

ABSTRACT

The Transparency of Information Systems Organizations

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The awareness of technology by end-users is expanding. Starting with the millennials, today's digital natives have grown up with technology awareness while earlier generations have immigrated to an understanding of technology. The constant availability of devices and digital data has made this awareness a natural or forced extension in one's personal life. Technology awareness is necessary for keeping up with friends and family or fulfilling a job requirement. Moreover, technology use blends across personal and business activities. Technology awareness has created a heightened need for information systems (IS) organization transparency about technology. Yet, a theory of IS organization's transparency does not exist. The need for transparency in business is not new. Transparency has been a core topic since The Great Depression. Without an academic theory, transparency in business practice has primarily been legislated through laws and declarations in countries around the world. The purpose of this study is to develop a theoretical lens for understanding the perceptions of an IS organization's transparency, an academic basis that is resolute enough to frame the communication of an IS organization in an age of ubiquitous technology consumerization

and digital information for a reasonably informed and interested person. Extant research shows IS strategies and policies must be transparent to users throughout an organization, not just upper management. However, not all business departments want or need the same degree of transparency. This research is a positivist case study of data collected from thirty participants in five departments of a regional not-for-profit health care system. A cyclical analysis produces concepts that become central characteristics in an IS organization's transparency. These concepts were tested to understand the degree of transparency valued by each department.

The Transparency of Information Systems Organizations

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DEDICATION

To my wife Annita with whom I have gone further in life than I could have gone alone. I am thankful for her never-ending support. Her love for me has enriched my life and made my accomplishments more meaningful. To my daughter Rachel and her husband Jason, my son Benjamin and his wife Megan, and my daughter Sarah for whom I strive to be a perpetual mentor through my new learning and life experiences. Most of all, to my Heavenly Father, for in His plans He has finished something that I have not yet started.

CHAPTER ONE

Introduction

Since the early 1960s, technology and connectivity have accelerated rapidly in scope, scale, and impact. Technology has disrupted industries, changed organizations, and transformed lives (Dobbs, Ramaswamy, Stephenson, & Viguerie, 2014). Previously, the focus was on the specialized use of technology by trained technologists (Dobbs et al., 2014). The past has given way to the ubiquitous use of digital data, robotics, and cloud computing by the public (Aeppel, 2014). The use of technology has become so omnipresent in the lives of the millennial generation¹ that these individuals are also known as “Digital Natives” (Prensky, 2001). This label describes a generational culture based on the technology with which they have grown up and with which they are familiar (Joy, 2012). In contrast, individuals born before the digital age have adopted technology later in life and are labeled as “Digital Immigrants” (Prensky, 2001). Native versus immigrant is the difference between growing up in an environment and adapting to an environment (Joy, 2012). However, over time, both the native and immigrant have become technology-aware end-users based on the pervasiveness of technology, an awareness that comes from the constant availability and pressure to use technology in

¹ The millennial generation, born 1981-1995 (Desilver, 2014), received their name since they are the first generation to become of age at the turn of the new millennium. They are characterized as an always-connected generation where personal devices, digital information, and social media have become the way of a modern culture—the digital age. Although aware of and trusting of technology, they lack awareness and adherence to policies, and therefore demonstrate risky technology behaviors (Greis, Nogueira, & Kellogg, 2012).

one's personal life with friends and family, and work life to perform the requirements of a career.

Against this backdrop, the Chief Information Officer's (CIO) historical focus has been to lead strategy by informing and training immigrants on how technology contributes to the organization. As the information systems (IS) leader, a CIO and his or her department have traditionally been viewed as the experts across all organization functions—the technologists.² That is, in their support of the business departments,³ the technologists have an understanding of business processes as well as technology (Ross, 2003). Under the CIO, the functional manager's role in IS strategy has primarily been one-sided. The functional department middle managers, unfamiliar with the possibilities of technology, have provided business process requirements and learned about technologies along the way. Consequently, the past model has been built around information specialists (e.g., the IS Organization) who use technology to help support the prevailing business strategy and to drive day-to-day-operational excellence. However, the new strategy leader role requires work with functional managers to understand the opportunities and possibilities for improving business with the advancement of technology (Dobbs et al., 2014). Thus, an essential role of the IS organization is to communicate with functional departments as technology collaborators to provide strategy (Acharya, 2015). Collaboration involves IS becoming increasingly open and clear when

² “A technologist may be defined as: one who is well-versed in the electronic technology appropriate for their tasks. They have had either formal training or extensive experience with that technology. They have an informed opinion about technology. Others recognize their technological competence and may seek them out for consultation on technical matters” (Trower & Straub, 1991, p. 1).

³ Note that business department, business unit, and functional department are interchangeable terms and this dissertation uses functional department to represent the department structure in an organization.

communicating with functional departments about IS-related plans, strategies, initiatives, and opportunities.

Today, the technology-aware end-users are the new functional managers. They see technology as a natural conduit for change in an organization. In fact, these new middle managers may be stronger technologists in their functional areas than the CIO and his or her staff. On the other hand, middle managers may not understand the complexity of corporate IS (i.e., data integration, effective security, governance, etc.) versus the simplicity of consumer technology products (i.e., anytime-anywhere data access, plug-and-play devices, open connectivity, etc.) (Milovich, 2015). Therefore, a new trait of IS leadership is emerging that involves a greater need for information transparency as IS leaders share the role of technologist with the technology-aware middle manager. The new CIO leadership objective involves future opportunities learned from technology-aware workers, in contrast to relying on only the CIO's experience as a technology teacher.

The need to act with transparency in communication is a persistent call for action. For instance, domestic and international public relations organizations have called upon corporations to “create a process for transparency and disclosure that is appropriate for their company and industry in both current and future operations” (PR Coalition, 2003, p. 2). When an organization is transparent, there is trust among departments and a link among functional departments so that there is a common cause in the organization (PR Coalition, 2003). Because of the ever-increasing business advancements with technology, a persistent and evolutionary link is needed between the IS organization and functional departments. Such a link requires a consistent and ongoing transparency

between IS and middle managers. This transparency evolves as technology and middle management knowledge changes.

Examining IS organization's transparency is important because of the heightened business need for technology, which is created by rampant innovation in technology products and services for end-users. Increasingly, innovation develops with the needs of the individual user in mind (consumerization) as well as the need for ubiquitous information stored electronically (digital data). Consumers blend these technologies for both their personal use and their workplace use. Blending has created a new level of knowledge worker with which an IS organization needs to communicate—the technology-aware end-user. Despite the ongoing demand for IS organization's transparency with top management, business management (Applegate & Elam, 1992) and IS direct reports (Mitra, Sambamurthy, & Westerman, 2011), these new demands for omnipresent technology create additional transparency challenges. A growing demographic of technology-aware end-users seeking to innovate using information technology (IT) among functional departments has fueled the need for IS organizations to engage in open communication.

Challenged with the rapidly evolving role of technology in business (Dobbs et al., 2014) and for individual users (Aeppel, 2014), it is increasingly important for IS organizations to have open communications with the functional business departments in their company (PR Coalition, 2003). Such communication, referred to as information transparency, may need to occur in business departments within companies on a variety of topics, such as IS plans, strategies, initiatives, and business opportunities. The need for an IS organization to engage in open, transparent communications has been driven by

a growing demographic of technology-aware end-users (Joy, 2012), which includes the digital natives (Prensky, 2001) who seek to collaborate on how to innovate with technology among business departments in their company. Alternatively, digital natives will pursue innovation as a personal reward, risking IT security and stability to advance their work practice (Greis et al., 2012).

As IS-enabled innovation moves from a top-down model to a bottom-up model, driven by the shared role of the technologist with the technology-aware end-user, IS organizations will be increasingly under pressure to communicate more openly and effectively with their business department constituents about technology. This trend represents a distinct departure from the more traditional top-down approach that the IS organization has historically used to communicate with functional business managers (Applegate & Elam, 1992). This ongoing trend, referred to as information transparency, refers to the degree in which an IS organization is able to communicate openly, clearly, and effectively.

From this context, this investigation looks to answer two primary research questions. First, what are the perceptions of the IS organization's transparency from both the IS organization and business department perspectives, and are there areas where transparency is not valued? The second primary question, how do the business department managers perceive the IS organization's transparency and how does this perception influence their satisfaction with the IS organization?

The objective of this case study is to understand the nature of an IS organization's transparency (ISOT) with functional departments and the perceptions of that transparency between both parties. Through informant interviews and a self-critical approach in the

analysis and interpretation (Sarker, Xiao, & Beaulieu, 2013), this study aims to describe the business constituents' perception of an IS organization's transparency and to provide senior IS leaders with practical examples that highlight the need for transparent communications. Additionally, this research provides findings on ISOT that may be used to understand communication in the ever-changing role of technology and the IS organization in future research. First, the study provides a literature review and follows with the development of a theoretical foundation. Next are the research method, analysis, propositions, and discussion, followed by the conclusion, limitations, and considerations for future research.

CHAPTER TWO

Literature Review

This literature review focuses on transparency in an IS organization. The review first positions IS's role with the functional departments in an organization. Existing literature on transparency in IS is then examined. An IS organization may intend to be transparent about certain IS activities, while remaining silent about others. A general definition of organization transparency for this review is the free flow of information to stakeholders. The opposite of transparency, opaqueness, is the restricted flow of information to stakeholders (Bandsuch, Pate, & Thies, 2008). This chapter also reviews information satisfaction.

An ISOT may influence a functional department manager's satisfaction with IS. Although extant research on user satisfaction with IS has added to the knowledge of the discipline, a need to further understand transparency satisfaction is evident in the literature. Specifically, understanding the functional department managers' perceptions of IS satisfaction is important because of the ISOT. To these ends, a literature review covers organization transparency from the perspective of academic research.

Early in the IT revolution, technology in an organization was restricted to a functional department that met specialized operational needs, and IT support activities were located within the same department. As technology advanced and the need for technology expanded, organizations began to maximize resources by moving IT development and maintenance from the functional departments into a centralized technology department. This new IS department was created to address the need for

technology throughout the organization (Rathnam, Johnsen, & Wen, 2004). Today, IT is a ubiquitous and critical business resource. Managers depend on IT to help address competitive threats, increase operational controls, decrease expenses, and improve customer satisfaction (Cline & Guynes, 2001). At the same time, the centralized structure of an IS department can create concerns about transparency because IS is detached from the functional departments it serves (Rathnam et al., 2004).

Since IS is a critical business resource and organizations face constant change to stay competitive, an IS organization's contributions to business frequently change (Guillemette & Paré, 2012). Therefore, the need to align business change and IS resources develops, and when an alignment exists, it produces positive results in organization performance (e.g., Lederer & Gardiner, 1992; Min, Suh, & Kim, 1999; Chan, 2002; Preston & Karahanna, 2009). However, the ongoing challenges to achieve alignment rank among the top five concerns of IT executives (Luftman, Kempaiah, & Nash, 2006), and they remain concerns even with the advances of greater technology capabilities (Kappelman, McLean, Johnson, & Gerhart, 2014).

The organizational position of IS in a company in this present study contributes to understanding an ISOT. From IS literature, two approaches for placing IS were reviewed: fundamental assumptions formed in organizational culture and IT management profiles. Because of assumptions, a framework exists to help managers understand the relationship of IS to the organization. These assumptions may also result in how the IS department is treated (Kaarst-Brown, 2005). Actually, Kaarst-Brown (2005) suggests that an IS organization may see itself or other departments in these assumptions.

Kaarst-Brown's (2005) five cluster assumptions (archetypes) encompass how the functional departments and management assess the IS organization: (1) IT is a necessary evil; (2) IT is support, not a partner; (3) IT rules, (4) business can do IT better; and (5) IT is equal partners with other departments. A necessary-evil assumption denotes a functional department that tries to avoid IT or engages in minimal efforts out of forced necessity. A department with this assumption may only trust in its own experience and knowledge, and may assume that its efficiency and effectiveness will suffer once IT systems and staff are involved. The assumption that IT is support, not a partner refers to an outlook that the business knows best and IT staff does not understand the business. The IT focus is cost-justification versus innovation. In strategic planning, IT management is an invited guest who explains technology but does not make decisions. The IT-rules assumption indicates a functional department that sees importance in IT strategy, skills, and knowledge. Investments in IT, including emerging technology, are easily justified. However, a comfort with the IT organization means that strategies, processes, and legacy systems are not properly challenged. The business-can-do-IT-better assumption refers to the functional department that believes it is the best at IT. IT skills are required of employees in the department and sometimes skills reach the technologist level. The equal-partners assumption denotes a department that values collaboration with and contribution from the IT organization. Both the functional department and IS organization must have business and IT skills to maintain a balanced view of business and technology.

According to Kaarst-Brown (2005) these assumptions are not intended to be the only views on how a business department or management might view the IS organization.

However, she suggests, these assumption may help researchers identify patterns that affect working relationships between IS and functional departments. With these assumptions, an ISOT approach could be developed by IS management to meet the transparency objectives of a functional department.

Although organizational culture is the impetus for the assumptions, no one-assumption cluster may be universally applicable. Kaarst-Brown (2005) suggests that all five assumptions might be in a single company. One of the five clusters may be a best fit; however, other assumption clusters can apply when subcultures have formed. That is, the application of assumptions may serve to identify individual functional department relationships with the IS organization more succinctly than a universal company assumption.

As a second approach for positioning IS in a company, a framework exists to categorize several ideal IT management profiles. These profiles could predict the type of technology management role an IS organization plays in a company (Guillemette & Paré, 2012). The value in developing ideal profiles, Guillemette and Paré (2012) explain, is that future investigations can use these ideal profiles to understand other organizations.

To that end, Guillemette and Paré (2012) derive five profiles (roles) of an IS organization: (1) partner, (2) systems provider, (3) architecture builder, (4) technological leader, and (5) project coordinator. The partner role refers to IS and functional managers working together to achieve business transformation and innovation. As partners, business needs are determined and technologies are chosen together to accomplish business process engineering. The unique value proposition of the partner profile consists of greater productivity from change in the company's actions. Systems provider

refers to IS as carrying out requests from departments to acquire, develop, maintain, and support applications. Their work focus is technology skills based with minimal functional manager interaction. The systems provider value contribution entails reducing costs in business operations and IT operations through effective project selections. An architecture builder profile involves IS building and managing the IT infrastructure for business agility. Functional managers provide input to clarify strategy. Nevertheless, IS has both technology and industry practice knowledge, which is used independent of functional manager involvement to maximize existing infrastructure. The unique value proposition of the architecture builder consists of knowledge transfer and a responsive infrastructure to meet planned and unplanned business opportunities. The technological leader denotes IS's focus on opportunities and ideas for creating a competitive advantage. IS develops business justification for technology through leadership skills, technology skills, and industry knowledge that top management approves. The unique value proposition of the technological leader involves strategic transformation through emerging technologies. Finally, as a project coordinator, the IS organization manages IT activities and the relationships among them, as well as hardware and software vendors, system integrators and consultants, and functional departments. An IS and business relationship exists, however the functional manager makes the IT investment decisions and IS makes the strategic partnership decisions. The project coordinator value proposition consists of developing business' ability to make IT decisions through sound outsourcing relationships and quality project management.

Guillemette and Paré (2012) argue that an IS organization will function within one specific role in a company, such as partner, which involves all of the activities,

relationships, skills and knowledge, and governance needed to meet the company's business objectives within the role. Accordingly, that single role is the IS organization's best value proposition for a company, a perfect match (Guillemette & Paré, 2012). According to the authors, an almost perfect match is IT management that meets a profile in all but one of the fundamentals (activities, relationships, skills and knowledge, governance). In addition, a hybrid role is an even-split among the four fundamentals. As a counter argument to the authors' value proposition, an IS organization may have the breadth and depth of staff resources to function across multiple IT management profiles and all fundamentals therein. For instance, IS management has all of the fundamentals to conform to a primary ideal profile as a partner and all the fundamentals to conform to a secondary profile as systems provider. Then, the multiple profiles of an IS organization provide the best value proposition for a company.

In this present study, consideration will be given to a primary profile to explain IS management with a secondary search that considers the other four roles as well. The intent is not to mimic Guillemette and Paré's (2012) study of 24 companies but to use pattern matching in this present study's data of ISOT. Discussion to consider the five cluster assumptions from Kaarst-Brown's (2005) findings will not be undertaken. Although clusters and categories developed in Kaarst-Brown's research, her research involved two companies, one with an IT department staff of about 310 and the other with approximately 55 (Kaarst-Brown & Robey, 1999). Additionally, the author suggests that the best way to understand the position of IT is to listen to and talk with IT staff to build relationships and seek current assumptions (Kaarst-Brown, 2005). Instead, IT may want

to consider these assumptions as a beginning point for building relationships while seeking current assumptions.

The transition from a decentralized use of technology to meet one-off specialized needs to a centralized IS department are considerable. A centralized department and a change in IT management roles may lead to transparency issues. Street and Meister (2004) observed that the close proximity of colleagues contributes positively to transparency through informal communication. Yet, when a lack of proximity is evident, other approaches for addressing transparency are necessary. Research findings suggest that transparency may develop when IS collects information on solutions (Street & Meister, 2004) and builds relationships through sensible corroboration and individual persuasion (Kaarst-Brown, 2005). However, resistance from colleagues often develops when communication occurs through negotiations or tense discussions (Kaarst-Brown, 2005). The following contains a review of transparency in the IS discipline.

2.1 Information Systems Discipline Transparency Literature Review

To build a foundation in IS discipline literature, I searched a number of business databases for peer-reviewed journal papers on transparency. At first, I assumed that if organization transparency was an emerging phenomenon, research on the topic would be published in the top IS discipline journals. Hence, the paper search began with the Association for Information Systems senior scholar's basket of eight journals. These journals are, in alphabetical order:

- *European Journal of Information Systems*
- *Information Systems Journal*
- *Information Systems Research*
- *Journal of Management Information Systems*
- *Journal of Strategic Information Systems*

- *Journal of Information Technology*
- *Journal of Association for Information Systems*
- *MIS Quarterly*

Afterwards, the search was expanded to include eight additional journals in which academic peer-reviewed manuscripts on IS and IT research are published. These journals are, in alphabetical order:

- *Data Base for Advances in Information Systems*
- *Decision Sciences*
- *Decision Support Systems*
- *Electronic Commerce Research and Applications*
- *Information & Management*
- *Information & Organization*
- *Information Technology & People*
- *MIS Quarterly Executive*

The search criteria included three keywords or keyword combinations, for which the abstracts of published papers were scanned. These words were “organizational transparency,” “corporate transparency,” and “transparency.” Sixty full-text peer-reviewed papers met the search criteria. Nevertheless, across all 16 journals, the single word search on “transparency” was the only search that produced results. I reviewed the on-line abstract for each paper to understand how the word “transparency” was framed in the study. That is, I sought to understand whether transparency was used generally for solving a problem or for explaining the complexities of a phenomenon (Wehmeier & Raaz, 2012). The phenomenon review determined that transparency is the study of information at the organization level, which is the focus of this research. Thus, two papers founded on transparency at the organization level were retained for further review. Table 2.1 shows both the journals in which all papers were found and the journal from which the two retained papers were drawn, which was *MIS Quarterly*.

Secondary source papers were also open to consideration. These papers surfaced through references within the papers, which were gathered from database searches or

suggested by referees of this research. While not comprehensive, this list represents a measure of organization transparency in the IS discipline. These papers may also reflect the status of new research in the discipline, since all of them have been published over the past 11 years.

Table 2.1. Academic Journals and Published Papers Found

Academic Journal	Total Number of Papers	Number of Papers Retained	Database Searched
Association for Information Systems Senior Scholar's Basket			
European Journal of Information Systems	3	0	ABI
Information Systems Journal	0	0	BSC
Information Systems Research	4	0	BSC
Journal of Information Technology	1	0	ABI
Journal of Management Information Systems	7	0	BSC
Journal of Strategic Information Systems	3	0	SCJ
Journal of the Association for Information Systems	3	0	BSC
MIS Quarterly	10	2	BSC
Other Journals			
Data Base for Advances in Information Systems	1	0	ABI
Decision Sciences	3	0	ABI
Decision Support Systems	9	0	SDJ
Electronic Commerce Research and Applications	1	0	SDJ
Information & Management	6	0	SDJ
Information & Organization	2	0	SDJ
Information Technology & People	5	0	ABI
MIS Quarterly Executive	1	0	BSC
Total	60	2	

Legend: BSC = *Business Source Complete*, ABI = *ABI/INFORM Complete*, SDJ = *ScienceDirect Journal*

Table 2.2 summarizes the papers found and includes the methods and measures of transparency, the independent variables, the dependent variables, and the relevant findings. These papers examined change in organization information transparency in a health care system and change in organization transparency resulting from small-business growth. First, the research by Kohli and Kettinger (2004) suggests that, by benchmarking

clinical practices, physician profiling creates organization information transparency. Transparency was needed to change physician behaviors so that they would align with management goals. Information that IS collected through performance monitoring fosters clinical practice changes that appeal to the physician's values. Performance monitoring IS tracks physician-driven costs and patient quality. In addition, transparency creates a sense of obligation among physicians to consider performance information, which may create new norms among their peers. This action research study presents organization information transparency as a successful mediation for reducing clinical costs and producing better outcomes. Interestingly, for physicians, the transparency of performance information is perceived to be genuine in peer behavioral changes (principal legitimacy), even if management's requests for behavior change are not seen as genuine (lack of principal legitimacy).

Street and Meister's (2004) research on small-businesses indicated that internal transparency mediates the relationship between communication behaviors and outcomes in organizational effectiveness. In small-business relationships, the close proximity of colleagues contributes to organization transparency. Conversely, with small-business growth comes less time for the transparency found in informal communication relationships. Therefore, when business growth is intended, IS solutions should address the weaknesses that stem from the lack of informal communication typically found in an organization's internal transparency.

Both Kohli and Kettinger's (2004) and Street and Meister's (2004) research findings present IS solutions with positive impacts on organization transparency. Moreover, these studies are specific to an organization's internal information. Kohli and

Kettinger (2004) find that organization transparency achieved through performance monitoring IS can legitimize peer behavioral change. Street and Meister (2004) found that cross-functional and *ad hoc* access to IS information facilitates a sense of internal organization transparency.

Table 2.2. IS Discipline Papers

Author(s)	Method and Measure of Organizational Transparency	Independent Variables	Dependent Variables <i>Control Variables</i>	Relevant Findings
Database Search Papers				
Kohil and Kettinger (2004) <i>MISQ</i>	Action research in a health care system	Behavior and outcome transparency	Goal congruence	Results suggest that physician profiling, to benchmark clinical practices, creates greater organizational transparency for changing physician behaviors to align with management goals. Behaviors that reduce clinical procedure costs produce better outcomes.
Street and Meister (2004) <i>MISQ</i>	Action research of a small Canadian manufacturing company	Communication behavior (interpersonal, cross-functional)	Outcomes (operational performance, planning performance) <i>Internal transparency</i>	Findings indicate that internal transparency mediates the relationship between communication behavior and outcomes. Additionally, with small-business growth comes less time for the transparency found in informal communication. Thus, when business growth is intended, IS solutions should address the weakness that comes from a lack of informal communication.
Secondary Source Papers				
Joshi, Bullen, and Hassink (2013) <i>ISM</i>	Archival data analysis of 73 banks in 15 European countries and 127 banks in the U.S.	IT strategy alignment, IT value delivery, IT risk management, IT performance measurement	IT governance transparency	Research extends IT governance knowledge on corporate communication systems, accountability, and transparency to include the importance of IT governance transparency. Additionally, a single source of transparency may not be adequate for all information communicated to users. Moreover, organizations with a high degree of corporate governance are most transparent with IT performance measurements.

Legend: ISM = *Information Systems Management*

The 58 papers not retained were studies of transparency about information or facts that did not address an issue or phenomenon in organization transparency. Nonetheless, these papers did address one each of the references to transparency listed below:

- Data (reports, interface, exchange) transparency
- Open source software transparency
- On-line price, cost, billing transparency
- Procurement, purchase transparency
- Semantic (graphics symbols) transparency
- Open electronic market transparency
- Personal message transparency
- Process, procedure, service, validation transparency
- Product description (knowledge) transparency
- Privacy in the information age

2.2 Multidisciplinary Transparency Literature Review

Although a literature review established an underlying foundation for building a theoretical rationale, little was found on IS organization transparency. Therefore, a multidisciplinary review was conducted across the disciplines of management, public relations, business ethics, accounting, and business and society. Following this search, a theory of organization transparency still did not materialize. However, a body of knowledge may consist of small contributions across multiple disciplines on many topics, as found in the lack of a strategy implementation theory (Roberts & MacLennan, 2011). Even so, theoretical depth and critical perspective develop over time, since the expanse of knowledge accumulates over many studies (Gregor, 2006; Wehmeier & Raaz, 2012).

During my multidisciplinary literature search, I uncovered that Wehmeier and Raaz (2012) completed a comprehensive literature review on the topic of transparency. For their work, Wehmeier and Raaz (2012) referred to organization transparency as the ever-increasing need for organizations to build trust and legitimacy by being open and accountable for their actions. Citing that the discipline of public relations does not have a

theory of transparency for this need, they searched for a theoretical perspective on transparency in the management disciplines. From EBSCO Host's Business Source Premier, a database of over 1,100 full-text peer-reviewed journals, Wehmeier and Raaz (2012) analyzed 105 papers published in 66 journals, including the disciplines of business (58), politics and public administration (33), information management (6), sociology (4), communication (3), and other (1). They then analyzed the data to find an interpretative context framework for transparency.

Wehmeier and Raaz's (2012) analysis shows that most papers did not develop or place transparency in a theoretical model, nor did they develop a theoretical concept for transparency. Management, business, and public administration research typically presents transparency without a theory and without any negative consequences, that is, as a positive. In addition, only 16 of the papers provided a definition for transparency. Wehmeier and Raaz (2012) held that observation to indicate that the paper author(s) took a common-knowledge approach to transparency. The transparency definitions developed into two types: sender definitions and sender/receiver definitions. The sender definitions focus on the accessibility, availability, and clarity of information through transparency. In these conceptions, the sender simply is open to making his or her information available. The sender/receiver definitions involve a commitment to help the receiver understand the information. That is, the sender is interested in the receiver's understanding of the decisions and the reasons for them.

Wehmeier and Raaz (2012) do not claim to have a comprehensive list of transparency papers in their research because of common research limitations. Moreover, their research results do not support a theory or support a transparency theory involving

business, politics, and public administration research. As a secondary observation, they identified five types of organizational implications related to finding transparency: (1) ethical, involving corporate governance; (2) efficiency and effectiveness, improving organization performance; (3) communication and relationship, discussing issues with people; (4) law and regulation, institutionalizing policies; and (5) financial, increasing profits. They called for future research to develop a critical body of knowledge on the subject. Of special note, a theory may be drawn not from general patterns of transparency or best practices, but from a solution specific to an application.

2.3 Call for a Transparency Theory

In the absence of theory, transparency within modern business is achieved through laws and directives from global countries. To support these laws and directives, the business world has developed a process for characterizing information transparency through professional business organizations¹ that provide guidelines to knowledge workers. In academia, researchers have called for a theoretical framework of transparency that can be used with variables (Bandsuch et al, 2008), seemingly to no avail. This request is not new. Currently, practitioners follow federal laws developed after financial crises. Researchers in public relations (Wehmeier & Raaz, 2012) and corporate communications (Bishop, 2006) also suggest an academic framework for

¹ A professional business organization is typically an independent foundation or agency working on behalf of the public's best interest. While not an enforcement organization, this type of organization provides principles, guidelines, or ratings that may be used by the people or departments that are assigned to provide enforcement. The governance body of the organization typically offers an open and participatory due process that governs organizational procedures. Meetings are generally open to the public, and their minutes or recordings are made available. Knowledge workers use the principles, guidelines, and ratings created by an organization in due course of business and conduct in their vocation.

information transparency. Further, law professors propose that a framework may reduce the need for laws to address transparency in business (Raab, 1988).

However, transparency has many applications in business, and it is not likely for any one theory of transparency to prevail across all disciplines (Roberts & MacLennan, 2011). For example, organization transparency is a term adopted by businesses to describe the obligation to disclose their information, including corporate behavior, operations, and performance (Tapscott, 2005). Moreover, organization transparency is an essential factor of trust (Drucker, 1992). In business, trust is a relationship among many parties, including top management and investors, middle managers and employees, and organizations and their customers, to name a few. Transparency has developed as a lens for viewing trust because of the corporate governance that has been legislated or regulated to address business scandals. For corporate governance, organization transparency is an approach void of falsification or deceit (Bandsuch et al., 2008). In support of corporate governance, transparency offers accurate and accessible information on all matters to an organization's internal and external stakeholders. Additionally, transparency represents genuine conditions and results. From this definition of transparency by Bandsuch et al. (2008) and the Standard & Poor's Corporate Governance 2002 of 100 elements, Bandsuch et al. (2008) derive a basic measurement tool with which internal management can gauge understanding and ultimately improve organization transparency.²

² According to Bandsuch et al. (2008), not all organizations have ratings of "transparent." A second rating is "translucent;" In this rating, information is provided; however, assumptions and inferences are needed due to shortcomings in the information. A third rating is "opaque;" this refers to a company that does not provide sufficient information to allow the formation of reasonable decisions.

Just as Bandsuch et al. (2008) used Standard & Poor's Corporate Governance, Rawlins (2009) focused on organization transparency to measure trust and credibility. This study developed an instrument to measure stakeholder opinions concerning an organization's efforts related to traits and participation in transparency. Rawlins used practice-based guidelines³ to develop transparency measurements for participation, substantial information, accountability, and secrecy.

These two simple examples further indicate the lack of academic theory and the continuing quest to measure the theoretical concept of organization transparency.

2.4 Information Systems Transparency Satisfaction

The final topic of the literature review is satisfaction. Extant satisfaction literature explains any number of phenomena within the history of IS. For example, Ives, Olson, and Baroudi's (1983) user information satisfaction study developed an instrument measuring a user's belief that an information system meets his or her information requirements. Additionally, user satisfaction as a significant measure of an information system is strengthened in DeLone and McLean's (2003) research update of their 1992 framework. Adding to the body of knowledge, Au, Ngai, and Cheng's (2008) research studied end-user IS satisfaction from more than a technology capability perspective. Their findings reveal that a critical factor for end-user satisfaction with IS performance is technical soundness and good support service. Moreover, IS needs to fulfill the work

³ Within the discipline of public relations, Rawlins (2009) used variables developed in his research by referencing descriptions of the Global Reporting Index Guidelines, the Governmental Accounting Standards Board Guidelines, the Bishop's Authentic Communication, and the Public Relations Society of America Code of Ethics Provision on Disclosure.

performance of end-users and to address the importance of the end-users' resulting social interaction.

Satisfaction refers to an individual's degree of positive sentiment toward something (Brayfield & Rothe, 1951), which may manifest itself in various ways. According to marketing research findings, overall satisfaction consists of attribute satisfaction and information satisfaction (Spreng, MacKenzie, & Olshavsky, 1996). *Attribute satisfaction* is defined as "the consumer's subjective satisfaction judgment resulting from observations of attribute performance" (Oliver, 1993, p. 421). Within marketing, an attribute is a customer's perception of a product or service (e.g., with a car purchase). It is also described as, "[i]nformation satisfaction is defined as a subjective satisfaction judgment of the information used in choosing a product [or service]" (Spreng et al., 1996, p. 18) (e.g., with the information received about the car). Similar to Au et al.'s (2008) research, this investigation uses literature from the marketing discipline as a theoretical foundation for satisfaction. When transformed into an IS discipline context, this approach positions *technology performance and service* as the attribute satisfaction and *IS organization's transparency* as the information satisfaction.

In summary, although attribute satisfaction and information satisfaction are independent variables used to explain overall satisfaction in the marketing discipline, the intent is not to study overall satisfaction with an IS organization. Instead, the intent is to study information satisfaction in the form of the transparency of an IS organization. Specifically, the study examines information satisfaction as a subjective judgement of transparency (Spreng et al., 1996) of the IS organization.

2.5 Summary of Literature Review

To answer a call for a theory, this study narrows transparency to involve only an IS organization. The IS context is chosen because IS leadership must communicate effectively in business, given business' universal use of technology and perpetual demand for information. In the IS discipline, some literature on information transparency exists. For example, information transparency studies have shown a dependence on customers' willingness to be forthcoming with their information over the Internet (Awad & Krishnan, 2006). Transparency within IS has also helped to address internal communication in growing organizations (Street & Meister, 2004). A long-term focus of the IS discipline is information transparency based on access to an organization's system data and reports (Kettinger, Zhang, & Chang, 2013; Goodhue, 1998; Goodhue, 1995). These earlier studies show that transparency is important for many purposes within IS. This dissertation, however, focuses on reporting the story of IS in an organization, much like the reporting of requirements to the United States (U.S.) Securities and Exchange Commission for a for-profit organization.

ISOT may influence the functional department manager's satisfaction with IS. While technology performance and service satisfaction (attribute satisfaction) have been the focuses of extant research, IS organization's transparency satisfaction (information satisfaction) is the focus of this investigation. Additionally, the marketing discipline is a prospective discipline for borrowing dimensions of consumer satisfaction to help explain a functional department manager's satisfaction with transparency.

CHAPTER THREE

Theoretical Foundation

While new demands for transparency need to be addressed, the CIO's office continues to improve its effort to meet communication demands from key IS stakeholders—senior and functional business management within the organization (Applegate & Elam, 1992). Increasingly, senior and middle management are becoming stakeholders because technology has infiltrated most of the processes performed in the organization's business units. Just as senior management communicates to external business stakeholders, the CIO's office needs to inform internal management about IS operations and IS strategy initiatives (Mitra et al., 2011). The lack of information transparency from the CIO's office may limit technology's effectiveness in an organization. Additionally, this lack can cause technology-aware functional managers to feel that they must go around IS to implement technology in their departments (PR Coalition, 2003).

The need to be transparent and forthcoming with information is not new in business. The requirements for transparency were introduced as a result of many financial crises, such as the 1929 stock market crash (Bandsuch et al., 2008), which led to the Great Depression. That crisis prompted U.S. legislators to pass the Banking Act of 1933 and the Securities Act of 1933 to protect business stakeholders. Laws affecting business require top management to enact processes and reporting procedures to create greater information transparency. In fact, nearly every financial crisis results in a newly legislated reporting requirement for information transparency. Most recently, laws in the

U.S. and directives in countries around the world have been enacted because of the U.S. subprime mortgage crisis, which led to the Great Recession. These laws include the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the 2009 Pittsburgh G20 Summit Leaders' Statement. Additional laws, such as the Sarbanes-Oxley Act of 2002, Section 404, even outline a specific information and record retention role for IS. Because of global business transparency demands, knowledge workers need a framework for reporting transparency. In business practice, professional organizations have addressed this need by developing principles, guidelines, or ratings for their members to follow. Examples of these organizations include the International Financial Reporting Standards (IFRS), the Global Reporting Initiative (GRI), Standard & Poor's (S&P) and the Governmental Accounting Standards Board (GASB).

3.1 The Need for Theory in the Information Systems Discipline

Based on the principles and guidelines developed for practice, IS researchers should investigate whether the same transparency characteristics found in professional business organizations can be used to create an information transparency framework for IS leaders. The need for IS transparency in communication is obvious from Kappelman, McLean, Johnson, and Gerhart's (2015) recent trend study, in which CIOs ranked the need for communication skills. Out of 37 skills in that study, CIOs ranked oral communication as the fifth highest skill they desired for themselves, IT middle management, and new IT hires. Additionally, they ranked written communication fifteenth for themselves, fourteenth for IT middle management, and seventh for new IT hires (Kappelman et al., 2015). A framework might help IS leaders and staff communicate the complexities of operations, the need for technology policies, and

innovative strategies for management stakeholders. Stakeholders here include top management, middle management, and end-users. These technology-aware constituents are looking for transparent communication because they no longer accept IT standards without question (Bliss, 2014). The intent of this present study is to understand if an academia and a practice link can be established between the IS organization and the practical characteristics of information transparency in professional business organizations.

The supposition is that common factors across practitioner principles and guidelines in professional business organizations could serve as theoretical rationale for an organization transparency study. Specifically, a pattern may exist that theoretically will help create a shared understanding to explain a phenomenon (Weber, 2003), and, for this present work, the phenomenon is transparency from an IS organization. If stable patterns exist for the business practice of transparency, one could apply these patterns to IS information transparency. Furthermore, these patterns can lead to more accurate descriptions of future phenomena (Weber, 2003) in organization transparency.

3.2 Practice Sources for a Theoretical Rationale

For an IS theoretical lens, five practice sources were referenced for this present study. These sources were used to characterize information transparency in business or organization communications. They were chosen because they represent five needs for transparent business communication: (1) international financial reporting; (2) international sustainability reporting; (3) governance-accountability, management metrics, and analysis reporting; (4) state and local government accounting and financial reporting; and (5) internal and external corporate communication. In analyzing these five

needs, one can determine common characteristics for transparent communication in international and regional communication, as well as across other stakeholders that use reported information. Additional sources were excluded because data saturation was reached after these five sources were reviewed. In other words, no new or relevant themes emerged to enhance the theory (Creswell & Plano Clark, 2011) outside the common characteristics found in these sources. Documenting their approaches to transparency with their members, constituents, stakeholders, employees, or other decision-makers, these five authorities have much to offer. Each is evaluated below.

3.2.1 International Financial Reporting Standards

The IFRS Foundation is an independent, not-for-profit organization with the mission of developing a single set of high-quality, understandable, and enforceable international financial reporting standards. The International Accounting Standards Board (IASB) (IFRS, 2014a) sets standards for the IFRS. The board engages investors, regulators, business leaders, and global accounting professionals in a due process to review clearly expressed principles for any standard before it is published (IFRS, 2014c). As a foundational component of the IFRS, a conceptual framework for financial reporting was developed through which businesses prepare and report their financial information. The objective was to develop a framework to provide existing and potential investors and lenders with useful information as they decide whether to grant resources to a business. The reports are general-purpose financial reports, and the framework includes fundamental qualitative characteristics (IFRS, 2014b). IASB issued the current financial reporting framework in 2010, and updates are now underway (IASB, 2010). One recent update includes a chapter on the qualitative characteristics of useful financial

information. The six characteristics of financial reporting—faithful representation, comparability, relevance, timeliness, understandability, and verifiability—fit the transparency definition in this present work and are included in Table 3.1.

3.2.2 Global Reporting Initiative

GRI is a leading organization in the sustainability field. This not-for-profit international organization aims to make sustainability reporting a standard for organizations. Its members include thousands of professionals worldwide who participate in a due process cooperative. GRI's focus is to promote responsible global economic, environmental, and social performance. Thus, by basing its sustainability reporting guidelines on an organization's performance impact, GRI combines long-term profitability with ethical behavior, social justice, and environmental care (GRI, 2014). These guidelines are founded on a set of 10 principles for achieving report transparency (GRI, 2013). Eight of these principles fit the definition of transparency used in this present research. The three outliers are sustainability context, materiality, and stakeholder inclusiveness. Sustainability context is specific to the aim or trend of contribution in sustainability. Materiality is the threshold at which sufficiency becomes important to sustainability (GRI, 2013). Both principles are discipline-specific and outside the context of the seven principles that were found to provide transparency commonality with the other professions studied in this research. Stakeholder inclusiveness, the third outlier, is not used since how an organization responds to expectations was outside of this present study's scope for most sources. Moreover, the completeness and accuracy principles have been combined because their descriptions are similar. The remaining seven GRI principles fit eight characteristics (accuracy,

comparability, balance, timeliness, clarity (comprehensible), clarity (accessible), completeness, and reliability), which are presented in Table 3.1.

3.2.3 Standard & Poor's

A subsidiary of McGraw Hill Financial, S&P Financial Services is a global independent credit risk rating and research organization with more than 1,400 analysts and over 150 years of history. Investors, businesses, and markets around the world use S&P ratings to understand an organization's credit risk. Credit ratings are published on debt issued by sovereign, municipal, corporate, and financial sectors (S&PRS, 2014). One part of S&P's services provides corporate governance scores independent of the rating services. The Standard & Poor's Corporate Governance Scores are not part of an audit; rather, they are an assessment of a company based on reliable sources. Analysts developed the criteria, methodology, and definitions for assessing organizations to determine the extent that companies served their shareholders' interests (S&PGS, 2002). To account for demand from the investment community in the aftermath of multiple financial crises, the assessing process underwent multiple revisions and is now known as the governance-accountability, management metrics, and analysis (GAMMA) scores (S&PGS, 2004; 2008). The scores are based on guidelines divided into four components: ownership influences; shareholder rights; transparency, audit, and enterprise risk management; and board effectiveness, strategy, process, and compensation practices. This present research study focuses on the transparency category and subcategory, content and accessibility of public disclosures and the audit process. The six elements within these subcategories match the other disciplines that were studied based on seven

characteristics (quality, true understanding, promptly available, available, full disclosure (clear), full disclosure (complete), and monitor), as presented in Table 3.1.

3.2.4 Governmental Accounting Standards Board

As part of the Financial Accounting Foundation, the GASB was established to improve the standards for accounting and financial reporting of U.S. state and local governments. Its core values are independence, integrity, objectivity, and transparency. GASB defines those values as follows: independence embodies the best answer that is free from influence and pressure, integrity represents honest and ethical behavior with others, objectivity symbolizes impartial and credible decisions, and transparency is the process of encouraging public participation (GASB, 2014). GASB initiates research projects to support principles for evaluating operational efficiency. One such project involved the suggested criteria for effective communication (Fountain, Campbell, Patton, Epstein, & Cohn, 2003). Its report describes 16 criteria for communicating relevant and reliable results. After several subsequent research projects, the board set forth six qualitative characteristics that serve as guidelines for performance reporting (GASB, 2010). These characteristics fit the transparency definition in the seven characteristics (reliability, comparability, relevance, timeliness, understandability (clear), understandability (complete), and consistency) examined in this present work. Since these characteristics provide the same guidance for transparency that are found in the other professions examined in this study, they have been added to Table 3.1.

3.2.5 Corporate Communication

Organizations have assorted communication needs, including media relations, internal communications, and Internet communications. Bishop (2006) explains that approaches to corporate communication have followed from a mix of best-practice articles and theoretical studies. One criticism of communication theory is that it provides guidance on how communication ought to be practiced, but not on how it is actually being practiced (Bishop, 2006). Nonetheless, some theories, such as the two-way symmetrical model of public relations, have been proven over time (Grunig & Hunt, 1984). This model is based on communication through negotiation, compromise, and understanding. Bishop's (2006) principles of authentic communication, built on symmetrical theory, are presented as a merger of theory and professional practice. Authenticity is defined as reliable and trustworthy (Bishop, 2006) communication, and an organization's social responsibility is to be authentic (Terry & Cleveland, 1993). An organization has a social duty to be authentic in its internal and external communications (Bishop, 2006). Of the 10 corporate principles of authentic communication, seven resemble those found in the other disciplines represented in this present research study. The three that stand apart are the fundamental, caring, and responsiveness principles. This present study combines the fundamental principle and the truthful principle because both address the accuracy and correctness of the information being communicated. The caring principle is not used in this research since it is an event-driven principle of feelings. The objective to communicate feelings is outside the communication intent of the other disciplines studied for this research. In addition, this study does not use responsiveness since feedback was not a major characteristic in all five sources. The

seven principles of authentic communication—truthful, relevance, timely, accessible, clear, comprehensive, and consistent—are detailed in Table 3.1.

The set of transparency characteristics presented in Table 3.1, leads to three additional columns in the table. The first column, Items, presents a synthesized title for each characteristic. The second column presents a Merriam-Webster definition of the synthesized titles, and the third column, Synthesized Information Transparency, presents a synthesized definition for each of the eight characteristics.

3.3 Definition of Transparency

Transparency has a number of definitions based on the phenomenon under study (see Table 3.2). In a literature review conducted by Rawlins (2009), three elements of transparency are described: available, truthful, and accountable for understanding by a reasonably informed and interested person. The first element, available, is the ability to obtain all information legally releasable that allows an organization's decisions to be understood. This includes governing of when information is released. Insider information, such as corporate earnings or the award of a major contract, is one example of this type of information. The next element, truthful, is the ability to reveal all reliable information needed to satisfy a reasonable person. The satisfaction of a person depends upon the information receiver's ability to interact with the information and build knowledge. Finally, accountable is the responsibility to prove accurate information about the awareness of a circumstance so that others can understand and evaluate the circumstance.

Table 3.1. Eight Characteristics of Transparency

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Free from error especially as the result of care.”	<i>Faithful representation</i> – information is complete, neutral, and error free—includes all information necessary: unbiased and free of error and omission (see complete).	<i>Accuracy</i> – information is sufficiently accurate for stakeholders to assess the organization’s performance.	<i>Quality</i> – information and controls should be overseen by both independent and reputable oversight with regard to quality.	<i>Reliability</i> – information should be verifiable and free from bias, representing a faithful meaning of the information presented.	<i>Truthful</i> – information is accurate and factually based on correct central facts: accuracy, truthfulness, and honesty.	Information that is factual, objective, and error free.	1. Accuracy
“Capable of or suitable for . . . an examination of two or more items to establish similarities and dissimilarities.”	<i>Comparability</i> – information that is useful when compared to information about the same entity or information about a similar entity from another time.	<i>Comparability</i> – information is consistent and presented in a manner that allows for the analysis of change over time.	[not discussed]	<i>Comparability</i> – information should provide a clear frame of reference for assessing performance with comparative information from earlier times, established targets, norms, and comparable entities.	[not discussed]	Information suitable for looking at matters related to targeted norms that may show change from another time and context.	2. Comparability

(continued)

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Having significant and demonstrable bearing on the matter at hand.”	<i>Relevance</i> – information that has predictive and confirmatory value: is material and therefore if omitted or misstated, the information could influence decisions.	<i>Balance</i> – information gives a positive and negative perspective that does not inappropriately influence a decision by the report reader.	<i>True understanding</i> – information should be a true understanding of financial conditions: liabilities and affiliated business relationships with related companies.	<i>Relevance</i> – information should include data essential for understanding the accomplished goals and objectives that have decision-making implications.	<i>Relevance</i> – information takes into account and establishes a connection with the interests of those involved.	Information that is essential for establishing the significance of the matter at hand.	3. Relevance
“Happening at the correct or most useful time.”	<i>Timeliness</i> – information is available to decision-makers in time to influence their decisions.	<i>Timeliness</i> – information is reported on a regular schedule and in time for stakeholders to make informed decisions.	<i>Promptly Available</i> – information should be promptly and freely accessible to the stakeholders.	<i>Timeliness</i> – information is reported timely so that it is available before it loses its value for decision-makers.	<i>Timely</i> – information is delivered with sensitivity toward timing, which allows for a reaction and interaction with the information.	Information provided at the appropriate time for influencing decisions.	4. Timeliness
“Freedom or ability to obtain or make use of something.”	<i>[not discussed]</i>	<i>Clarity</i> – information is available in a manner that is understandable, comprehensive, and accessible (see clear).	<i>Available</i> – information should be available on a website in both English and the local language of the organization.	<i>[not discussed]</i>	<i>Accessible</i> – information is easily available with everyone having the opportunity to acquire and discuss the information.	Information that is readily obtained.	5. Accessibility

(continued)

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Easily understood.”	<i>Understandability</i> – information is classified and characterized concisely to make the information comprehensible to a reasonably knowledgeable businessperson.	<i>Clarity</i> – information is available in a manner that is understandable, comprehensive, and accessible (see accessible).	<i>Full disclosure</i> – information should be clearly articulated and completed to a high standard; both financial and nonfinancial information (see complete).	<i>Understandability</i> – information should be concise and comprehensive: at an appropriate level of aggregation, it should include explanations of underlying factors and conditions (see complete).	<i>Clear</i> – information is appropriate for those involved and in a language that is logical and understandable.	Information that is concise and comprehensible .	6. Clarity
“Having all necessary parts, elements, or steps.”	<i>Faithful representation</i> – information is a complete depiction including all information necessary to understand the reported phenomenon (see accurate).	<i>Completeness</i> – information includes coverage of material aspects sufficient to reflect significant social impacts.	<i>Full disclosure</i> – information is clearly articulated and completed to a high standard; both financial and nonfinancial information (see clear).	<i>Understandability</i> – information should be concise and comprehensive: at an appropriate level of aggregation, it should include explanations of underlying factors and conditions (see clear).	<i>Comprehensive</i> – information communicates the whole story with regard to context, meaning, and implications of the issue.	Information that fully articulates all the important aspects of a matter.	7. Completeness
“Able to be trusted to do or provide what is needed.”	<i>Verifiability</i> – different knowledgeable and independent observers could reach a consensus from the information provided directly or indirectly.	<i>Reliability</i> – information is gathered, prepared, and disclosed in a way that makes the reported information open to examination.	<i>Monitor</i> – stakeholders should be enabled to monitor effectively the actions of management and the performance of the organization.	<i>Consistency</i> – information allows for the comparison of periods over time, with notice of measure method changes and the reason they have been changed.	<i>Consistent</i> – information is reliable and does not oppose or contradict earlier information or actions.	Information collected and assimilated in a trustworthy way.	8. Reliability

Rawlins' (2009) literature review included journal articles on foreign policy, public affairs, ethics, public relations, cultural values, law, accounting, and business. In identifying the three elements in this literature review, Rawlins presents a final comprehensive definition for his research:

Transparency is the deliberate attempt to make available all legally releasable information—whether positive or negative in nature—in a manner that is accurate, timely, balanced, and unequivocal, for the purpose of enhancing the reasoning ability of publics and holding organizations accountable for their actions, policies, and practices (Rawlins, 2009, p. 75).

Rawlins' (2009) definition of organization transparency aligns with this present research. The IS organization should deliberately make information—whether positive or negative—available to the functional department managers. Deliberate information promotes understanding of IS decisions. Second, the information should be clear, help build the recipient's knowledge, and enhance his or her reasoning. Finally, the IS organization should provide an accurate account of its circumstances, policies, and practices. To encompass the three elements, the IS organization needs to be mindful of the legal timing for releasing certain information. In this context, IS transparency is the free flow of appropriate and reliable information to help others understand or make knowledgeable decisions about business technology.

Table 3.2. Transparency Definitions

Author(s)	Definitions	Research
Transparency		
Merriam-Webster.com (2016)	"Free from pretense or deceit: easily detected or seen through: readily understood characterized by visibility or accessibility of information especially concerning business practices."	Not applicable
Castilla (215)	"Transparency has been defined as access to information" (p. 314).	Accountability and transparency in pay decisions

(continued)

Author(s)	Definitions	Research
GRI (2011)	“Transparency can be defined as the complete disclosure of information on the topics and indicators required to reflect impacts and enable stakeholders to make decisions, and the processes, procedures, and assumptions used to prepare those disclosures” (p. 6).	Not applicable
Organization transparency		
Bandsuch, Pate, and Thies (2008)	“Transparency, for the purposes of [Corporate Governance], is determined by the accuracy and accessibility of the information businesses provide to their stakeholders” (p. 110).	Development of a transparency management tool to grade and improve corporate governance
Bushman, Piotroski, and Smith (2004)	“... corporate transparency, [is] defined as the availability of firm-specific information to those outside publicly traded firms” (p. 207).	Financial transparency and governance transparency
Rawlins (2009)	“Transparency efforts of organizations need ... to build and restore trust with stakeholders. Therefore, transparency is defined as having these three important elements: information that is truthful, substantial, and useful; participation of stakeholders in identifying the information they need; and objective, balanced reporting of an organization’s activities and policies that holds the organization accountable” (p. 74).	Development of a stakeholder measurement of organization transparency
Street and Meister (2004)	“... we define internal transparency to be an outcome of communication behaviors within an organization that reflects the degree to which employees have access to the information requisite for their responsibilities” (p. 477). “External transparency corresponds to the outcome of communication behaviors directed outside the organization,” p. 477.	Internal transparency behaviors in small business growth
IS transparency		
Joshi, Bollen, and Hassink (2013)	“... we define IT governance transparency as the ability of firms to provide adequate and relevant IT governance information in a timely and effective manner to their stakeholders, such as investors, policy makers, and regulatory bodies, so that they can assess management’s behavior in using IT” (p. 118).	Communicating IT governance activities
Awad and Krishnan (2006)	“... information transparency features ... [is defined as giving] consumers access to the information a firm has collected about them, and how that information is going to be used” (p. 14).	Information transparency and consumer willingness to partake in on-line personalization
Grandados, Gupta, and Kauffman (2010)	“We define information transparency as the level of availability and accessibility of market information to its participants” (p. 209).	Development of a framework for transparency strategy in electronic markets

3.4 Developmental Theory

A long-standing academic belief is that business practice offers indicators for what scholars should consider to be relevant areas of research (Benbasat & Zmud, 1999). That approach has indicated that organization transparency is important to a business, as demonstrated in laws and directives. Similarly, the Sarbanes-Oxley Act of 2002, Section 404 shows one example of the importance of transparency in IS organizations. One goal of IS research is to positively impact business practice, and within that research the findings are proposed as information that can improve the organizations' development and use of systems (Orlikowski & Baroudi, 1991). Based on the transparency principles and guidelines developed for businesses, researchers in the IS discipline should investigate whether the same information transparency characteristics found in professional business organizations can be used to create an information transparency theoretical rationale for IS organizations. This rationale might help IS leaders communicate the complexities of operations, the need for technology policies, and innovative strategies for management stakeholders. Likewise, IS leadership should consider transparency characteristics when communicating with external stakeholders, about such issues as corporate data security breaches (Brandon, 2014).

Transparency has many business applications, and one set of characteristics may not prevail across many types of business disciplines (Roberts & MacLennan, 2011). Therefore, by considering multiple functional business disciplines, an investigation might reveal patterns across the eight common characteristics of transparency noted above. A transparency pattern with some of these characteristics could vary in importance among a company's functional departments.

Without an existing theory, qualitative research often begins with an interpretive framework (Creswell, 2013) that helps the researcher develop research questions (Marshall & Rossman, 2011). Moreover, based on rigor in understanding academic literature and business practice, a reflection on transparency provided the basis for this study's research questions. Extant business literature provides a hypothetical framework for studying transparency in an IS organization. Whether or not these characteristics prove to be valuable in understanding transparency from an IS organization is yet to be determined.

3.5 Summary of the Theoretical Foundation

In summary, since no known theory of transparency exists in academia, a study of business practices' approach to communicating transparency might provide the impetus for creating a theoretical foundation. Studying what business practice is doing is a realistic approach to research (Benbasat & Zmud, 1999) because business practice processes promote academic learning, and vice versa. Thus, a synergetic relationship is built when research frameworks are developed and tested, and findings are presented to businesses for their consideration (Benbasat & Zmud, 1999). Moreover, studying transparency might provide a deeper understanding of a functional department manager's satisfaction with an IS organization.

CHAPTER FOUR

Method

This investigation uses a qualitative research design. Since no known theory of organization transparency exists, this investigation is an early phase exploratory study (Myers, 2009; Dubé & Paré, 2003). Although no named theory exists, “qualitative research often begins with assumptions and the use of [an] interpretive or theoretical framework that informs the study of research” (Creswell, 2013, p. 44) and helps one to develop research questions (Marshall & Rossman, 2011). In this present study, business professionals’ observations on organization transparency provide the foundation for an interpretive framework about an ISOT. The phenomenon was defined in Chapter One as a reasonable postulation to begin the inquiry, collect and analyze the data, and develop the theme that helps interpret the problem (Creswell, 2013). This chapter will detail the qualitative method to demonstrate the study’s academic rigor (Sarker et al., 2013; Dubé & Paré, 2003). In addition, the case research will be explained so that another researcher can repeat the procedures and arrive at the same conclusion (Dubé & Paré, 2003; Yin, 1994). Thus, this chapter will analyze data from functional department managers who receive ISOT that could lead to future research (Creswell, 2013). Toward that end, Figure 4.1 diagrams the qualitative method process.

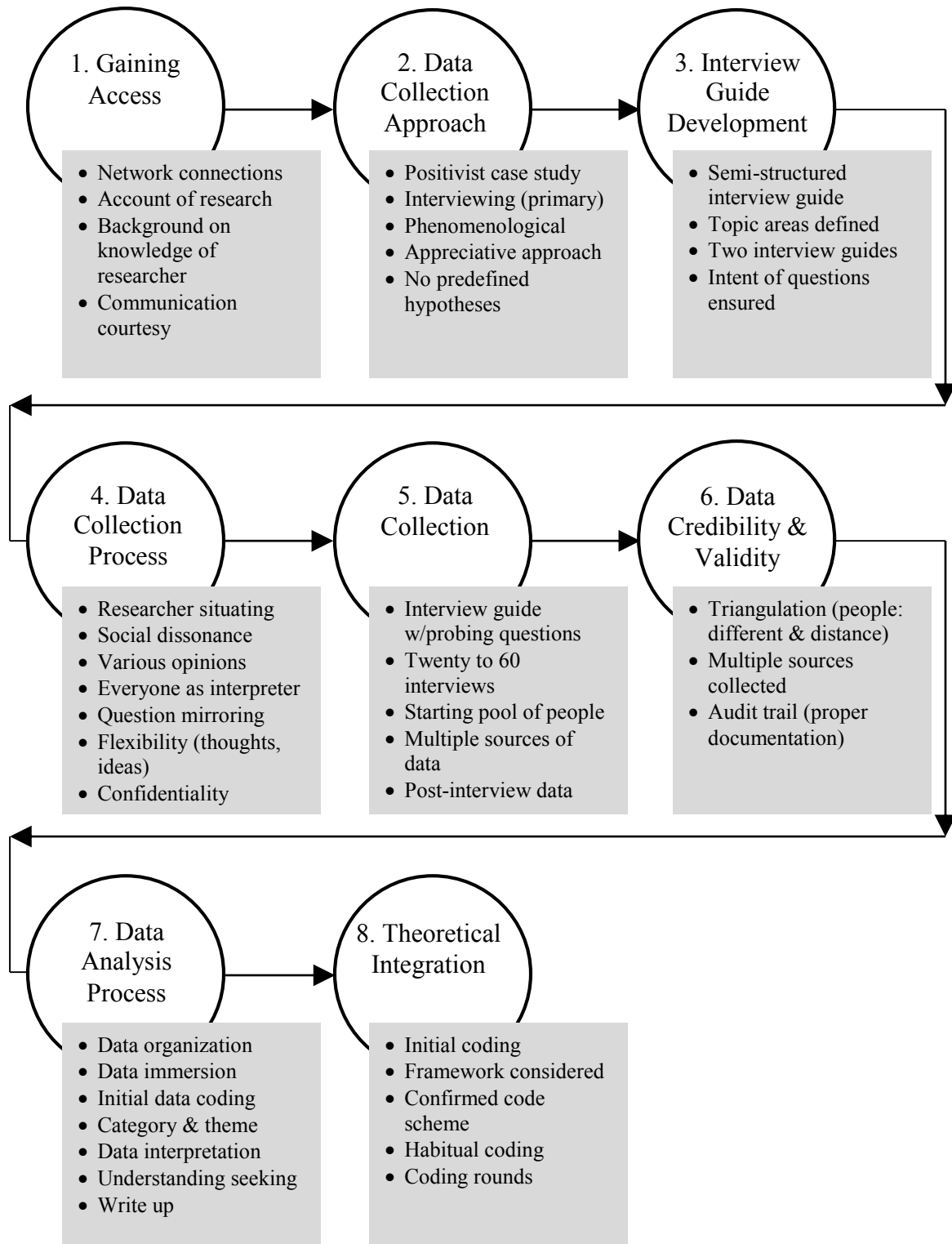


Figure 4.1. Qualitative Method Process

Epistemology, which guides this research, encompasses all that can be known and getting close to a participant to understand his or her claim of knowledge (Creswell, 2013; Myers, 2009). Face-to-face communication between the researcher and the participants is the most inclusive way of interacting socially to exchange knowledge (Lofland & Lofland, 1984). In a positivist case study, interviewing is the primary data collection method (Sarker et al., 2013; Dubé & Paré, 2003). Because this present research is a positivist case study, data is collected via interviews. As a philosophical model, positivist refers to unbiased reality, as described by quantifiable people that are independent of the researcher or the researcher's data collection method (Myers, 2009).

4.1 Gaining Access

Accessing the organization that consented to participate in this case study began with networking (Lofland & Lofland, 1984). I reached out to a number of contacts over a three-month period starting in December 2014. Through emails and an occasional breakfast meeting, I presented my information transparency research topic, explaining that the consenting organization would consist of thousands of employees in multiple locations. The organization would have an IS department that routinely communicated with those employees. Although I did not specify any particular industry, I pursued a variety of organizations and businesses, including commercial banks, electronic computers, and general medical and surgical hospitals. Through networking, I was introduced to the Chief of Staff for the Chief Executive Officer (CEO) of a health care company located in the southwestern region of the U.S. Having reviewed a one-page write-up on the research and my background, the Chief of Staff said that the organization, through the Office of the CIO, was interested in participating in the study. Ultimately, an

outside researcher's entry into a company can be credited to network connections, presenting an account of the proposed research, providing background on the researcher's knowledge, and extending communication courtesy by emailing and phoning the organization to establish relationships (Lofland & Lofland, 1984).

In this present study, the consenting health care company is a not-for-profit organization with approximately \$6.8 billion in total net operating revenue in 2013. The company has more than 35,000 employees operating from over 800 patient care sites; 46 sites are hospitals with about 5,250 licensed beds. The not-for-profit company resulted from a merger between two hospital systems focused on improving the quality of affordable patient care. Prior to the merger, one hospital system represented about 65% of the new organization's revenue, and the other hospital system represented 35% of that revenue. The merger occurred because of challenges in the health care industry, such as shrinking margins and meeting the quality-of-care targets set by U.S. health care reform (confidential company website).

This health care company is suitable for an exploratory study of communication transparency because its IS department faces three challenges: organizational change, changes in scale, and operational disruption. First, after the major merger, that department has faced persistent organizational change for years due to the ongoing process of integrating two IS departments. Consequently, the IS department now has approximately 1,000 employees and runs under the surviving leadership team, and some management teams are still evolving. Second, the newly combined IS department faces the challenge of scale in the number of employees, clients, locations, and IT assets that need to be managed. Neither of the former IS leadership teams managed to the scale now

seen in the new organization. Finally, the new IS department must deal with the challenge of disruption from the ubiquitous tools of innovation for consumerization and digital information in an industry pressured to reform to a degree not seen in the U.S. since Medicare began in 1965.

4.2 Data Collection Approach

This research aims to capture shared meaning that encourages constructive change and participative action. This positivist perspective seeks to expose individual, department, and organization capability and uncover implications for practice (Schultze & Avital, 2011) in ISOT. In-depth interviewing is the primary method used to collect the data. A phenomenological approach to interviewing is used to study the interviewees' experiences and their shared understanding (Marshall & Rossman, 2011). The style is known as appreciative interviewing (Schultze & Avital, 2011), which is reflective inquiry in search of the best in people based on the significance they attach to their environment (Schultze & Avital, 2011). This style allows for a diverse range of rich data (Lofland & Lofland, 1984). Meaning is then drawn from the researcher's and the participants' experiences. In appreciative interviewing, the questions are framed so that the participant considers the future and the past, examining how experiences can be used to envision positive change. In this way the problems are not masked; rather, they are set aside to engage the participant in sharing his or her perspective on how he or she might envision opportunities for change based on his or her experiences (Schultze & Avital, 2011).

As a participant in the research process, the researcher might need to describe his or her own experiences related to the topic. This self-examination helps the researcher gain clarity about his or her preconceptions and limit those preconceptions before the

interviewing starts (Marshall & Rossman, 2011). For this research study, I bracketed my experiences, predispositions, and assumptions. Before beginning the first interview, I digitally recorded my perceptions about ISOT. Additionally, to distance myself from the influences of my prior practice experience and to avoid following any preconceived theoretical ideas, I did not develop any predefined hypotheses (Urquhart, Lehmann, & Myers, 2010).

4.3 Interview Guide Development

After determining the interviewing approach and type and developing the research questions using the phenomenon as guidance, I designed a semi-structured interview guide. During the design process, I identified general topics based on the perceived categories within the phenomenon (Lofland & Lofland, 1984). These categories consisted of participant background, technology awareness, general interaction with the IS department, and the IS department's transparency. I designed two interview guides, one for functional department managers and one for IS department managers. The functional department manager questions were couched as receivers of transparency, and the IS department manager questions were couched as the provider of transparency. Each question underwent multiple rounds of revisions to ensure that it met its intent, which was to capture the participant's knowledge. Two professors, the director of the IS doctoral program and the department chair reviewed the questions and provided feedback. Considerable attention was given to ensure that each question addressed study-related content and was suitable for a semi-structured interview, so that the participant was free to speak openly and respond to new questions (Myers, 2009).

4.4 Data Collection Process

Because data collection is a very important component of any research, I took steps to reduce potential difficulties and problems with the collection process. The seven guidelines for qualitative IS research interviewing were followed: (1) situating the researcher, (2) minimizing social dissonance, (3) representing various opinions, (4) viewing everyone as an interpreter, (5) using mirroring in questions, (6) being flexible, and (7) maintaining confidentiality (Myers & Newman, 2007).

For the first guideline, situating the researcher, I explained my background to the participant, including my practitioner experience and academic work and the purpose of the research. Basic information about the participant was often collected before the interview and used to position that person as having valuable knowledge about the research topic. For the second guideline, minimizing social dissonance, steps were taken to reduce the participant's discomfort by meeting at a location of his or her choosing and following the basic norms of the participant's work culture, which were identified before the interview. The meeting locations were personal offices and conference rooms, which also helped develop an understanding of their culture. In order to adhere to the third guideline, representing various opinions, I interviewed people from five different departments and various levels of management (Rubin & Rubin, 2005). So that everyone would be viewed as an interpreter, the participants were considered to be analysts of their own field, and they were allowed to be creative as they answered the interview questions through storytelling or by using documents. To adhere to the fifth principle, using mirroring in questions, I used the participant's words to re-phrase questions from the interview guide and position myself in the participant's work language and culture.

Designing the interview to be flexible, I used a semi-structured guide instead of a structured one to ensure openness toward exploring new thoughts, attitudes, and surprising remarks. Finally, maintaining confidentiality was addressed with a data safety and monitoring plan. At the close of each interview, I asked the participants about their availability for follow up to check facts or to clarify points.

Evidence for adhering to these guidelines is presented throughout the discussion in this chapter and in the interview protocol designed for this study, found in the Appendix.

4.5 Data Collection

The data was collected over a three-month period starting in late June 2015. In all, 32 one-on-one, face-to-face semi-structured interviews were conducted in a setting chosen by the participant. These semi-structured interviews were conducted without strict adherence to the guiding questions. As such, probing questions emerged during the interview (Lofland & Lofland, 1984). Although no time limit was set for semi-structure interviews (Myers, 2009), a typical interview lasted from 23 to 66 minutes, with an average of just under 40 minutes.

Interview participant selection was based on my interactions with an IS manager and functional department managers. The number of participants was based on collecting enough data so that meaningful themes could develop, anticipating that data saturation might occur between 20 and 60 interviews (Creswell, 2013). Thirty managers, six within five functional departments, agreed to be interviewed. In each department, one of the managers held an executive position (e.g., officer, vice president). The other five

interviewees were middle managers, who have department employees report to him or her and who must report to another manager.

Initially, the participants were selected based on my interaction with a manager assigned by the company's Office of the CIO. The manager assumed the role of research participant coordinator by providing the names and scheduling the interviews across the company's three primary back office operating locations. To protect the anonymity of the company, in this study those locations are referred to as Region 1, Region 2, and Region 3.

The coordinator provided the name of an executive in each department. In addition, she provided the name of up to four middle managers in each department. The starting pool consisted of 18 people: one executive and four middle managers from Information Services (ISD); one executive from Financial Services (Finance); one executive and two middle managers from Clinic Operations (Clinics); one executive and four middle managers from Human Resources (HR); and one executive and three middle managers from Marketing & Public Relations (Marketing). So that 30 interviews would be obtained, the executive in a department provided additional middle manager names, the research participant coordinator pulled from recommendations provided by her colleagues, or the interviewees provided colleagues' names. Additionally, two people were interviewed to provide background about the organization and the IS department. A total of 32 interviews were conducted, and all but one of the interviews were digitally recorded and transcribed.

Following the research guidelines, I relied on multiple source data collection of archival data, such as the company website, social media, news articles, and internal

documents about the participants and the company (Creswell, 2013; Dubé & Paré, 2003). To keep track of the interviews and the characteristics of the participants, I gathered post-interview data through information found on the participant's online social network and asked closing questions (Lofland & Lofland, 1984). Moreover, I wrote descriptive and reflective notes about the interview and saved them with the transcription (Creswell, 2013). The post-interview note included an observation about the environment and a reflection (Lofland & Lofland, 1984), written after listening to each interview recording, to determine if any ideas or patterns emerged.

4.6 Data Credibility and Validity

Much of the academic literature asks for a discussion about validity in qualitative research (Marshall & Rossman, 2011). To address this concern, I established procedures to test the validity of the data and the credibility of the analysis. To ensure validity, I focused on drawing accurate interpretations from the data. Since this is a positivist study, validity is addressed through triangulation, convergence from multiple and different sources, and establishing an audit trail through clear documentation (Creswell & Miller, 2000).

Triangulation procedures include validating a participant's thoughts across multiple data resources—other participants, collection methods, and researcher reviews. First, to ensure a triangulation plan for participant validity (Rubin & Rubin, 2005), I interviewed participants across different departments to create distance between them. The departments were large enough to support the breadth and depth of the participants required to reach data saturation. The departments were also unique from each other to support purposeful sampling for different perspectives (Creswell, 2013). The multiple-

department approach provides an opportunity for within-case analysis, cross-case analysis, and interpretation of meaning (Creswell, 2013).

In addition to belonging to different departments and holding various management roles, the participants represent three age groups. The participants were asked to provide their age by indicating which of the four different year ranges they were born in. The span of years, and the resulting generation label, follows those used by the Pew Research Center to report its research (Desilver, 2014). The breakdown of participants by generational bracket includes these categories: 14 Boomers (1946–1964), 11 Gen Xers (1965-1980), and five Millennials (1981-1995). Of these, 17 were female and 13 were male. The 30 participants had an average of 22.1 years of work experience, 14.1 years of management experience, and 7.3 years of employment with the company. Table 4.1 itemizes the functional department names and the participants' job titles.

Table 4.1. Itemization of Functional Departments

Role	Functional Department				
	Information Services	Clinic Operations	Financial Services	Human Resources	Marketing & Public Relations
Senior Executive	Chief Information Officer ¹	Vice President, Clinic Operations	Vice President, Chief Financial Officer	Vice President, Human Resources Strategic & Business Services	Vice President, Marketing
Middle Manager	Director, Risk Management	Director, Clinic Operations	Manager, Financial Analysis	Chief Diversity Officer	Director, Corporate Communications Marketing and Public Relations
Middle Manager	Director, Systems & Support	Director, Clinic Operations	Vice President, Financial Services	Director, Organizational Effectiveness	Director, Corporate Communications

(continued)

¹ Of the senior executives interviewed, only the CIO is a member of the top management team. The others are senior executives in the functional departments of the organization and are responsible for the back office administration of the organization.

Role	Functional Department				
	Information Services	Clinic Operations	Financial Services	Human Resources	Marketing & Public Relations
Middle Manager	Information Technology Service Management Manager	Director, Rehabilitation Services	System Director, Strategic Financial Services	Learning & Development Manager	Director, Corporate Communications
Middle Manager	Information Technology Manager, Electronic Health Records	Assistant Director, Specialty Clinic	Accounts Payable Manager	Clinical Recruiting Manager	Director, Consumer Relationship Marketing
Middle Manager	Director, Project Management Office	Assistant Director, Clinic Operations	System Director, Banking Operations	Director, Human Resources Analytics & Reporting	Media and Public Relations Manager

Next, for triangulation, multiple methods of collecting data were used—interviewing, archive document collecting, social media investigating, and observation field noting (Dubé & Paré, 2003). Last, I assembled clear and organized documentation of all the research processes and decisions for an audit trail (Creswell & Miller, 2000).

4.7 Data Analysis Process

The research questions and literature review provide the initial context for the categories and codes used in the preliminary data analysis (Marshall & Rossman, 2011). This analysis helped me identify incomplete data and begin the interpretation. The analysis process consists of seven phases: (1) data organization, (2) data immersion, (3) initial data coding, (4) category and theme generation, (5) data interpretation, (6) alternative understanding seeking, and (7) writing up the findings (Marshall & Rossman, 2011).

First, I addressed data organization by developing a file storage system for this research. All documents were digitally logged and stored by category type in electronic project sub-folders for easy retrieval. Second, data immersion included the continuous treatment of the data from collection to interpretation. With each new interview transcription or archive document, some aspect of the analysis process began again as previous discoveries were confirmed or new discoveries were uncovered. In this way, the analysis became a constant comparison of the data as I looked for matches and modifications within the data (Urquhart et al., 2010; Myers, 2009). This phase also included an effort to reduce unnecessary data. I created diagrams and tables to understand high-level schemes in the data (Marshall & Rossman, 2011). Third, initial data coding involved the development of concepts found in the literature review, keywords from the interviews, and the researcher's insights. This initial coding was the first attempt at formalizing a preliminary analysis of the data (Marshall & Rossman, 2011). Fourth, category and theme generation began with open coding, that is, initial data coding. I conducted open coding to analyze and summarize the transcription text into concise codes (Myers, 2009). This follows a grounded theory approach of data analysis that begins with open coding and then uses selective coding to interpret the text and group it into categories (Marshall & Rossman, 2011). For selective coding, I established initial conceptualized categories to group the codes (Marshall & Rossman, 2011). Furthermore, to produce intercoder reliability, I gave 10% of the open coded interviews (three transcriptions), along with the definitions for each code, to two blind reviewers in order to check the meaning and application consistency of the independent coding (Marshall & Rossman, 2011). Fifth, for data interpretation, the inductive analysis

of data discovery in this research, I compiled the data themes that emerged (Marshall & Rossman, 2011). Brief notes about the researcher's thoughts and insights helped perpetuate the analysis process, as salient points were considered against new data being added or existing data being reconsidered. Sixth, I carefully undertook alternative understanding seeking to judge the data analysis for biases, errors, and misdirected understandings to determine a credible interpretation (Marshall & Rossman, 2011). For these process objectives, I conducted the follow analysis for writing up the findings.

4.8 Theoretical Integration

The digitally recorded interviews were professionally transcribed over a period of three months starting in July 2015. After receiving the transcriptions, I listened to each recording to accomplish three objectives. First, I confirmed the quality of the transcribed work by adjusting the transcript where errors between the spoken words and the text were apparent. (The transcription company guarantees 98% accuracy). In addition, I started developing a list of codes using the definitions that I was seeing in the text, such as "impact," "decision," and "relationship." Third, I paused the recording from time to time to record my reflections from the refreshed context and atmosphere the participant and I had created during the interview.

About halfway through the third recording, I started noticing words and references to transparency in communication, such as "relevant" and "accurate." Pulling out a table I developed in October 2014 from earlier research on the business practice of transparency, I started coding each interview based on the eight characteristics of transparency listed in the table. I repeatedly found characteristics in the current transcript I was coding. I went back to investigate the earlier transcripts I had coded and the

characteristics developed in the recoding of those transcripts. However, a new code was developing as well: “responsiveness.”

Responsiveness in transparency is feedback related to comments, criticism, or actions (Bandsuch et al., 2008). This characteristic was not obvious at first but became apparent as I continued coding. Bishop (2006) talked about responsiveness in the principles of authentic communication. Responsiveness seeks and responds to reaction, which allows for and encourages mutual adaptation. Moreover, the GRI principles and standard disclosures (GRI, 2013) discuss stakeholder inclusiveness by identifying stakeholders and explaining how the organization responds to reasonable expectations and interests. Since these two sources of responsiveness were originally seen as a minority characteristic within the five business practice sources, responsiveness was not considered a characteristic. However, with a new contextual view obtained from the transcript coding, I added responsiveness to the table of eight characteristics with its definition: clarification given in response to a request for more information. After adding responsive to the list of eight characteristics, I coded all of the transcripts based on the new list of nine transparency characteristics (see Table 4.2 for the complete list) and seven other inductive codes that were defined from the start of the coding, that is, trust, commitment, impact, decision, relationship, opaque, and ambassador.

For a second round of coding, I printed out the transcripts by functional department, read each coded transcript text, and again judged each of the open coding schemes against the coded text. In a third round of coding, using one coded phrase at a time from my previous coding, I read the transcript aloud to two business professionals in five meetings. In those meetings, we considered each phase against the information in

Table 4.2. Nine Characteristics of Transparency

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS, 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Free from error especially as the result of care.”	<i>Faithful representation</i> – information is complete, neutral, and error free—includes all information necessary: unbiased and free of error and omission (see complete).	<i>Accuracy</i> – information is sufficiently accurate for stakeholders to assess the organization’s performance.	<i>Quality</i> – information and controls should be overseen by both independent and reputable oversight with regard to quality.	<i>Reliability</i> – information should be verifiable and free from bias, representing a faithful meaning of the information presented.	<i>Truthful</i> – information is accurate and factually based on correct central facts: accuracy, truthfulness, and honesty.	Information that is factual, objective, and error free.	1. Accuracy
“Capable of or suitable for . . . an examination of two or more items to establish similarities and dissimilarities.”	<i>Comparability</i> – information that is useful when compared to information about the same entity or information about a similar entity from another time.	<i>Comparability</i> – information is consistent and presented in a manner that allows for the analysis of change over time.	[not discussed]	<i>Comparability</i> – information should provide a clear frame of reference for assessing performance with comparative information from earlier times, established targets, norms, and comparable entities.	[not discussed]	Information suitable for looking at matters related to targeted norms that may show change from another time and context.	2. Comparability

(continued)

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS, 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Having significant and demonstrable bearing on the matter at hand.”	<i>Relevance</i> – information that has predictive and confirmatory value: is material and therefore if omitted or misstated, the information could influence decisions.	<i>Balance</i> – information gives a positive and negative perspective that does not inappropriately influence a decision by the report reader.	<i>True understanding</i> – information should be a true understanding of financial conditions: liabilities and affiliated business relationships with related companies.	<i>Relevance</i> – information should include data essential for understanding the accomplished goals and objectives that have decision-making implications.	<i>Relevance</i> – information takes into account and establishes a connection with the interests of those involved.	Information that is essential for establishing the significance of the matter at hand.	3. Relevance
“Happening at the correct or most useful time.”	<i>Timeliness</i> – information is available to decision-makers in time to influence their decisions.	<i>Timeliness</i> – information is reported on a regular schedule and in time for stakeholders to make informed decisions.	<i>Promptly Available</i> – information should be promptly and freely accessible to the stakeholders.	<i>Timeliness</i> – information is reported timely so that it is available before it loses its value for decision-makers.	<i>Timely</i> – information is delivered with sensitivity toward timing, which allows for a reaction and interaction with the information.	Information provided at the appropriate time for influencing decisions.	4. Timeliness
“Freedom or ability to obtain or make use of something.”	<i>[not discussed]</i>	<i>Clarity</i> – information is available in a manner that is understandable, comprehensive, and accessible (see clear).	<i>Available</i> – information should be available on a website in both English and the local language of the organization.	<i>[not discussed]</i>	<i>Accessible</i> – information is easily available with everyone having the opportunity to acquire and discuss the information.	Information that is readily obtained.	5. Accessibility

(continued)

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS, 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Easily understood.”	<i>Understandability</i> – information is classified and characterized concisely to make the information comprehensible to a reasonably knowledgeable businessperson.	<i>Clarity</i> – information is available in a manner that is understandable, comprehensive, and accessible (see accessible).	<i>Full disclosure</i> – information should be clearly articulated and completed to a high standard; both financial and nonfinancial information (see complete).	<i>Understandability</i> – information should be concise and comprehensive: at an appropriate level of aggregation, it should include explanations of underlying factors and conditions (see complete).	<i>Clear</i> – information is appropriate for those involved and in a language that is logical and understandable.	Information that is concise and comprehensible .	6. Clarity
“Having all necessary parts, elements, or steps.”	<i>Faithful representation</i> – information is a complete depiction including all information necessary to understand the reported phenomenon (see accurate).	<i>Completeness</i> – information includes coverage of material aspects sufficient to reflect significant social impacts.	<i>Full disclosure</i> – information is clearly articulated and completed to a high standard; both financial and nonfinancial information (see clear).	<i>Understandability</i> – information should be concise and comprehensive: at an appropriate level of aggregation, it should include explanations of underlying factors and conditions (see clear).	<i>Comprehensive</i> – information communicates the whole story with regard to context, meaning, and implications of the issue.	Information that fully articulates all the important aspects of a matter.	7. Completeness
“Able to be trusted to do or provide what is needed.”	<i>Verifiability</i> – different knowledgeable and independent observers could reach a consensus from the information provided directly or indirectly.	<i>Reliability</i> – information is gathered, prepared, and disclosed in a way that makes the reported information open to examination.	<i>Monitor</i> – stakeholders should be enabled to monitor effectively the actions of management and the performance of the organization.	<i>Consistency</i> – information allows for the comparison of periods over time, with notice of measure method changes and the reason they have been changed.	<i>Consistent</i> – information is reliable and does not oppose or contradict earlier information or actions.	Information collected and assimilated in a trustworthy way.	8. Reliability

(continued)

Merriam-Webster (Merriam-Webster.com, 2015)	IFRS, Conceptual Framework for Financial Reporting (IFRS, 2010)	GRI, Principles & Standard Disclosures (GRI, 2013)	S&P, GAMMA Scores (S&PGS, 2008; 2004; 2002)	GASB, Guidelines for Reporting (GASB, 2008; Fountain et al., 2003)	Corporate Communication, Principles of Authentic Communication (Bishop, 2006)	Synthesized Information Transparency Definitions	ITEMS
“Giving response: constituting a response: answering.”	<i>[not discussed]</i>	<i>Stakeholder Inclusiveness</i> – identifies stakeholders and explains how the organization responds to reasonable expectations and interests.	<i>[not discussed]</i>	<i>[not discussed]</i>	<i>Responsiveness</i> – seeks and responds to feedback, which allows for and encourages mutual adaptation.	Clarification given in response to a request for more information.	9. Responsiveness

the open coding scheme table to interpret a proper code. Agreement and debate ensued as we critically considered each code.

Once the coding process was completed, I lifted the text from the transcripts using the code scheme. The text was placed in a table prepared by participant number and functional department. Using the code and department information from this table, I analyzed the data. Table 4.3 shows how the patterns developed for the ISOT characteristics. In summary, when the number of discussants and the level of discussion are substantial, the characteristic is influential and represented by a capital X (X). If the number of discussants and level of discussion are noteworthy, the characteristic is somewhat influential and represented by a lower-case “x” with a single right quotation mark (x’).

The coding results show that each functional department recognizes the importance of transparency. Moreover, each functional department identifies with a different set of ISOT characteristics. These findings suggest that a specific grouping of the nine characteristics influence a functional department’s satisfaction with the IS organization’s transparency. For a list of all nine characteristics, see Table 4.2.

Table 4.3. ISOT Coding Results by Functional Department

Functional Departments	ISOT Characteristics								
	Accuracy	Comparability	Relevance	Timeliness	Accessibility	Clarity	Completeness	Reliability	Responsiveness
Information Services	o	o	X	x'	X	x'	X	X	X
Clinic Operations	o	o	X	x'	x'	X	X	o	X
Financial Services	X	o	X	x'	x'	x'	X	o	X
Human Resources	o	o	X	x'	o	X	X	X	X
Marketing & Public Relations	o	x'	X	X	x'	X	X	X	X

Table Legend

Number of Discussants:

1 to 3 = Minority

4 to 6 = Majority*

*Significant

Level of Discussions:

No Discussion

Some Discussion: at least a small amount

Moderate Discussion*: average amount, not too excessive yet engaging

Extensive Discussion*: a great or rich amount

When both the number of discussants and level of discussions are significant, the characteristic is influential and an analysis narrative was written (X). If only one, that is, the number of discussants or the level of discussions, is significant, the characteristic is somewhat influential and no analysis narrative was written (x'). When neither the number of discussants nor the level of discussions is rated as significant, no analysis was written (o).

CHAPTER FIVE

Findings

This chapter presents the case study findings of the empirical data collected. The analysis shows that the managers exhibited similarities regarding the influence of ISOT characteristics. Yet, managers did not exhibit the same level of significance for all characteristics. The similarities were first observed in the interviews of managers within the same functional department. The collective results by department are shown in Table 4.3. Further analysis indicates that some ISOT characteristics were present across multiple departments, while other characteristics were present in just one department.

The prevalence of the characteristics across the departments have been placed into four ISOT groupings: prominent, important, noteworthy, and negligible. Prominent ISOT characteristics were present within all functional departments. The added importance of the prominent characteristics is that each characteristic was observed as influential in each department, which means that a majority of the managers discussed these characteristics and the discussion was engaging. For the important characteristics, they were also present within all functional departments. However, a majority of the managers may not have discussed these characteristics, or the discussion may have been less than engaging. Therefore, an important characteristic was observed as either influential or somewhat influential within each functional department. For the noteworthy, some of the ISOT characteristics for a department were observed as influential, some were seen as somewhat influential, and others were not present. The negligible characteristics were observed as having only one ISOT characteristic that was

either influential or somewhat influential in a department. Table 5.1 provides the descriptions and defining characteristics based on prevalence.

Table 5.1. ISOT Characteristics by Prevalence

ISOT Prevalence	Description	ISOT Characteristic
Prominent	Characteristic is present and influential within all the functional departments.	• Relevance • Completeness • Responsiveness
Important	Characteristic is present and influential within all the functional departments. Nevertheless, the characteristic may be either influential or somewhat influential in a department.	• Timeliness • Clarity
Noteworthy	Characteristic is influential, somewhat influential, or not present in a functional department.	• Accessibility • Reliability
Negligible	Characteristic is either influential or somewhat influential in a single functional department.	• Accuracy • Comparability

While participant discussion areas and points of view highlighted the significance of each characteristic, overarching themes developed around business topics on why a characteristic was important. These themes became the catalysts for discussing many of the characteristics. Overarching themes include impact, decision, detail, and audience. Impact involves understanding how today's technology issues have to be accounted for in tomorrow's processes and preparing for the future of technology. Decisions are the changes a manager has to make based on impact both short- and long-term to keep his or her department successful. Detail includes being succinct so that the facts prevail in the efforts to move the business forward. In addition, audience is providing information to someone because they need it and not because it is available. Sub-themes reinforced discussion on the significance of multiple characteristics as well, for example, helpdesk tickets, personal networking, department IS staff, and root-cause among others. Hereafter, the findings begin with the prominent ISOT characteristics.

5.1 Prominent ISOT Characteristics

Relevance, completeness, and responsiveness were the prominent ISOT characteristics observed in every functional department. While the roles and responsibilities of the functional departments were different within the organization, all departments exhibited the same level of significance for these three transparency characteristics.

5.1.1 Relevance

In this present study, *relevance* refers to “information that is essential for establishing the significance of the matter at hand.” In addition, relevance is receiving the right level of information to develop knowledge—not too much or too little detail. The functional departments are not interested in all available information about technology. In fact, functional managers require a level of detail only high enough for them to understand the impact of technology on their work decisions. In other words, managers can be described as needing only the pertinent facts in any situation.

Just as important, this study notes that relevance involves ISD establishing the right audience. Just like having too much detail, being overly transparent and communicative to everyone about everything is ineffective. Often, the overly transparent approach involves sending irrelevant information to managers. When the audience is unknown, functional managers are uncertain that the information context is developed with the relevance of transparency in mind. For an overview of the relevance discussion, see Table 5.2.

Table 5.2. Relevance Discussion Overview

ISOT Characteristic	Discussion Areas	Points of View
Relevance	Facts pertinent to a situation	• Ramification of change on application use • Planning for the impact on operations • Key communication lost in the volume • Being a part of change • Making something happen
	Addressing a target audience	• Distributing messages to everyone • Creating internal junk mail • Targeting audience by system • Targeting audience by role • Targeting audience by internal demographics

5.1.1.1 Facts pertinent to a situation. Facts pertinent to a situation are information about a technology event that is important to a functional department's current work. Managers do not expect everything to run smoothly with technology. However, they do expect technology issues and delays to be communicated at a relevant level so that functional managers can plan for any impact on operations. Sometimes the details involve a discussion that helps the functional manager better understand technology, but not always. Finding the right level of relevance to communicate is not easy, and standardized forms and templates can further cloud understanding. For instance, one ISD manager suggests that using templates as a tool involves "distilling the right meaning out of the communication you are sending out."

Relevance includes information about the ramifications that change will have on day-to-day applications. Change can result from altering functionality, upgrading, or modifying security. A change can increase navigation to find functionality, the loss of functionality, or unplanned system downtime. A clinics director explains the situation as follows:

If we're truly getting [information] and our end-users, especially physicians, if they know that [an issue is] being worked on, they'll be patient about it, but if they don't hear anything then it creates challenges.

This director has addressed the need to prepare for the impact of change on a medical professional, which may affect the amount of time one uses technology. He further notes that each planned or unplanned *click* of a mouse may put a physician behind schedule. Another director in the clinics department adds his perspective about not getting relevant information. Given his responsibilities, which include running the business, relevance means understanding how technology change can affect the financials. Depending on the event, if ISD can give a date for an application upgrade, a status for a fix, or a candid system uptime notification, then a full report on the root-cause is unnecessary. A clinics manager noted that the system's relevant information includes "those IT functions that are with us as we have our hands on the patient." Irrelevant information is getting information "about the left widgets in the whatever closet."

Finance managers believe they get so much irrelevant email from ISD that they start ignoring relevant messages. For example, one director wondered if she could set up an internal junk mail folder for ISD messages. Concerning relevance, one manager defines the overwhelming number of irrelevant emails as key communication getting lost in the noise of all the other emails. His principal example is the electronic medical records (EMR) system, which he does not use, yet he gets every downtime and update notification. The number of messages regarding the EMR system is high since the company's work involves a primary health care system. The ignored messages could affect the timing of the finance department's work. A manager explains that over the years, people have asked him, "'Why is it down?' Because they didn't see an email, . . .

they just filter out everything that comes out of [the ISD email] box.” This manager identified times when his colleagues had ignored an email about a system going down for maintenance. Misjudging an email that was relevant meant his colleague had a timing issue for completing his work.

A number of concerns about receiving relevant information come from HR directors about not knowing why system workflows change, why system configurations cannot change, and why systems change—“There is going to be some cloud?” Yet, seeing change and being a part of change is expected. A director says, “I don’t mind being a test dummy for things, but I just need to understand why we’re doing what we’re doing.” She explained that being involved and having relevant information about testing solutions have benefited her and could benefit others as well. This director was having problems with secure connectivity when using her laptop outside of the office. After she worked unsuccessfully with multiple technicians, a newly assigned technician called about her helpdesk ticket. He explained that he would try a solution, and if it did not work, he had something else in mind. Not knowing the details, yet knowing that a plan A was underway, along with a plan B, gave the director the confidence that the technician considered her issue important.

Pertinent facts are also relevant in causing action. One marketing manager comments, “If it’s not about making something happen, I don’t really care that much.” A director describes what relevant transparency should look like: “This business system went down, this is what it affects, these are the temporary workarounds, and this is the expected recover time to full operation.” This director explained that giving too much detail or being too literal obscures the message’s relevance. That is, detail about an event

may confuse rather than help. He notes a time when ISD said that the “fiber was cut” and everyone understood that differently. The director opines that the cut fiber is not relevant. In his opinion, the relevant information is the effect, the workaround, and the recovery time. Additionally, he suggests that if the impact to the end-user is minimal, “Don’t tell them; they don’t want to know.”

5.1.1.2 Addressing a target audience. Relevance is also addressing the right audience, a challenge for some ISD managers. Marketing’s definition of a target audience is delivering the right information to the right people at the right time. Some technology information needs to go to all employees. However, when a distribution list is missing, the remedy for a topic-specific message does not include everyone. An HR director comments that in her experience, when a relevant audience is not in place, the default audience is the whole organization. Sometimes a reason exists for those messages, as an ISD manager explains:

We have to do some of those blanket communications just as a part of our operations, but we’ve had to learn who the key stakeholders are and make sure that we make a pointed effort to [reach them] . . . rather than relying on that one-size-fits-all blast.

Without distribution lists for target audiences, the manager further explains, ISD is sending out too much information. Consequently, those receiving a “one-size-fits-all blast” do not know what is relevant within all the messages they receive from ISD, and over time, they choose not to read any of the messages. An ISD manager offers a specific example in his department:

If you’re sending something to a medical assistant and it’s really only for the manager, there’s no impact to the medical assistant; they could care less. That’s junk mail. We don’t want to communicate when it’s not relevant.

In addition, Clinics is interested in targeted communication about the systems it uses and not the systems outside its business function. This target-audience approach keeps the communication relevant to the receivers. Target-audience messages result in fewer ISD messages and a belief that messages will be relevant to the recipient. Sensitive to the time spent with patients, Clinics agrees that blanket messages waste time by creating volume. In addition, it adds that because of the volume, most messages are flagged for future reading.

The finance managers in this study are adamant about receiving only relevant information for their role. To be clear, a general definition of irrelevant information offered by one manager is information that “doesn’t affect my day-to-day work.” The manager adds that if systems are functioning correctly, no need to communicate exists. To define systems in the context of affecting day-to-day work, a finance director adds an explanation: ISD should let him know which systems are important to him. This director believes he is getting relevant emails. Yet, he suggests that the systems are so integrated and acronym laden that he could miss something relevant. The result is a negative experience when something in a system changes or a system goes down. For example, the electronic check request system went down, and ISD started sending status emails under the software’s vendor name versus a business description of the function. Reply-to-all messages shortly followed from recipients requesting that they be removed from the distribution list since they did not use the system—when those same recipients were actually in the system every day.

In agreement with this finance director, one marketing director bemoans, “Don’t fill up my inbox with stuff that I don’t even know what this system does.” Yet,

interestingly, determining relevant target audiences for communication results in a profound discussion within the marketing department since one of its roles, in support of ISD, is developing internal distribution lists. Moreover, customer distribution lists involve the department's role in targeting the company's external service. An executive gives an example of a historical process using a U.S. postal mail broadcast. In the past, to promote a health care service, a mailing went out to 50,000 people. Now, a mailing will go out to only 4,000 based on a target distribution list by demographics. Yet, the same numbers of people use the service from the target of 4,000, as from the broadcast of 50,000. In addition, the executive explained, the media delivery effort to target the 4,000 people has become relevant, and the more targeting the better: U.S. mail to this group, email to that group, and social media to another. This same approach to external distribution lists fits the development of ISD internal distribution lists by demographics (department, system, role, and media type).

5.1.2 Completeness

The definition of *completeness* in this study relates to “information that fully articulates all the important aspects of a matter.” The important aspect of a matter includes information about technology that helps functional managers with their operational decisions. It may be a short-term matter involving a current technology configuration issue or a long-term matter about a five-year upgrade plan. The short-term completeness of technology information helps functional department managers measure the impact on day-to-day operational processes. Completeness in the transparency of processes does not mean more detail; however, it does mean that an interested party can become aware of a matter any time between the onset of an issue and proposed

resolution. If managers perceive that technology information is being withheld, they think that they are being kept in the dark, and they develop a concern about technology negatively impacting their business.

In addition, completeness of information involves an opportunity to understand the goals, objectives, and vision for technology in the organization—the technology future. Furthermore, functional managers see completeness as an opportunity to understand proposed technology processes. Complete transparency for an issue includes the root-cause and corrective action and the vision, goals, and objectives for the future. The intent is to know the technology benefits and the shortcomings—of work for today and the future—so that managers can plan their own short- and long-term goals. Functional managers consider information about meaning and implications from processes to plans as presenting the whole story. For an overview of the completeness discussion, see Table 5.3.

Table 5.3. Completeness Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Completeness	Impact	• Company's performance • System integration underway and plans • Event length of time and difficulty • Fulfillment of the gaps in knowledge • What to tell people short- and long-term
	The whole story	• Expectation for a complete explanation • Establishment of plans and goals for the future • Better preparation for informed decisions • Participation in disruption prevention • Future technology that might be available • Internal and external view of technology

5.1.2.1 Impact. Completeness in transparency involves communicating the impact of technology. With technology's pervasiveness in everyday tasks, any positive

or negative technology change could negligibly or substantially impact employees' daily activities. For example, an HR manager describes negligible impact when one of her new employees used an old company laptop on his first day. Although, the manager did not know why a new laptop was unavailable, she knew that the existing laptop affected the employee's performance but a new laptop was coming someday. On the other hand, an ISD manager describes a substantial impact when he remembers a day that hardware in the data center failed. For that failure, the CIO recounts that he led an ISD conference call with the company executives to brief them on the impact of the data center issue:

We wanted to have a brief call to explain to you what has happened, what we're doing to resolve it, when we think it's going to be done, and the impact it's going to have on you, then allow you to ask questions.

Here, the CIO created an opportunity for transparency at the executive level about the issue, the resolution, and the impact on the company's performance. While the details of the conversation were not shared, the importance of complete transparency is ensuring that a conversation about the impact on performance does not surprise executives. Delivering complete information about impact is important at all levels of ISD management. A manager shares the following statement about his role:

I don't need to . . . tell them what's technically wrong. I need to let them know that there is an issue, we're aware of it, and that we're working diligently to fix it with the appropriate folks.

Although this manager is clear about what complete means to him, not all attempts at complete transparency are effective. An ISD manager talks about the process her group takes to create complete information and include the right level of detail. She notes that every time a well-formed email goes out, people should read it to understand what is coming from ISD and therefore what the impact is.

Perhaps the expectation of complete transparency is still missing for some functional managers. For example, a Clinics director expresses that he would like to hear ISD describe what systems they are integrating today, why they are integrating them, and what issues they are experiencing. His request was not specific to a system. He just longed to understand the impact of technology instead of reacting in his usual way: “This is the first we’ve heard of this.” The director adds that, in the past, the lack of completeness might have been the intent of former ISD leadership, but the current ISD leadership is sometimes too busy to provide complete transparency. Another director expresses his requirements for complete information as “communicating the good, the bad, and the ugly.” The director explains that transparency involves understanding that the company is headed in the right direction, which consists of communicating the positive impacts of technology, the negative impacts, and the potential issues that might have to be addressed because of future technology.

A finance manager explains complete transparency for today’s systems and future systems as information from two perspectives: “in the event of” and “it might affect us.” “In the event of” is a concern about how long a technology event may take (i.e., upgrade, configuration change, etc.) and the duration of difficulty for the end-users (i.e., security issues, missing functionality, etc.). “In the event of” refers to allowing for contingency planning in day-to-day operations. “It might affect us” is communicating the need to know about strategy and the plan for future technology.

Complete transparency allows HR managers to deal with the relationships in the departments they support and, most importantly, the employee services they provide through their systems. “Not having all of the information definitely hindered us from

making decisions,” comments an HR manager. Without complete information for their decisions, HR managers fill in the gaps in their knowledge with inferences and interpretations among themselves about what is happening. Additionally, when managers do not understand the impact of a technology or technology event, their experiences might fill the gaps in understanding.

From a marketing perspective, one director states that complete transparency and impact are connected through actions related to work performance. That is, the actions taken with technology affect the organization’s performance outcomes—positively or negatively. A manager describes completeness as the complicated task “to figure out what’s the best way to tell people what the impact is going to be.” Another director suggests that the best way to provide complete information is to say, “Here's what we're doing, here's how it benefits you, here's what it's gonna require of you.” In addition, complete transparency affects the short-term and long-term—the necessity to address current events and the consideration to address future events that might or might not have been predicted.

5.1.2.2 The whole story. Completeness in transparency means also explaining the whole story, which is context about what is happening within ISD today. A complete explanation about technology, that is, infrastructure, configuration, and so on, can get complicated. However, the expectations for a complete explanation might only be information about the service underway. An ISD manager offers the following:

Letting everyone know how fast we are resolving tickets, what our enhancement backlog is—all of these are helping the business understand what we are working on, what we are doing; it is a very positive thing.

ISD management, as shown here, believes in ensuring that functional departments have access to complete information. As an example, details about resolving a ticket are given, and as soon as a ticket goes into the helpdesk, the requestor knows the processes. Information shared includes what is happening with the request along the resolution path: the times, the dates, and who is taking what action. An ISD director describes the value of providing complete information as promoting a feeling of working together versus withholding information, which creates a feeling of separation. Additionally, sometimes providing the whole story is telling the functional departments that ISD does not have enough information to tell the departments anything about a resolution at the moment.

The whole story in transparency also involves addressing the main points about plans and goals for the future of technology. An ISD director explains the need to understand the vision and mission of the company and the need for ISD to participate. Another ISD director states that the company has a five-year plan that all the departments work to fulfill. As ISD drives toward the latest technology, the benefits of the technology are reviewed with the departments along with any department expectations for deploying the new technology. In addition, the CIO adds that the plans include “what projects we are going to deliver when and what it’s going to cost; so scope, schedule, and budget.” Complete transparency for addressing plans does not stop there. An ISD director notes that within the company, “There are different forums for evaluating and talking through the differences [in technology], and what would be the best.”

However, not everyone knows the whole story, as explained by ISD. Clinics managers are interested in knowing about ISD strategy so that they can better prepare informed decisions. A director elaborates, “For someone like me, it’s almost a playbook

of how to interact with the department.” Likewise, the director notes that this knowledge (playbook) helps the Clinics managers guide and encourage their staff in the use of technology. Knowing a future exists with technology eliminates a manager’s perception of being out of touch. Based on the discussion above about the company’s five-year plan and Clinics’ desire to know about ISD strategy, Clinics does not appear to be getting the essence of the whole story about technology plans.

The finance managers also see a purpose in the whole story for today’s efforts and the future, which is not to say that they are looking for the details. Managers are interested in a broader understanding of their systems so that finance managers and not just ISD can knowingly address the future. An example of context for the whole story, in the case of a system going down, is a finance manager understanding the root-cause. Knowing the root-cause helps the finance department participate in disruption prevention and plan for future disruptions. That is to say, root-cause is not always communicated. For example, he remembers a time when the system message was, “The system is down,” and then later, “Now it’s back up.” A director also describes the concept of root-cause as knowing what is good about a future change in a system and what the drawbacks might be.

HR managers want to understand that a bigger plan for technology strategy exists. As with Clinics, some HR managers are disconnected from the fact that a five-year planning process exists. The plan does not necessarily include the details of the strategy, but does include an overview of what ISD is working toward, as an HR director explains. Transparency about a plan is a roadmap to understanding because what the technology

HR wants might not be available today; however, the technology might be available in the future.

In addition, complete transparency is a communication approach to reduce misinformation and to present an ISD view of the key points versus a single element. Marketing managers suggest that complete transparency is understanding the wide range of value in technology, the future state, vision, goals, and objectives for ISD and that managers and executives alike need to understand what technology can mean to the company and its customers. That is, the marketing personnel believe that complete transparency concerns internal and external views of future technology. One director suggests that she would like to see white papers on the important strategies that ISD is working on.

5.1.3 Responsiveness

The definition of *responsiveness* in this present study is “clarification given in response to a request for more information.” The noticeable discussion on responsiveness revolved around general requests for information and open discussion. Responding to a general request provides feedback to clarify information provided earlier. The intent is not a discussion, just an answer to a question.

Open discussion is a response to a request for more information that develops into a conversation. A discussion could progress into the transfer of knowledge on a topic or collaboration on an issue or project. Open discussion becomes engaging when managers share ideas, address issues, and seek solutions in an environment of critical thinking between business and technology perspectives. While the response to general requests for information is normally through electronic communication, open discussion is normal

personal communication through phone calls and meetings. For an overview of the responsiveness discussion, see Table 5.4.

Table 5.4. Responsiveness Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Responsiveness	Requests for information	• Clarify an original message • Every department can request information • Provide information to a simple request • Overcome vagueness in information • Develop personal networks for information
	Open Discussion	• Confirm effectiveness toward objects • Build involvement in options and limitations • Collaborate on ease-of-use solutions • Gain an end-users perceptive • Develop strategy for customer products

5.1.3.1 Requests for information. A general information request is the most common type of communication in a transparent environment. Responding to a general request is feedback that centers on the clarification of information provided earlier or the status of a work assignment. To satisfy the need for information in some cases, an automated process has been put in place to cut down on inquiries. For example, the helpdesk ticket system has an automated information process that informs the requestor of a ticket's status along the resolution path. The intent of general information requests is not an in-depth information session, but merely an answer to a technology question that moves the requestor through a simple operational decision that he or she is about to make.

At the same time, ISD commonly asks for information from the functional managers. ISD needs information from the business while supplying information to the business. The CIO gives his entry-level approach for more information as, "I don't

know. Explain it to me.” Through his simple questions, the CIO is telling a functional manager that he is not aware of the topic and a general understanding is required. A general information request may be a prelude for deciding to meet. ISD managers know that sometimes they need to provide a little more information to clarify a message. For instance, a security governance message went out that logged-in computers that were idle for 15 minutes would go to a locked screen saver. End-user messages soon came in seeking an exception to the security policy. The security message was well crafted, yet ISD knew that requests for exceptions would follow. Anticipating follow-up communication, an ISD manager often discusses a time when he or she asked a business colleague, “Do you have any questions?” Although the intent is to address general information requests succinctly, sometimes brevity creates more questions.

While responsiveness in transparency is a mission, requesting information is easier than providing information. Sometimes a functional manager looks at a general information request as a simple question about an action, with no regard for the complexity of the request. An ISD director discusses an occasion when a person in an unnamed department commented to him: "Hey, we want this feature added to this product. When can you have it done for us?" In this example, what a functional manager might think of as a general request was not. Therefore, a simple response is not always appropriate, and a complicated request, under the cover of a general request, might sometimes get lost. Lost or misplaced messages can happen. An ISD manager explains that sometimes the feedback she gives may not be lost, but ignored. She explains,

You are receiving [requests for] feedback, and you're not just putting it into a shared mailbox but you're actually listening to and addressing the concerns that are raised.

Yet, the message gets lost, and she says, “Well, I sent a response back. Didn’t you receive it?” The manager has described the effort she put forth to ensure that she was carefully responding to a request for information. Her personal diligence included the added step of delivering the information to a named email box versus a shared functional department email box. Her efforts were to no avail, and she expressed disappointment that the message was lost. Since general requests for information are normally emails, frustration can mount from a perception that the respondent did not answer the request correctly, the recipient did not like the response and ignored the message, the message was lost, or everyone was just too busy to acknowledge feedback from a request.

For Clinics, general requests for information are simple inquiries related to the status of current task work, a small project’s timeline, or the availability of ISD resources. These inquiries typically fill the need for additional information to prioritize technology workarounds, to address changed functionality, or to understand how to bring the next request forward. These types of requests are outside of the automated notification process in the helpdesk ticket system. Consequently, the lack of automation takes time for the Clinics managers to prompt. One director suggested that a routine process for providing feedback is needed, with just a note from ISD saying, “Hey, we haven’t forgotten about you. We’re still working on it.” This director is concerned about the time needed to follow up with ISD to ensure that decisions about technology workarounds either stand or do not stand. The efficiency of day-to-day operations may depend on the information required for decisions. Many Clinics managers use the number of requests for information as a measure of how well ISD originally

communicated a topic. Overly vague communication forces the need for feedback. Examples given of vagueness included, “It is being taken under consideration,” and “We received your ticket.” Vagueness beckons requests, such as “What does that mean? Is there a timeline? Is it ever going to be fixed?” Having to provide feedback because of vague communication is a concern in terms of ISD’s priorities for Clinics technology. When employees feel as though feedback must be pulled out of ISD, their concern seems justified. Yet, if a request for information is due to vagueness because of an ISD staffing shortage, Clinics managers feel compelled to support ISD’s vagueness for a time. Moreover, one director proclaims her approach to overcoming the issue of vagueness when time is the issue: “If you sit down with someone and ask questions, you’ll get information.”

Moreover, some marketing managers build their own personal networks within ISD to get information. Over time, marketing managers work with ISD staff on projects and use those connections to build relationships. A manager explains that he has fostered good relationships in most areas where he may have questions about technology. This network helped him vet a technology topic that the marketing manager had wanted to escalate within ISD and helped to confirm the marketing manager’s technology knowledge first. A Clinics manager shares an example involving her personal ISD network. Her department had a negative experience because the department’s personal computers are not all the same. ISD sent out a message explaining an all-computer update need when, in fact, some of the department’s computers already had the update. She called someone who worked on her office computer and used that relationship to understand what her department should really do about the update. Networking creates

future opportunities to work with someone in ISD for general information. As shown in this example, a common approach is to befriend someone through work assignments. These friendships create opportunities to vet ISD communication for true intent and can lead to the introduction of other ISD experts.

5.1.3.2 Open discussion. Open discussion was also observed as a form of responsiveness and is an exchange of information normally seen in a conversation or meeting. These exchanges typically consider multiple perspectives or confirm the details of a technology need. Someone in a functional department or within ISD may initiate a conversation. An ISD director recounts a time that he asked the following question of a business constituent:

Can you help me back by telling me what your impact is so that I can help you and we can work together, a partner[ship], and provide a recovery mechanism that fits your business need?

This director is asking to partner with the business constituent so that a technology solution meets a business objective. The director adds that he wants to create an open discussion to find out if he has indeed met the objective: “Did I get you what you need?” Through that dialog, the director learns about his effectiveness. At times, ISD is looking for open discussion from the business because a request is not clear or because an idea from the functional department may lead to a solution. An ISD manager explains:

Sometimes it's really nice to hear from the end-users, to see what their ideas are even if they may not be exactly what they want. I think they have unique perspectives that we need to address and listen to and not disregard.

This manager notes that ISD is aware of the business processes in the company. At the same time, the functional departments have ideas that can solve new or old issues. Moreover, ISD may not be heading in the right direction when looking for a solution.

Another ISD director comments, “I want people to give me feedback so that I can course correct all along the way.” Open discussion is the best way to course correct. An ISD director suggests interviewing key stakeholders to improve the quality of her open discussion and includes questions in her interview, such as “What level of information do you need at what time? When do you want to be involved and when do you not want to get communications?”

For a number of reasons, including the need to use EMR, technology permeates the day-to-day tasks at Clinics. As a result, open discussion is often the best way to address new functionality needs, significant open technology issues, temporary solutions, and processes that contribute to efficient patient care. This type of relevant transparency also helps Clinics understand the technology limitations of current applications. An assistant director mentions his satisfaction with ISD when feedback becomes an open discussion. For this director, open discussion involves understanding the options and limitations in an application that he has not been aware of.

Moreover, open discussion allows the experts in the Clinics department to help ISD in its drive to design strategy. For instance, on the strategy for the EMR system, another director comments, “We're having the end-user drive the redesign and [ISD is] contributing with how they can help and what the system can and cannot do right now.” The quote describes the open discussions in place today with Clinics versus the seemingly limited discussions with ISD in the past. The original deployment of the records systems included subject-matter experts from Clinics. Actually, the EMR software company views this EMR system implementation as a model for other hospital systems to follow. However, some managers feel that Clinics expert involvement could

have gone deeper into the end-user community. A Clinics manager describes end-users as feeling that they are recipients of a one-way conversation from ISD: “This is what we’re going to do and here’s how it’s going to affect you.”

Finance managers believe that when the systems are working as designed, relevant responsiveness fits through channels, such as support tickets and emails answering general requests. However, finance managers know whom to talk to in ISD for direct support when technology issues develop. These are open discussions about rescheduling downtime, detailing the steps in a process, and troubleshooting small problems. However, finance managers are also interested in collaborating on upcoming systems changes through open discussion. One director describes this interest as “partnering with us, coming to us with ideas on how to make things easier.” Another director portrays a scenario about what partnering with ISD staff means to him as “sitting around in a room talking with these people and they hear you say something and they care enough to ask the next question.” This director is describing open discussion as more than just listening; it is provoking dialog to understand and seek solutions together. Responsiveness in this example is more than sitting down to answer a question or two.

HR managers see responsiveness in open discussion as gaining an understanding of a technology’s meaning. Although HR managers do not want to be technologists, they do want to know how technology affects their work. An HR manager offers, “I ask a lot of clarifying questions.” Clarification of information helps managers address their work and is a byproduct of the ubiquitous integration of technology across the HR department systems. Open discussion is typically seen as a high-level exchange of information to address a specific event or, otherwise, an exchange of information to help an HR manager

interact with his or her end-users. For example, one HR manager expresses how she approaches open discussion with ISD as a request: “Can you tell me what that means to me as an end-user.” While having a method to start an open discussion is sometimes in place, knowing whom to contact for feedback is not always clear. An HR director says, “I know when I have projects, there’s probably a contact and I just have to chase him down.” A number of managers have used a contact in ISD for a project as a means for creating a network for ongoing requests for information and open discussion. Open discussion with these ISD contacts, as a manager describes, means learning with the experts to make sense of a solution versus wasting time on your own going down a path that will not work. ISD network or not, an HR director suggests that the discussions are not always fun, and they may first be met with a lot of resistance, but in the end, HR becomes educated about what is possible with technology.

One marketing manager’s description of responsiveness summarizes the tone from a number of the managers: “You can follow up, and that’s the important part. It’s one thing to disseminate information but if there is any question . . . further explanation is needed.” This manager further explains that while ISD often provides feedback for day-to-day support that is not an extensive request for information. Open discussion develops from two perspectives: ISD responses to Marketing and Marketing responses to ISD. First, ISD’s feedback develops around its input on what Marketing wants to see in strategy or how technology can support the development of customer information and product development. For these efforts, ISD is approachable and supportive with occasional pushback. One director comments on pushback: “I feel like most of the time it's us coming to them, us trying to get them to help.” The second perspective is

Marketing's responsiveness to ISD with a focus on innovation with technology. A director comments on the importance of Marketing's responsiveness: "How much information and data and research we can provide to them, as they think about technology, can only help a product hit a homerun." The director is describing how Marketing looks for ISD to actively approach her department and seek the department's needs for technology innovation, an approach to responsiveness where people talk without emails or newsletters. Another director credits open discussion with ISD as "that opportunity with IT to collaborate and build your dream together . . . to share ideas, and then to interweave those ideas."

Building a network of resources in ISD for open discussion is important to marketing managers as well. A felt need by many directors is an assigned liaison from ISD for Marketing: a person that reports to the ISD hierarchy and networks within ISD to bring full technology support to Marketing. The product development in which Marketing is involved requires ISD experience from many technology areas and therefore a lot of open discussion.

5.2 Important ISOT Characteristics

All of the interviewed department managers see timeliness and clarity as transparency characteristics that are either influential or somewhat influential to their departments. The timeliness of transparency is influential to Marketing; however, it is only somewhat influential in the other four departments. Clarity in transparency is influential in Clinics, HR, and Marketing and somewhat influential in ISD and Finance.

5.2.1 Timeliness

The definition of *timeliness* in this study is “information provided at the appropriate time for influencing decisions.” The significance of timeliness is the value of being proactive versus reactive. In that sense, addressing an issue promptly reduces the negative effects on system performance. Moreover, timely transparency is just-in-time communication. If information is given “too early,” it can be forgotten by the time a decision needs to be made. If information is provided “too late,” it can create a reactive environment or emergency. In the decision-making process, timely transparency involves information that is developed in a measured and deliberate manner. For an overview of the timeliness discussion, see Table 5.5.

Table 5.5. Timeliness Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Timeliness	Prompt	• Immediately impacting an event ○ Recovery issues ○ Openness toward errors
	Measured and deliberate	• Receiving information in time to react • Building knowledge for frontline support

5.2.1.1 Prompt. The importance of timeliness in transparency is the immediate impact of an event, which is different from timeliness as releasing information when needed. An ISD manager draws some context around releasing information that immediately impacts an event in his comment: “If you tell me as soon as you find [out about the problem], then everybody knows.” This manager is pointing out that the speed at which an issue in an active system is acknowledged has two meanings for him. First, speed relates to the difference between the rally behind a fix that takes minutes and has few recovery issues and a fix that takes hours and has lingering corrupt data issues.

Second, the timeliness of information prevents the appearance that someone is neglecting his or her responsibilities. The untimely release of information can lead some to think that someone is hiding behind a mistake. For these two meanings, the faster information is released, the better. Timelines of information in an active system is also a concern for Finance. A finance director gave an example of an accounts payable file that was loaded incorrectly, and the issue was found out a week later. Since a week had gone by, the effort to right the mistake was bigger than if the issue had been communicated immediately after the file load.

5.2.1.2 Measured and deliberate. Marketing's perspective is that the release of information as soon as necessary is a planned and thoughtful crafting of a message about an event that comes out just when it is needed. The discussion from Marketing drives the point that proactive communication is better than reactive communication from ISD. However, the timing of proactive communication can be as much a liability in decision making as reactive communication is. The expectation from Marketing is that it is receiving just-in-time communication. Providing information ahead of time is important, yet only with enough lead time to prepare for the impact. If the communication is too soon, a director explains, "They'll just forget it." The director continues by saying, "You don't want to tell people when there's nothing they can do about it." The director is reinforcing the point that telling people as quickly as you know something is not always the answer to timely information. That said, delaying the action to release information has to be measured and deliberate to accommodate an event. Another marketing manager agrees with that position and describes taking the time to deliver timely information by getting the right messages out at the right time about the right actions to the right

audience. Getting to the middle ground of a timely ISD message is to learn how and when to communicate. Providing an untimely message, as a manager says, is “finding out almost at the point of it's an emergency.”

In its simplest form, timeliness of information is learning from ISD what is going to happen and when it will happen. While their roles are different, Clinics and HR agree on this point. Clinics managers tie their expectation of timely information with actions they expect from ISD, for example, when ISD plans to complete an update that adds a feature or fixes an issue that is causing a time delay. The last thing a director said he wants to hear from a physician is, “Hey, this doesn’t work the same way it did; what’s going on and why weren’t we notified?” The timeliness of information in the director’s quote is that Clinics is typically on the frontline in receiving comments and providing help to the physicians. In that frontline role, Clinics managers are responsible for responding calmly and knowledgeably about the end-user systems experience.

5.2.2 Clarity

For this present study, *clarity* relates to “information that is concise and comprehensible.” Clear transparency involves understandable language void of acronyms and appropriate for a technology layperson. Actually, it starts with knowing the language of the people for which the communication is intended; each functional department has its own discipline language. Clear transparency involves an attempt at language from both the sender and receiver. Without clear communication, confidence cannot develop, and more time is required for transparency to develop.

It follows that an understandable explanation results from clear transparency as well. Specifically, clear transparency is not more information or more detail; it is the

communication of succinct and understandable information so that the average person can connect with technology. Therefore, clear transparency requires the sender to keep the receiver in mind. In its simplest form, clear transparency communicates a message to someone who can then repeat the message to others. For an overview of the clarity discussion, see Table 5.6.

Table 5.6. Clarity Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Clarity	Language	• Use business terms to challenge and clarify • Speak in the language of the target audience • Use a language-specific translator • Explain the topic in both languages
	Understandable	• Explain the reasons behind an event • Provide clear and specific information • Explain without assumptions • Inform for the job at work and home

5.2.2.1 Language. “We have to be able to speak in business terms,” comments the CIO within the first five minutes of his interview. He adds that within that language, we have to challenge and clarify the business message and objective. To support that position, an ISD manager explains, those in ISD who cannot communicate in business terms or will not communicate become overwhelmed in their work. For example, the lack of clear communication fosters misinterpretation and therefore reworking of technology solutions. An ISD manager sets an objective for using the right language among managers:

Let’s be those liaisons between the end-user community and our IT and translate because we use very different jargon. Health care has its jargon. IT has its jargon. Then the combination of the two is—we just sometimes get our wires crossed.

This manager is describing the commitment to be intentional with business word choices in communication. She adds that this commitment is even more important because of the complexities of size and the multiple locations of the organization. If the managers are not intentional, the important points get lost in the message.

Even with the intent to use business terms, Clinics often experiences the challenge of receiving clear and understandable language from ISD. The Clinics managers understand that the language and acronyms differ among disciplines. Nonetheless, as a service provider to Clinics, ISD must communicate in the language of its target audience. Furthermore, when ISD uses technology language, Clinics managers do not trust that ISD knows how to move forward or they wonder if ISD is too busy to ensure that a Clinics manager understands the technology direction. Moreover, Clinics managers believe they are getting real answers when communication is void of “technology speak.” A manager explains that she is looking for “user-friendly language.” She believes that the ISD staff should either talk in a clear language or embrace the fact that they will have to spend time repeating themselves until she does understand.

Finance managers see the same issues in their communication with ISD. However, a finance executive notes that he has firsthand experience in the effort ISD makes to communicate understandably during meetings. While the attempts are noble, an HR director suggests that her department and ISD still speak in different languages. However, like the ISD manager above, this director invests in making a difference: “I work with the IT department to kind of decipher the messages so that when it goes out to the masses, it makes sense and it’s simple to understand.” This director highlights the notion that the ISD documents come across as IT speak and that her role is to decipher

the information, which affects the efficient use of time for both HR and ISD. For HR, she clarifies the message so that it is easy to follow, and for ISD, she reduces the number of requests for more information. While ISD knows what the message needs to say, the director knows how the message needs to read. HR managers cite the language disconnect as ISD assuming HR understands because the information is in HR technology speak. While efforts are made to address and integrate language, another HR director says that clear transparency with HR is different from that with Marketing, Finance, and Clinics. Likewise, these departments need to speak in a language ISD can understand. For ISD, an HR manager suggests that when you do not know the skill level of someone's technology language, the conversation should be conducted without technology terms.

The marketing managers' position on ISD's language is clear: "We want to have more of a business discussion, not a technical discussion." However, as expressed in the HR comments, the proper use of language is important for both parties. A director explains, "Sometimes we talk in different languages to each other a little bit." Language is an issue, since an ISD person can clearly explain a topic in technology language, yet the marketing manager may not understand. One approach is for ISD to explain the topic first in technology language and then in Marketing's language. A number of directors again express the value of someday having a liaison between Marketing and ISD to help ensure the clear exchange of information.

5.2.2.2 Understandable. ISD's detailed knowledge of an application's infrastructure, configuration, and deployed modules makes it a formative resource for end-users. Couched in this knowledge rests an understandable explanation about the

reasons for changes, upgrades, and downtimes. However, when Clinics managers express a need to know something, they find this message not helpful: “That’s the application, and that’s what you got.” The brevity of the response does not help build knowledge and is not a sincere attempt to inform. The response may indicate an ISD employee’s frustration with not understanding the interworkings of every functional department that he or she serves. When ISD knows the department, it can explain technology infrastructure, function, and navigation in more understandable ways. Understandable communication is providing clear and specific information without adding detail. One Clinics manager describes her test for understandable information as, “If I can’t repeat [the ISD message], then there’s no way that my direct reports are going to be able to understand.” The manager indicates that if she can understand the message and confidently repeat it, the message is clear. Furthermore, clear information is a catalyst for efficient communication and a time saver when one is dealing with technology topics.

One HR director expresses a simple definition for an understandable explanation as the average person connecting with technology. Moreover, an HR manager says, “I think that there are a lot of things that are assumed.” She explains that these assumptions include that ISD believes it knows how to choose a system for HR and whether an application is user friendly without asking. Another HR manager says, “Consider two people talking about user friendly, and two different pictures enter each person’s mind.” The concern with these assumptions, among others, is that they become ISD’s basis for creating compressive end-user messages. Putting aside what ISD thinks it knows, clear

transparency is about who receives the information and not who sends it. It is all about whether the receiver intelligibly understands the communication.

A marketing director notes the benefit of clarity in ISD transparency for end-users in her role: “Reduce the noise and help them continue to do their job.” Another director adds that if ISD clearly explains, end-users understand technology and therefore its greater importance, not only at work but also at home, since employees use company or personally owned devices for work outside the office. That is, an aspect of clarity in transparency involves educating managers in safeguarding company and personal technology from hackers. In addition to creating efficiency for ISD and understanding of technology for managers, a director describes the consequences of unclear information: “If you don’t explain it right, you could create a panic that is unnecessary.”

5.3 Noteworthy ISOT Characteristics

Across the five departments, the noteworthy ISOT characteristics are those not observed in every department. If these characteristics were present, they were either influential or somewhat influential. The noteworthy characteristics are accessibility and reliability. Accessibility was influential in ISD and somewhat influential in Clinics, Finance, and Marketing, yet not present in HR. Reliability was influential in ISD, HR, and Marketing; however, it was not present in Clinics and Finance.

5.3.1 Accessibility

In this present study, *accessibility* refers to “information that is readily obtained.” The primary form of access in transparency involves pushing information out over email. The reservoir to obtain information then is as simple as opening up an email on any

device, anytime and anywhere. While email is appropriate for some people in their efficiency with technology, email has led to an unending process of sorting and filtering (do, delegate, delay, or delete¹) that some people do not have time for. Providing access to information may need to come in a number of forms based on a functional department's preferences. If preferences are not considered, ISD may be viewed as not providing information. For an overview of the accessibility discussion, see Table 5.7.

Table 5.7. Accessibility Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Accessibility	Multiple methods	• Make the message count • Know the audience preferences

Since email is not the primary approach to access information by all, multiple methods to provide accessibility are desirable. For example, clinicians look to daily meetings and screen pop-up alerts for accessible transparency in their daily work. However, for ISD, a manager sums up accessibility as it relates to email: “Well, email is the largest vehicle for communication, but it is not always the best.” The manager adds that he sees the best form of accessible information as the one that a functional department wants. Email may be fine for some people. However, he adds, email cannot become the default form of communication so we can say: “We did an email and included a couple of screenshots.” This implies that information about a project or issue was provided, so now the communication box on the checklist can be checked. He

¹ One approach to time management, which is highlighted by many management consulting groups, is to manage your electronic communication as discussed in Heisler, M. (2014), 4 Ways to Manage Workplace Stress, *Huff Post: The Third Metric*. http://www.huffingtonpost.com/melissa-heisler/five-ways-to-manage-workp_b_6312324.html. Retrieved: January 2, 2016.

describes the need to know an audience’s preferences and to determine how the audience wants to access information. Another ISD manager reinforces the need to address audience preferences. Functional departments can access information through many common ISD methods and through their “designed and predetermined communication mechanism,” which is determined when ISD works with a department on its preference. He offers the following:

We could send out an ‘all’ email or we can have a communication system that comes across the screen as a banner to get to end-users, but you target your communication and you tailor your communication to your target.

This manager notes that either sending an email to everyone in a department or sending a pop-up message that comes across the screen of a user’s computer may be appropriate for a functional department. An ISD manager explains that in some departments, using any email is ineffective if email is not “a consistent mechanism of communication.” As a follow-up to that point, if the information is not available in a manner considered easily accessible, the functional departments do not feel informed.

In an attempt to fulfill the need for different accessibility preferences, ISD provides the freedom to access information through twenty different methods grouped into three categories: direct communication, distributed information, and accessed information, as shown in Table 5.8 below. Although not comprehensive, the table illustrates ISD’s willingness to make information accessible.

Table 5.8. Access to Information

Direct Communication	Distributed Information	Accessed Information
Phone calls	Emails	Intranet
Daily meetings	Screen pop-up alerts	Link to knowledge-based articles
Monthly meetings	Weekly newsletters	Facility bulletin boards

(continued)

Direct Communication	Distributed Information	Accessed Information
Quarterly meetings	Monthly emails	Personnel archive emails
Quarterly town hall meetings	Quarterly reports	Electronic whiteboard
Follow-up meetings	Annual year-end report	
Lunch and learn	Dashboards	
Demonstrations	360-degree feedback surveys	

5.3.2 Reliability

Reliability, as it relates to transparency in this study, is “information collected and assimilated in a trustworthy way.” Reliability includes being forthcoming with meaningful information. The opposite occurs when a person must seek out information or the meaning of information. Functional managers understand that a sender’s message may contain errors from time to time or lack some fact. However, the lack of reliability in transparency is often seen as a sign of secrecy, and the lack of meaning is presenting only what the sender wants the receiver to know. A sense of being unreliable with information develops when issues surface that are not discussed. These periods of silence foster concern about open and honest communication, when sometimes a simple “we don’t know yet” is the only message needed. Being open, even if it is through simple responses, creates a positive impression. For an overview of the reliability discussion, see Table 5.9.

Table 5.9. Reliability Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Reliability	Impression based on premonition	• Negative responses create adherence issues • Committees provide trustworthiness • Lack of information builds uneasiness

A belief within ISD is that people use a general technology awareness to sidestep technology policy. The message to technologists is that if reliable transparency about an event is missing, managers will circumvent policy to get technology in place themselves. An ISD manager shares his thoughts about not adhering to processes: “I think they use whatever technology awareness that they have to sidestep some of our processes for the betterment of the company.” Perhaps this functional manager is correct that awareness can be used to sidestep processes, or perhaps a negative impression of reliable transparency is used to sidestep processes. An ISD director suggests that in his group,

We are usually called the group of ‘no’ because we are trying to restrict the exfiltration of data as much as possible and trying to control where that data goes. And so, people perceive that as us preventing them from doing something.

To overcome that exterior impression of “no,” this director internalizes every detail of a request to provide information that results in “yes.” However, the impression is that ISD lacks openness and honesty, which mirrors the impression that ISD has of some functional departments. Another ISD manager says that the departments “weren't sharing things, or they were doing things independently and then telling us later.” However, she suggests, this outcome could have started with a lack of reliable information from ISD in a recent situation.

To build reliability with acts of openness and honesty, ISD manages a process to promote an understanding that not every “no” is from ISD, especially since the demand for technology projects is greater than the available ISD resources. An ISD director comments, “That’s why we have the subcommittees vetting [projects]; IS isn’t the one saying ‘no’.” As a follow-up to this idea, the director suggests that the decision to move forward with a project comes from within a subcommittee. He says that a collective

management committee selects the projects and then nine subcommittees figure out and vet the ISD projects to be implemented. These committees seem to provide a trustworthy way of providing information within the company.

Likewise, the lack of reliability in transparency is perceived when ISD is silent about the work underway. For example, silence about a change in the realignment of priorities among ISD staff or issues with functionality may create a concern about receiving reliable information. An HR manager expresses this concern: “When [ISD] starts running into glitches, they don't tell you a lot of times.” The manager’s concern is that the lack of information builds into an uneasiness that she learns about when the department is deep into a task: “Oh yeah, we’re not going to be able to” At that point, the lack of reliable ISD information has developed into a concern about openness and honesty. Reliable information is not always lacking. One HR manager describes a need to constantly circle back with IS, and another manager says that ISD is forthcoming and that she does not always have to ask for information. Regardless, managers agree that reliability in transparency fills in the gaps and contributes to informed decisions. Having access to reliable information also includes understanding changes in timelines and acknowledging errors. In many cases, the point is not that the timeline has changed or that an error has occurred. Instead, the point is that ISD adjusts timing and function with HR’s help. As an HR director says, “We sit down, and we work it out together. Let me know how I can help you.”

Repeatedly, reliability in transparency refers to Marketing’s belief that ISD expresses what it knows. That is, the department provides honest information versus concealing it. Managers offer examples of reliable transparency as honesty when efforts

do not go as well as hoped or when an initiative is more difficult than originally thought. No one expects ISD to be right always. Nonetheless, ISD should create an impression that reliable information is the goal. A marketing manager suggests that people are very tolerant if one is honest and harsh if one is secretive. She adds that trust builds when “you do what you say.” A manager explains that her group wants reliability in transparency that infers, “We haven’t been oversold; we haven’t been undersold either.” Moreover, ISD needs to talk about problems that do not yet have a solution. To illustrate, another director comments, “When they explain what’s happening, and why it’s taking long, or why they don’t have enough resources to do everything all at once, it does build trust.”

5.4 Negligible ISOT Characteristics

Negligible ISOT characteristics are those observed only in one department. If the characteristic was present, it was either influential or somewhat influential to the department. The negligible characteristics are accuracy and comparability. Accuracy was influential in Finance, and comparability was somewhat influential in Marketing.

5.4.1 Accuracy

In this study, *accuracy* relates to “information that is factual, objective, and error free.” Accuracy in transparency means including all necessary information to be complete and without error or bias. The information should be adequately accurate for the purpose, with controls to ensure quality. The opposite of accuracy is neglect for correctness and quality. Neglect in transparency, therefore, slows down all processes behind the event that created the issue. Not only does it slow down the process, but it

also increases the effort needed to manage up to the point of acceptable quality. For an overview of the accuracy discussion, see Table 5.10.

Table 5.10. Accuracy Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Accuracy	Perception from awareness	• Late additions create apprehension • Going back multiple rounds is a concern • Inaccurate work suggests other inaccuracies

Accuracy in transparency is apparent in a Finance executive's comment about reporting ISD numbers on productivity benchmarks. His example was that regular numbers should be provided on service-level agreements, such as average wait time on the helpdesk. However, a Finance manager notes that reporting errors, whether intentional or not, might create a negative perception about accuracy in ISD transparency. These negative perceptions often develop within a project or annual budget. Although scope change is part of a project's contingency plan, an approval process typically exists for spending money outside of the scope. A Finance manager provides a project example. He received a late capital request for a data center update to include a new video conferencing room in the building. He believed the initiative was for technology in the data center and not a video room, which was true; however, the project was under budget, so the video room was added. The concern for accurate information can arise from a project that is under budget that expands to spend the excess without approvals. In annual budgeting, the concern for accuracy in transparency involves senior management's repeated requests to bring down the operating expenses and capital costs to run ISD. Attempts to reduce expenses and costs in a multi-round process can cause

concern about the accuracy of information. Seeing both project and budget inaccuracy might create a doubt about accurate of information in other ISD areas as well.

ISD's task performance also translates into accuracy in transparency. Specifically, the diligence in completing a task involves an established criterion that ensures a satisfactory outcome. A manager explains why accuracy is essential here: "Because a lot of times bad data is coming from another system and it's sent into us and uploaded and we produce bad data." The manager is describing the process of receiving (or extracting), translating, and loading a file without attentiveness to accuracy. She notes that this same emphasis on accuracy should translate into accurately communicating about the task. Without this result, she has misgivings about the accuracy of the completed task. Additionally, an opportunity for accurate information arises when one compares and contrasts change, as evidenced by a manager who relays an event where ISD deleted the older of two security tables in a system. The finance staff dealt with application access issues for weeks because ISD did not communicate the deletion. All the while, Finance was working with ISD without accurate information about the root-cause.

5.4.2 Comparability

Comparability, in this present study, refers to "information suitable for looking at matters related to targeted norms that may show change from another time and context." Comparability includes an understanding of what led to the change because of evolving processes, which are matters of fact. Often, comparable transparency relates to information about how something is done currently versus how it will be done in the future. In addition, comparable transparency reveals the impact of what has happened or

will happen because of change. Frequently, comparable transparency relates to how technology changes the interaction that one has with his or her work. For example, the steps for loading the accounts payable file into the accounting systems will now consist of these ten steps versus the former fifteen steps. Thereafter, comparable transparency may prompt the question, “What is the difference?” For an overview of the comparability discussion, see Table 5.11.

Table 5.11. Comparability Discussion Overview

ISOT Characteristics	Discussion Areas	Points of View
Comparability	Then versus now	• Tracking to show the value of change • Planned and unplanned process change

ISD comparability in transparency occurs in the regular reporting of service, project, and performance results. The comparison between then and now is used to justify ISD’s efforts for the functional departments and to show how technology positively impacts business management. In some cases, project tracking is done even when it is not required. For example, the CIO recalls a multiple-year project that was valued at hundreds of millions of dollars. He explains that the new system was an industry requirement; therefore, tracking the return on investment was unnecessary. His position was that the impact of this technology should be tracked anyway. With the CIO’s foremost focus on showing the technology’s business impact, he worked with other managers to develop key performance indicators. At the project end, he explains, “We exceeded every measure that we set for ourselves; we set goals and exceeded every one of them.” To understand and communicate comparability in ISD transparency, the

CIO developed a dashboard to track availability, responsiveness, responsibility, focus, and managing risk. The CIO's position on comparability is, "I care about impact."

Marketing sees comparability in transparency as important for explaining processes. Communicating process change may be planned as part of system change or unplanned because of a technology issue. When change is a result of a planned systems change, a Marketing manager explains, "We were helping departments sort through [the] technology impact of changing people's work processes for ordering supplies." This manager was explaining the process change underway in an accounting system implementation for procurement. Her role in the project was to help ISD document the processes. Typical system implementations include documenting as-is processes and then to-be processes. The documentation is used to train end-users on how to use the new system by comparing it with how they used the old system. For the transition to new systems, then, comparability in information transparency is a key success factor.

A Marketing manager explains that ISD must communicate unplanned process change as well so that operations function even if systems do not perform as they should. He explains, "The goal of IT really is when issues occur; it's not to stop the flow as to redirect the flow." He notes that when a routine process is disrupted because of a system issue, ISD must develop an alternate process. Rarely does the approach to a system issue involve an end-user having to wait until it is fixed. The way to communicate the alternate process is to provide a comparison between the routine process and the alternative. To illustrate, the manager uses the analogy of a temporary road closing. The typical route from point A to point B is a certain highway; however, because of lane closures, the driver has to use an alternate route, which takes more time but keeps traffic

flowing until the highway is reopened. Comparison in transparency, therefore, provides a means for understanding the disruption.

5.5 Summary of Finding

The findings reveal that each ISOT characteristic affects a functional department's satisfaction with transparency in its own way. Some characteristics are influential, some are somewhat influential, and others are not even present. The prominent characteristics (Relevance, Completeness, and Responsiveness) proved influential to all departments. While the discussion areas for these characteristics were facts pertinent to a situation and addressing a target audience, different points of view were present within those discussion areas. For example, relevance in transparency is influential to Clinics because pertinent facts address the ramification of change on application use. For another example, comparability is somewhat influential to Marketing because "then" versus "now" is awareness of planned and unplanned process change. While common discussion areas formed under each characteristic, each functional department had its own point of view for why transparency was important.

Also of interest is that a functional department's technology approach might be important when one considers the effect of an ISOT characteristic. To explore this possibility, this present study includes a secondary finding section next. Afterward, the two findings are brought together in a discussion chapter.

Secondary Finding

The analysis revealed that functional departments do not follow a universal approach to operationalizing tasks with technology. Instead, their unique roles influence

how they use and approach technology. Along with a supposition that certain ISOT characteristics may influence a manager's satisfaction with the IS organization, a department's approach to technology may influence the ISOT characteristics they find important. Figure 6.1 below shows this conceptual model:

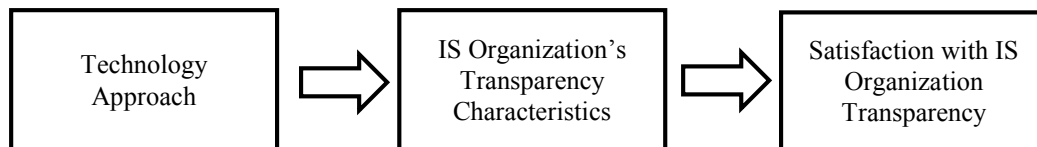


Figure 6.1. Conceptual Model

The following discussion includes an overview of each department in this present study and each one's involvement in IS strategy, IS projects, and day-to-day technical support. From this information and the observed technology approaches, a definition is provided to describe each department's technology approach. The departments and their approaches are shown in Table 5.12.

Table 5.12. Functional Department and Technology Approach

Functional Departments	Technology Approaches
Information Services	Business technology driver
Clinic Operations	Application consumer
Financial Services	Efficiency performer
Human Resources	Technology consumer
Marketing & Public Relations	Competitive business innovator

5.6 Information Services Overview

ISD is where the IS organization concentrates on keeping systems available, responding quickly to requests, controlling capital and expense costs, developing the right projects, and managing risk to the organization. In addition, this department

partners with functional departments to deploy technology that reduces the costs of day-to-day operations. Every technology consideration involves fitting functionality into an enterprise model because multiple applications and one-offs consolidate into robust solutions. Moreover, the speed of technology decisions from proof-of-concept to deployment is a concern since newer technology can change solutions before a project is even complete.

5.6.1 Areas Where Information Services May Value Transparency

In IS strategy, ISD leads research that solves a company's technology issues. However, strategy involves innovation across functional departments and committees. ISD has established governance, technology, and steering committees as pathways to receive input and requirements. The steering committee, not ISD alone determines IS project approval. ISD leadership then manages the project authorization process and communicates approval decisions to the departments.

Once a project is approved, the project management office within ISD manages it. A project is an effort with a defined start and stop point and lasts somewhere over 200 hours. New project monitoring is important since end-users may try to work projects through day-to-day support channels. By definition, a request for IS services becomes a project when it involves functionality that either is not currently deployed or is being upgraded. A project may involve functionality or infrastructure and typically requires several ISD or functional groups to complete.

Day-to-day support may come from any number of technical support groups within the ISD, such as security, infrastructure, networking, phone support, and field services (someone going to the end-user). In most cases, the request for IS help starts

with a phone call or website creation of a helpdesk ticket, although an end-user's personal networking within ISD may circumvent the support ticket process. Typically, networking between end-users and ISD staff begins with questions or a need to validate instructions in an ISD communication.

5.6.2 Definition of Business Technology Driver

In this research, ISD is a business technology driver. Drivers fix their efforts on completing business tasks quickly and accurately at a minimum cost. As stewards of technology, business technology drivers are innovative. Yet, with the speed of change, innovative expertise must be present throughout the company. Typically, a good working relationship exists between the functional departments and ISD to determine collectively best company technology practices. Innovative solutions and day-to-day considerations focus on benefit realization, sustainability, and return on investment; then, frequent assessments ensure that ongoing benefits are realized.

5.7 Clinic Operations Overview

This department focuses on patient care, where technology is a tool that provides record keeping and efficient care diagnosis. Efficient care is required for a number of reasons, including a demand for patient care that may be greater than the professional resources available in the moment and an expedient diagnosis of care that may save a life or add to the quality of life.

5.7.1 Areas Where Clinic Operations May Value Transparency

For IS strategy, Clinics believes that it drives technology and that ISD is there to support its efforts. This investigation reveals that Clinics management drives the

functionality in the application, but the choice of application is made by ISD.

Nevertheless, in the past, ISD drove most design decisions regarding input from nurses, physicians, and clinician management. Now, Clinics middle management and IS engage the application end-users in the requirement definitions for application functionality.

Projects that include technology are managed by ISD, and project teams receive due credit and high scores for their communication. In most cases, a project team develops a project charter that includes a method section on communication. The enactment of the method sets the end-user's expectation for communicating transparency after the project is complete and in production.

Clinics expect ISD transparency to be most apparent in day-to-day support. The high expectations result from the Clinics team's demand for time sensitive work. Back-to-back scheduling of appointments and sensitivity to high-quality care do not allow for surprises, unknowns, or missed steps in the use of technology. The lack of transparency when technology is not functioning at its best taints the perception of quality-of-care and disrupts the work-life balance of the health care professional, leading to longer work hours.

5.7.2 Definition of Application Consumer

In this research, Clinics is an example of a functional department as an application consumer. Application consumers are end-users who consider the features and most efficient navigation in application use. In particular, the efficient use of technology is a priority for these end-users because either their work is scheduled within specific start and stop times, or it is time-sensitive. Additionally, their work requires the digitally documented information for record keeping and diagnosis. Patient documents are created

from service information provided by the primary care physician or other medical professionals. These application consumers actively position themselves within planned navigation (i.e., shortcuts, tabs, scroll functions, etc.), so the use of technology becomes habitual.

5.8 Financial Service Overview

Finance end-users are proficient in applications—proficiency is a new hire requirement—and familiar with standard department processes. As part of the departmental principles, all the end-users look for quality improvement and performance change to make their work more effective and efficient. Additionally, the department has staff positions for business systems analysts. This position helps advance performance and bridges the requirement of the department with the work of the ISD. End-user skill growth and in-house technology expertise are knowledge builders to performance, a requirement for developing transaction speed, accuracy, and reporting.

5.8.1 Areas Where Financial Services May Value Transparency

ISD is the driver of IS strategy, providing the vision and investigation for systems that support Finance. Many of the applications deployed to support the department are long-term investments in technology, such as enterprise resources planning (ERP) and data warehouse. Long-term strategic planning involves expanding user functionality and upgrading applications. However, strategy to integrate third-party functionality is ongoing, and Finance provides the details. While ISD is perceived as having excellent ideas, Finance is looking for a strategy partnership with ISD.

The ISD project management office manages the IT projects for Finance. In this welcomed service, projects are undertaken to reduce systems by standardizing applications and automating data movement between systems to develop efficiencies. Finance looks for notable phases of testing for work quality and project process improvement. When the project management office is too busy to manage a Finance project, Finance manages its own projects under ISD-established guidelines.

Day-to-day technology support is an interactive process between ISD and Finance. The knowledge level of the Finance end-users and the experience of the in-house business systems analysts create a collaborative work environment for issue resolution with ISD. While the day-to-day support relationship between Finance and ISD is a partnership, the Finance analyst brokers information and interpreters language between the two departments. Additionally, Finance expects IS to perform at the same level that it expects of its own department.

5.8.2 Definition of Efficiency Performer

Finance is an example of a functional department that is an efficiency performer in this research. Efficiency performers constantly consider the importance of technology process improvement. The performance end-user expects quick and accurate transactions and reports. The end-users are proficient with the applications within their discipline and continually look for the next level of skill proficiency. To facilitate this goal, efficient performers within functional departments have professional IT staff within their reporting hierarchy. The primary expertise of an in-house IT staff member is knowledge of technology with a secondary expertise of the functional discipline. End-user skill

development and in-house IT expertise establish a cultural drive to achieve efficiency. Consequently, process improvement and reengineering are day-to-day mindful acts.

5.9 Human Resources Overview

In HR, much of the software selection follows legacy vendors' product development cycles or trending new products. While the hardware selection is the responsibility of ISD (e.g., on premises, cloud based), HR follows ISD vendor vetting and provides input for the final selection of a solution. Because HR is an inter-organizational business-facing department, its foremost responsibility is serving the employees by providing them with self-serve capabilities across as many HR service offerings as possible. These areas include information about current employee enrollment and benefit plan services that can be assessed at any time with clarity, speed, and efficiency. The company goal is to demonstrate that the employee is the company's number one asset even in a high-stress industry.

5.9.1 Areas Where Human Resources May Value Transparency

Although ISD and HR work together to achieve innovation, ISD leads the IS strategy selection in new technology for HR. Rarely would either ISD or HR move forward without agreement in their partnership. However, middle management lacks complete understanding that a partnership exists and software availability seems to be more important than HR business requirements do. Middle management does see ISD as the primary researcher of technology solutions, though it sees the research details embedded in communicating the advantages, disadvantages, target end-user

communities, benefits, operating value to ISD and HR, potential challenges, support requirements, and costs.

The ISD project management group develops a formative atmosphere for creating success within a project. HR considers the weekly team meeting a significant factor of success, and dismay sets in when the meetings are discontinued at the end of a project. The meetings are where the software, described as chosen by others, drives the process reengineering. The details of these changes meet business requirements, and team members collaborate to fill in gaps in the software. When the project is over, the process for change is not as collaborative or timely. Additionally, working on projects with ISD without the project management group is not as well received.

The day-to-day ISD support is described as, “We can’t—we can’t upgrade the laptops now, we can’t get new printers, we can’t use iPads.” HR managers’ point of reference is the consumer devices both the managers and their staffs use that “can” meet these needs. However, the acknowledgement is not all bad. Expectations for technology are much higher than those of a decade ago, yet the governance around HR data is more stringent. Appreciation is expressed for the day-to-day process in keeping technology working versus the stories heard about negative experiences in other companies.

5.9.2 Definition of Technology Consumer

HR is an example of a technology consumer in this research. Technology consumers consider the full gamut of technology for delivering self-serve solutions from industry providers. Legacy software products from established vendors to cloud products and trending technology are all possible solutions. A key to software selection is to deploy it in its “vanilla form”—a solution that can be bought off the shelf. Rarely is

customization of vendor software done to meet the company's business requirements. Instead, the software configuration is based on inherent functionality provided by the vendor to meet as many requirements as possible. Thereafter, the processes within the company change or derive from the functionality in the vendor software to meet business requirements.

5.10 Marketing and Public Relations Overview

Marketing's responsibilities include product development for patients and internal affiliates. While Marketing provides expertise in many roles, maintaining on-line brand awareness is a key work responsibility. Much of the work is time sensitive for competitive advantage, brand awareness, and government compliance. The resourceful use of technology helps Marketing understand the company's service areas. Moreover, customer data analysis offers clarity for objective opportunities to inform customers of services. Internal affiliate work involves supporting the inter-organization, such as departments and hospitals, with on-line capabilities that can deliver specific information and relevant templates.

5.10.1 Areas Where Marketing and Public Relations May Value Transparency

For IS strategy, Marketing views itself as the principal leader for product development with ISD providing technology services. Marketing is the company leader for responding to consumer behavior, needs, and wants. ISD is the solution provider for the backend technology needed to support the proposed idea. However, ISD gathers requirements and engages vendors in the quest to provide technology capabilities for the

new products. ISD's work is highly esteemed by Marketing; nonetheless, Marketing is found waiting for technology help since ISD resources are stretched in many areas.

ISD typically manages the technology projects for Marketing. Large projects include upgrading and expanding functionality for customer relationship management and data warehouse solutions, as well as the system selection and deployment of such systems for new capabilities. Marketing has its own in-house IT staff working the frontend of the company's on-line technology. However, ISD provides all of the infrastructure support, security governance, and custom development. Projects to streamline the website are a continuous focus in Marketing's goal of a single on-line presence.

Day-to-day ISD support generally comes from the helpdesk although the ongoing project work that Marketing does with ISD creates a network of support that may go around the helpdesk. Moreover, part of Marketing's responsibility is to oversee all of the websites for the company as well as a number of other marketing mediums and software platforms. To oversee this work, Marketing has an in-house web team of technology experts in frontend development and graphics. This team provides support for website users.

5.10.2 Definition of Competitive Business Innovator

In this investigation, Marketing is an example of a functional department that is a competitive business innovator. A competitive business innovator looks for new ways to reach customers and extend the company brand with technology. All customer-facing technology approaches are possible tools. Innovators are technology-aware as owners of customer-facing products. Their roles include acting as information product architect,

content designer, and navigation expert. Information technology is integral to everything an innovator does; the lack of technology has a crippling effect on an innovator's work. Innovators expect collaboration with the company's ISD to provide infrastructure, governance, and custom programming for the innovator's projects. Accordingly, ISD's role in a shared relationship is to deliver products to a consumer's device. If formal engagements with ISD do not exist, innovator management and in-house information technology staff develop their own resource network for collaboration.

5.11 Summary of Secondary Finding

The ongoing review of the interview transcripts provides an understanding of each functional department's unique approach to technology. The original position for the research was that an IS organization is the supplier of technology and the functional departments are the consumers of technology. While this general position has not changed, more is known about this supplier-consumer relationship. How each functional department approaches technology determines its involvement in IS strategy, projects, and day-to-day support. Each department claims to be technology-aware in its own world of technology use and expects transparency from the IS organization.

A functional department's claim of awareness sets an expectation for inclusion in the IS organization's work, at a minimum, within the technology projects that are deployed for the functional department. Entry-level involvement in projects as subject-matter experts exemplifies the application consumer (Clinic Operations). Advance project involvement is seen in the efficiency performer (Financial Services), who is so acclimated to long-term technology assets (ERP, data warehouse) that it can run small projects itself when IS organization project manager resources are in short supply.

The competitive business innovator (Marketing & Public Relations) is the perpetual surveyor of customer needs and extends the company brand. Like the efficiency performer, the competitive business innovator has on-staff technologists outside of the IS organization structure. However, both the efficiency performer and competitive business innovator are quick to relinquish control to the IS organization for infrastructure and governance. The competitive business innovator may contemplate an outside contract for his or her applications. Moreover, the competitive business innovator, to some extent, expects to drive IS strategy or be highly involved in any IS strategy that extends to the customer no matter where in the organization the innovation originates. The technology consumer (Human Resources) wants to be more involved in IS strategy. Nevertheless, most of the time, technology consumer involvement with the IS organization is in projects to re-work business processes to match the software's functionality.

The efficiency performer and the competitive business innovator each have their own on-staff technologists; therefore, some of the day-to-day support can go through a vetting process before it is directed to the IS organization. That is not to say that the on-staff technologists are an extension of the IS organization helpdesk. The application consumer is the most reliant on the IS helpdesk and counts on quick, quality support as the front line provider of patient care with technology, while the technology consumers are the conventional users of day-to-day support for break-fix help from the IS organization.

CHAPTER SIX

Discussion

The purpose of this study was to understand the nature of ISOT within the functional departments and the perception of that transparency. The search for a transparency theory in IS and across multiple disciplines met with no success. Gregor (2006) explains, that short of a theory, knowledge develops in pockets from practice, consultants, and academia without a structure for collecting and using the knowledge. In search of transparency knowledge and a theoretical rationale, I found that practitioners' have isolated an approach to transparency. With nine transparency characteristics and 30 interviews, the findings in this research have led to an understanding of transparency in a health care company. The ISOT characteristics section will discuss those findings. Of note is that each of the five departments in the data collection approaches technology differently. The technology approach section will discuss those finding.

6.1 Discussion – Information Systems Organization's Transparency

All of the functional departments interviewed in the company consider ISOT significant to their work. Moreover, not all characteristics were found in every department. Characteristics were also found to vary in influence among departments. Actually, no two departments match across all characteristics. Table 4.3 shows the characteristics and levels of importance within a department. However, certain characteristics seemed to form together based on their prevalence in the departments.

Table 5.1 shows the characteristics prevalence, which are defined as prominent, important, noteworthy, and negligible.

The *prominent* characteristics of relevance, completeness, and responsiveness were present within all functional departments at an influential level. Functional department managers consider relevancy in transparency as pertinent facts that address a proper target audience. They view situational facts as knowing the ramifications of technology on their plans and operations. Managers emphasize that relevant transparency involves information about moving their department forward and not posturing technology topics or historical events. Actually, complaints arose that so much irrelevant information is sent that the relevant information gets overlooked. The functional managers know that technology changes are coming and that issues exist, but they want ISD to see the importance of their work and the need for relevant transparency. In return, managers are willing to help test resolutions that may benefit all users.

Furthermore, functional managers see relevance in transparency as ISD addressing the proper target audience. Managers believe that some ISD messages need to go out to all employees but the ISD volume is defined as internal junk mail. In addition, the bulk means that the messages lack context and relevancy for the managers. Even within ISD, sending out a message is often checking a box on a checklist. Functional managers see the relevant target audience to be their departments' systems or individuals in their department in the context of connecting information with future action. Moreover, they say that ISD, not the functional manager, should let managers know which systems are important to them. In other words, ISD needs to establish relevance in transparency for department demographics.

Completeness in transparency developed in the managers' discussion on impact and the whole story. Impact includes the negligible or substantial bearing of a technology event on performance, yet without the detail. Some ISD managers labor at providing the right level of complete transparency; however, they feel these well-crafted messages are not read. Even so, functional managers press to understand the impact of ongoing system integrations and the potential impact of planned integrations. For today's systems, impact includes knowing an event's timeframe and level of change difficulty for end-users. For tomorrow's systems, impact includes skills needed for new technology. When functional managers lack information, they fill in their knowledge gaps with speculation among themselves or their technology experiences. Complete transparency is figuring out what to say at what level of detail about current and future impact that could occur.

Additionally, managers discussed completeness in transparency as knowing the whole story about meaning and implications of events. At the entry level, the whole story promotes a feeling that ISD is working with functional managers and begins simply with information about the resolution of a helpdesk ticket. Building on a positive sentiment, functional managers see complete transparency as participating in root-cause mitigation for ongoing system performance. Thereafter, functional managers strongly believe that the whole story includes knowing the goals and objects for technology. The plans for technology are business committee driven and open to all; yet, some functional managers are unaware that multiyear plans exist. Because of this disconnect, managers complain that the absence of complete transparency could lead to employees being ill-

prepared for future technology. Moreover, a functional manager disconnect exists in what the company's future technology will mean to customers.

Managers look for transparency responsiveness involving requests for information and open discussion. Functional managers may need general technology information or clarity about an earlier message. These requests and ISD's response are short messages commonly sent through email. A functional manager's request for feedback may be a simple request that does not acknowledge any complexities. In these moments, ISD managers become disappointed in the perceived lack of appreciation for their efforts. While the intent of general information requests is a simple response, an overly vague message creates a concern that ISD is not focusing on the requesting department's initiatives. At times a functional manager believes using his or her personal network within ISD is the best way to get general feedback. ISD managers also look for transparency responsiveness in feedback. That is, the need for general information is bidirectional, ISD requests information from the functional managers to complete their work. These requests are about qualifying a point or filling in the meaning for a change.

Moreover, managers discussed completeness in transparency as engaging in open discussion, which is conversation that ISD uses to confirm a functional department's needs or objectives. The conversation is often part of a meeting in which critical thinking occurs and the two departments work to build a partnership. Functional managers view open discussion as a venue for expressing options and limitations while gaining a deeper understanding of technology. They believe that open discussion is the forum for getting end-users' involvement in and perspective of the system design. Functional managers believe that open discussion through responsiveness in transparency also provides the

best setting for learning from ISD how systems affect end-users. Some managers see open discussions as a way of pressing ISD for information on new technology and a forum for building customer product ideas.

The *important* characteristics are timeliness and clarity. They were present within all functional departments, and their presence was either influential or somewhat influential. Timeliness in transparency is influential only to the marketing department; however, it is somewhat influential to all other departments. Functional department managers expect timeliness in transparency to either promptly address a need for information because of an issue or provide certain information because of a coming event. Managers look for prompt information from ISD because any delay extends a system's recovery time, resulting in less-efficient operations. The lack of prompt information may also signal managers to watch for negligence in ISD's responsibilities. Both functional and ISD managers expect promptness when working to resolve a critical issue in a production system.

In addition, functional managers expect measured and deliberate information as part of timeliness in transparency. That is, not all information is important in the moment. Managers want to know that due consideration was given in the development of information. Thereafter, the message involves delivery that is just-in-time to address the technology event. Functional managers have a concern about getting information so early that the message is forgotten or so late that it becomes an emergency. They also look for timeliness in transparency to address their role as frontline support for their systems since some technology questions go to them instead of ISD. For the manager,

then, the just-in-time information works best and comes before the manager is asked about the topic rather than after the manager has attempted to answer a question.

The other important characteristic was clarity, which involves using the right language and being understandable. Clarity is most important to the Clinics, HR, and marketing departments. ISD and Finance find clarity to be somewhat influential. Functional managers expect ISD managers to speak in business terms, which ISD then uses to apply critical thinking to business objectives. However, functional managers also require ISD to address them in their business language while providing services. Managers believe that not using an understandable language is a form of concealment about technology issues. Moreover, functional managers believe that attempts at using the proper language can be obtained through translators within their department or through explaining a topic in both technology and business languages. To reciprocate, functional managers try to use technology terms when working with ISD.

Furthermore, functional managers look for clarity in an understandable message. Understandability begins with an explanation of the reasons behind a technology event but not the details. When ISD's explanation is overly brief, it is not seen as a sincere attempt to be clear, and if ISD is making assumptions about a department, the message will not be understandable. Adding to the need for understandability, clarity in transparency is addressing technology use within and outside of the office.

The *noteworthy* characteristics are accessibility and reliability. They were present within most of the functional departments, and their presence was either influential or somewhat influential. Accessibility in transparency is influential to ISD and somewhat influential to all other departments except HR. Functional department managers

understand that multiple methods are available to access information, but a single message is not always available in more than one method. Therefore, the primary method for accessing a message has to be effective, and functional managers expect ISD to find out what method their department prefers. If ISD follows the preferences, functional managers do not need to search across multiple methods to find information. Consequently, with defined preferences for each department, ISD may be able to reduce the number of methods it supports and avoid sending as many emails.

Reliability is influential to ISD, HR, and Marketing. Functional managers see reliability in transparency as a catalyst for developing positive or negative impressions about ISD. Often an unreliable impression is simply ISD giving an insincere “no” answer to a manager’s request. A manager who receives a negative response or that does not believe ISD is being reliable will use those experiences as reasons to sidestep ISD policy. To address the negative impression that functional managers have about “no” answers, ISD works with multiple committees for project approvals. That way, a “no” answer about a manager’s project does not foster a negative impression of ISD. Alongside the unfounded “no,” silence about technology underway creates a negative impression. Managers believe that silence is a precursor to ISD not delivering technology as planned and that ISD is not reliably communicating the miss.

The *negligible* characteristics are accuracy and comparability. They were each present as either influential or somewhat influential in a functional department. Only the Finance department sees accuracy in transparency as influential. These functional managers view accuracy in transparency as creating a positive or negative perception. If ISD takes a generous approach toward spending, functional managers develop a negative

perception about ongoing budget management. Likewise, if budget-cycle revisions are cyclical, a negative opinion develops about budget management. Although negative perceptions for accuracy in transparency are systemic, they cause concern for a time. Until a position perception develops, functional management may feel compelled to validate ISD's accuracy. Sometimes a functional manager is concerned about accuracy in ISD's work. If so, the belief is that accuracy in transparency follows task accuracy.

Only Marketing sees comparability as somewhat influential and comparability in transparency as looking at events over time. The "then" versus "now" view is seeing the value that technology projects have brought to the company. While tracking asset performance is a companywide best practice, ISD uses tracking to communicate the value of its systems to functional managers. To dispel manager misinformation and demonstrate impact, ISD presents systems availability, budget responsibility, and more in a comparable form. In addition, functional managers use comparability in transparency when looking at ISD's documented as-is and to-be processes. Managers use the documents to understand change in day-to-day tasks or change because of an alternate route to keep the systems running during technology issues. ISD managers are quick to see the alternate retired because an alternate often means a longer process.

My findings show that all nine ISOT characteristics were either influential or somewhat influential to a department. In addition, three characteristics (relevance, completeness, and responsiveness) were influential to all departments. These characteristics reveal the importance of transparency in providing relevant facts about technology to the right people. These facts address impact with no hidden essentials that keep the facts incomplete. Furthermore, responsiveness addresses general feedback or

open discussion when collaboration is needed. Using these few characteristics as an example, this study of transparency helped me understand that functional managers want to understand or be involved in technology from mouse click to product development. While some characters were valued by all departments, other characteristics were only valued in a single department. The approach to ISOT could be a single method that is applied universally to all department, when in fact, the approach should be multiple methods designed and applied to individual department based on their transparency preferences.

6.2 Discussion – Technology Approach

The technology approach begins with positioning ISD in an IS management role, according to Guillemette and Paré's (2012) profiles. I did not ask the CIO to consider and determine his own ideal IT management profile. Nonetheless, the interviews I conducted provide ample data for a profile. My data was collected in interviews with not only the CIO and ISD managers but also functional department managers. Therefore, I reflect on the contingency factors influencing a particular Guillemette and Paré's (2012) IT management profile as follows. I interpret that top executives consider IS as central to operational excellence in the company. Next, the CIO's view of his strategic influence is high; therefore, the ideal profile is Partner.

Moreover, my data advocates that the breadth and depth of ISD, with approximately 1,000 employees, is such that the department has IS management abilities across all profiles. The concern about the partner selection is that there is not a single best profile value proposition. ISD should add value to the company across all of the contribution profiles by "reducing operational cost [Partner], reducing organizational

costs [Systems Provider], improving organizational agility [Architecture Builder], facilitating strategic organizational transformation with technology [Technological Leader], and supporting organizational flexibility [Project Coordinator]” (Guillemette & Paré, 2012, p. 545). Advocating multiple profiles differs from that of Guillemette and Paré (2012). Their position is that an IS organization brings the best value if it is operating under a single profile. I agree with Guillemette and Paré’s (2012) position if the IT management profiles are considered based on an IS organization’s size. In their study the IS organizations were from 10 to 350 employees with an average of 74 employees.

The discussion now moves to the functional department’s technology approach. ISD’s technology approach is included to position them under a similar assessment as the departments with regard to IS strategy, projects, and day-to-day support. Each functional department’s approach influences the way they value the ISOT characteristics and no two departments match across all characteristics. Additionally, consideration is given to match an IT management profile to each technology approach. This does not follow Guillemette and Paré’s (2012) method for determining a profile. Following their method, ISD’s profile is partner. However, the matching objective in this present study is to show how a large IS organization could operate under multiple IT management profiles based on their breadth and depth of resources.

ISD as business technology driver affixes its efforts on cost-effective solutions that provide speed, quality, and robust systems. Its role covers the collection of business requirements as well as day-to-day support and maintenance of legacy systems. For IS strategy, ISD leads research and cross-functional integration; however, it is not always

the sole innovator. Innovation is a role shared most often with the Marketing department. Projects are typically led by the ISD project management office, yet the decision on which projects to deploy comes from business committees. Day-to-day support takes the most resources and is a constant cycle of decision making between service cost and quality. The ISOT characteristics observed as influential to ISD are relevance, accessibility, completeness, reliability, and responsiveness. The somewhat influential characteristics are timeliness and clarity. According to Guillemette and Paré's (2012) model for selecting an IT management profile, ISD is a partner.

The Clinics department's technology approach is as application consumer, which involves developing proficiency through simple navigation within technology. Its focus is not mastering the underlying technology. Clinics may not even have an opinion about the selection of an application. Nevertheless, the Clinics department's contribution to IS strategy consists of input about the need for functionality and the disruption that comes with change. Participation in projects will be as subject-matter expert and as recipient of project management service from ISD. Clinics' day-to-day support involves very high expectations because of outside demands on schedules and use of technology. The Clinics department's influential ISOT characteristics are relevance, clarity, completeness, and responsiveness, while timeliness and accessibility are somewhat influential. The Guillemette and Paré's (2012) value proposition from ISD's management for Clinics bears a resemblance to the architecture builder. ISD has the technology and industry practice knowledge to maximize the infrastructure. Moreover, they work independently of Clinics but looks to them as the subject-matter expertise.

The Finance department is the efficiency performer who constantly considers process improvement with technology. The quest for improvement consists of quick and accurate processes performed by internal resources with no less of an expectation for support from resources outside its department. IS strategy involvement encompasses the next feature to deploy within long-term technology assets, such as the ERP or third party add-ons. Finance's project focus includes supporting application standardization and testing. Day-to-day support involves collaboration between knowledgeable technologists within the Finance reporting structure and ISD. The Finance department's influential ISOT characteristics include accuracy, relevance, completeness, and responsiveness. The somewhat influential characteristics are timeliness, accessibility, and clarity. ISD's Guillemette and Paré's (2012) management value proposition for Finance suggests the partner profile. Finance and ISD work together to transform and innovate with technology, specifically business processes. Finance and ISD's shared selection of technology likely involves adding features to their long-term technology assets (ERP, data warehouse) or new niche technology purchases.

The HR department is the technology consumer that considers all forms of technology to provide self-service solutions. However, a software solution must be in its vendor form without customizations. In this context, business processes change to accommodate the software versus software changing to meet business requirements. IS strategy consists of identifying target communities for self-service and qualifying the benefits and drawbacks of potential solutions. Project participation involves detailing the gaps between software and business processes led by an ISD project management team. Day-to-day support stands indifferent because technology expectations are higher than

the technology in place. HR's satisfaction with ISOT is the influential characteristics of relevance, clarity, completeness, reliability, and responsiveness while timeliness is somewhat influential. The Guillemette and Paré's (2012) value proposition from ISD's management with HR looks to be a project coordinator profile. ISD has responsibility for the relationships and activities among them, which includes representing HR requirement to vendors and negotiations. Nevertheless, a difference from the profile consists of HR and ISD collaborating to make the technology selects versus HR making them alone. ISD does vet the vendors and negotiate their contracts.

The Marketing department is the competitive business innovator. Its aim is to reach customers and extend the company brand with technology. Although all technology solutions are under consideration, Marketing looks to others for infrastructure expertise and governance requirements. For IS strategy, Marketing considers itself an informed participant in identifying consumer behavior and is dismayed if it is excluded from the innovation occurring around it. The Marketing department provides its own technologists for front-end requirements and looks to others for infrastructure, security, and custom development. Day-to-day support is comprised of a mix within group technologists for front-end support and IS for back-end support. Marketing's satisfaction with ISOT is the influential characteristics of relevance, timeliness, clarity, completeness, reliability, and responsiveness. The ISOT characteristics of comparability and accessibility are somewhat influential. The Guillemette and Paré's (2012) value association from ISD's management profile with Marketing resembles a technological leader. Under this profile, ISD has the skills and knowledge to perform in this role, which involves facilitating company transformation with technology. Additionally, ISD

is likely the one that justifies any customer facing technology initiative with top management.

My findings indicate that each department's interaction with ISD reflects its unique function and involvement with IS strategy, projects, and day-to-day support. The effects of company function and the management profile of ISD interact to create a department's technology approach. Therefore, each department requires a different set of characteristics to be satisfied with the information from the ISOT efforts.

6.3 Implications

Since the Great Depression, countries worldwide have reacted to financial crises by legislating organization transparency in business (Banking Act of 1933, Sarbanes-Oxley Act of 2002, 2009 Pittsburg G20 Summit Leaders' Statement). To address this need for clear guidelines, academia has not followed with a named theory of transparency (Wehmeimer and Raaz, 2012; Bishop, 2006; Raab, 1988). However, professional business organizations have developed their own guidelines for reporting corporate information in practice (IFRS, 2010; GRI, 2013; S&PGS, 2008; GASB, 2008). My research findings indicate that nine transparency characteristics originating in practice can contribute to an understanding of ISOT. That is, a judgment of information satisfaction (Spreng et al., 1996) about IS was present in all functional departments when these characteristics were present. Both functional departments and IS organizations see the impact of transparency on the effective use of technology.

Organization transparency describes the obligation to disclose information, including corporate behavior, operations, and performance (Tapscott, 2005), that informs various stakeholders. My findings highlight that where functional department managers

are the stakeholders and specific ISOT characteristic are used, a department is satisfied with the IS organization. That is, the functional department managers feel more aware of IS because they receive information about the impact, plan, and future of technology in the company. The increased numbers of technology-aware end-users make satisfaction with transparency even more important (Joy, 2012). Actually, all of the functional department managers in this study described themselves and most of their employees as technology aware. In general, a manager defines awareness as the effective use of technology to complete one's tasks, even though a manager does not generally possess a technologist's skill level. Addressing technology awareness has become increasing important to a CIO because an IS organization's work includes developing a functional manager's understanding of business opportunities (Dobbs et al., 2014), and this approach embraces a manager as a collaborator (Acharya, 2015). Including a manager as a collaborator refers to an increasing trend away from a top-down model toward a bottom-up model for enabling technology (Applegate & Elam 1992).

Another implication from my findings includes the differences in how functional departments interact with technology in IS strategy, IS projects, and day-to-day technical support. These differences uniquely define a department's technology approach and, thereafter, the ISOT characteristics they find important. In situations where an IS manager focused on the ISOT characteristics important to a functional department, the department was satisfied with the IS organization. Without a focus on a functional department's characteristics, even the important messages from IS are ignored. Missed messages can create a sense that IS is not transparent. Extant finding reveal that transparency in communications and relationships develop by discussing issues with

people (Wehmeimer & Raaz, 2012). When a sense that transparency is lacking, the younger technology-aware end-users, that is, the digital natives (Joy, 2012), pursue technology innovation on their own for the betterment of the company (Greis et al., 2012).

Another implication from the findings is that by using all nine ISOT characteristics with all functional departments, IS is taking a holistic approach to transparency. Yet, the holistic approach is not providing transparency at the individual functional department level. Therefore, being overly transparent with a department might mean the IS organization creates satisfaction but not to the highest degree. The holistic approach could be compared to that of a broadcast email. For instance, when a target audience for an email is not defined, the email is sent to all employees. While the all-inclusive approach is seen as transparency to the IS organization, it is seen as junk mail by the functional departments. The overall objective of transparency is to make a deliberate attempt at making information available (Rawlins, 2009). The attempt to be transparent can be accomplished in different ways.

In a three-phase approach, first, the findings imply that implementing the prominent characteristics (relevance, completeness, and responsiveness) would increase ISOT satisfaction in all functional departments. Next, a focus on the important characteristics (timeliness and clarity) would again increase transparency satisfaction in all of the departments but not as significantly as the prominent characteristics. Last would be implementing the noteworthy (accessibility and reliability) and the negligible (accuracy and comparability), where these characteristics affect the least number of functional departments. This phased approach to ISOT helps in developing process for

and acceptance from the functional department for each characteristic at the highest level of satisfaction. It also helps ISD confirm an acceptable approach to transparency for both current and future operations (PR Coalition, 2003). An additional objective of transparency is to enhance the reasoning ability of the information receiver (Rawlins, 2009). A phased approach is a deliberate attempt to confirm the effectiveness of transparency along the way.

The findings also suggest that ISOT is important to an IS organization and to functional departments and therefore worthy of further research. In addition, the nine characteristics of ISOT provide an important theoretical platform on which to build an understanding of information satisfaction with transparency as a phenomenon.

6.4 Contribution

This research has analyzed perceptions of ISOT from both the IS and functional departments' points of view. It has also examined what areas transparency is not valued and how departments' perception of ISOT influences their satisfaction with IS. The theoretical rationale behind these perceptions was formed from nine synthesized characteristics found in practice. Additionally, a functional department's role in the company and technology approach influences its perception of transparency. Within a department's role and approach are the transparency characteristics important to that department. All nine characteristics were either influential or somewhat influential to at least one department. Some characteristics were influential or somewhat influential, and others had no influence (See Table 4.3). As a provider of transparency, the IS organization needs to be mindful of the ISOT characteristics that are most important to each type of department.

When working with the functional departments, the IS organization perceives the ISOT characteristics of relevance, accessibility, completeness, reliability, and responsiveness in transparency as influential in its effort. In addition, the characteristics that IS sees as somewhat influential are timeliness and clarity, while accuracy and comparability in transparency are not valued.

ISOT is perceived to be represented by the primary IT management roles that the IS organization provides for IS strategy, IS projects, and day-to-day technical support. Additionally, this perception depends on a functional department's approach to technology. Each department believes it has a role in IS strategy. Strategy roles vary, from Clinics providing functional requirements to Marketing working to extend the company brand. For projects the department roles also vary, from Clinics' entry-level involvement as subject-matter expert to Finance as process improvement specialist. In addition, technical support is primarily break-fix in some departments and a secondary resource in departments with advanced end-users.

Interestingly, each functional department, regardless of involvement with the IS organization in IS strategy believes in the strength of its own technology awareness. Its view of technology awareness is based on the belief that those in a department know how to use the technology provided to perform their function. None of the departments desired the technologist role, leaving that role within the IS organization and seeing it as infrastructure, security, and governance, yet all desired technology awareness.

The pattern of characteristics by department suggests that each functional department's perception is unique to its role in the company and contingent on the subjective satisfaction of its pertinent transparency characteristics. A favorable judgment

of satisfaction, then, is viewed through the IS organization's IT management profile and the functional department's interaction with that profile in IS strategy, projects, and day-to-day support.

In summary, this research suggests that ISOT characteristics help explain the value of transparency. In addition, the level of importance includes the functional department technology's approach.

CHAPTER SEVEN

Conclusion

In this research, the purpose and importance of ISOT involve a business requirement to satisfy a need for information. The research focus began with an explanation of the knowledge that has accumulated on organization transparency and then concentrated on the IS organization specifically. This emphasis is important since technology has become inescapable in everyday life and work. The significance of ISOT is captured in the empirical data of a large health care company and presented in the findings. However, this case study is limited, and future research should focus on a developmental theory of ISOT.

7.1 Limitations

When reading the implications, one should consider a few limitations. First, the study focuses on a company in the health care industry, which is rapidly becoming technology-intensive because of innovation and health care reform. This focus may limit the results to those industries that are also technology-intensive, such as banking, insurance, and Internet retailers. Additionally, the focus is on a large company in a single industry, which may limit applying the results to small or mid-size companies, even within the health care industry.

Second, the focus of this study is ISOT, a voluntary activity in an organization. That said, characteristics in this present research might be applicable to other companies; however, those companies may not choose to incorporate the characteristics. Thus, the

challenge is to distinguish between companies where a characteristic is not applicable to their IS organization's transparency and companies that deliberately choose not to implement a characteristic. Therefore, some of the characteristics identified in this research might be undervalued in their importance to ISOT.

Third, the participants are employees of an organization who have internal knowledge greater than that of an outsider, a consideration that may be a limitation. On one hand, the employees are a common audience within one organization with whom IS should know how to communicate transparency. On the other hand, the employees work across five departments, and each department has unique requirements for technology, a factor that changes their need for ISOT.

Finally, a limitation of this research is the lack of a discernible academic theory from literature as a framework and this study does not present a theory. However, this study does present a theoretical rationale for investigating transparency through guidelines and principles from practice organizations.

7.2 Future Research

Future research may extend this work. For example, top management's reaction to ISOT is not addressed here. This investigation focuses on the data collected about middle management. Therefore, the study of multiple management groups is outside the scope of this research as well. Because of the limitations of this study, further research should be designed to allow for greater use of the findings. The specific purpose of this work is to provide a theoretical rationale for future studies of transparency from practice. Future research could be used to development a theory of ISOT to better understand

information satisfaction from the IS organization with any number of different dependent variables, such as innovation and alignment.

To expand this research, one needs to define the structural components of a theory. Thereafter, the theory needs to be tested and integrated to validate and adjust for the future collection of knowledge (Gregor, 2006). For the IS discipline, a future theory of ISOT might help with transparency when one is presenting information not only to middle management but also top management as an added stakeholder of technology (Applegate & Elam, 1992), as well as to other senior executives and direct reports (Mitra et al., 2011).

Because of the proposed ISOT characteristics, future studies may be based on the interaction of IS leadership and other management groups, for example, the C-suites, boards, stockholders, and vendors. Moreover, the characteristics of information transparency may vary based on an understanding of technology and a lack of engagement in technology decisions by internal operations, managers, and executives and outside business stakeholders and vendors.

Additionally, future research could look at the types of communication that a functional department is interested in receiving. For example, a type of information desired may be scheduled maintain cycles of the systems a functional department uses to promote an awareness of system downtimes. Then again, a type of information that may not be desired is information about routine security issues or processes. Much is yet to be understood about information transparency in business and academia. This study provides a lens into information transparency for the IS discipline.

7.3 Concluding Statement

The rapid and perpetual change in technology has created ample opportunity for end-users to become aware of the functionality and capability of today's technology. The consumerization of devices and availability of digital data have become so pervasive that, starting with millennials, generations are growing up on the regular use of technology; these users are digital natives (Prensky, 2001). Those regular end-users who have not grown up with technology but have become aware through choice, social pressure, and work assignments are known as digital immigrants (Prensky, 2001). Those technology-aware digital immigrants and natives are today's middle managers.

The IS organization needs to communicate with this group of company middle managers about technology along with top management (Applegate & Elam, 1992) and IS staff (Mitra et al., 2011). The business communication requirement is known as organization transparency and has been developing over the past 80 years. Despite the long-term need for transparency, business disciplines lack a theory that supports guidelines for transparency. The IS discipline also lacks a theory that motivates technology-aware end-users to be involved in the technology advances of business.

Technology-aware middle managers are also interested in information that helps them make business decisions. Due to the pervasiveness of technology, without significant information from an IS organization, middle managers may not be able to participate meaningfully in the business. Hence, the need for ISOT may only be for purposes of participating in business decisions and may not include actually participating in technology decisions. Furthermore, transparency may be required merely to hold the IS organization accountable.

For a theoretical foundation, business practice guidelines revealed patterns for the characteristics of ISOT. To study the characteristics, data was collected in 30 interviews of middle managers across five functional departments who receive IS organization information in a health care company. Through inductive open coding, data analysis, and cross case analysis of the empirical data, the structure components of the theoretical rationale became apparent. Additionally, each department has a different technology approach because of that department's unique role in the company and interaction with IT management. The analysis revealed that each technology approach determines which ISOT characteristics are most important to a department.

Once a department's technology approach was determined, one could see that the ISOT characteristics defining transparency for a department influence the department's satisfaction with the IS organization. These characteristics are seen as the influencers of a department's information satisfaction.

The knowledge of transparency in the IS discipline is recorded in extant literature on data transparency, open source software transparency, and privacy in the information age. However, the influence of organization transparency is narrowly studied. Public relations researchers (Wehmeier & Raaz, 2012) and law professors (Raab, 1988) have called for a business transparency theory. This present research suggests that transparency is valued; however, not all transparent characteristics are valued in every functional department. In addition, ISOT has merit in a world of technology-aware end-users.

The academic research in this study has much to contribute to the understanding of IS information transparency. In particular, this investigation uses synthesized

characteristics found across various business organizations and empirically tests them to see if the characteristics positively influence ISOT. In addition, as designed and documented, this study presents a method that is repeatable for future investigations on ISOT. The further development of a theory can help capture the most important aspects of ISOT. Future research may also provide insights into ISOT that help companies maximize the involvement of middle management with IS by providing transparency based on their department's role and technology approach in a company.

APPENDIX

APPENDIX

Interview Protocol

A.1 Pre-interview Data Gathering

Before conducting any interviews general information about the company was collected, which consisted of:

- Industry the organization participants in,
- Size of the organization,
- Gross revenue,
- Number of employees,
- Latest growth activity (i.e., new facility openings, mergers, acquisitions, partnerships, etc.), and
- Organization alignment or realignments.

Pre-interview participant data was gathering if time permitted. However, back-to-back interviewing did not always allow. As a supplement, often a current interview ended in discussion about the next interview or a question about who is on the interview list. This information was used to establish entry-level knowledge about each participant and to ensure his or her viability as a participant. The information includes:

- Position title or level within company (e.g., executive, middle manager),
- Length of time with the company,
- Age category (i.e., baby boomer, gen-x, gen-y, etc.), and
- Sex.

A.2 Interview Setting

The interview setting was a location chosen by the participant. Most often, the location was the participant's office or a conference room. All interviews were conducted face-to-face.

A.3 Introduction of Interview Method

The following is a brief introduction with the participant about the research and the method for how the interview would be conducted.

Thank you for participating in this interview. For uniformity in the method used to conduct an interview and since this research material is new, I will be glancing down at my notes from time-to-time as a memory guide for me.

I am a PhD candidate at Baylor University conducting research on the information transparency of the IT department. For the next 30 to 45 minutes, I will ask you questions about your use of technology, what transparency means to you, how transparency from the IT department has affected your work, and that of your colleagues. Your participation is voluntary and we can stop at any time during the interview.

You were selected because you manage others. Also, you and those that report to you have regular interaction with the IT department. For example, interaction in your day-to-day support needs for technology, projects, or in defining future strategy. Be assured that you will be anonymous in any written report created from my research and your responses will be held confidential.

Some of the questions may feel far-reaching or hard to answer because they do not apply to you. That is understandable because a question for one person may not be applicable for another; for this reason, know that there is no right or wrong answer. I am interested in your opinions and personal experiences. Please feel free to cut short or ask for clarification on any line of questioning.

Before starting, we will take a moment to review a copy of the consent form for your consideration.

A.4 Introduction of Interviewer

This research is a sole interviewer approach with no planned or unplanned interview moderator. That is, a moderator that would observe the interview to record the interview environment or interviewee comments. However, the participant was asked to consent to recording the interview session. Additionally, before recording a brief introduction was given about the interviewer.

My name is Mike Milovich from Baylor University. I have developed my career in IT from hands-on technician to IT executive over the years where hardware, software, and business process improvement standardization has been a large part of my work. From my early years of programming in a computer aided design and drafting (CADD) department to my most recent years leading the staff of a global data center, the development of standards, the deployment of new technology, and communication with the business has been paramount in the realization of organization efficiency and nimbleness.

In my work history, I have a balance of experience in business units and in back office technologies from startups to Fortune 500 companies. In one of my more recent leadership roles, I was an IT executive for a publicly held company. My staff included technologist in a worldwide, 7/24 data center, with the need for transparency in the work done for day-to-day operations, projects, and governance. IT organization transparency with executives, middle management, end-users, and external auditors had become a focal point in my career.

A.5 Interview Guide

The purpose of the interviews is to uncover the participant's opinion on the research topic. The participant's belief, judgment, attitude, and outlook are what matters (Schultze, 2001). In preparation for investigating, the following interview guide was designed. The general topic areas were identified by perceived categories within the phenomenon (Lofland & Lofland 1984). Since these were semi-structured interviews, there was not a strict adherence to the guiding questions and probing questions may have emerged during the interview (Lofland & Lofland, 1984).

A.6 Interview Guide for Business Department Managers

Participant Background – Technology Blending Involvement between Personal and Work Use (ice breaker questions):

1. Which of the following technology devices you use at work are company issued:
 - ☐ Desktop computer
 - ☐ Laptop computer
 - ☐ Tablet (i.e., Apple iPad, Microsoft Surface, Samsung Galaxy, etc.)
 - ☐ Smart phone
 - ☐ Other

2. Do you have a personally owned device that you use for work purposes? If so, what features of that device do you use? Is there more than one personally owned device that you use for work purposes?

Technology Awareness

3. Based on the amount of technology you use personally and at work, would you consider yourself to be a technology-aware end-user? How about the staff that reports to you, would you say that they are technology-aware end-users?
4. Do you believe that your department shares in the role of technologist with the IT department because of being technology aware? And if so, why?

General Interaction with the IT Department

5. Based on your experience, how would you categorize your interaction with the IT department? For example, are they primarily for IT support? Do they help with technology projects? Do they help with strategy on how IT can make your department more effective or efficient?
6. In the total amount of time you interact with IT, based on the entire time being 100%, how much time would you say is for:
___ IT support in your day-to-day operations.
___ Technology projects for your department or for the organization.
___ Strategy on how IT can make your department for effective or efficient.
7. Does the IT department explain the intricacies of corporate system such as data integration across the organization, effective security, and IT governance? Are the IT department's explanations effective in providing an understanding of systems?

IT Department Transparency

8. If someone said that your IT department is transparent or open in its communications with department managers like yourself, what does this concept mean to you?
9. Do you think that your IT department does a good job at being open or transparent with its communication toward you and your department? (Please explain why you think they do a 'good' or 'bad' job at being transparent). Would you like to see more communication from the IT department? What would this look like?
10. How does it help you and others in your department, as well as the overall organization, when the IT department is being transparent in its communications?

11. What types of information does your IT department openly communicate to you on a routine basis? How is this information typically communicated and by whom from within the IT department?
12. What are the areas that you think it's most important for the IT department to be transparent (For example: IT strategy, IT policies, project initiatives, IT funding decisions)? For what areas is it less important for the IT department to be transparent with business units as yours?
13. Do you think that you are more or less committed to the work of the IT department because of their level of openness with information? Do you trust IT more than you use too? What does that mean to you "to trust them more?"
14. How effective do you feel your IT department is as a strategic partner in helping your business department to identify opportunities for IT-enabled innovation and to provide its expertise or assistance in turning these opportunities into reality?
15. Have you noticed a shift in the degree of transparency of your IT department since you've been working here? (If so, ask them to describe the before, the after, and the implications of the shift for their work and for the business unit.)

Interview Close

16. Is there anything else you would like to add?
17. Would you share a memorable experience when the IT department's transparency left a positive impression? How about a negative impression? [A question if time permits.]

A.7 Interview Guide for IT Department Managers

Participant Background – Technology Blending Involvement between Personal and Work Use (ice breaker questions):

1. Does the organization encourage the use of personally owned device that employees use for work purposes? If so, what features of the device do they use? Is there more than one type of personally owned device they can use for work purposes?

Technology Awareness of Business Departments

2. Based on your interaction with business colleagues, would you consider them to be technology-aware end-users? How do you describe a technology-aware end-user?

3. Do you believe that business departments share in the role of technologist with the IT department because business department IT users are technology aware? If so, explain why this is the case and what this shared role looks like.

IT Department Transparency

4. What does it mean for your department to be transparent in its communications with your business constituents?
5. Why is it important for you to have open and transparent communications with business department managers?
6. How would you differentiate between an IT department that does a good job of being transparent with communication versus one that doesn't? How good of a job do you think your department does at being transparent when communicating with your organization's business constituents?
7. In being transparent with business department managers, what type(s) of information do you think is important to convey clearly?
8. Are there certain areas where you would prefer not to be transparent with information? If so, what are they?
9. Is being transparent with communication in your IT department something that 'just happens' naturally or are you pro-active and intentional in making sure business department managers are aware of what's going on with your department? If you are intentional, what types of communication mechanisms do you use to convey information clearly and openly to the business side and to whom (what individuals/roles) do you typically communicate with?
10. Has the IT department always been transparent or has there been a shift in the degree of transparency since you have been working here? (In the case of the latter, then ask about what prompted the shift, if it was intentional or just happened. If it was intentional, who led it and why... was the shift easy or difficult...what were the challenges in becoming a transparent department?)

General IT Communication

11. Do you believe that the IT department keeps up with the general business requirements for communication from senior management and business managers like yourself? How does the IT department accomplish that task?
12. Does the IT department explain the intricacies of corporate system such as data integration across the organization, effective security, and IT governance? Are the IT department's explanations effective in providing an understanding of systems?

Interview Close

13. Is there anything else you would like to add?
14. Would you share a memorable experience when the IT department's transparency left a positive impression with a business department manager? How about a negative impression? [A question if time permits.]

The above questions were asked to stimulate conversation in the interview.

Additional questions were asked for clarification and to gain further insight into the phenomenon being studied.

A.8 Interview Exit

As part of the interview exit process, the participant was asked for permission to follow-up if additional information was needed. Additionally, the participant was asked if they knew of any other individuals that might be willing to participate in an interview from their department. These questions were asked in situations where six participants per department had not been reached.

A.9 Post-interview Data Gathered on Participants

Being unaware of the data theme conclusions at the time of the interviews, the following data become useful in the analysis process of the study as well.

- Participant code (used instead of the participant's name),
- Date of interview,
- Place of interview,
- Length of interview, and
- Personal background (if available from a secondary source: i.e., LinkedIn, etc.).

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