing certain information with the supervisor. An HR specialist will mediate the conversation between the supervisor and the employee, understanding the details of any conflicts between both sides and trying to find common grounds for further discussion, and thus accommodate employees as much as possible instead of simply denying or revising an accommodation (See Figure 3, Step 14). The conversation will be recorded in the accommodation management system.

4.3.8. Maintaining Disability Data Security

Organization C makes medical information only available to its medical team and outside of the system due to privacy and confidentiality concerns (see Figure 3, Step 3), as the accommodation specialist illustrates:

“...an employee will not provide any medical information as part of their request simply to comply with the privacy rules and confidentiality rules... and so what they do is that they will send medical treatment form to our medical team... and this document will be provided only to medical team outside of the [accommodation management system] that we use to issue a request or to handle the request for accommodations so that we do not have access to medical information of the employee. The employee will simply mention that they need an accommodation.” – *Accommodation specialist, Organization C*

4.3.9. Organizational Identities

Organization C has been one of the leaders in recruiting underrepresented groups and building a community culture that promotes equal opportunities. As quoted in Section 4.3.5, Organization C makes sure that “all employees are confident being themselves in the workplace and are able to express their own personality in the workplace”. Moreover, this organization always encourages communications between employees and their supervisors as well as collaborations among different departments. Such organizational and task structure focusing on integrated and group networks along with reward structure encouraging group-based work will increase the extent to which individuals view themselves as group members, work toward the welfare of their groups (Brickson 2000, 2005, 2007; Pratt and Foreman 2000; Walker and Hennig 2004). This finding matches with collective identity in the existing organizational identity literature.

4.3.10. Summary of IS Legitimation Strategies in Organization C

The empirical data shows that Organization C uses the cognitive legitimation strategy to comply with laws by creating a formal process with HR specialists’ support and documenting related information. It uses the normative strategy to centralize financial resources coupling with IS, consider social interactions by including disabled employees and various stakeholders in the IS development, address individual needs through different processes, and provide specialists

support to mediate difficult conversations. It uses the regulative strategy by maintaining disability data security by keeping disability data offline and providing specialists support for relevant legal issues. The three IS legitimation strategies used in Organization C are shown in Table 6.

Table 6. IS Legitimation Strategies in Organization C

Cognitive Strategies	Pragmatic Strategies
<ul style="list-style-type: none"> • Creating a formal process • Documenting related information • HR specialist role 	-
Regulative Strategies	Normative Strategies
<ul style="list-style-type: none"> • Maintaining disability data security • HR specialist role 	<ul style="list-style-type: none"> • Handling financial issues • Considering social interactions • Addressing individual needs • HR specialist role

The cognitive legitimation strategy helps Organization C create a formal process with HR specialists’ support and document related information, which helps comply with laws and answer any questions related to accommodation the EEOC may have.

The pragmatic legitimation strategy is missing in Organization C. The reason is that Organization C has a collective identity. This identity concerns an accommodation management system integrating different perspectives from a variety of stakeholders, which drives Organization C to execute the moral approach of the normative strategy (see the following paragraph). When Organization C integrates disabled employees in its IS development, disabled developers based on their own experiences suggest centralized financial planning for accommodations to mitigate supervisors’ concern about business costs of providing accommodations. Therefore, Organization C’s collective identity does not let it select the pragmatic strategy to handle financial issues.

The individual approach of the normative strategy Organization C executes addresses individual needs through different processes. By applying the normative strategy to address individual needs, Organization C improves disabled employees’ accommodation experiences. Moreover, Organization C adopts a series of approaches to let its accommodation management system go

beyond the legal requirements and promote social inclusion. I summarize these approaches as the moral approach of the normative strategy. Organization C emphasizes the underlying belief of empowering disabled employees. This moral belief motivates the IS to pursue the normative form of legitimacy, such as integrating disabled employees in the IS development, centralizing financial resources to mitigate supervisors' financial concerns about provision of accommodations, and providing specialists support to mediate difficult conversations between disabled employees and supervisors. The power inequality between the marginalized group and the dominant group in a multi-dimensional value generation context makes the moral approach particularly critical to legitimize an IS that is supposed to generate multi-dimensional values (Campbell 2008; Chatterjee et al. 2009; Hosking 2008; Myers and Klein 2011; Rioux and Valentine 2006; Stahl 2012).

The regulative strategy helps Organization C maintain disability data security by keeping disability data offline and provides specialists support for relevant legal issues.

4.4. Cross-case Patterns

From the above within-case analysis, I identify nine dimensions of the three organizations' journey to accommodation compliances. These dimensions are (1) external contingencies, (2) creating a formal process, (3) documenting related information, (4) handling financial issues, (5) considering social interactions, (6) addressing individual needs, (7) HR specialist role, (8) maintaining disability data security, and (9) organizational identities. I present the similarities and differences of these dimensions across the three organizations as follows (see Table 7).

Table 7. Cross-case Patterns across Organizations A, B, and C

Dimension	Organization A	Organization B	Organization C	Illustrations
External contingencies	Disability alliances and overall societal trends integrating disabled employees	Disability alliances and overall societal trends integrating disabled employees	Influence of the ADA	<p>Organization B: “[Disabled employees] are making critical contributions across [the organization] ... we need a workplace that creates a sense of belonging.”</p> <p>Organization C: “Not providing accommodations to employees in a timely manner as defined by the law may lead to legal actions... [Organization C] has introduced the [accommodation management system] that helps employees manage workplace accommodation requests.”</p>
Creating a formal process	Select the cognitive legitimation strategy to create a formal process	Select the cognitive legitimation strategy to create a formal process	Select the cognitive legitimation strategy to create a formal process	<p>Organization C: “The [medical support team] will receive a notification which is sent automatically by the [accommodation management system] as soon as the employee has issued their request for accommodation... All the communication will be taking place within the [accommodation management system]. The [accommodation support team] [is]</p>

				in charge of the accommodation process.”
Documenting related information	Select the cognitive legitimation strategy to document related information	Select the cognitive legitimation strategy to document related information	Select the cognitive legitimation strategy to document related information	Organization A: “With the [accommodation management system], we require [supervisors] before they can respond in any way to approve, modify, or deny, they must fill out and tell us about their interactive dialogue. It’s automatically stored...”
Handling financial issues	Adjust the pragmatic strategy to balance financial benefits and accommodation compliance	Adjust the pragmatic strategy to balance financial benefits and accommodation compliance	Select the normative strategy to centralize financial resources	Organization A: “I recognize that to protect [Organization A] to make sure that we’re doing the mandatory legally required interactive process... [the IDS team] works with [supervisors] to offer them questions that they can ask that can help understand what the employee’s need is and how we can accommodate that and meet the needs of the business.” Organization C: “...from the managers’ experience to help them be as inclusive as possible, we could discuss recovery process--instead of having to use their own budget to pay for the accommodation, they don’t pay anything. It’s really a very helpful and very powerful method to really help our employees and managers be totally inclusive

				because the cost component is removed from the conversation.”
Considering social interactions	Execute the social approach of the normative strategy to consider social interactions	Execute the social approach of the normative strategy to consider social interactions	Execute the moral approach of the normative strategy to include disabled employees in the IS development team to make development decisions	<p>Organization A: “We... make sure that our system was very accessible. We have an employee group... that advocates for [disabled employees]... we conducted several focus groups with that group...”</p> <p>Organization C: “...some of our developers were living with [a] disability themselves. The main leader of this program was [disabled] and ...developed this [system] based on [their] experience living with a disability to make sure that this [system] was really meeting the needs of [disabled employees].”</p>
Addressing individual needs	-	Select the normative strategy to address individual needs	Select the normative strategy to address individual needs	<p>Organization B: “That’s something like noise cancelling headphones or if someone is deaf or hard of hearing and needs a sign language interpreter... We have a page... that just has a list of different [accommodations] that people can get that don’t have to go through the accommodation process.” “When it gets complex like neurodiverse... that would come to [an accommodation team] directly just</p>

				because it's going to be more complex."
HR specialist role	Execute the bilateral approach of the pragmatic strategy to balance financial benefits and accommodation compliance	Execute the separation approach of the pragmatic strategy to balance financial benefits and accommodation compliance	Strengthen the moral approach of the normative strategy by adjusting the HR specialists' role to a mediator role	<p>Organization A: "[The IDS team] works with [supervisors] to offer them questions that they can ask that can help understand what the employee's need is and how we can accommodate that and meet the needs of the business."</p> <p>Organization B: "We'll have the meeting with the employee or then we'll have a meeting with the manager to kind of discuss... let the manager on one-on-one kind of ask some questions of oh, you know, I'm not familiar with this."</p> <p>Organization C: "If the original conversation between the manager and [the] employee is difficult, the HR [support team] will start interacting with both manager and employee to try to find common grounds for further discussion."</p>
Maintaining disability data security	Select the regulative legitimization strategy to maintain disability data security	Select the regulative legitimization strategy to maintain disability data security	Select the regulative legitimization strategy to maintain disability data security	Organization C: "...an employee will not provide any medical information as part of their request simply to comply with the privacy rules and confidentiality rules..."

Organizational identities	Individualistic Flexible	Individualistic Bureaucratic	Collective Flexible	<p>Organization A: "...the managers out in the field are so busy. And in a lot of cases in our retail stores we have 18-year-old kids out of high school that are managing a store all on their own..."</p> <p>Organization B: "Once we go in to start the interactive process, having the employee only talk with [an accommodation specialist] directly, having the manager talk with [an accommodation specialist] directly, and not necessarily [having] the two of them chat too much..."</p> <p>Organization C: "Why we develop this [accommodation management system] is really to make sure all employees are confident being themselves in the workplace and are able to express their own personality in the workplace so that they can be as productive as possible within the work environment. It's really to the benefit of the [organization] in terms of revenue and business efficiency, and also from an employee perspective to feel included in the entire organization..."</p>
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4.4.1. External Contingencies

From the empirical cases, the external contingencies are mainly disability and accommodation laws and regulations. As shown in Figure 4, since 2012, the disability alliances that support for improving workplace disability inclusion have established inclusive atmosphere, which motivates organizations to participate in disability inclusion activities such as using IS to facilitate their accommodation processes. The two milestone events are (1) in 2012, the Disability Management Employer Coalition (DMEC), an industry association for disability and absence management, representing over 14,000 disability and absence management professionals from across the U.S. and Canada, held its first DMEC Family and Medical Leave Act² (FMLA)/ADA Employer Compliance and (2) in 2015, Disability:IN, a non-profit resource for workplace disability inclusion, published the Disability Equality Index (DEI) for organizations for the first time. Since 2018, research and industry have increasingly recognized that integrating disabled employees can improve organizational financial performance, innovation, and employee morale (Accenture 2018, 2020; Job Accommodation Network 2018). These societal trends recognize the importance of integrating disabled employees, which in turn requires better accommodation compliance and services. Organization A's action to develop an in-house accommodation management system is influenced by these trends. Organization B has similar external contingencies as Organization A's.

Organization C is mainly influenced by the ADA Amendments Act of 2008 (ADAAA) that broadens the definition of the term "disability" which makes individuals seek the law's protection easier (United States Equal Employment Opportunity Commission 2011). The influence of the ADA on covered employers has been increased since the ADAAA broadened the definition of the term "disability", including diabetes, multiple sclerosis, major depression, bipolar disorder, and other disabilities, that were not covered in the original text of the ADA (United States Equal Employment Opportunity Commission 2011). As a result of the ADAAA and EEOC's regulations, it has become easier for individuals seeking the law's protection to

² When employees exhaust 12 weeks of leave under the FMLA and still cannot return to work due to their medical condition, an interactive dialogue is necessary to determine if extended medical leave is an ADA qualifying situation (United States Equal Employment Opportunity Commission 2002). If an extended leave poses an undue hardship on the business, the employer needs to demonstrate why (United States Equal Employment Opportunity Commission 2002).

demonstrate that they meet the definition of “disability” (United States Equal Employment Opportunity Commission 2011).

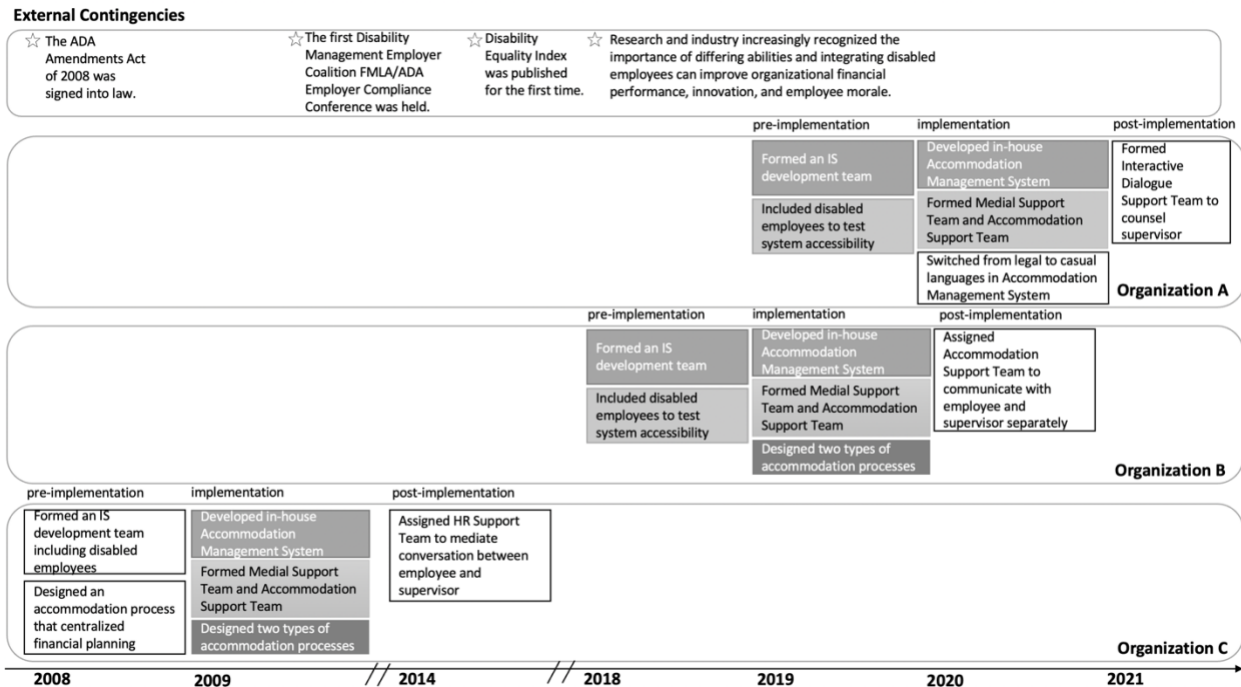


Figure 4. Timeline of the Three Organizations’ Activities Developing and Implementing Their Accommodation Management Systems

4.4.2. Creating a Formal Process

The primary goal of the creation of the in-house accommodation management systems for all the three organizations is to comply with laws and regulations. They select the cognitive legitimation strategy to ensure that the systems have necessary functions to achieve this goal. They all create a formal process using their accommodation management systems along with HR specialists’ support.

4.4.3. Documenting Related Information

Like 4.4.2, the three organizations select the cognitive legitimation strategy to use their accommodation management systems to document related information, which helps comply with the laws and the EEOC’s requirements.

4.4.4. Handling Financial Issues

As stated earlier, supervisors are often concerned about costs of providing accommodations. The three organizations apply different legitimation strategies to handle such financial issues.

Organizations A and B adjust the pragmatic strategy to balance financial benefits and accommodation compliance, while Organization C selects the normative strategy to centralize financial resources. These distinguishing choices are associated with their different organizational identities (see Section 4.4.9).

After implementing their in-house accommodation management systems, Organizations A and B find that their IS legitimation strategies do not fit well with their individualistic identity. These strategies cause conflicts between financial benefits and accommodation compliance. Therefore, Organizations A and B need to adjust their legitimation strategies in order to make the IS practices meet the target shaped by their individualistic identity. Specifically, Organizations A and B adopt the pragmatic legitimation strategy to achieve the balance between financial benefits and legal compliance.

On the contrary, Organization C selects the normative strategy to centralize financial resources when creating its in-house accommodation management system. This is because Organization C has a collective identity, which concerns an accommodation management system integrating different perspectives from a variety of stakeholders including disabled employees. Once Organization C includes disabled developers during the pre-implementation phase, these developers based on their own experiences suggest centralizing financial resources for accommodations.

4.4.5. Considering Social Interactions

Because of the social characteristics of the accommodation process including extensive communications among stakeholders (Baldrige and Veiga 2001; Gold et al. 2012; Suchman 1995), Organizations A, B, and C include the normative strategy and form the legitimation structures of IS considering social interactions. To emphasize social interactions and help stakeholders who use IS better understand the accommodation process, Organization A tests accessibility of IS and relaxes the formality of written communications in IS and uses more

casual language. Organization B tests accessibility of IS and assigns specialists manually based on their existing relationships with disabled employees. Organization C includes disabled employees in the IS development.

However, I want to highlight that although the three organizations all select the normative strategy to consider social interactions, they execute different approaches. Organizations A and B execute the social approach to include disabled employees to test accessibility of their systems during the pre-implementation phase, but they do not execute the moral approach to include disabled employees in the IS development team to make development decisions. On the other hand, Organization C executes the moral approach to integrate disabled employees in the IS development. This disparity between Organizations A and B's execution of the normative strategy and Organization C's execution of the normative strategy is due to their different organizational identities (see Table 8). The individualistic identity focusing on a self-interest view does not allow Organization A and B to execute the moral approach to address the underlying belief of empowering disabled employees by letting them develop the accommodation process that promotes the marginalized group's values.

Conversely, Organization C's focus on the moral approach of normative strategy fits well with its collective identity. This identity allows a perspective taking and collaborative atmosphere in Organization C. This would be especially beneficial for disabled employees by increasing supervisors' perspective taking and empathy. Such collective environment helps integrate diverse perspectives including disabled employees'. As a result, Organization C executes the moral approach of the normative strategy, which strengthens the organization's merit focusing on social welfare and values.

4.4.6. Addressing Individual Needs

Because of the social characteristics of the accommodation process including individualized services (Baldrige and Veiga 2001; Gold et al. 2012; Suchman 1995), Organizations B and C include the normative strategy to address individual needs. An accommodation management system standardizes and streamlines the accommodation process so that the system can process each disabled employee's request in the same way. However, it is unlikely that these automatic

and standardized processes could meet each employee's needs. To form the legitimization structures of IS that fit with their users' needs, Organizations B and C carry out the individual approach of the normative strategy to address individual needs through different types of IS or processes. As a result, the users are more convinced that accommodation management systems would help achieve their needs and thus the IS gain legitimacy. From the Organization A's empirical data I collected, it did not mention the individual approach of the normative strategy. I believe the reason is that individualized services are not often needed for medical leave requests that are covered by the first phase of Organization A's in-house accommodation management system project.

4.4.7. HR Specialist Role

HR specialists in the three organizations take multiple roles helping with different IS legitimization strategies. These specialists in all the three organizations support the formal accommodation process, as part of the cognitive strategy. HR specialists in Organizations B and C also help with legal issues, as part of the regulative strategy. Again, Organization A only conducted the first phase of its accommodation management system project by the end of the interview period and did not mention specific legal issues its HR specialists helped with.

Regarding the pragmatic strategy and the normative strategy, HR specialists in the three organizations play different roles according to divergent organizational identities. HR specialists in Organizations A and B help balance financial benefits and accommodation compliance according to their individualistic identity, while HR specialists in Organization C help mediate difficult conversations between disabled employees and supervisors according to its collective identity. I also discovered different approaches to execute the pragmatic strategy in Organizations A and B because of their distinct flexible identity and bureaucratic identity (see Table 8). Organization A creates an IDS team to review an employee's attendance history and advice a supervisor how to conduct an interactive dialogue. Then it also lets the supervisor have a conversation with the employee based on what the former has learned from the IDS team. The reason why Organization A uses a bilateral approach is related to its flexible identity. As mentioned earlier, Organization A operates numerous retail stores with a manager (supervisor) in each store. These supervisors are very busy and do not have time to go through all kinds of job

trainings, among which the accommodation piece is a tiny piece. Despite all the accommodation-related trainings offered to supervisors, they may still not understand the accommodation process and compliance well. To address this issue, the IDS team is designed to support supervisors' accommodation decision-making. An IDS specialist is responsible for conducting a consultation meeting with a supervisor in which helps the supervisor review the employee's attendance analysis and an interactive dialogue process to talk with the employee. After consultation with the IDS specialist, the supervisor can communicate with the employee more effectively in order to achieve the goal of balancing financial benefits and accommodation compliance. On the other hand, Organization B assigns accommodation specialists to talk with disabled employees and supervisors separately instead of encouraging employees and supervisors to communicate. The reason behind this separation approach is associated with Organization B's bureaucratic identity. Its hierarchical structure creates demands for accommodation specialists who are familiar with related laws and business impact, which would help balance legal compliance and financial benefits.

Moreover, the roles HR specialists play evolves over time. Legitimation is a continuous process, which needs to be gained and monitored (Du and Flynn 2010). Accordingly, HR specialists who help with the legitimation process also adjust their roles. During the post-implementation phase, Organizations A and B adjust the pragmatic strategy to fit their individualistic identity. As a result, Organization A forms an IDS team to counsel supervisors on how to conduct interactive dialogues and accommodation disabled employees based on their absence records; Organization B assigns accommodation specialists to communicate with disabled employees and supervisors separately. Organization C conducts IS legitimation maintaining activities by strengthening the moral approach of the normative strategy. Specifically, Organization C adjusts the HR specialists' role to a mediator role. The characteristic of the collective and mediation support in Organization C is interpersonal and perspective taking, helping employees and supervisors take each other's perspective. This would be especially beneficial for disabled employees by increasing supervisors' perspective taking and empathy. Such collective environment also helps an individual consider themselves as an interpersonal being, value a dissimilar other, and generate a consistent collaborative atmosphere (Brickson 2000). This method, however, may also increase the chance of heated debate in organizations. Organizations should view this as an

opportunity to integrate diverse perspectives, focus on how the conflicts are handled instead of counting the number of conflicts, and achieve the success of integration rather than domination or compromise (Brickson 2000). As a result, Organization C’s moral approach of the normative strategy strengthens the organization’s merit focusing on social welfare and values.

4.4.8. Maintaining Disability Data Security

According to laws and regulations, disability data and information need to keep secure. Therefore, all the three organizations select the regulative legitimation strategy to ensure that the systems operate in accordance with this requirement.

4.4.9. Organizational Identities

As discussed above, Organizations A, B, and C have different organizational identities (see Table 8). Organization A has an individualistic and flexible identity, which does not allow it to execute the moral approach of the normative strategy and affects its execution of the bilateral approach of the pragmatic strategy. Organization B has an individualistic and bureaucratic identity, which does not allow it to execute the moral approach of the normative strategy and affects its execution of the separation approach of the pragmatic strategy. Organization C has a collective and flexible identity, which affects its execution of the moral approach of the normative strategy.

Table 8. Overview of the Three Organizations’ Identities

Site Name	Organizational Identity	Approaches of IS Legitimation Strategies
Organization A	Individualistic Flexible	No moral approach of the normative strategy Bilateral approach of the pragmatic strategy
Organization B	Individualistic Bureaucratic	No moral approach of the normative strategy Separation approach of the pragmatic strategy
Organization C	Collective Flexible	Moral approach of the normative strategy

5. PROPOSED THEORETICAL MODEL

To help make sense of the various concepts and their relationships in the empirical data, I constructed Figure 5, which generalizes the main findings of how to select and execute IS legitimization strategies from a multi-dimensional value generation perspective.

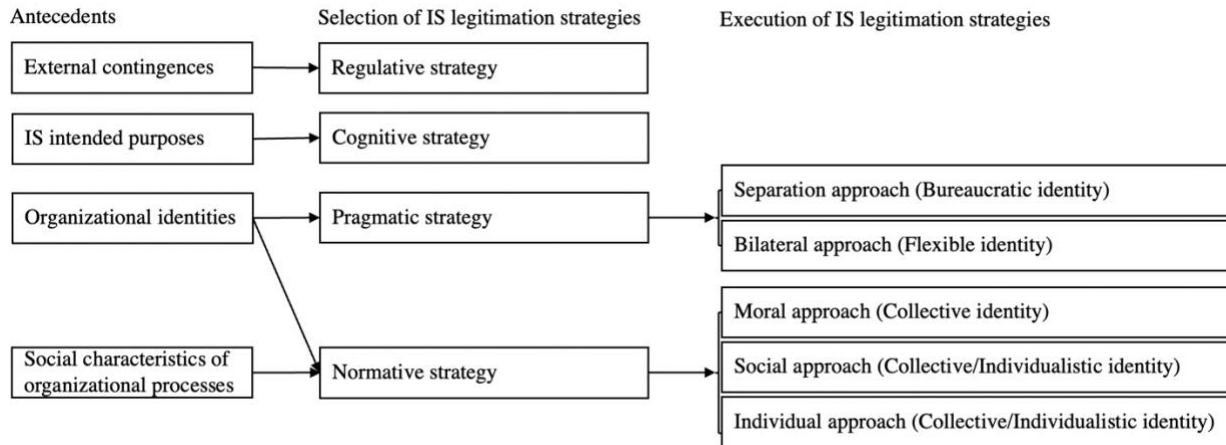


Figure 5. A Proposed Theoretical Model of Selecting and Executing IS Legitimation Strategies from a Multi-dimensional Value Generation Perspective

Compared my findings to the IS legitimization literature, four IS legitimization strategies echoed the existing studies. The regulative strategy and the cognitive strategy are similar to previous findings. This research contributes to the pragmatic strategy and the normative strategy from a multi-dimensional value generation perspective in the following aspects. First, I identify the role of organizational identities in the selection and execution of IS legitimization strategies. Existing studies have identified a legitimization gap between the desired legitimization structure (target) and IS practices (Du and Flynn 2010; Flynn and Hussain 2004). I recognize that to close the gap, organizations need to apply IS legitimization strategies and specific approaches to make IS practices reach the target shaped by organizational identities. Second, to my knowledge, this is the first study that uniquely identifies the specific approaches of IS legitimization strategies organizations can execute. This finding is important because how to execute specific approaches of IS legitimization strategies influences IS legitimacy. Even if two organizations select the same IS legitimization strategy, if they do not execute a specific approach that makes IS practices reach the target shaped by their organizational identities, the legitimacy of the IS will not be achieved.

This finding is also an extension to the IS legitimation monitoring activities in the existing literature (Du and Flynn 2010; Flynn and Du 2012). IS legitimation is a continuous process. After organizations select IS legitimation strategies, they may need to adjust their strategies and specific approaches so that they can achieve IS legitimacy.

Now I present concrete details of the model of selecting and executing IS legitimation strategies from a multi-dimensional value generation perspective. When introducing a new IS practice, organizations need to consider several antecedents that affect their selections of IS legitimation strategies. Firstly, organizations need to assess external contingencies, check the IS intended purposes, and select relevant strategies. I focus on external contingencies such as laws and regulations; accordingly, organizations should apply the regulative strategy complying with rules and regulations. IS intended purposes mainly affect the selection of the cognitive strategy focusing on the functions of the IS. For example, in the accommodation context, IS are introduced to help organizations comply with laws, thereby organizations select the cognitive strategy to help achieve this goal. Secondly, organizations need to examine the fitness between their organizational identities and the IS practice and select relevant IS legitimation strategies. These strategies would mainly focus on the pragmatic and normative strategies because these two strategies are more likely to reflect organizational identities (a self-interest view versus a collaborative view) than the cognitive strategy focusing on IS functions and the regulative strategy emphasizing compliance with regulations. Thirdly, in a multi-dimensional values generation context, organizations need to consider social characteristics of organizational processes, which are associated with the normative strategy. For instance, healthcare IT generating multi-dimensional values including providing better patient care needs to fit with the social characteristics of the healthcare process (Hussain and Cornelius 2009; Kaganer et al. 2010; Paré et al. 2020; Strong et al. 2014). To do this, organizations can adopt the normative strategy considering individual and social factors (Chatterjee et al. 2009).

In addition to the selection of IS legitimation strategies, organizations need to use appropriate approaches that fit with organizational identities to execute these strategies in order to make IS legitimate. Examining if an approach for an IS legitimation strategy fits organizational identities plays a major role in the execution of this strategy. As shown in the empirical findings, even

though Organizations A, B, and C all apply the normative strategy, they choose different approaches to execute the strategy. During the pre-implementation phase, Organization C executes the moral approach of the normative strategy including disabled employees to consider the marginalized group's interest when developing IS because of its collective identity, while Organizations A and B only execute the social approach including disabled employees to test accessibility of their systems to improve social interactions but do not execute the moral approach because of their individualistic identities. Moreover, during the post-implementation phase, although Organizations A and B both select the pragmatic strategy, they execute this strategy using different approaches (a bilateral approach versus a separation approach) according to their distinct organizational identities (a flexible identity versus a bureaucratic identity).

I also want to highlight that the selection and execution of IS legitimation strategies is a continuous process, which needs to be maintained or repaired as needed. Previous IS legitimation strategies may cause conflicts with organizational identities. Therefore, organizations need to adjust their IS legitimation strategies accordingly. When organizational identities do not fit the marginalized group's interest, organizations tend to select the pragmatic strategy to focus on the dominant group's interest. On the other hand, when organizational identities match the marginalized group's interest, organizations can strengthen the normative strategy to empower the marginalized group.

6. THEORETICAL AND PRACTICAL IMPLICATIONS

6.1. Theoretical Implications

This research has several major theoretical contributions. First, this study enhances our understanding of how to achieve IS legitimacy. Specifically, this work examines how to select and execute IS legitimation strategies from a multi-dimensional value generation perspective according to external contingencies, social characteristics of organizational processes, and organizational identities. This area has been understudied in the IS legitimation literature. As an exception, Ramotar and Baptista (2013) briefly mentioned according to their case study organization's "numbers-driven identity, departments and teams usually compete with each other for new accounts and revenue (p. 8)", therefore, it uses the pragmatic strategy. However, their article did not theorize the relationship between organizational identities and IS legitimation

strategies. I theorize the relationship between the selection and execution of IS legitimation strategies and external contingencies, social characteristics of organizational processes, and organizational identities. In particular, this is the first study that has examined the execution of IS legitimation strategies, which provides an in-depth understanding of how to achieve IS legitimacy over time and highlights the importance of IS legitimation monitoring activities. The empirical data shows that even if organizations apply the same IS legitimation strategies, due to the divergent organizational identities, different approaches to execute IS legitimation strategies may be needed to make IS practices reach the target shaped by their organizational identities.

Second, this research highlights how to use the IS normative legitimation strategy in a multi-dimensional value generation context. I uniquely identify three approaches of the IS normative legitimation strategy promoting social welfare and values, including individual, social, and moral approaches. These approaches depend not on judgments about whether a given approach supports traditional economic and rational values but rather on judgments about whether an approach is “the right thing to do” in a multi-dimensional value generation context (Suchman 1995). I posit that in such context we need the normative strategy to help IS generate social values, as part of multi-dimensional values, that IS are supposed to generate. Specifically, the normative strategy helps achieve IS legitimacy from the three approaches. Firstly, it is critical to include elements that identify individual differences and needs in IS design. In a multi-dimensional value generation context, marginalized groups may have conflicting goals with dominant groups and organizations. We need to consider the former’s individual interests and needs by utilizing IS to generate diverse values. Secondly, it is essential to think about social factors in the IS development process. IS is essentially a complex and socially embedded phenomenon (Avgerou and McGrath 2007). What this means is that IS cannot be set apart from the social and cultural context from which it was developed and placed (Iivari and Huisman 2007). Therefore, IS research should no longer take for granted the values of marginalized populations in the design and implementation of systems. Thirdly, it is important to include marginalized voices and non-economic interests when decisions are made regarding IS development. To do so, we have a couple of specific approaches: (1) Engaging non-dominant groups in the IS development process from the beginning and throughout the process. They can use their strengths, skills, and experiences to help develop an IS that appreciates diverse values.

Moreover, it is also important to include a variety of groups in the IS development process through open and transparent collaboration focusing more on how to use the IS to create diverse values for everyone (Paré et al. 2020). (2) Allocating resources to assist in the diverse value generation. For instance, creating a special budget for issues related to marginalized groups allows these groups not to compete for resources that may be used in other tasks. Another example is that assigning specialists to help with issues marginalized populations may have. Power inequality between marginalized groups and dominant groups is historically related to unequal resource allocation. Therefore, redirecting financial and human resources towards marginalized groups would help promote structural equality and create diverse values.

6.2. Practical Implications

This research offers practical implications for organizations and vendors by informing them of the importance and strategies of applying IS that enable social inclusion in the accommodation process. First, it is critical to design accommodation management systems for considering individual differences. For example, in the accommodation process, IS designers should think about different types of disability and embrace flexibility in order to account for individual needs. For instance, for simple accommodation cases, organizations can create a self-serve accommodation process using an accommodation online page, while still provide an alternative option if employees want to have an interactive dialogue and get help from specialists with accommodation issues. For complex accommodation cases, an accommodation management system coupled with specialists support would help. Moreover, for accommodation ongoing support, an accommodation renew online form can be used to automatically update accommodations for stable conditions. On the other hand, an accommodation management system coupled with specialists support would help with evolving conditions. Considering these individual differences would improve disabled employees' accommodation experiences and their inclusion into the workplace as well as provide a better service to employees and thus reduce litigation risks.

Second, it is important to design accommodation management systems for promoting awareness of disability and accommodation because a major challenge in accommodation practices is the awareness issue and this issue prevents IS from generating diverse values (Kaye et al. 2011;

Moon and Baker 2012; Solstad Vedeler and Schreuer 2011; Stergiou-Kita et al. 2014). Including all types of users is always a best practice in IS development. However, the development of accommodation management systems does not always include disabled employees. One of the reasons is that organizations have not identified disabled employees' interests that are often different from the dominant group's interests. I suggest organizations design accommodation management systems for considering disabled employees' interests and promoting awareness of disability and accommodation. For instance, it is crucial that organizations engage disabled employees and various stakeholders in policy making and IS development for accommodation and overall inclusion. In particular, engaging disabled employees in IS development for accommodation would use their own experiences to provide a better accommodation system and service. Research shows that if IS developers do not work with users to understand their needs, the developers will design IS that privilege the developers' rationalities (Kane et al. 2021). Since the solely economic rationalism is prevalent, such design will further marginalize disabled employees. Including disabled employees in IS design, on the other hand, will help create diverse values and benefit everyone.

Last, it is essential to design accommodation management systems for providing more resources to empower disabled employees. Historically, disabled employees have less power and fewer resources than the dominant group in organizations. We need to design IS for providing more resources to disabled employees because the structural inequality between disabled employees and the dominant group in organizations reinforces the power of the dominant group and we need to break this imbalance. For example, we can provide collective and mediation support to resolve conflicts that may arise between supervisors and employees. These specialists supporting mediation should be aware of disability inclusion and familiar with disabled employees. Thus, employees are comfortable and active expressing their needs and interests during the mediation. These specialists should be trained to identify conflict, help stakeholders communicate effectively and assess their options, as well as provide feedback and execute conflict resolution strategies.

7. LIMITATIONS AND FUTURE RESEARCH

I identify the limitations of this study and implications for future research. I focus on only one social inclusion context—the accommodation context, which would cause concerns about the generalization of the findings. Researchers have discussed the generalizability of qualitative studies. For example, Geertz indicates: “The essential task of theory building here is not to codify abstract regularities but to make thick description possible; not to generalize across cases but to generalize within them.” (p. 25-26, Geertz 1973). The proposed theoretical model of selecting and executing IS legitimation strategies from a multi-dimensional value generation perspective is generalized from the rich empirical data. Although the accommodation context shares a lot of characteristics with other social inclusion contexts such as individual needs, social interactions, structural inequality, and diverse values, this proposed model is new and not fully developed and provides new opportunities to study IS legitimation in other social inclusion contexts. These opportunities include further developing theory about comparing IS legitimation strategies and specific approaches across social inclusion contexts, common themes of the execution of specific approaches of IS legitimation strategies across social inclusion contexts, as well as when and how IS legitimation monitoring activities happen.

8. CONCLUSION

This research examined IS legitimation strategies to achieve IS legitimacy in a multi-dimensional value generation context. This work identified the selection and execution of IS legitimation strategies according to external contingencies, social characteristics of organizational processes, and organizational identities. This study also emphasized three approaches of the normative strategy to raise awareness of marginalized groups and address power inequality. The findings can be generalized to the traditional economic value generation context where there are disagreement and power inequality among various groups.

APPENDIX A

Interview Protocol

(For supervisors, HR specialists, IT executives & workers)

Organization: _____

Interviewee (Title and Name): _____

Introductory protocol: Thanks for taking the time to talk with me. The goal of this research is to look at workplace accommodation processes and the role of information systems (IS) play in these processes.

During the interview, I will focus on your experiences with accommodation processes, as well as ask you about IS used in these processes. You may not feel you can answer all questions related to IS, which is fine.

I have sent you the consent form. Do you have any questions before we begin?

If answer is “YES”, answer questions and then proceed to interview questions.

If answer is “NO”, proceed to interview questions.

Would it be okay if I record this interview?

If answer is “NO”, confirm that you will not be recording the interview and continue with interview.

If answer is “YES” [I turn on the recording.] I just have to ask you again so we have it on the recording, would it be okay if I record this interview?

Background items for interviewee:

1. Please briefly describe your experience with disability/accessibility/accommodation services.

[Role] Your role in the accommodation process for employees with disabilities.

[ORG-STRUCTURE] What is the structure of departments related to the accommodation process? How many people are in the accommodation department?

Overall accommodations: These questions look at the accommodations you are familiar with.

2. What are the common types of accommodation requests you have encountered in your work?

Accommodation process: These questions look at the accommodation process you are familiar with.

3. When providing accommodations, please walk me through the accommodation process in your organization. (Use an example from Q2)

[Steps] (a blank sheet of paper)

[Formal Request] How many/How often/to what degree do employees use your accommodation process?

[Disclosure and Request Gap] How many employees disclose their disabilities? (Numbers)

[Request Approval Factors] What factors impact (facilitate and/or impede) the approval of requested accommodations?

[Gather Documentation] Does your organization gather documentation for approving accommodation requests? [If answer is yes] How do you collect such documentation?

[Negotiation] In what ways, if any, did your organization communicate to employees with disabilities after an accommodation request is made? What kinds of things might go into a response?

[Negotiation Factors] What factors impact (facilitate and/or impede) the exploration and decision making of accommodation options?

[Implementation-Procurement] How does your organization buy accommodations if needed?

[Implementation-Delivery] For the accommodations that have been arranged for employees, what is the typical time from request to delivery to employees with disabilities? Do you think the response time is normal, fast, or slow? Why?

[Implementation-Tracking] How does your organization document accommodations?

[Implementation] In what ways, if any, does your organization communicate to employees when implementing accommodations? (How to install/use them?) What kinds of things might go into a response?

[Ongoing Support] In what ways, if any, does your organization communicate to employees with disabilities after an accommodation request is implemented? What kinds of things might go into a response?

Two possible causes: (1) Nature of disability changes or (2) Accommodation itself wears out/is old and needs to be upgraded.

[Ongoing Support-Disability Changes] Sometimes disabilities change and require new or different accommodations. Please describe your experiences with such type of ongoing support.

[Ongoing Support-Outdated Accommodations] Sometimes accommodations become old or obsolete. Please describe your experiences with such type of ongoing support.

[IS] What part of the accommodation process uses computer systems (accessible products)? (a blank sheet of paper)

[IS-INTRO-WHEN] Is IS in the accommodation process relatively new or has IS been part of the process for a long time?

[IS-INTRO-FACTORS] Do you know what prompted your organization to introduce IS into the accommodation process?

[IS-INTRO-FACTORS] Who/Which department, if any, had the greatest influence on the decision of adopting IS in the accommodation process? [Could I talk with them?]

[IS-INTRO-CHANGES] Do you know how IS changed the previous accommodation process? What, if any, were the issues with the previous process? How are such issues resolved now?

[IS-INTRO-PROCUREMENT] What was the process of the IS purchasing like?

[IS-INTRO-PROMOTION] [If IS is packaged software from a third party] How did vendors promote IS to you? How did your organization choose the current vendor? [Could I talk with the vendor?]

[IS-INTRO-COST] How much does IS used in the accommodation process cost?

[IS-FEATURES] What are the features of IS?

[IS-FEATURES-INFO] Who enter the historical info. into IS? What information do you fill in? How do you enter/sort data? (standard(?) entry forms, upload files? each person has a case?) If entry forms, could you send me an example? Can you provide me an example? What, if anything, would you change about this part of IS (i.e., improvements)?

(When implementing accommodations) Are IS organized so that they adequately support different types of disabilities and accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Are IS organized so that they adequately support different types of job duties/departments? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Are IS organized so that they adequately support different state law requirements? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-CONTROL] How does your organization use IS to track accommodations/disabled employees cases? In what ways has IS made the tracking/organization of the accommodation process better? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-COMM] What IS are used for communication among stakeholders? In what ways? (When implementing accommodations) What, if anything, would you change about this part of IS (i.e., improvements)?

How internal stakeholders communicate with each other (email/telephone/video calls)? What are your interactions/experiences with them using these communication methods (email/telephone/video calls)? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-MISSING] What are other features of IS? What is missing in those IS that would be helpful to you?

[IS-STRUCTURE] How well do the features of IS match the structure of the accommodation process?

[UNIVERSAL DESIGN] What kinds of, if any, universal design does your organization have? What is the process of universal design?

[IS Outcomes-Disclosure and Request] How does IS (accessible products, universal design) impact the disclosure and request rate? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Request Approval] How does IS impact the decisions to approve accommodation requests? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Communication] How does IS impact your communication and collaboration with other stakeholders in the accommodation process? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Implement Decisions] How does IS impact the decisions to implement accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Quality of Accommodating] How does IS impact the quality of accommodating? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Social Inclusion] How does IS used in the accommodation process impact reputation and moral of your organization? (more disabled applicants and retention, supervisors' and coworkers' attitudes) Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Work] How does IS impact your work? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

Are there extra things you now need to do in your typical day? Are there things that you no longer need to do? In what ways has the computer made your work easier or harder?

[People] Who (stakeholders/departments) do you interact with during the process? (a blank sheet of paper)

[Role] What role does each person play?

[Coworkers] Are coworkers engaged in the process? If so, how?

[People Experience/Interaction] What are your experiences with them?

[Greatest Influence] Who, if anyone, has the greatest influence on the outcome of an accommodation?

[General Culture] In general, how do people in your organization tend to help each other out?

4. What do you see as costs for making accommodations?

[Pay for Accommodations/Indirect Costs] Who incurs them?

[Policy and Legal]

[ORG-POLICY] What are the organizational policies and procedures that are in place to support the accommodation process?

What do you understand about legal requirements of accommodations?

How do legal requirements and perceived litigation risks impact on your accommodation decisions? Can you provide me an example of how?

[Accommodation Process-Legal] How does your organizational accommodation process or organizational policies comply with laws, policies, and regulations such as the ADA or state laws? Could you send me policy charts, if applicable?

[IS Changes-Legal] How does IS impact litigation costs/risks for your organization? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[Training]

What kinds of trainings have you had related to the accommodation process at work? Who provided the training? How was your training experience?

What kinds of trainings have you had related to diversity or disability awareness? Who provided the training? How was your training experience?

Reflection questions for interviewee:

[Reflection-IS] What have been benefits and/or challenges about the introduction/use of IS? [If answer is challenge] How has your organization dealt with those challenges? [If answer is benefit] In what ways IS make the accommodation process better? How IS-FEATURES might address AP-CHALLENGES?

[Reflection-Accommodation Process] What have been the benefits and/or challenges about the use of your organizational accommodation process? [When they say AP-BENEFITS] Why these are better? [When they say AP-CHALLENGES] In what ways these issues impact the accommodation process? How IS-FEATURES might address AP-CHALLENGES?

Thank you so much for answering the questions so far. We're just about at the end. Is there anything else that you would like to add? Is there anything that you thought I should have asked about the accommodation process, but didn't? Is there anything you feel I missed or didn't give you a chance to respond?

This has been great. You have given me a lot to think about. Thanks so much for your valuable input.

Do you have any forms, process chart, policy chart, training materials, you might be willing to share?

Do you mind if I contact you if I have any additional questions after I look over my notes? YES or NO

Do you have any suggestions about who else I should talk to next?

Again, thanks so much for your time!

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Paper Three: Employing the Critical Disability Theory in the Design for Transforming Collective Information Systems Use in the Accommodation Process

Abstract

Existing research has examined collective IS use according to different configurations of task, user, and system interdependence and has suggested four ideal types of collective IS use. Researchers called for further studies on how to transform nonideal configurations to an ideal type of collective IS use. To respond to this call, this research examines collective IS use in a context—providing accommodations to disabled employees in the workplace—in which interdependencies-in-use exist because of the characteristics of the accommodation process. Through exploratory research with disabled employees from various organizations and a design science research approach, this study builds an integrative framework to study collective IS use, effects of different configurations of collective IS use on accommodation performance, and further investigates how to transform nonideal configurations of collective IS use to an ideal type that results in a better accommodation performance. This work contributes to IS use research by offering rich insights on collective IS use by applying this lens to an empirical context that emphasizes interdependencies-in-use. It also provides a better understanding of how different configurations of collective IS use affect accommodation performance. Moreover, it applies the critical disability theory as a kernel theory to propose design principles for transforming nonideal configurations to an ideal type of collective IS use. This work suggests design principles raising awareness of disability and accommodation, accounting for individual differences and needs, involving multiple stakeholder inputs and social interactions, as well as offering economic, social, and cultural resources to create an emancipatory environment and empower disabled employees.

Keywords: Information systems (IS) use, collective IS use, effects of collective IS use on performance, critical disability theory, design theory.

1. INTRODUCTION

IS use refers to an actor's employment of an IS to carry out a task (Burton-Jones et al. 2020; Burton-Jones and Straub 2006). Existing studies indicate three dimensions of IS use, including task, user, and system (Burton-Jones and Gallivan 2007; Burton-Jones and Straub 2006; Negoita et al. 2018). Collective IS use emerges from individual IS use and reflects interdependencies among individuals of a collective related to their use of IS (Burton-Jones and Gallivan 2007; Negoita et al. 2018). Collective IS use accounts for interdependencies-in-use for the three dimensions of IS use (Burton-Jones and Gallivan 2007; Negoita et al. 2018). Negoita et al. (2018) propose four ideal types of collective IS use shaped by unique configurations of task, user, and system interdependence. In Negoita et al.'s article, "each ideal type of collective IS use is shaped around the nature of task interdependence... conceptualized by establishing which values of user interdependence and system interdependence provide a better fit..." (p. 1290, Negoita et al. 2018). The authors suggest that "given a certain task configuration, the closer the actual profile of collective IS use is to an ideal type, the better the collective performance" (p. 1298, Negoita et al. 2018). They call for further studies on determining the circumstances under which nonideal configurations may transform to an ideal type of collective IS use (Negoita et al. 2018). The present study aims to examine the association between different configurations of collective IS use and performance as well as propose a design theory to transform nonideal configurations to an ideal type of collective IS use that would result in a better performance.

To do so, this research utilizes a context—providing accommodations to disabled employees in the workplace. The accommodation context is relevant for studying collective IS use, especially interdependencies-in-use, a key element to justify that collective use exists (Burton-Jones and Gallivan 2007). In the accommodation context, according to Title I of the Americans with Disabilities Act of 1990 (ADA) as well as the accompanying guidance of the Equal Employment Opportunity Commission (EEOC), accommodations need to be requested, negotiated, implemented, and monitored (United States Department of Justice Civil Rights Division 1990; United States Equal Employment Opportunity Commission 2002). Therefore, accommodation tasks often follow a sequential configuration, which means that a given task (e.g., accommodation negotiation) requires inputs from another task (e.g., accommodation request). In this accommodation process, multiple users are involved, such as disabled employees, human

resources (HR) staff, and supervisors. In some organizations, these users utilize IS to streamline the accommodation process. Moreover, interdependencies-in-use in the accommodation context are mediated through the IS itself and extensive personal interactions. The IS that streamlines the accommodation process consists of various modules (e.g., request, approval, and implementation) and these modules interact with one another. Further, the characteristics of the accommodation process include extensive communications among stakeholders, which means that an HR staff, supervisor, and disabled employee need to communicate with each other when using the IS to process an accommodation request. In addition, we can reasonably anticipate that different configurations of task, user, and system interdependence of IS used in the accommodation process may affect accommodation performance. In the present study, I examine collective IS use in the accommodation process, specifically, different configurations of task, user, and system interdependence. I also investigate how different configurations of collective IS use affect accommodation performance. Then I propose design principles for transforming nonideal configurations to an ideal type that would result in a better accommodation performance.

I examine these issues through a combination of exploratory research and design science research. Since IS used in the accommodation process is an unexplored area in existing research, exploratory interview is an appropriate method to acquire a rich understanding of this topic (Yin 2003). I interview 36 disabled employees who have worked at a variety type of organizations. The interviews focus on their experiences in the accommodation process and how IS are used in that process. I also collect archival files such as accommodation request forms and organizational policies from some interview participants and organizational websites when available. Then, through qualitative content analysis (Strauss and Corbin 1998), I classify different configurations of collective IS use and examine how they affect accommodation performance. I recognize the need to transform nonideal configurations to an ideal type of collective IS use that will result in a better accommodation performance. Thus, I apply the critical disability theory as a kernel theory to propose design principles for transforming nonideal configurations to an ideal type of collective IS use in the accommodation process, accounting for individual differences, improving communications among stakeholders, promoting awareness of disability and accommodation, as well as creating an emancipatory environment and empowering disabled employees.

The present study contributes to IS use research by applying the lens of collective IS use in the accommodation context that emphasizes interdependencies-in-use. This research offers insights into how collective IS use has been used in the accommodation context with the characteristics of extensive communications among stakeholders, iterative processes, individualized services, and complex social information processing. It also investigates how different configurations of collective IS use affect accommodation performance and recognizes the need to transform nonideal configurations to an ideal type of collective IS use. This study applies the critical disability theory as a kernel theory to propose design principles to achieve this transformation. This work suggests that the design of IS in the accommodation context should raise awareness of social inclusion topics, account for individual differences and needs, facilitate multiple stakeholder inputs, empower disadvantaged groups, and build an emancipatory environment.

2. LITERATURE REVIEW

2.1. Collective IS Use

As mentioned earlier, IS use has been defined as an actor's employment of an IS to carry out a task (Burton-Jones et al. 2020; Burton-Jones and Straub 2006). This definition comprises three dimensions of IS use including task, user, and system. The four ideal types of collective IS use based on unique configurations of task, user, and system interdependence are (1) siloed use, (2) processual use, (3) coalesced use, and (4) networked use (Negoita et al. 2018, see Table 1). The organizational design literature points out that task is the core an organization needs to accomplish and is linked to system and user (Van de Ven et al. 1976). As such, in Negoita et al.'s article, each ideal type of collective IS use is shaped around the nature of task interdependence and conceptualized by establishing which values of user interdependence and system interdependence provide a better fit. I discuss each ideal type of collective IS use in more detail below.

(1) Siloed use reflects pooled tasks conducted in a context of low user interdependence and loosely interdependent systems, such as distributed projects (Negoita et al. 2018). Pooled task, which is the lowest level of task interdependence, means that a given task does not require inputs from any other task. Low user interdependence suggests that goals and rewards for users are based solely on individual performance (Wageman 2001). Loose system interdependence means that systems interact and rely on one another on a case-by-case basis and have their own data sources.

(2) Processual use is shaped by sequential task independence with low user interdependence and tight system interdependence, such as Enterprise Resource Planning (ERP) systems. As mentioned earlier, sequential configuration means that a given task requires inputs from any other task. Tight system interdependence suggests that systems are highly interdependent and share a common data source.

(3) Coalesced use reflects reciprocal tasks conducted in the context of high user interdependence and loosely interdependent systems, such as medical technology used by different clinical specialists for a patient’s treatment. Reciprocal tasks involve the practice of exchanging inputs and outputs for mutual benefit, whereby the outputs of each task become inputs for the others (Thompson 1967). High user interdependence suggests that users share a collective goal and the reward is based solely on collective performance (Wageman 2001).

(4) Networked use is shaped by team task interdependence with high user interdependence and tight systems interdependence, such as collaborative technology used by a team for a complex design project. Team task interdependence, which is the highest level of task interdependence, suggests that all tasks are taken in a collaborative, concurrent, and iterative manner (Negoita et al. 2018).

Table 1. Typology of Collective IS Use (from Negoita et al. 2018)

Collective IS Use Interdependence	Siloed Use	Processual Use	Coalesced Use	Networked Use
Task	Pooled	Sequential	Reciprocal	Team
User	Low	Low	High	High
System	Loose	Tight	Loose	Tight

In the accommodation context the present study focuses on, accommodation tasks often follow a sequential configuration. In the present study, I aim to explore what configurations of user and system interdependence are used in the current accommodation process. I would also like to understand how different configurations of collective IS use shaped by task, user, and system interdependence affect accommodation performance. Then I propose design principles for transforming nonideal configurations to an ideal type that will result in a better accommodation

performance. In the following sections, first, I present an overview of effects of IS use in Section 2.2 since I will analyze how IS use affects accommodation performance. Second, to study how IS have been used in the accommodation process, we need to consider the characteristics and current challenges inherent in the process, therefore, a literature review related to accommodation process is conducted and presented in Section 2.3. Third, in Section 2.4, I review medical model and social model of accommodation to help better understand my choice of critical disability theory as a kernel theory for transforming to an ideal type of collective IS use in the accommodation process. Fourth, in Section 2.5, I present a review of critical disability theory.

2.2. Effects of IS Use

In this literature review, I include studies that consider IS use as an independent variable or antecedent and performance related to IS use as dependent variables or outcomes (Burton-Jones et al. 2020). I utilize “MIS Quarterly (MISQ) Research Curation on IS Use” (Burton-Jones et al. 2020) as the first step to search literature in effects of IS use. Then, I expand searches with backward and forward snowballing to examine references cited in identified articles. This is a scoping literature review instead of a systematic literature review because my goal is to focus on the summary of effects of IS use in the existing IS literature rather than to present a statistically representative sample of every article related to effects of IS use. For instance, if a citation examines the same IS and discovers the same effects of IS use as the identified articles, I do not include this citation in this review. For each article included in this review, I also examine the levels of user interdependence and system interdependence of IS use based on the definitions indicated earlier (see Table 2).

IS researchers have focused on positive and negative effects of IS use. Many studies in the IS discipline have studied IS effects related to cost reduction, efficiency, effectiveness, revenue, and profitability increase (Beard and Sumner 2004; Devaraj and Kohli 2003; Dong et al. 2009; Galy and Saucedo 2014; Karim et al. 2007; Kohli 2007; Sedera et al. 2004; Subramani 2004). In recent studies, IS researchers draw attention to other effects of IS use, such as agility, flexibility, user satisfaction and experience, process innovation, and service innovation (Gable et al. 2008; Goodhue et al. 2009; Lange et al. 2016; Rai and Tang 2010; Romanow et al. 2018; Srivastava and Shainesh 2015; Trantopoulos et al. 2017; Wang 2008). There are several frameworks that evaluate

IS effects. DeLone and McLean's (1992, 2003) IS success model measures organizational and project benefits from IS use, including six dimensions such as system quality, information quality, user satisfaction, individual impact, organizational impact, and net benefits. Another framework to measure IS effects include automational, informational, and transformational effects (Uwizeyemungu and Raymond 2009). Shang and Seddon focus on long-term effects of IS use (Shang and Seddon 2000, 2002). They propose a framework and assess five dimensions of these effects, including operational, managerial, strategic, information technology (IT) infrastructure, and organizational dimensions (Shang and Seddon 2000, 2002). Staehr et al. (2012) use this framework to assess the business benefits of ERP systems. Seddon et al.'s study investigates the long-term positive effects of IS use, including integration, process optimization, improved access to information, and overall business improvement (Seddon et al. 2010).

Regarding negative effects of IS use, some studies examine how IS could stifle the need for flexibility. A study finds that enterprise systems can result in differential power among stakeholders (Ignatiadis and Nandhakumar 2007). Stakeholders in positions of power have more access to knowledge. This may lead to unintended consequences such as decrease in organizational flexibility if the centralization of control and knowledge is done excessively (Ignatiadis and Nandhakumar 2007). Another study investigates the tradeoff between standardization and flexibility in the health care context where customers value output variability or individualized products or services (Pelletier 2010). The use of Electronic Health Records (EHR) can bring about standardization, which increases efficiency and effectiveness of health care processes (Pelletier 2010). However, too much standardization for EHR can stifle the ability for clinicians to meet individual patient needs. This study proposes pathways related to balancing standardization and flexibility (Pelletier 2010). Another work focuses on flexible technologies and flexible routines (Leonardi 2011). By examining the imbrication of human and material agencies in the case of a computer simulation technology for automotive design, the author suggests that technologies can be flexible in a context where people can change their technologies or routines (Leonardi 2011).

Another stream of the effects of IS use research is the dark side of IS literature that examines the effects of IS use on human elements such as emotions and mental health (Avgerou and McGrath 2007; Miscione 2007). For example, a study discovers that a new e-government system has

negative emotional effects on government IT staff (Avgerou and McGrath 2007). This article applies Foucault's theory of power/knowledge and ethics, in particular, an aspect of aesthetics of existence to examine government IT staff's concerns about their careers, their relationships with political authority, and their roles in family life affected by the use of this new e-government system (Avgerou and McGrath 2007). Such aspects have been understudied in the IS field (Avgerou and McGrath 2007; Saunders 2007; Willcocks 2004).

Table 2. Major Articles in Effects of IS Use

Article	Type of IS	Effects of IS Use	User Interdependence of IS Use	System Interdependence of IS Use
DeLone and McLean (1992)	General	System quality, information quality, user satisfaction, individual impact, organizational impact	-	-
DeLone and McLean (2003)		System quality, information quality, user satisfaction, individual impact, organizational impact, net benefits		
(Shang and Seddon 2000)	ERP	Operational, managerial, strategic, IT infrastructure, and organizational benefits	High	Tight
(Shang and Seddon 2002)		Operational, managerial, strategic, IT infrastructure, and organizational benefits		
(Devaraj and Kohli 2003)		Mortality, revenue per admission, revenue per day		
(Beard and Sumner 2004)		Efficiency		
(Sedera et al. 2004)		System quality, information quality, individual impact, organizational impact		
(Ignatiadis and Nandhakumar 2007)		Decrease in organizational flexibility		
(Karim et al. 2007)		Efficiency, effectiveness, managerial flexibility		
(Gable et al. 2008)		System quality, information quality, user satisfaction, individual impact, organizational impact		
(Goodhue et al. 2009)		Agility		
(Uwizeyemungu and Raymond 2009)		Automational, informational, and transformational effects		
(Pelletier 2010)		Tradeoff between standardization and flexibility		

(Seddon et al. 2010)		Integration, process optimization, improved access to information, and overall business improvement		
(Staeher et al. 2012)		Operational, managerial, strategic, IT infrastructure, and organizational benefits		
(Galy and Saucedo 2014)		Profitability increase		
(Trantopoulos et al. 2017)		Process innovation		
(Subramani 2004)	IS in supply chains	Operational, strategic benefits	High	Tight
(Dong et al. 2009)		Cost reduction, efficiency, sales increase		
(Avgerou and McGrath 2007)	E-government system	Emotions of IT staff	Low	Tight
(Kohli 2007)	IS for United Parcel Service (UPS)	Cost reduction, profitability increase	High	Tight
(Miscione 2007)	Telemedicine system (telecommunications)	Mental health effects for health care personnel	High	Loose
(Srivastava and Shainesh 2015)		User experience, service innovation		
(Wang 2008)	E-commerce system	System quality, information quality, user satisfaction, individual impact, organizational impact	High	Tight
(Rai and Tang 2010)	Business-to-business (B2B) digital platform	Flexibility	High	Tight
(Leonardi 2011)	Computer simulation technology for automotive design	Tradeoff between standardization and flexibility	Low	Tight
(Lange et al. 2016)	Enterprise architecture management system	Efficiency, effectiveness, flexibility	High	Tight
(Romanow et al. 2018)	Computerized provider order entry	User satisfaction and experience	High	Tight

As shown in Table 2, the extant IS effects studies focus more on IS use with either high user interdependence or tight system interdependence (processual use, coalesced use, and networked use) instead of IS use with both low user interdependence and loose system interdependence (siloeed use). In the present study, I call high-level interdependence (high user interdependence or tight system interdependence) as high-level IS use and low-level interdependence (low user interdependence and loose system interdependence) as low-level IS use. I examine both high-level IS use and low-level IS use in the results section. I also investigate the effects of IS use on human elements such as emotions and mental health, which I refer to emotional tolls in the present study.

2.3. Characteristics and Current Challenges of the Accommodation Process

As stated earlier, the accommodation process is relevant for studying collective IS use because its characteristics require task, user, and system interdependence related to IS use. In this section, I review the characteristics of the accommodation process in more detail. It is also important for us to understand the current challenges inherent in the accommodation process so I can gain more insights on how accommodation performance might be affected by different configurations of collective IS use. Before these, I first present an overview of management and disability research into accommodations, which provides a holistic view of stakeholders and steps involved in the accommodation process.

2.3.1. Overview of Management and Disability Research into Accommodations

Since the IS literature has not paid enough attention to the accommodation process, it is necessary to broaden the literature review beyond the confines of the IS literature. Scholars from management and disability studies have explored questions relevant to disability and accommodations for over 30 years. These areas of research were primarily concerned with illuminating the various stakeholders in the accommodation process and their perspectives of disability and accommodation, as well as the particulars of the accommodation process. Table 3 presents the overview of management and disability research.

Table 3. Overview of Management and Disability Research

View of the Accommodation Process	Management Research	Disability Research
Stakeholders' Perspectives of Analysis	Internal stakeholders (e.g., disabled employees, HR professional, supervisors, and IT staff)	Internal stakeholders and external stakeholders (e.g., clinicians, vendors, job coaches, nurse case managers)
Steps in the Accommodation Process	Disclosure and request	Disclosure and request, negotiation, implementation, ongoing support

Management research focused predominantly on internal stakeholders' perceptions and treatment of disability and accommodation organizationally, whereas disability research also involved external stakeholders and focused on societal barriers to accommodations. Management studies primarily examine internal stakeholders' perceptions and behaviors in the accommodation process. These include employees' disability identity (Follmer and Jones 2018; Santuzzi and Waltz 2016) and request likelihood (Baldrige and Swift 2013; Baldrige and Veiga 2001), supervisors'

intentions and decisions to provide accommodations (Carpenter and Paetzold 2013; Florey and Harrison 2000), and coworkers' reactions to accommodations (Colella 2001; Colella et al. 2004).

Disability research includes a broader focus and studies external job coaches (also referred to as rehabilitation practitioner, employment specialists, etc.), clinicians, and nurse case managers in the accommodation process (Cheng and Hung 2007; Corbière et al. 2014; Gioia and Brekke 2003; Granger 2000; Nevala et al. 2019; Shaw and Feuerstein 2004; Williams-Whitt et al. 2016). Integrating different stakeholders in the accommodation process emphasizes the collective efforts to address the needs of marginalized groups such as disabled people. The disability literature reveals conflict between supervisors and clinicians. During the accommodations process supervisors focus on job tasks, while clinicians focus on symptom reduction, both sides echoing the ableism view (Shaw and Feuerstein 2004). Additionally, supervisors often receive insufficient or inaccurate medical information, which makes it challenging for them to assign appropriate duties to employees (Williams-Whitt et al. 2016). Clinicians often, on the other hand, lack adequate data about job demands and worksite factors to specify a more detailed guideline for accommodations (Shaw and Feuerstein 2004). To address this issue, a study suggests that self-report and checklist measures of physical job demands and workplace exposures provided to nurse case managers (work with clinicians, consult with disabled employees and their supervisors) may fill this gap and facilitate the accommodation process (Shaw and Feuerstein 2004). However, this study finds that this approach led to the development of more accommodations, but 25% of those accommodations were never implemented (Shaw and Feuerstein 2004). Thus, significant hurdles may still be in place for supervisors to provide adequate accommodations. The study highlights the need for new tools to facilitate employee's ability to suggest and negotiate accommodations more efficiently and effectively (Shaw and Feuerstein 2004).

Management research lacked a holistic perspective of the accommodation process whereas a few disability studies looked at each step in the process holistically. Most management studies focus on disability disclosure and accommodation requests (Baldrige and Swift 2013; Baldrige and Veiga 2001; Follmer and Jones 2018; Santuzzi and Waltz 2016). In spite of the limited attention paid to the entire accommodation process in management research, a few disability articles look at different steps in the process holistically. For example, one study looks into a formal

accommodation process and examines difficulties faced by employees requesting accommodations and employers processing the requests (Gold et al. 2012). This study identifies that the most challenging part in the accommodation process was accommodation negotiation and the subsequent implementation of accommodations (Gold et al. 2012). This study suggests that training interventions should be tailored to stakeholders specific to their roles in the accommodation process in order to raise their awareness of their obligations related to accommodation (Gold et al. 2012). Another study delves into supervisors' decision-making in the accommodation process and emphasizes its iterative nature and the necessity of ongoing support due to multiple reasons such as the complexity of accommodations and the dynamics of job scenarios (Williams-Whitt et al. 2016). Therefore, this study proposes that adequate resources should be provided to support the entire accommodation process, in order to motivate supervisors to engage in the process and thus increase the likelihood of effective accommodations (Williams-Whitt et al. 2016).

In sum, the management and disability studies inform our understanding of the accommodation process and how IS might facilitate such a process more effectively. Each field provides an important perspective on who is involved in accommodations, the role each stakeholder plays and the challenges they face, the various stages of the accommodation process, and the tensions that exist among stakeholders throughout the process. Integrating insights from both bodies of work provides a more holistic view of the accommodation process.

2.3.2. Characteristics of the Accommodation Process

In this section I distill the existing management and disability literature by highlighting four key characteristics of the accommodation process. They include (1) extensive communications and information exchanges among stakeholders, (2) iterative processes, (3) individualized services for accommodations, (4) complexity of social information processing among stakeholders. I discuss each in more detail below.

(1) Extensive communications and information exchanges among stakeholders: The accommodation process requires a lot of collaboration and communications among stakeholders (Howlin et al. 2005; Nevala et al. 2015; Shaw et al. 2008). For example, supervisors or HR staff

need to cooperate with employees and discuss potential accommodation options, which is a determinant of the succeeding accommodation tasks and eventually effective accommodations (Corbière et al. 2014; Granger 2000; Nevala et al. 2015).

(2) Iterative processes: Supervisors iterative decision-making and ongoing support are critical as accommodations are often complex and/or repetitive, disabilities are progressive, and workers' needs, abilities, and insights change over time (Williams-Whitt et al. 2016). In addition, job scenarios are dynamic and may change frequently (Gourdeau et al. 2018; Williams-Whitt et al. 2016).

(3) Individualized services for accommodations: Since disabled people have various accommodation needs, appropriate accommodations require an intricate level of individualized design. Again, this requires significant communication and information sharing in the accommodation process (Gourdeau et al. 2018).

(4) Complexity of social information processing among stakeholders: The accommodation process is a complex social process (Colella 2001). For instance, whether or not an accommodation is viewed as “needed” plays an important role in determining supervisors' and disabled workers' decisions (Colella 2001). According to the law, an employer does not need to provide “unreasonable” accommodations. However, what is reasonable or unreasonable is not always clear and does not address the need of the disabled. But coworkers' negative reactions could make the accommodation seem “unreasonable” (Colella 2001). Many accommodations require the cooperation and support of coworkers, which is likely to be affected by how they feel about accommodations (Colella 2001). Furthermore, their negative feelings about accommodations could impact supervisors' decisions to provide accommodations and disabled workers' willingness to request accommodations. Therefore, awareness of disability and accommodation among stakeholders plays a big role in this complex social information processing and affects accommodation performance.

2.3.3. Current Issues in the Accommodation Process

The literature review points to various challenges inherent in accommodations. These challenges consistent across management and disability studies may be organized in three types, namely (1) operational issues, (2) social issues, and (3) legal issues. Below I provide a summary of the key challenges relevant to each type.

(1) Operational issues relate to the ways in which the accommodation process operates, which may lead to inefficiency or ineffectiveness (Strong and Volkoff 2010). Operational issues include inaccurate or insufficient communication and information exchange among internal and external stakeholders, as well as a lack of accommodation-related knowledge and resources by disabled employees, supervisors, senior management, and external stakeholders (Carmona et al. 2019; Gates 2000; Kaye et al. 2011; Moon and Baker 2012; Price and Gerber 2001).

(2) Social issues are caused by conflicting interests among stakeholders, which contravenes stakeholders' values and may result in injustice (Baldrige and Veiga 2001; Mingers and Walsham 2010). Social issues include non-recognition of accommodation needs, negative attitudes toward accommodations, and reluctance to communicate about accommodation needs (Nevala et al. 2015). For instance, disabled employees need accommodations to fulfill their tasks and become more productive. However, their supervisors may have negative attitudes toward accommodations. Moreover, the organizational environment may not recognize accommodation needs, which could impact supervisors and coworkers' reactions to accommodations (Price and Gerber 2001; Solstad Vedeler and Schreuer 2011). These could also affect employees' decisions to request accommodations (Coole et al. 2013; Gold et al. 2012). They may be reluctant to communicate about accommodations and, thus, not have their needs met (Coole et al. 2013; Gold et al. 2012; Holmgren and Ivanoff 2007; Unger 1999).

(3) Legal issues arise when decisions are made to avoid perceived litigation risks, rather than to truly help disabled people (Roehling and Wright 2006; Yosef et al. 2019). Legal issues include fear of legal liability and potential litigation as well as a high percentage of charges related to accommodation. According to the EEOC and Title I of the ADA, both public and private organizations with at least 15 employees are required to provide accommodations (United States

Department of Justice Civil Rights Division 1990; United States Equal Employment Opportunity Commission 2002). The legal pressures often cause decision makers to over emphasize legal requirements in order to minimize litigation risks over facilitating a more effective process (Roehling and Wright 2006; Yosef et al. 2019). There is evidence in the literature that the percentage of legal charges related to accommodation under the ADA is comparatively high (27% of all legal charges) (Bjelland et al. 2010).

2.4. Medical Model and Social Model of Accommodation

In this section, I review medical model and social model of accommodation to help better understand my choice of critical disability theory as a kernel theory (presented in the following section) for transforming to an ideal type of collective IS use in the accommodation process.

The medical model views disability as a problem that needs to be “fixed” (see Figure 1). It suggests that disability is an individual incapacity due to medical restrictions, and these individuals need to take responsibility for their disability and make adjustments to adapt to their work (Scott et al. 2019; Seing et al. 2012). The medical model defines accommodations as assistance to an employee or changes to adapt to a workplace based on the employee’s “barriers” at work (Girdhar et al. 2001). The medical model cannot sufficiently address the challenges related to accommodation because it ignores that it is the context that is the barrier and not the person.

The social model, however, views that disability is caused by the way society is organized and thus the issues exist in the environment not the individual (Rioux and Valentine 2006) (see Figure 1). The social model perspective puts accommodation in an economic, social, and political context and engages more people to engage in relevant issues. Through a more holistic approach, the social model improves the quality of accommodations and work ability as well as enhances the overall capability to manage employees with differing abilities (Wåhlin et al. 2013).

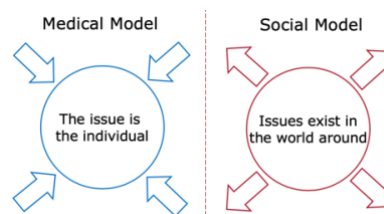


Figure 1. Medical Model Versus Social Model

2.5. Critical Disability Theory as a Kernel Theory

I use the critical disability theory as a kernel theory to develop design principles for transforming nonideal configurations to an ideal type of collective IS use in the accommodation process (networked use with team task interdependence, see the reasons and goals for this transformation in the following sections). I choose the critical disability theory as a kernel theory because it pays attention to individual differences, disability awareness, social interactions, and emancipation for disabled people, which fit well with networked use with team task interdependence (see Section 5.1). In addition, the critical disability specifically focuses on disabled people and is consistent with the social model perspective of accommodation, which is a great fit for the present study's subjective and context. While other critical theories have been used in IS studies (see Table 4), based on the reasons stated earlier and the comparison in Table 4, the critical disability theory is the best fit for guiding IS design principles for transforming to an ideal type of collective IS use in the accommodation process.

Table 4. Critical Theories in IS Studies

Critical Theory	Emphasis	Original Research Subjective	Example Studies in IS
Bourdieu's theory of habitus and forms of capital	Forms of economic, social, and cultural capital	Underrepresented workers in Algeria and underrepresented working-class children in tertiary education in France	Krauss 2013; Krauss and Turpin 2013; Kvasny and Keil 2006; Newman et al. 2017
Foucault's relational conception of power	Subjecting systems of power	Historical studies of institutions	Avgerou and McGrath 2007; Doolin 2004; Hur et al. 2019; Stahl et al. 2012; Stahl et al. 2010; Vieira da Cunha et al. 2015; Young et al. 2012
Habermas' theory of communicative action	Communicative action	Historical analysis of social knowledge	Adam 2002; Cecez-Kecmanovic et al. 2002; Cibangu et al. 2017; Germonprez and Zigurs 2009; Jahanyan et al. 2012; Lee et al. 2017; McGrath et al. 2012; Stahl et al. 2012; Stahl et al. 2010; Young 2018
Freire's emancipatory pedagogy	Emancipation	Indigenous people in post-colonial Brazil	Kane et al. 2021; Kvasny and Keil 2006; Young 2018
Critical disability theory	Challenging ableism, emancipation	Disabled people	Adam and Kreps 2006; Adam and Kreps 2009; Goggin 2017

Note. This table integrates content from Kane et al. 2021; Myers and Klein 2011.

The critical disability theory focuses on criticizing ableism and emancipating disabled people (Campbell 2008). The limitation of ableism is that it reinforces a world view of the preferability and obligation of the norms of abled body/mind (Campbell 2008; Williams and Patterson 2019). Ableism results in a failure to highlight and explore difference and reinforces the belief that disability should be fixed (Adam and Kreps 2006; Campbell 2008; Williams and Patterson 2019), which is in line with the medical model perspective. The critical disability theory emphasizes individual differences of disabled people (Campbell 2008). One needs to take a comprehensive view of the context and refrain from oversimplified essentialist interpretation of individuals (Adam and Kreps 2006; Campbell 2008; Chatterjee et al. 2009), which is consistent with the social model perspective.

Moreover, the critical disability theory challenges the rationalism of disablement at the expense of diverse values and needs of disabled people (Campbell 2008; Goggin 2017; Rioux and Valentine 2006). It helps raise awareness of disability and accommodation that empowers disabled people to be successful in the workplace.

Furthermore, the critical disability theory also considers interactions between individuals (Campbell 2008; Goggin 2017; Rioux and Valentine 2006). Relevant to the accommodation process, the critical disability theory is helpful to explore how we could engage different human actors in the process. It helps uncover the complexities of the accommodation process relevant to extensive communications and information exchanges among stakeholders, iterative processes, and complexity of social information processing among stakeholders.

Additionally, the critical disability theory helps pay attention to the broader social, economic, and political context (Rioux and Valentine 2006). It helps analyze the unequal distribution of resources among organizational stakeholders (Campbell 2008; Rioux and Valentine 2006). Relevant to the accommodation process, the critical disability theory is useful because it helps pay attention to the integral aspect of socio-technical systems incorporating technologies, people, processes, tasks, and policies. It also helps challenge the structural inequality among organizations that have different resources for providing accommodations and build an emancipatory environment for disabled people.

3. METHODOLOGY

3.1. Data Collection

The present study aims to understand collective IS use in the accommodation process, which is an unexplored area in existing research. Thus, semi-structured interview is an appropriate method to acquire a rich understanding of this topic (Yin 2003). A semi-structured interview protocol (see Appendix A) with open-ended questions was developed based on a systematic literature review in IS, disability, and management studies as well as reviewed by experts both in academia and the disability and accommodation field. Overall, the interview questions were about disabled employees' experiences in the accommodation process and how IS were used in that process. The interview protocol was approved by the Institutional Review Board (IRB) prior to the field study. Thirty-six interviews were conducted from August to December of 2020. The average interview length was 60 minutes and the total number of transcription pages was 486.

To gain access to participants, a recruitment email was sent to Facebook disability groups, LinkedIn disability groups, and other disability organizations in North America³. The sample comprised 36 participants (see Table 5): 10 males and 26 females. Five participants worked at governmental organizations, 11 at educational institutions or organizations, 14 at other non-profit organizations, nine at for-profit organizations, and two were self-employed. Five participants had worked in multiple organizations. The average organizational tenure was eight years. With respect to disability types, 20 participants had vision disabilities, eight had cognitive disabilities, four had hearing disabilities, and four had mobility disabilities. Participants signed an IRB approved consent form and those who completed the interviews were given a \$10 Amazon gift card. Archival files such as accommodation request forms and organizational policies were also collected from some participants and organizational websites when available.

³ All the participants except two were from the United States. Those two participants were from Canada. The requirements for accommodations in the Canadians with Disabilities Act are similar to the requirements in the Americans with Disabilities Act (ADA).

Table 5. Description of the Participants

	Number
Total	36
Gender	
Male	10
Female	26
Organization Type*	
Governmental	5
Educational	11
Other non-profit	14
For-profit	9
Self-employed	2
Disability Type	
Vision	20
Cognitive	8
Hearing	4
Mobility	4

*Five participants had worked at two organizations respectively.

3.2. Data Analysis

I analyzed the qualitative data following Strauss and Corbin's (1998) coding process. The NVivo 12 software package was used to support coding and analysis. The first step, open coding, identified descriptive categories through a sentence-by-sentence analysis. For some sentences/paragraphs, multiple codes were attached to capture different dimensions the texts delivered. For example, an interviewee Tiffany⁴ mentioned "I remember this now that supervisor also got a confirmation from [a centralized program of accommodations] because sometimes when we would get the confirmation from [the program], the supervisor would call me or see them in the hall or whatever, [ask] what is this about?... because most of the accommodation requests were computer-related, technology-related something that the supervisor wouldn't know or have any reason to care whether they bought it or not... the supervisor was included in the process." Open codes including discussing accommodation options, supervisor's role, centralized program of accommodations were attached to this paragraph. This open coding process resulted in 937 open codes covering the broad set of concepts in 36 interviews.

⁴ All participant names have been changed to pseudonyms.

Then axial coding was initiated to integrate open codes from the same dimensions, name and arrange categories, and explore subcategories. Through axial coding, I recognized that different levels of IS use exist in participants' organizations' accommodation processes. I further used fuzzy set Qualitative Comparative Analysis (fsQCA) to classify these different levels of IS use in the results section.

After axial coding, I conducted selective coding by aggregating different categories into a coherent picture and developing theoretical themes. Through selective coding, I identified the measurements of accommodation performance, including positive and negative IS effects and emotional tolls of different levels of IS use. The IS effects are associated with effectiveness and efficiency. Positive IS effects are related to high effectiveness, i.e., usually get approved for whatever accommodations requested, and high efficiency, i.e., easily find accommodation-related information and follow through the process. Negative IS effects are related to low effectiveness, i.e., often cannot request accommodations that are not on a pre-approved accommodation checklist, and low efficiency, i.e., employees go through many stakeholders to get the accommodation process going. The high-level IS use results in low emotional tolls, i.e., employees feel much more comfortable requesting accommodations. The low-level IS use results in higher emotional tolls, i.e., employees may experience mental health issues. Table 6 presents examples of several passages and how they were coded from open, axial, to selective codes. The detailed results are presented in the results section.

Table 6. Coding Examples

Interview Texts	<u>Open (underlined) and Axial (italic) Codes</u>	Selective Codes Developing Theoretical Themes
<p><i>Isabella:</i> It [the accommodation process] is usually pretty smooth because they [HR specialists] basically send all the information to who they need to send it to and then they contact you to see when is a good time for us to set it up and they tell you hey, this is when it's going to be shipped. Here's your tracking number so you can see when it's going to come in.</p>	<p><u>Smooth process</u> <i>Full access-Outcome</i></p>	<p>Comparing this passage to other interviewees' passages, themes about positive IS effects of the high-level IS use emerged, specifically, easily finding accommodation-related information and following through the process.</p>
<p><i>Benjamin:</i> I would probably break [the website] down by disability category so that it would be easy for someone to say okay, I have this disability, this is where I can go, this is the information that I can use for my own disability as opposed to have been generalized.</p>	<p><u>Website-Change the disability category</u> <i>Full access-Cons</i></p>	<p>Comparing this passage to other interviewees' passages, themes about negative IS effects of the high-level IS use emerged, specifically, may be difficult to find accommodation information according to disability categories on an information website.</p>
<p><i>Chloe:</i> I remember that when we [with another disabled employee] wanted to update [an accommodation], we had to go to human resources and explain, what was the purpose for it? What would it result in? What would be the advantages of updating? And then we had to kind of write a proposal for a while, how it would be a good idea to update the software, because it would work better with programs and it would really ultimately help me to work more efficiently.</p>	<p><u>Formal process</u> <i>Partial access-Disadvantages</i></p>	<p>Comparing this passage to other interviewees' passages, themes about higher emotional tolls of the low-level IS use emerged, specifically, employees may need to fight hard to justify their needs.</p>
<p><i>Hebe:</i> ...I don't like to say I need it [accommodation] to people because it's so expensive... Someone's giving you an almost two-thousand-dollar computer and now you're asking for a little over a thousand-dollar piece of software. I tried to do it as easy as possible to get the least the laptop that will let me be productive.</p>	<p><u>Cost of accommodations</u> <i>Partial access-Not expecting organizations to spend money</i></p>	<p>Comparing this passage to other interviewees' passages, themes about personal coping systems positively mediating emotional tolls of the low-level IS use emerged, specifically, requesting things that are low-cost</p>

3.3. Fuzzy Set Qualitative Comparative Analysis

fsQCA is used to examine the relationship between causally relevant conditions and a specified outcome (Schneider and Wagemann 2010). fsQCA is based on fuzzy algebra and explains to which degree a condition exists in a given case (Schneider and Wagemann 2010). An advantage to apply fsQCA in the present study is that it allows us to examine interaction effects rather than a methodology that considers independent variables are constant (Fiss 2007; Schneider and Wagemann 2010). I first coded IS components in the accommodation process based on participants' descriptions. An IS used in the accommodation process consists of electronic request form, accommodation checklist, special budget, specific role, ancillary service, formal policy and procedure. Then, based on the interaction effects of these IS components, I classified three levels of IS use (high, low, and none) in various organizations⁵ using fsQCA via fsQCA software version 3.1 (Ragin 2018). The detail of the classification results will be presented in the results section.

3.4. Design Science Research Approach

To transform nonideal configurations to an ideal type of collective IS use, I adopt a design science research approach to develop a new design theory. I follow the anatomy of a design theory Gregor and Jones (2007) outline to specify my process to develop the design theory (see Table 7). Through an exploratory analysis, I recognize the need to transform nonideal configurations to an ideal type of collective IS use that fits better with the characteristics of the accommodation process and helps create an emancipatory environment and empower disabled employees (see Section 5.1). I aim to develop a design theory that will guide this transformation.

I will not alter the original constructs of the high-level IS use in the accommodation process, which consist of computer system, special budget, specific role, ancillary service, formal policy and procedure (see Table 8). Instead, I will add more features in the IS to fit better with the characteristics of the accommodation process and help create an emancipatory environment and empower disabled employees.

⁵ In the sample, four participants did not request accommodations to their organizations or other agencies; two pairs of participants worked at a same organization respectively; two participants were self-employed and did not request accommodations to any agencies; and five participants had worked at two organizations respectively. Therefore, 33 (36-4-2-2+5) organizations were analyzed in this study.

Moreover, the design theory I develop address the limitations of the IS design in the current accommodation process with the high-level IS use, guides the transformation to an ideal type of collective IS use that accounts for individual differences and focuses on social interactions (see Section 5.1). Specifically, the design theory will transform the nonideal configuration of the high-level IS use in the current accommodation process to the ideal type of the networked use with the highest level of team task interdependence along with high user interdependence and tight systems interdependence (see Section 5.1). Applying the design theory, developers can design an IS in the accommodation process to strengthen communications and information exchanges among stakeholders as well as promote awareness of disability and accommodation (see Section 5.1).

Furthermore, the critical disability theory serves as a kernel theory (see Section 2.5), which suggests four fundamental transformations to an ideal type of collective IS use that will result in a better accommodation performance (see Section 5.2). I develop design principles and subprinciples for specifying system features (see Section 5.2 and Section 5.3).

Table 7. Eight Components of an IS Design Theory (from Gregor and Jones 2007)

Component	Description	My Implementation
1. Purpose and scope	“What the system is for,” the set of meta-requirements or goals that specifies the type of artifact to which the theory applies and in conjunction also defines the scope, or boundaries, of the theory.	Through an exploratory analysis, I recognize the need to transform nonideal configurations to an ideal type of collective IS use that fits better with the characteristics of the accommodation process and helps create an emancipatory environment and empower disabled employees (see Section 5.1). I aim to develop a design theory that will guide this transformation.
2. Constructs	Representations of the entities of interest in the theory.	I will not alter the original constructs of the high-level IS use in the accommodation process, which consist of computer system, special budget, specific role, ancillary service, formal policy and procedure (see Table 8). Instead, I will add more features in the IS to fit better with the characteristics of the accommodation process and help create an emancipatory environment and empower disabled employees.
3. Principle of form and function	The abstract “blueprint” or architecture that describes an IS artifact, either product or method/intervention.	The IS design in the current accommodation process with the high-level IS use often applies a specific, inflexible template and disregards human elements. The design theory I develop addresses these limitations, accounts for individual differences, and focuses on social interactions (see Section 5.1).
4. Artifact mutability	The changes in the state of the artifact anticipated in the theory, that is, what the theory encompasses the degree of artifact change.	The design theory will transform the nonideal configuration of the high-level IS use in the current accommodation process to the ideal type of the networked use with the highest level of team task interdependence along with high user interdependence and tight systems interdependence (see Section 5.1).
5. Testable propositions	Truth statements about the design theory.	Applying the design theory, developers can design an IS in the accommodation process to strengthen communications and information exchanges among stakeholders as well as promote awareness of disability and accommodation (see Section 5.1).
6. Justificatory knowledge	The underlying knowledge or theory from the natural or social or design sciences that gives a basis and explanation for the design (kernel theories).	Critical disability theory as a kernel theory will govern design principles and subprinciples (see Section 5.2).
7. Principles of implementation	A description of processes for implementing the theory (either product or method) in specific contexts.	Critical disability theory will suggest fundamental transformations to an ideal type of collective IS use that will result in a better accommodation performance (see Section 5.2).
8. Expository instantiation	A physical implementation of the artifact that can assist in representing the theory both as an expository device and for purposes of testing.	I develop a series of design principles and subprinciples for specifying system features (see Section 5.2 and Section 5.3).

4. RESULTS

Through analyzing the empirical data, I present out results about the high-level IS use and the low-level IS use in the accommodation process according to different configurations of task, user, and system interdependence. I also examine how different levels of IS use affect accommodation performance including both IS effects and emotional tolls.

4.1. Classification of Different Levels of IS Use and High-level IS Use

4.1.1. Task Interdependence: Sequential Configuration

Since the high-level IS use may cover all the IS components that emerge from the interview data, for the sake of readability, I first illustrate a typical accommodation process with the high-level IS use and then explain how I classify different levels of IS use based on the interaction effects of these IS components. From the interview data, in a typical accommodation process with the high-level IS use (see Figure 2), as the first step, an employee accesses an established accommodation checklist on an organization's website, fills out an electronic request form, and sends the form to an HR specialized team that is in charge of all accommodations for the organization. Then, an assigned HR specialist in the team examines the request and discusses with the employee if needed. If the employee does not know what accommodations they need, a needs evaluation (ancillary service) can be provided by an assistive technology (AT) specialist. After the request is approved by the HR specialist, the HR specialist purchases/implements the requested accommodation(s) paid by a special budget. If the accommodation(s) are technology-related, IT staff help install them. If the expertise of AT is needed for the implementation, AT specialists can be engaged. There are hiring requirements and formal organizational policies that are in place to support the whole process. These tasks involved in the accommodation process with the high-level IS use follow a sequential configuration overall, meaning that the input to a given task is the output of another task (Negoita et al. 2018).

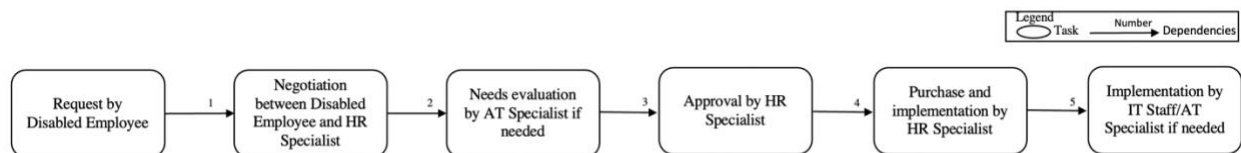


Figure 2. High-level IS Use in the Accommodation Process

In Table 8, I classify different levels of IS use in the accommodation process using fsQCA. Frequency indicates the number of cases in each level of IS use. Consistency shows the proportion of cases sharing the combination of conditions (Ragin 2018; Worthington 2020). Coverage shows the proportion of the causal combination sharing instance of the outcome (Ragin 2018; Worthington 2020). As recommended for small sample sizes, this research sets the minimum

frequency of cases analyzed as 1, the minimum consistency of cases analyzed as 0.70 (Ragin 2009; Schneider and Wagemann 2010). Raw coverage indicates which share of the outcome is explained by a certain causal combination, while unique coverage indicates which share of the outcome is exclusively explained by a certain causal combination (Schneider and Wagemann 2010). Since the causal combinations for the three levels of IS use do not overlap each other, the raw coverage and the unique coverage for each level respectively are same. Appendix B presents the raw data table of the values of IS components based on each participant’s descriptions and the predicted values of levels of IS use.

Table 8. Different Levels of IS Use in the Accommodation Process

Levels of IS Use	Computer System		Special Budget	Specific Role			Formal Policy & Procedure		Frequency	Consistency	Coverage	
	Electronic Request Form	Accommodation Checklist		HR Specialist	Assistive Technology Specialist	Ancillary Service	Hiring Requirement	Formal Process			Raw	Unique
High-level IS Use	√	o	o	√	o	o	o	√	9	1.00	0.56	0.56
Low-level IS Use	√	x	x	x	x	x	x	√	14	1.00	0.99	0.99
No IS Use	x	x	x	x	x	x	x	x	10	1.00	0.99	0.99

Note. √ indicates organizations have access to this category.
o indicates organizations may have access to this category or this category is not applied to the organizations.
x indicates organizations do not have access to this category.
Frequency threshold=1, consistency threshold=0.70.

Since the present study focuses on collective IS use in the accommodation process, I will not analyze the cases in the no IS use scenario. However, the design principles I propose based on the findings of high-level and low-level IS use also have implications for organizations that have not used IS in their current accommodation processes yet.

4.1.2. User Interdependence: High Configuration

For the high-level IS use, user interdependence follows a high configuration because stakeholders work together to achieve a collective goal (Negoita et al. 2018). HR specialists act as a central point and interact with disabled employees, IT staff, and AT specialists. These stakeholders collectively work towards the same goal—providing disabled employees with effective accommodations. The following is an example of a high configuration of user interdependence as a participant talked about a centralized program of accommodations.

Tiffany: That program is a centralized source of accommodations... So that was just a matter of filling out a request form and then it would go through [that program]. And they would purchase the software or the hardware or if I needed training, I could request training to them.

4.1.3. System Interdependence: Tight Configuration

The high-level IS utilized in the accommodation process is essentially an enterprise system that stores disabled employees’ data, forms accommodation procedures, and reconciles all information needed for the provision of accommodations. This fits with the tight configuration of system interdependence because all data elements are hosted in a centralized location and shared by various modules (e.g., request, approval, and implementation) (Negoita et al. 2018).

4.2. Low-level IS Use

4.2.1. Task Interdependence: Sequential Configuration

In an accommodation process with the low-level IS use (see Figure 3), the task interdependence still follows a sequential configuration because the accommodation tasks need to proceed following the order of request, negotiation, approval, and implementation and thus a given task (e.g., implementation) still requires inputs from another task (e.g., approval).

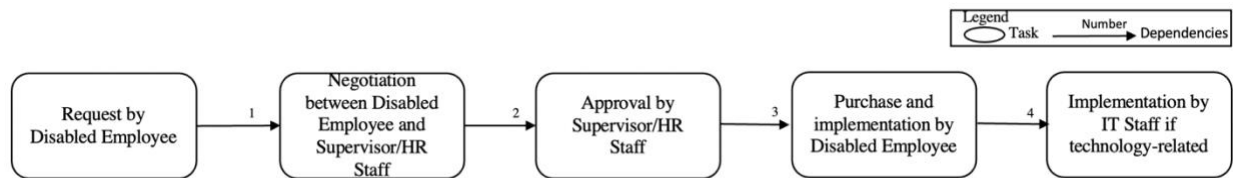


Figure 3. Low-level IS Use in the Accommodation Process

4.2.2. User Interdependence: Low Configuration

In the low-level IS use scenario, organizations do not have HR specialists as a central point of the accommodation process. A disabled employee often needs to submit their accommodation request to their supervisors or HR staff. Then there may be a lot of back-and-forth negotiations and different levels of approvals among these stakeholders. After the supervisors or HR staff approve the request, the employee needs to talk with the procurement department or IT staff to implement

the request. These stakeholders involved in this accommodation process conduct their individual tasks towards their individual goals and rewards. Therefore, user interdependence follows a low configuration because goals and rewards are mainly based on individual performance (Negoita et al. 2018). If stakeholders have a good understanding of disability and accommodation, disabled employees will have successful accommodation experiences; otherwise, the accommodation process may not be as smooth because of bureaucracy and the individual goal and reward setting, as shown in the participants' experiences.

Hebe: The person that I was dealing with for disability support was leaving. But before she left, she made sure that this request got processed. And so she was very diligent about it...

Hebe: My boss kept up on making sure to find out because it [accommodation] wasn't coming in. We started in September and she kept up on it.

Chloe: As far as [the job title], when I first met her, I think she was a little bit hesitant, a little bit nervous, but once I get used to her, she was good. So when I asked for the accommodations later on, she was totally on board.

4.2.3. System Interdependence: Loose Configuration

For the low-level IS use, system interdependence follows a loose configuration as there are no standards or central locations for data sources. Because of the lack of these functions, participants often did not directly speak in terms of system use but talked about their suggestions on IS use. They found an accommodation checklist, an information website, a special budget, and a single point of contact would be helpful.

Ivan: A checklist or a guidance list would be really good and one of the examples I've mentioned... I had no idea that there was a specific set... because it was kind of hidden. I had no idea of that until somebody told me.

Sophia: I think HR could be more educated about the accommodation process because even just looking at their websites, there's not much information on it...

Matt: I would magically increase our budget so that we had more to spend for everybody.

Matt: ... Let's give the people that are doing this [accommodation process] authority to do what they need to do and have less approvals and fewer steps to make it more efficient.

4.3. Accommodation Performance in Different Levels of IS Use

4.3.1. IS Effects of High-level IS Use

In the high-level IS use scenario (see Table 9), in terms of IS effects, disabled employees easily find accommodation-related information and follow through the process. They have sufficient economic, social, and cultural resources to support their process. Thereby employees usually get approved for whatever accommodations requested. They are also able to reach out to accommodation specialists at any time when needed. If employees are not sure about what they need for accommodations, the accommodation team can provide a needs evaluation. Moreover, specialists and employees are familiar with accommodations and processes to provide them. Considering the interview excerpts below:

Isabella: It [the accommodation process] is usually pretty smooth because they [HR specialists] basically send all the information to who they need to send it to and then they contact you to see when is a good time for us to set it up and they tell you hey, this is when it's going to be shipped. Here's your tracking number so you can see when it's going to come in.

Isabella: They [The organization] have their own budget for it [accommodation] because I saw the purchase order when they ordered my stuff and they didn't mean to send it to me, but they did. And it was like sixteen thousand dollars worth of equipment. I was like is this going to come out of my paycheck, and they were like no, we didn't actually mean to send that to you, but it's a separate budget just for all of that stuff.

Tiffany: One of the other things that [program] did is that if you wanted them to, they would do a needs assessment. They would talk to you about what your job is, what you have to do on the job, and they would help you find the right accommodations for the job.

Benjamin: We all work with [disabled] people. They are aware of what is needed and how to request for accommodation. They're not opposed to it, some people more vocal about it as opposed to others, but the [disabled] staff knows what they have to do, too, request for accommodation... it's not the plague so it's like they know it's there.

Table 9. Positive and Negative IS Effects and Low Emotional Tolls of High-level IS Use in the Accommodation Process

High-level IS Use	Positive Effects	Negative Effects
IS Effects	<ul style="list-style-type: none"> ● Easily find accommodation-related information and follow through the process ● Usually get approved for whatever accommodations requested ● Be able to reach out to accommodation specialists at any time when needed ● Specialists and employees are familiar with accommodations and processes to provide them 	<ul style="list-style-type: none"> ● Often cannot request accommodations that are not on a pre-approved accommodation checklist ● Have to wait a certain amount of time if the request is submitted towards the end of a budget year ● May be difficult to find accommodation information according to disability categories on an information website
Low Emotional Tolls	<ul style="list-style-type: none"> ● Employees feel much more comfortable requesting accommodations 	-

However, high-level IS use can make the process less flexible, including an inflexible accommodation checklist and budget timeline. Additionally, some organizations may manage their accommodation information websites in a too general way rather than according to disability categories. The participants discussed these specific issues during the interviews:

Isabella: I think what would be helpful is if they had a process for requesting software or a thing to use from outside of the approved vendors list. Like hey, I want to get [add] this software on the approved vendors list. How do I do that? We have no idea as employees how we could do that so that would be nice to have my say.

*Tiffany*⁶: Sometimes with [the program] we had to wait a while... If you would request something in [a particular month] or maybe when [the program] started running out of money or if there was a continuing resolution... Sometimes [the program] would not spend money if they were under one of those continuing resolutions... So I would say that bonds should be handled in such a way that you don't run out of money at the end of the year... so that everybody who requests accommodations has an equal opportunity to get those and get those timely.

Benjamin: I would probably break [the website] down by disability category so that it would be easy for someone to say okay, I have this disability, this is where I can go, this is the information that I can use for my own disability as opposed to have been generalized.

4.3.2. Low Emotional Tolls of High-level IS Use

Regarding emotional tolls, employees experience low emotional tolls and feel much more comfortable requesting accommodations because stakeholders make few judgments about what employees request for, as *Isabella* said, “you're generally not afraid to ask for something, to ask for what you need”. Occasionally the insufficient communication between specialists and employees could happen, however, since supervisors do not pay for accommodations out of their departments, have formal requirements to accommodate employees, and “wouldn't have any reason to” object to providing accommodations, they often discuss with specialists and make sure that employees still get requested accommodations.

4.3.3. IS Effects of Low-level IS Use

In the low-level IS use scenario (see Table 10), regarding IS effects, it is more flexible to choose accommodations compared to an established accommodation checklist. The benefit of this is for some accommodations, disabled employees “couldn't have guessed” what accommodations they need “until they got there”. The negative IS effect is that without an HR specialist who is in charge of the whole process, employees go through many stakeholders to get the accommodation process

⁶ Tiffany left the organization at the beginning of 2018. The interviewer checked the FY (Fiscal Year) 2019 annual report of its accommodation program. According to the report, in FY2019, the program improved its procurement timeframes, although it is not clear if this change addresses the budget timeline issue.

going. A participant talked about his experience with an accommodation process without a single point of contact:

Ivan: ...I went through of having to talk to six different people. With one person in charge of everything, it was a fairly smooth process. And you didn't have to deal with the accommodations person saying, yes, you need to do this and somebody else saying, no, you don't need that and then you get into a struggle like I had back in [a state] with [an accommodation].

Table 10. Positive and Negative IS Effects and Higher Emotional Tolls of Low-level IS Use in the Accommodation Process

Low-level IS Use	Positive Effects	Negative Effects
IS Effects	<ul style="list-style-type: none"> • Choose accommodations in a flexible way 	<ul style="list-style-type: none"> • Employees go through many stakeholders to get the accommodation process going
Higher Emotional Tolls	<ul style="list-style-type: none"> • Personal informal coping systems positively mediate emotional tolls • Positive career items positively mediate emotional tolls 	<ul style="list-style-type: none"> • Employees may need to fight hard to justify their needs • Employees may experience mental health issues • Negative personal characteristics negatively mediate emotional tolls

4.3.4. Higher Emotional Tolls of Low-level IS Use

In the low-level IS use scenario, without enough support of economic, social, and cultural resources, and since a lack of knowledge of disability and accommodation by stakeholders is common, employees have less effective and satisfying accommodation experiences. Employees experience higher emotional tolls and may need to fight hard to justify their needs.

Emily: My boss theoretically knew that who is supposed to provide accommodations but didn't know the how or the what or even the steps to do it. And that was true down the line from my boss to HR to IT. They are all talking to each other being like we know we need to provide this accommodation, but how to actually do it we don't know. They never had to do it before.

Daisy: [When asking for an accommodation] I would actually have it written out and schedule a meeting and just explained the particular accommodation that I needed, why was needed and... how long do you need it for, kind of things.

Chloe: I remember that when we [with another disabled employee] wanted to update [an accommodation], we had to go to human resources and explain, what was the purpose for it? What would it result in? What would be the advantages of updating? And then we had to kind of write a proposal for a while, how it would be a good idea to update the software, because it would work better with programs and it would really ultimately help me to work more efficiently.

Moreover, some participants pointed out that they experienced mental health issues due to the stresses within the accommodation process.

Sophia: I think it's stressful. I think some of the cost is like confidence type thing or like anxiety kind of. I know when I was disclosing my disability and asking for the [accommodation], I was really anxious about that just because of my past experience. I also think there's a lot of internal guilt involved. I think especially in [the state] asking for an accommodation made me feel bad. It made me feel guilty and made me feel worse about my disability or what I needed.

Sophia: I initially felt guilty because I was gonna miss the work, but then as I realized I needed it and with my [boss' title] reaction, it made that worse. I just hated it. I was afraid to ask for the [accommodation] because of her reaction.

To address the issues, employees may form a personal informal coping system, which positively mediates emotional tolls and helps improve accommodation performance. The personal informal coping system may include creating a tool kit of needed accommodations, requesting things that are low-cost, training others how to accommodate, choosing jobs carefully, and arriving at work earlier (see Table 11).

Table 11. Personal Informal Coping System

Coping Methods	Evidence from the Interview Data
Creating a tool kit of needed accommodations	<i>Hebe:</i> ...Like I said, I used my iPad. I was working in different applications on my iPad. I was taking notes and I ended up transferring the document out of a notability and put it into Pages which then transferred into Office to Word. I use Numbers for my spreadsheet which is transferred into the numbers. I like Numbers better than Excel because they have a spell checker that checks while you're typing. You can see if it's wrong, so I do everything in Numbers, but I export it for my boss and my supervisor. I always export that because they're on Windows into Excel...
Requesting things that are low-cost	<i>Hebe:</i> ...I don't like to say I need it [accommodation] to people because it's so expensive... Someone's giving you an almost two-thousand-dollar computer and now you're asking for a little over a thousand-dollar piece of software. I tried to do it as easy as possible to get the least the laptop that will let me be productive.
Training others how to accommodate	<i>Emily:</i> Often times I have to coach them through the [accommodation] process, even though I'm a brand-new employee, I barely know the workplace or station or stuff. But I have to tell them like, okay I have this disability, this is why I'm telling you I need this workplace accommodation.
Choosing jobs carefully	<i>Ivan:</i> I went into [this job]. I would say there are two reasons. One is the idea of the vocation. That's what I'm good at. That's what I like to do. The other is that since most [employers] are under some kind of federal mandate to be accessible. I would be able to do that without a hassle. That wasn't completely true but by large it has been okay...
Arriving at work earlier	<i>Ivan:</i> I always arrived early to make sure everything was still there and working. I always allowed a lot of time in between.

Furthermore, I recognize that positive career items positively mediate emotional tolls. Some participants have worked at job positions and organizations that support disabled people, which positively mediate the effects of low-level IS use on employees.

Henry: Good communication [with stakeholders] because everybody knew me as [a job title].

Matt: You are responsible for knowing your stuff. You have to be able to present and demonstrate why you should get a certain thing and people generally trust that, especially in my role that I know what I'm talking about.

Matt: They [stakeholders] are already at the level of saying we know you can do it all. We just need to know what you need. That's so much more helpful and useful and on a different plane than the person that's having to prove themselves and then say they need equipment.

Daisy: They [stakeholders] have experiences with people who are [disabled]... It's like you fit the same everything that they perceive and had experience with it.

Conversely, negative personal characteristics negatively mediate emotional tolls. For example, some participants may be afraid of requesting accommodations due to the worry about potential backlash.

Daisy: I think in hindsight I didn't ask for certain accommodations because I was in a challenging situation, if you ask for too many accommodations, it appears that you're not capable of doing the job. And so my whole focus was to do the job and show that I was capable and efficient as my peers that I can do the job...

5. DISCUSSION

5.1. The Need for a New Design Theory for IS in the Accommodation Process

As stated in the previous section, the low-level IS use in the accommodation process reflects sequential tasks with low user interdependence and loosely interdependent systems, while the high-level IS use in that process is shaped by sequential task independence with high user interdependence and tight system interdependence. Table 12 shows the typology of IS use in the accommodation process versus the ideal types of collective IS use Negoita et al. propose.

Table 12. Typology of IS Use in the Accommodation Process versus Ideal Types of Collective IS Use (adapted from Negoita et al. 2018)

IS Use/Ideal Types	Low-level IS Use	High-level IS Use	Processual Use	Networked Use
Interdependence				
Task	Sequential	Sequential	Sequential	Team
User	Low	High	Low	High
System	Loose	Tight	Tight	Tight

Based on the above analysis, the high-level IS use often results in a better accommodation performance than the low-level IS use. For sequential task interdependence, Negoita et al. (2018) propose that it is best conducted in a context of low user interdependence and tight interdependent systems. They argue that in such situation, users accomplish their individual tasks in response to their individual goals and rewards. High user interdependence may be unreasonably costly as high

user interdependence may not affect the performance of sequential tasks (Wageman 1995; Wageman and Baker 1997). However, in the accommodation context where extensive communications and information exchanges among stakeholders are salient, users need to work towards a collective goal and reward in order to achieve a better performance. In the high-level IS use scenario in the current accommodation process, HR specialists act as a central point and work together with disabled employees, IT staff, and AT specialists to offer effective accommodations, although each stakeholder performs their own task and the input to a given task becomes the output of another task.

Nevertheless, several IS design limitations exist in the high-level IS use. First, IS design in the accommodation process with the high-level IS use often uses a specific, inflexible template. This practice mainly focuses on standardization and efficiency, serves the average users, and often ignores a spectrum of user needs (Chatterjee et al. 2009; Staehr 2010; Stahl 2012). A specific, inflexible template in the accommodation process contradicts the characteristic of accommodations as individualized services. The empirical findings confirm that such design including an inflexible accommodation checklist and budget timeline and too general accommodation information on organizations' websites negatively affect disabled employees' accommodation experiences and ability to acquire the necessary accommodations to make them effective at their work. Second, the standardized IS design often disregards human elements in IS design and does not address the fundamental social issues in the current accommodation process. A major challenge in social inclusion practices (particularly, disability inclusion in the present study) is the awareness issue (Kaye et al. 2011; Moon and Baker 2012; Solstad Vedeler and Schreuer 2011). The literature review and empirical findings show that employers and organizational stakeholders are often not aware of disability and accommodation. A long-term and more effective solution should consider human elements to better fit with the social characteristics of the accommodation process. Therefore, I propose design principles for transforming the nonideal configuration of the high-level IS use in the current accommodation process to the ideal type of the networked use with the highest level of team task interdependence along with high user interdependence and tight systems interdependence. The rationales behind the transformation from sequential task interdependence to team task interdependence include (1) strengthening communications and information exchanges among stakeholders and (2) promoting awareness of

disability and accommodation. First, team task interdependence emphasizes immediate feedback from any individual and adequate interactions between individuals (Majchrzak et al. 2000; Negoita et al. 2018; Van de Ven et al. 1976), which fits with the characteristic of extensive communications and information exchanges among stakeholders in the accommodation process. The other characteristics of the accommodation process, such as individualized services and iterative processes, also require immediate feedback and adequate interactions among stakeholders. Second, team tasks' focus on collective and simultaneous tasks is beneficial for promoting awareness of disability and accommodation. This level of task interdependence integrates all stakeholders including disabled employees to work together, which will help include disabled employees' perspectives in this process, challenge stigma associated with disability and accommodation, as well as improve accommodation performance. This approach is useful for addressing complexity of social information processing of the accommodation process and reducing barriers to supervisors' and employees' accommodation decisions.

5.2. Applying the Critical Disability Theory to Transform Collective IS Use in the Accommodation Process

As mentioned earlier, I develop IS design principles using the critical disability theory as a kernel theory. In this section, I present how the critical disability theory informs design principles that transform to the ideal type of collective IS use (see Table 13). First, the critical disability theory helps raise awareness of disability and accommodation by challenging the rationalism of ableism and addressing diverse opinions. As discussed earlier, in the accommodation context, the current IS design does not pay attention to stakeholders' awareness and knowledge of disability as well as disabled employees' individual differences and ability to advocate. The empirical findings confirm that stakeholders do not always understand disability and accommodation and make little effort to proactively offer an effective accommodation process to employees. In addition, several study participants because of their personal characteristics such as personality and background were afraid of requesting accommodations due to internal guilty and the worry about potential backlash. Therefore, the critical disability theory informs the transformation to an IS that should provide intervention process support to increase disability and accommodation awareness, which is transformation 1 (T1).

Table 13. Design Principles of IS that Transform to the Ideal Type of Networked Use and Empower Disabled Employees in the Workplace

Design Principle	Design Subprinciple	How the Critical Disability Theory Informs Design Principles that Transform to the Ideal Type of Collective IS Use
Promoting awareness of disability and accommodation	An IS should provide training materials and feedback mechanisms along with engaging disabled employees in accommodation tasks. (Proposition 1)	T1 helps sensibly guide stakeholders' behavior in the accommodation process through training materials and feedback mechanisms. T4 helps create norms, procedures, and resources through training materials and feedback mechanisms.
Accounting for individual differences	An IS should consider individual differences when organizing accommodation process information. (Proposition 2)	T2 allows the IS to consider individual differences and needs.
	An IS should create different accommodation procedures according to individual differences. (Proposition 3)	
	An IS should provide accommodation request forms with flexible arrangements. (Proposition 4)	
Improving communications among stakeholders	An IS should include the structures of anonymity, simultaneity, and display of shared information and feedback that addresses social issues in the accommodation process. (Proposition 5)	T3 helps promote communications between stakeholders and disabled employees.
	An IS should support information modeling and decision evaluation that allow the communications among stakeholders to be understood by each other and help achieve a collective goal. (Proposition 6)	T1 allows the IS to integrate different opinions when making accommodation decisions and evaluate these decisions. T4 helps address structural inequality and empower disabled employees.
Creating norms, procedures, and resources for building an emancipatory environment and empowering disabled employees	An IS should help create norms and procedures in the accommodation process along with the feedback mechanisms that improve accommodation performance. (Proposition 7)	T1 allow disabled employees to provide regular feedback on the accommodation process T2 allows a flexible IS design with feedback mechanisms. T4 helps establish the formal accommodation process.
	An IS should allow resources share to benefit society as a whole. (Proposition 8)	T4 promotes resources share to build an emancipatory environment and empower disabled employees.
T1: An IS provides intervention process support to increase disability and accommodation awareness.		
T2: An IS provides individualized and flexible arrangements to accommodate different employees' needs and improve accommodation performance.		

T3: An IS provides communication support to transform to team task interdependence.

T4: An IS creates norms, procedures, and resources to build an emancipatory environment and empower disabled employees.

Second, the critical disability theory helps pay attention to individual needs of disabled employees. Accommodation is essentially an individualized service because different people have various needs. To accommodate different employees' needs and improve accommodation performance, an IS should provide individualized and flexible arrangements, which is transformation 2 (T2).

Third, the critical disability theory uncovers various human effects and emphasizes social interactions in the accommodation process. Communication among stakeholders is a critical component in the accommodation process. Team task interdependence emphasizes immediate and adequate communications among individuals. To transform to team task interdependence, an IS should provide communication support, which is transformation 3 (T3).

Fourth, the critical disability theory focuses on the broader social, economic, and political context as well as addresses structural inequality. In the accommodation context, IS is a sociotechnical system. We need norms, procedures, and resources that support the accommodation process to offer effective accommodation experiences to disabled employees. In the meantime, we must pay attention to structural inequality between the dominant group and disabled employees in organizations so that we can ensure that the norms, procedures, and resources empower disabled employees. Moreover, we also need to consider unequal distributions of resources for providing accommodations inherent across different types of organizations. Therefore, an IS should create norms, procedures, and resources to build an emancipatory environment and empower disabled employees, which is transformation 4 (T4).

5.3. Design Principles of IS that Transform to the Ideal Type of Networked Use and Empower Disabled Employees in the Workplace

Principle #1: Design IS for Promoting Awareness of Disability and Accommodation

It is critical that organizations and IS designers consider disability and how they can increase people's awareness of the need for inclusion and breaking down barriers. In the context of the accommodation process, stakeholders are guided by their goals and values on how to react in the process. Intervention serves to help them faithfully follow the designed process in a computer system. The positive effects of the computer system may be achieved since intervention consistently helps guide participants to use the system in the way intended by system designers (Dennis et al. 2001; Reinig and Shin 2002). Intervention process support can sensibly guide group and individual behavior in the process. Intervention process support could be achieved in the forms of training, survey, and action plan (Annabi and Lebovitz 2018; Dennis et al. 2001; Roehling and Wright 2006). Specifically, for relevant stakeholders, I suggest that IS such as intranets, which allow for the easy storage and quick dissemination of training materials (via videos and guides) as well as feedback mechanisms (surveys and certifications) provide an easy means of educating and engaging supervisors, HR, and coworkers on accommodation norms. Such materials provided by IS also help create and reinforce norms, procedures, and resources of the accommodation process. These materials can focus on how to create a more inclusive work environment, how to properly address disclosure and request, and how to develop a fair and equitable accommodation process that empowers disabled employees.

For disabled employees, I recommend that organizations make training materials about accommodation processes and how to self-advocate accessible in order to empower those employees. Moreover, it is critical that organizations to make action plans to engage disabled employees in participating in accommodation tasks. For instance, organizations can recruit disabled employees in policy making for accommodation and overall inclusion. Organizations can also hire disabled employees in accessibility and AT-related positions to utilize their strengths and specific skills to help with those tasks. These intervention strategies could help create a better-fit accommodation process as well as build capacity across stakeholders to support accommodation. Furthermore, working with disabled employees will help challenge stigma associated with disability and emphasize a strengths-perspective of disabled employees, which echoes previous

studies and my data on challenging biased assumptions related to disabled people (Kulkarni and Gopakumar 2014; Lindsay et al. 2018; Moon and Baker 2012; Nevala et al. 2015). I propose that an IS should provide training materials and feedback mechanisms along with engaging disabled employees in accommodation tasks.

***Proposition 1:** An IS should provide training materials and feedback mechanisms along with engaging disabled employees in accommodation tasks.*

Principle #2: Design IS for Accounting for Individual Differences

When designing IS, it is critical to include elements that surface individual differences and needs. In the accommodation process, IS designers should embrace flexibility in order to account for individual needs. For example, IS designers can organize accommodation process information according to disability categories. Moreover, according to complexity of accommodation cases, IS designers can create different procedures. For simple accommodation cases, they can utilize an accommodation online page to streamline the process from requesting accommodations by disabled employees to approving and implementing accommodations by HR specialists, while still provide an alternative option if employees want to communicate more with HR specialists about accommodation issues. For complex accommodation cases, IS coupled with extensive HR specialists support would help. Furthermore, in the accommodation request forms, IS designers can build and provide accommodation checklists and also an open form for filling out special accommodations that are not on the checklists. I propose that (1) an IS should consider individual differences when organizing accommodation process information; (2) an IS should create different accommodation procedures according to individual differences; and (3) an IS should provide accommodation request forms with flexible arrangements.

***Proposition 2:** An IS should consider individual differences when organizing accommodation process information.*

***Proposition 3:** An IS should create different accommodation procedures according to individual differences.*

Proposition 4: An IS should provide accommodation request forms with flexible arrangements.

Principle #3: Design IS for Improving Communications among Stakeholders

Team task interdependence requires immediate, adequate, and iterative communications among stakeholders. To design IS that transform to team task interdependence, IS designers need to consider two types of support: communication support and social information processing support. First, as I describe the social issues in the literature review section, one of the main reasons why the accommodation process involves extensive communications is that disabled employees and their supervisors and coworkers as well as the whole organization may have conflicting interests in accommodation decisions. To address these social issues, an IS needs to have a feature of communication support, which includes aspects of an IS that support immediate, sufficient, and iterative communication as well as address varying perspectives among stakeholders when exploring accommodation options. Computer-mediated communication (CMC) has channel capacity and interactivity (Te'eni 2001). Channel capacity ensures that rich information is transmitted in an appropriate way. Interactivity is an advantage of CMC, which is manifested by its ability to provide immediate feedback (Te'eni 2001). Not only should a system exchange information among stakeholders, but it must also encourage sufficient information generation and sharing among them. Take group support system (GSS) as an example. GSS allows participants to enter their questions and feedback anonymously and simultaneously into a network of computer workstations (Kwok et al. 2002). These questions and feedback are displayed on participants' individual screens immediately. Research shows that groups have open communication only when those in power listen to and act on the participation (Dennis et al. 2001). GSS facilitates such communication through the structures of anonymity, simultaneity, and display of shared information and feedback (Reinig and Shin 2002). Using GSS has the potential to focus more on group members' interests instead of a leader's interest, and thus helps coordinate different perspectives among stakeholders (Dennis et al. 2001). In the context of the accommodation process, CMC is needed in order to facilitate immediate, adequate, and iterative communications. For instance, at the negotiation step, with the help of GSS, supervisors, HR specialists, disabled employees, and other stakeholders (e.g., IT staff and AT specialists if their expertise are needed) have scheduled and unscheduled meetings to share their perspectives of accommodation choices in a real-time manner. I propose an IS should include the structures of anonymity, simultaneity,

and display of shared information and feedback that addresses social issues in the accommodation process.

***Proposition 5:** An IS should include the structures of anonymity, simultaneity, and display of shared information and feedback that addresses social issues in the accommodation process.*

Second, the other feature of IS—social information processing support—can also be used to address conflicting interests among disabled employees, supervisors, coworkers, and senior management. In addition to social issues, legal issues may be caused by conflicting interests as well. For example, senior management may want to minimum legal risks and then decide to only provide “necessary” accommodations (Roehling and Wright 2006; Yosef et al. 2019). As a result, disabled employees can only function at a reasonable level instead of at the very best possible level. Therefore, social information processing support is also used to address legal issues. This may be achieved by a computer system that is able to organize and analyze information, integrate different opinions when making accommodation decisions, as well as regularly evaluate the benefits and costs the decisions impose on stakeholders (Dennis et al. 2001). I propose that an IS should support information modeling and decision evaluation that allow the communications among stakeholders to be understood by each other and help achieve a collective goal.

***Proposition 6:** An IS should support information modeling and decision evaluation that allow the communications among stakeholders to be understood by each other and help achieve a collective goal.*

Principle #4: Design IS to Create Norms, Procedures, and Resources for Building an Emancipatory Environment and Empowering Disabled Employees

Organizations need to create norms and procedures that guide support for accommodation processes. This is supported by previous studies which indicate that an introduction of new norms and procedures can bring about a different environment (Volkoff et al. 2007). A culture of disciplined work emerges when workers realize that their performance is improved by following the new norms and procedures (Volkoff et al. 2007). Thus, fostering a mindset that if the work

practices are followed with the norms and procedures, the work outcomes are more likely to be successful.

By applying this reasoning to the context of the accommodation process, the introduction of norms for disability inclusion and accommodation procedures can positively affect stakeholders' perceptions and organizational culture. When creating norms and procedures in the accommodation process, organizations need to consider flexibility of IS design and create a feedback function on accommodation websites to allow disabled employees to provide regular feedback on the accommodation process. Then based on employees' feedback, organizations can make adjustments on a regular basis (e.g., every three months).

***Proposition 7:** An IS should help create norms and procedures in the accommodation process along with the feedback mechanisms that improve accommodation performance.*

Furthermore, economic, social, and cultural resources are critical to successful accommodation experiences. The empirical findings confirm that the organizations (typically government organizations from the empirical data) that have economic, social, and cultural resources to support accommodation processes and other organizations that do not have different forms of resources result in the inconsistency of IS use in accommodation processes. The unequal distribution of resources inherent across different types of organizations is reinforced over time and thus the structural inequality is widened, which limits disabled employees' job opportunities to certain types of organizations. It is crucial for disabled people to have equal access to all opportunities of employment that are available to their non-disabled counterparts. Therefore, I extend the design principles to various organizations and society as a whole. The accommodation efforts are not only organizations' responsibility but also society's duty. I encourage organizations to share resources through a network in order to successfully accommodate employees. Additionally, accommodation services offered by some government agencies have been helpful. I suggest more efforts to be invested in those services, aiming at a whole range of disabilities and different types of accommodations. Thus, disabled employees have a variety of choices to acquire the resources they need for supporting their accommodation requests from different channels.

Proposition 8: *An IS should allow resources share to benefit society as a whole.*

5.4. Theoretical Contributions

The present study's contribution to IS use research is multifaceted. First, it contributes to IS use research by applying collective IS use to an empirical context that emphasizes interdependencies-in-use. It answered the question: How have collective IS been used in the accommodation context? The present study offers right insights on different configurations of collective IS use shaped by task, user, and system interdependence. This research discovers that although many organizations have not used specialized IS in their accommodation processes, the high-level IS use with sequential tasks, high user interdependence, and tight systems exists in some organizations. This configuration fits better with the characteristics of the accommodation process than the processual use—an ideal type of collective IS use Negoita et al. (2018) propose. In particular, the difference exists in low user interdependence by the processual use versus high user interdependence by the high-level IS use in the current accommodation process. Because of the accommodation context in which extensive communications and information exchanges among stakeholders are important, users need to work towards a collective goal and reward in order to achieve a better performance and high user interdependence provides a better fit. Therefore, the present research offers insights into how collective IS use can assist with the accommodation process.

These findings can also be generalized to other contexts where extensive communications and information exchanges among stakeholders are needed. In these contexts, high user interdependence would influence the performance of tasks that require collective efforts. For example, a hospital-wide telemedicine system that connects various teams would create more values if it is configured with high user interdependence because it is easier for different teams to share resources when they have a collective goal (Srivastava and Shainesh 2015). With shared resources, these teams can provide better services to their patients (Srivastava and Shainesh 2015).

Second, this study also investigates how different levels of collective IS use affect accommodation performance including IS effects and emotional tolls. I recognize that employees often have a more efficient, effective, and comfortable accommodation experiences with the high-level IS use than the low-level IS use. Nonetheless, the low-level use has the positive IS effect of being flexible,

while the high-level IS use often provides an inflexible template. Due to the characteristic of individualized services of the accommodation process, the negative IS effect of inflexibility of the high-level IS use does not fit well with the accommodation process and impairs accommodation performance. This implies the need to consider the fit between collective IS use and contextual characteristics. Since the high-level IS use is nonideal, I aim to transform the nonideal configuration to an ideal type of collective IS use, which leads to the next contribution.

Third, this work applies the critical disability theory as a kernel theory to develop four sets of design principles to transform the nonideal configuration of the high-level IS use in the current accommodation process to the ideal type of the networked use with team task interdependence. It answered the question: How to transform nonideal configurations toward an ideal type of collective IS use? In this empirical study, I focus on how to transform sequential task interdependence to team task interdependence. The high-level IS use in the current accommodation process does not take into account a variety of human elements, does not involve sufficient communications among stakeholders in that process, and does not resolve the structural barriers, which fails to consider the characteristics and current issues of the accommodation process related to individualized services, extensive communications and information exchange, as well as political, cultural, and economic factors in the work environment (Larsson and Gard 2003; Pransky et al. 2016; Scott et al. 2019; Seing et al. 2012; Williams-Whitt et al. 2016). On the contrary, team task interdependence emphasizes immediate feedback from any individual and adequate interactions between individuals (Majchrzak et al. 2000; Negoita et al. 2018; Van de Ven et al. 1976). Moreover, team tasks help promote awareness of disability and accommodation by focusing on collective and simultaneous tasks, including disabled employees' perspectives, and challenging stigma associated with disability and accommodation. The critical disability theory informs the transformation to team task interdependence. In particular, I identify four transformations to team task interdependence informed by the critical disability theory. These transformations have important implications to other IS designs that consider both the marginalized group's interests and the dominant group's interests. The four transformations help promote awareness of marginalized individuals' needs and strengthen communications between the two sides.

6. CONCLUSION

This research examined collective IS use and the effects of different levels of collective IS use in the accommodation context. This study provided an in-depth understanding of how collective IS use with different configurations of task, user, and system interdependence has been utilized in the accommodation context. This work then applied the critical disability theory as a kernel theory to propose design principles to transform nonideal configurations to an ideal type that leads to a better performance. To this end, this study extended the lens of collective IS use to the accommodation context. It also provided a holistic framework to study collective IS use, the effects of different levels of collective IS use, and further proposed design principles to improve the current IS design and transform nonideal configurations to an ideal type of collective IS use. Furthermore, this research suggested that the design of IS in the accommodation context is a sociotechnical IS design incorporating technologies, human elements, social interactions, and economic, social, and cultural resources in order to empower disabled employees and improve social inclusion.

APPENDIX A

Interview Protocol

(For disabled employees)

Organization: _____

Interviewee (Title and Name): _____

Introductory protocol: Thanks for taking the time to talk with me. The goal of this research is to look at workplace accommodation processes and the role of information systems (IS) play in these processes.

During the interview, I will focus on your experiences with accommodation processes, as well as ask you about IS used in these processes. You may not feel you can answer all questions related to IS, which is fine.

I have sent you the consent form. Do you have any questions before we begin?

If answer is “YES”, answer questions and then proceed to interview questions.

If answer is “NO”, proceed to interview questions.

Would you mind if I audio record this interview?

If answer is “NO”, confirm that you will not be recording the interview and continue with interview.

If answer is “YES” [I turn on the recording.] I just have to ask you again so we have it on the recording, would it be okay if I record this interview?

Organization type:

Industry:

Number of employees:

Headquarters location:

Background items for interviewee:

1. Please briefly describe your job and experiences with workplace accommodations.

[If answer is no] Go to Question #2

[Last job versus Current job] Could I ask when/how long was your last job? Do you mind sharing why you left your last job? Did you have workplace accommodation process experiences before this job? What were those experiences compared to the current experience? [career history]

[Accommodation Examples] Do you mind sharing what accommodations, if any, you need for your work?

[Unavailable Accommodations] What accommodations have you felt you needed to help you on the job that you have not asked for them? Why not?

[If answer is no to Question #1] 2. How do you look for jobs?

[Job Choice] What if any impact does the availability of accommodations or accessibility have on your job choice?

Accommodation process: These questions look at the accommodation process you are familiar with.

3. What was your disclosure experience?

[Disclosure Detail] Do you mind sharing how much and what kind of detail did you disclose at work? What impacted your decision?

[Disclosure Time] Did you disclose needs for accommodations during the employment interview process or after receiving your job offer? Why or why not?

[Disclosure Time] Have you discovered subsequent accommodation needs after accepting and working at a position? [If answer is yes] Have you requested those accommodations? Why or why not?

[Disclosure Improvement] What, if anything, would you change about this part of the process (i.e., improvements)?

4. When receiving accommodations, please walk me through the accommodation process in your organization. (Use an example from Q1)

[Steps] (a blank sheet of paper)

[Request Response] How did supervisors respond to your request? (positively, with concern, etc.) Examples.

[Request Denial] To what extent your accommodation requests have been denied? Why does your organization not want to do this? How did you adapt yourself to work without the accommodation?

[Request Approval Factors] Do you know the factors that impacted (facilitated and/or impeded) the approval of your requested accommodations? [If answer is yes] What were they?

[Request Improvement] What, if anything, would you change about this part of the process (i.e., improvements)?

[Gather Documentation] Did your organization gather documentation for approving accommodation requests? [If answer is yes] How did you collect such documentation?

[Negotiation] In what ways, if any, did the organization communicate to you after an accommodation request was made? What kinds of things might go into a response?

[Implementation-Delivery] What was the time from request to delivery to you? Do you think the response time was normal, fast, or slow? Why?

[Implementation] In what ways, if any, did the organization communicate to you when implementing accommodations? (How to install/use them?) What kinds of things might go into a response?

[Ongoing Support] In what ways, if any, did the organization communicate to you after an accommodation request was implemented? What kinds of things might go into a response?

Two possible causes: (1) Nature of disability changes or (2) Accommodation itself wears out/is old and needs to be upgraded.

[Ongoing Support-Disability Changes] Sometimes disabilities change and require new or different accommodations. Please describe your experiences with such changes.

[Ongoing Support-Outdated Accommodations] Sometimes accommodations become old or obsolete. Please describe your experiences with such changes.

[IS] What part of the accommodation process uses (what) computer systems (e.g., email, electronic form, message, video conference, intranet, database, or accessible products)? (a blank sheet of paper)

[IS-FEATURES-INFO] What are the features of IS? What information do you fill in/do those IS include? How do they sort data? Can you provide me an example? What, if anything, would you change about this part of IS (i.e., improvements)?

(When implementing accommodations) Are IS organized so that they adequately support different types of disabilities and accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-COMM] What IS are used for communication among stakeholders? If I was a stakeholder, how would you request/communicate about accommodations to me? (IS-what would you write in an email; in-person)

(When implementing accommodations) How did stakeholders respond to you using different communications (IS, in-person)? Can you provide me an example?

What, if any, differences exist between IS and in-person communications? What were your interactions/experiences with people using those IS/in-person communication? Can you provide me an example? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS-FEATURES-OTHER] What are other features of IS? What is missing in those IS that would be helpful to you?

[IS Changes-Computer Experience] What is your assessment of IS used in the accommodation process?

[IS Outcomes-Disclosure and Request] How does IS (accessible products) impact your decisions to disclose disabilities and request accommodations? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Communication] How does IS impact your communication and collaboration with other stakeholders in the accommodation process? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Quality of Accommodating] How does IS impact the quality of accommodating? Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[IS Outcomes-Social Inclusion] How does IS used in the accommodation process impact reputation and moral of your organization? (more disabled applicants and retention, supervisors' and coworkers' attitudes) Can you provide me an example of how? What, if anything, would you change about this part of IS (i.e., improvements)?

[People] Who (stakeholders/departments) do you interact with during the process? (a blank sheet of paper)

[Role] What role did each person play?

[Colleagues/Coworkers] Did colleagues impact your decisions and thoughts about workplace accommodations? If so, how?

[Colleagues/Coworkers] Did colleagues give you help during the process? If so, how?

[People Experience/Interaction] What were your experiences with them?

[Greatest Influence] Who, if anyone, had the greatest influence on the outcome of your accommodation(s)? Why?

[General Culture] In general, how do people in your organization tend to help each other out?

[General Culture] How do people in your organization typically think about accommodations?

[Training] What kinds of trainings have you had related to the accommodation process at work? How were those trainings provided to you? Who conducted the training? How was your training experience?

5. What do you see as costs for making accommodations?

[Pay for Accommodations/Indirect Costs] Who incurs them?

Reflection questions for interviewee:

[Reflection-IS] What have been benefits and/or challenges about the use of IS? [If answer is challenge] How has your organization dealt with those challenges? [If answer is benefit] In what

ways IS make the accommodation process better? How IS-FEATURES might address AP-CHALLENGES?

[Reflection-Accommodation Process] What have been the benefits and/or challenges about the use of your organizational accommodation process?

[When they say AP-BENEFITS] Why these are better?

[When they say AP-CHALLENGES] In what ways these issues impact the accommodation process? How IS-FEATURES might address AP-CHALLENGES?

[Reflection-People] What could a supervisor/HR do to make the process better overall or specifically for you?

Thank you so much for answering the questions so far. We're just about at the end. Is there anything else that you would like to add? Is there anything that you thought I should have asked about the accommodation process, but didn't? Is there anything you feel I missed or didn't give you a chance to respond?

This has been great. You have given me a lot to think about. Thanks so much for your valuable input.

Do you mind if I contact you if I have any additional questions after I look over my notes? YES or NO

Do you have any other suggestions about who else I should talk to next? Could you promote my research to your group?

Before you go, I just wanted to verify your email so I can send the gift card to you. Please give me a little time to send you the gift card. I might send out gift cards to a few interviewees together. I will let you know when I send it to you.

Again, thanks so much for your time!

APPENDIX B

fsQCA is an approach that uses fuzzy algebra to examine the causal relationship between different combinations of factors and an outcome (Frambach et al. 2016). In this research, the components of IS in the accommodation process, including computer system, special budget, specific role, ancillary service, formal policy and procedure, serve as the causal inputs, and the level of IS use serves as the outcome. fsQCA software version 3.1 is used to perform the analysis in this study (Ragin 2018).

Table A1 shows the values of IS components based on participants' descriptions and the predicted values of levels of IS use. If an IS component is used in a participant's organizational accommodation process, it is coded as 1; if a participant indicates the absence or negation of an IS component, it is coded as 0; if a participant indicates the ambiguous condition of an IS component, the cell is left blank. In the column of Level of IS Use, 1 indicates high-level IS use, 0.5 indicates low-level IS use, and 0 indicates no IS use. When running the fuzzy set analysis, the blank input variables and the 0.5 values of the outcome variable are recoded as 0.51 because it is challenging to analyze cases with exact 0.5 scores on a 0 to 1 scale based on the intersection principles of fuzzy sets (Fiss 2011; Worthington 2020).

Table A1. Variables of the IS Components and Levels of IS Use

Case ID	Case Name	ERF	AC	SB	HRS	ATS	AS	HRQ	FP	Level of IS Use
1	Isabella	1	1	1	1	1	1	1	1	1
2	Benjamin	1		1	1	1	1		1	1
3	Tiffany's previous organization	1	1	1	1	1	1	1	1	1
4	Grace	1		1	1		1		1	1
5	Jack	1		1	1	1	1		1	1
6	Judy	1		1	1	1	1		1	1
7	Lily	1		1	1	1	1		1	1
8	Alice's first organization	1	0	0	1	1		1	1	1
9	Eva	1	0	0	1	1	1	0	1	1
10	Richard	1	0	0	0	0	0	0	1	0.5
11	Hebe	1	0	0	0	0	0	0	1	0.5

12	Ivan	1	0	0	0	0	0	0	1	0.5
13	Sophia	1	0	0	0	0	0	0	1	0.5
14	Emily's current organization	1	0	0	0	0	0	0	1	0.5
15	Henry and Nathan	0	0	0	0	0	0	1	1	0.5
16	Matt	1	0	0	0	0	0	0	1	0.5
17	Chloe	1	0	0	0	0	0	0	1	0.5
18	Pamela	1	0	0	0	0	0	0	1	0.5
19	Rose	1	0	0	0	0	0	0	1	0.5
20	Daisy	1	0	0	0	0	0	0	1	0.5
21	Jillian	1	0	0	0	0	0	0	1	0.5
22	Luke	1	0	0	0	0	0	0	1	0.5
23	Christine's second organization	1	0	0	0	0	0	0	1	0.5
24	Zoe	0	0	0	0	0	0	0	0	0
25	Emily's previous organization	0	0	0	0	0	0	0	0	0
26	Kathy	0	0	0	0	0	0	0	0	0
27	Laura	0	0	0	0	0	0	0	0	0
28	Tiffany's current organization	0	0	0	0	0	0	0	0	0
29	Fiona	0	0	0	0	0	0	0	0	0
30	Grace's current organization	0	0	0	0	0	0	0	0	0
31	Christine's first organization	0	0	0	0	0	0	0	0	0
32	Amanda	0	0	0	0	0	0	0	0	0
33	Alice's second organization and Monica	0	0	0	0	0	0	0	0	0

Note. Abbreviations: ERF: Electronic Request Form; AC: Accommodation Checklist; SB: Special Budget; HRS: HR Specialist; ATS: Assistive Technology Specialist; AS: Ancillary Service; HRQ: Hiring Requirement; FP: Formal Process.

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Conclusion and Future Research

My empirical research into the organizing vision, legitimation, and collective IS use of accommodation management systems accomplishes the following: (1) contributes to new strategies and design of IS that enabled social inclusion; (2) establishes a research stream of the intersection of the critical IS inclusion research and mainstream IS research.

1. SUMMARY OF CONTRIBUTIONS

First, this dissertation contributes to new strategies of IS that enable social inclusion. By studying the organizing vision of accommodation management systems, I discover that it is important to connect IS with a business problematic and attach new and rich meanings of IS, which can help with business and enable social inclusion simultaneously. This finding adds novel insights to traditional IS strategies that help reduce business costs. When organizations concern about business costs related to IS adoption, IS practitioners (vendors) need to strategically connect IS with a business problematic that mitigates the organizations' concern and assign meanings of IS emphasizing broader benefits.

Moreover, by examining the legitimation strategies of accommodation management systems, I find that the IS normative legitimation strategy, particularly, the moral approach, can help generate diverse values and achieve IS legitimacy. Highlighting the moral approach of the normative strategy is especially useful in the context where dominant groups and marginalized groups may have conflicting interests in the multi-dimensional values generated by IS.

This dissertation also contributes to new design of IS that enable social inclusion. By examining collective IS use of accommodation management systems, I recognize the need of a new critical disability design theory. This new design theory can help design IS to raising awareness of disadvantaged groups, accounting for individual differences and needs, involving multiple stakeholder inputs and social interactions, as well as offering economic, social, and cultural resources to create an emancipatory environment and empower disadvantaged groups.

Furthermore, this dissertation establishes a research stream of the intersection of the critical IS social inclusion research and mainstream IS research. On the one hand, applying mainstream

research theories to social inclusion topics helps understand IS design, strategies, adoption, and use in a historical, social, and political environment. On the other hand, integrating the critical social inclusion research and mainstream IS research provides an in-depth and comprehensive understanding of IS strategies and design. In particular, the novel critical disability design theory helps surface the limitations of IS grounded in functionalism, which often ignores individual differences and structural inequality. It redefines the way technology can help with organizations and enable social inclusion if the critical lens and social model were emphasized in the design of IS. It provides multidisciplinary integrating perspectives from management, critical disability, and IS studies to provide a holistic understanding of the sociotechnical nature of IS.

2. FUTURE RESEARCH

The need for this new research stream of the intersection of the critical IS social inclusion research and mainstream IS research is emerging. The importance and values of diversity, equity, and inclusion (DEI) have been increasingly recognized by organizations and the whole society. DEI leads to economic benefits for organizations, increases innovations, as well as improves organizational morale and social morality (Accenture 2018, 2020; Dong et al. 2013; Kaye et al. 2011; Loiacono and Ren 2018). My dissertation demonstrates that IS should and is able to play a critical role in enabling and enhancing DEI. Specifically, new opportunities to study IS legitimation in broader social inclusion contexts include further developing theory about comparing IS legitimation strategies and specific approaches across social inclusion contexts, common themes of the execution of specific approaches of IS legitimation strategies across social inclusion contexts, as well as when and how IS legitimation monitoring activities happen. Moreover, future research should evaluate the accommodation performance of systems that satisfy the critical disability design principles through focused group interviews. Furthermore, future research can examine the collective performance of the networked use with team task interdependence in other social inclusion contexts. Additionally, future research can apply the critical disability design theory for designing IS in other social inclusion contexts and test its effectiveness.

Further, discipline-specific opportunities also emerge to study inclusion related to IS education and career. These new opportunities include measuring social impact of IS artifacts, exploring the

complexity of ethical challenges and governance opportunities related to the application of IS in societally impactful contexts, as well as DEI in IS academia and workforce.

My future research agenda centers in social inclusion in relation to data, technology, and organizational design. A related study is data privacy/security and data ethics in IS used in the workplace accommodation process for disabled employees. Since disability data security is critically important, IS should address this issue while considering the impact of the social characteristics of the accommodation process on this issue.

In addition, I am also interested in broader social inclusion research topics, including gender, gender identity, race, culture, sexual identity, sexual orientation, age, socio-economic status, and the intersection of identity attributes, in relation to data, technology, systems design, and organizational design. I will further strengthen the multidisciplinary critical social inclusion agenda to theorize about social inclusion and the critical role of IS that plays in it.

Further, I am interested in data-based decision making for including marginalized and under-represented groups in IS education and career. I will apply a critical lens to analyze the challenges marginalized and under-represented groups face in participating in IS education and career as well as understand how the IS field can address these challenges from a holistic perspective.

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