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ITP4909

Building the Credibility of IS Function: A Structurational Perspective

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ABSTRACT

The importance of the Information Systems function continues to be downplayed by business units even though IS does contribute to the well-being of organizations. This problematic state of affairs raises the question of how the IS function can achieve credibility within organizations. Such enhanced credibility would benefit not only the IS function, but also other business units. The objective of this paper is to explore the process by which credibility of the IS function is assessed and changed within an organization. Structuration Theory provides the theoretical framework for this examination of the interactions between different functional groups within the organization.

INTRODUCTION

A recent survey by Forrester points to a lack of credibility of the Information Systems (IS) function within organizations (Hoffman, 2003). This is not a new problem, by any means (Doll and Ahmed, 1983). As Paul Strassman, former CIO for the Department of Defense and noted IS consultant commented "It just happens that…IT community has consistently ranked…as one of the least admired corporate functions…" (Strassman, 1995).

Such lack of credibility has placed the IS function in a disadvantaged position within organizations. Over the years, organizations have continued to doubt the capability of the IS function and questioned the value of IS (Brynjolfsson and Hitt, 1996). In many organizations, investment in IS is regarded as a 'sunk cost' (Farbey, et. al., 1995). Further, the IS function has to shoulder the complete blame for unsuccessful IS project implementations. The seriousness of this problem is further underscored by the adoption of outsourcing practice in many organizations as a means of getting rid of the 'IS headache' (Lacity and Hirschheim, 1993).

In order to alleviate the problems caused by the tarnished IS image, the IS function needs to take a proactive role to change existing perceptions and improve its own credibility (Bashein and Markus, 1997; Markus and Benjamin, 1997). The research presented in this paper examines the processes through which the credibility of the IS function is established within organizations. Specifically, using Structuration theory as the theoretical framework, it focuses on how the perceptions of the IS function are formed and changed over time.

The paper is organized as follows. It begins with a brief discussion of the concept of credibility, followed by a review of the theoretical framework. Then, the methodology utilized in this study is described. In the next section, the theoretical framework is applied to the data to explain the formation and changes in the credibility of the IS function. The paper concludes with a discussion of the issues highlighted by the examination of the process of interaction between the IS function and other business units.

CREDIBILITY OF THE IS FUNCTION

Credibility is "the believability of a person as measured by another person" (Fatt, 1999, p.37). In an organization, the credibility of the IS function would be the believability of IS function as assessed by other business units who have knowledge of the services provided by the IS function. Perceptions regarding the IS function are formed by members of other business units during interactions with the IS function.

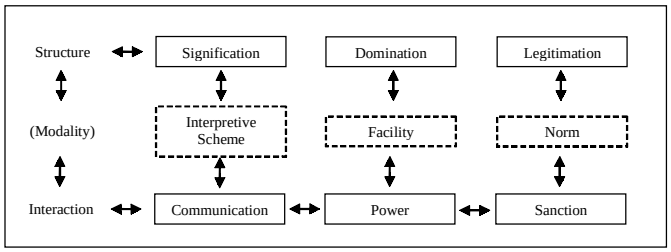
Historically, the IS function has never enjoyed the luxury of being a credible function in organizations. In fact, its image has continued to suffer over the years. Many issues, cumulatively, have caused such problems. The primary contributing issue has been the acknowledged difficulty in quantifying the value of IS (Brynjolfsson and Hitt, 1996; Johnson, 2003). Many benefits obtained from IS are intangible (Smithson and Hirschheim, 1998); such difficulty in relating IS investment to 'profit' lead many to question the true value of IS. In addition, the high failure rate of IS projects – often not implemented on time and within budget - further deepens the level of dissatisfaction business units have towards the IS function. All these result in the perception that the IS function is "too slow, too expensive and too geeky to communicate the business value of [IS]" (Johnson, 2003).

THEORETICAL FRAMEWORK

Structuration Theory is a rich process theory that examines events from a meta-theoretical perspective. It focuses on the understanding of human agency and social institutions (Giddens, 1984). Underlying the core of this theory is the notion of "structure" and "agency". Structures are rules and resources that guide human interpretations and actions, and therefore direct the formation of meanings and beliefs. Although structures are simply 'memory traces in the human mind', they have the capability to enable and constrain human actions.

Giddens (1984) introduced three dimensions of structure: signification, legitimation and domination. Structures of signification represent organizational rules, assumptions and knowledge embedded in organizations to inform and define human interactions. Structures of legitimation are norms that human beings draw upon during interactions to sanction their own and others' conduct. Structures of domination are the structures that human beings draw on to exercise their power. Even though analytically these three dimensions seem separate, in reality they are highly interdependent. Each of these dimensions mediates three forms of interactions (communication, power, and sanction) via three modalities (interpretive scheme, facility and norms) (Figure 1). In each instance of interaction, human beings as knowledgeable agents draw on previous understandings, resources and norms to reconstitute the structures they function in. Such repeated processes simulate the hermeneutic cycles where human agents continuously update their understandings of each other and their environments. Such recursive

Figure 1: Dimensions of the relationship between action and structure (Giddens 1984, p.29)



process where the structure functions as both the medium and the outcome is called the "duality of structure".

The process of production and reproduction of structures are situated within certain time frame and space, hence the term 'time-space distanciation'. This distanciation involves the "stretching of social systems across time-space, on the basis of mechanism of social and system integration" (Giddens, 1984, p.377). The system integration is in turn influenced by the differences in daily experience (durée), life cycle (dasein) and institutions (longue durée) (Giddens, 1984). Through these differences, individual and institutional levels of social practice are tied together by structuration; this would eventually lead to the recursive nature of social life.

As many researchers (e.g., Rose and Lewis, 2001) have noted, Structuration Theory is too complex to be applied directly to a topic. Instead, relevant concepts must be chosen from the diverse concepts that form Structuration Theory and used to examine the processes under study. In this study, we chose the core concepts: structure, modalities, and changes in time, to direct and inform our examination of the interactions between the IS function and other business units.

METHODOLOGY

This study utilizes a qualitative case research method. Data were gathered from a large healthcare organization in the southern United States, HTM1, which was implementing a new IS in one of its departments. Interviews were conducted with the IS manager and with a user representative during and after the implementation of the project. These interviews had a semi-structured format and lasted 1 to 1.5 hours; four interviews were conducted in all. The questions focused on the expectations of the different groups and their experiences throughout the project. The interviews were transcribed and analyzed to understand the structuration process which under-laid the formation and shift in perceptions. In examining the interactions between IS function and business units, we adhere to Giddens' notion that these interactions could be seen as "constituting structures which pertain to collectivities" (Giddens, 1976, p.104).

Recognizing that the case evidence we present is based on a single instance, we supplement our findings with two case studies from an article by Bashein and Markus (1997). Bashein and Markus's (1997) paper addressed the issue of the credibility of IS function; however, they did not make explicit a specific theoretical foundation. The rich real-world data from their article not only gives us additional opportunities to apply our theoretical framework, but also helps validate our theoretical conceptualization of the credibility of IS function.

CASES - BACKGROUND

HTM recently implemented a new IS in the Pharmacy Department to replace the different systems that were previously in place. This new system facilitates the interaction of the Pharmacy staff with other departments such as Nursing and Patient Billing. At HTM, the IS function was involved in the project right from inception. A software package, crafted especially for Pharmacy activities, was chosen and modifications were made to this package to meet the needs of the Pharmacy Department. While the IS staff were included in the project and the departmental users had high expectations for the product, they were skeptical about the capabilities of the IS staff to complete implementation on time and on budget. After a lot of frustration, particularly on the part of the IS staff, the project was completed successfully and accepted and used by the Pharmacy Department.

Bashein and Markus (1997) presented data from two companies, Advanced Health Systems (AHS), and American Electronic Corporation (AEC), which undertook reengineering projects. AHS is a large health maintenance company while AEC is a world leader in producing advanced electronics. The IS function in both companies had low credibility and were excluded from the initial phases of their projects. However, during the course of the projects, IS functions were able to improve their credibility.

APPLICATION OF THE THEORETICAL FRAMEWORK

In this section, we present our analysis of the formation and shift in perceptions regarding the IS function at HTM, AHS, and AEC, using our theoretical framework. For analytical purposes, the continuous structuring process has been separated into three distinct time periods, each marked by a significant change in credibility (Barley, 19862).

(i) Time Period 1 – T1:

This first time period coincides with the start of the IS projects at the business units. While skepticism about the capabilities of the IS function exist in all three organizations, the actual pattern of behavior differs. At HTM, the IS function is included in the current project from the very start. However, the antagonism and distrust makes the operations difficult as evidenced by the IS manager's comments: "…[other business units] want us to be involved, but constantly question our ability...problem is that we have to constantly work against all this negative stereotyping…it is very frustrating when we are not able to get enough information". At AHS and AEC, the IS function faces an even greater challenge; the low credibility has contributed to their exclusion from the IS projects. The perception that the help of the IS staff was not necessary for the success of the IS project was illustrated in the comment of the executive director from AHS, "There was lots of expertise [outside the IS function] to take care of this [reengineering program]".

In daily operations, members of organizations draw upon the structure of signification to make sense of theirs and others' actions. In all three organizations, low IS credibility contributes to a structure in which interaction is hindered and effective communication and sharing of resources between different functional units is not possible. At HTM, this leads to frustration and limits the capability of the IS staff to contribute towards the progress of the IS project.

Additionally, at AHS and AEC, the organizational governance patterns act to limit the participation of the IS function in the reengineering projects. These governance patterns serve as the norms, related to the structure of legitimation, which members draw upon to sanction their own and others' actions. In AHS and AEC, at the initial stages of the restructuring program, IS function did not have legitimacy. Their suggestions were considered as "not being on board" and were basically sanctioned. Such treatment had developed into a norm that even IS specialists in AEC accepted it and simply commented that they had always been treated such way.

(ii) Time Period 2 – T2:

Forced by their inability to continue without the help of the IS staff, the business units at AHS and AEC invite the participation of the IS function in the IS projects. However, this does not change the negative perceptions about the IS function. In fact, at all three organizations, we note a decline in the credibility of the IS function after the initial rounds of interaction.

At HTM, as members of the IS staff and the Pharmacy staff started working together, there was hostility. The initial negative beliefs color the interactions; as the user representative at HTM comments, "they ask all these pesky questions and are quick to suggest technology solutions". When questioned about what he felt the IS staff should be doing, he answered, "I want them to stop shooting questions and watch us work, work with our clients…not to use all those technology buzz…I do not want to be confused with all that jargons". On being pressed again, he admitted that those would be the "stuff they had to do." Commenting

on the same period, the IS manager noted, "I was tearing out my hair…they do not want to answer questions…they do not want to listen…I can watch, but I have to ask questions to understand".

The same contrary reactions from both groups were captured by Bashein and Markus at AHS and AEC. While the IS manager at AEC raised justifiable questions about the testing plans, the business unit manager viewed those as a sign that the IS function was "not on board", thus creating confusion and animosity between the groups. Here, the interpretative scheme, which is drawn "from a cognitive order that is shared" by the groups (Giddens 1976, p.122), constrains mutual understandings. This resulted in the decrease in credibility. Even though as knowledgeable and goal-oriented individuals, the IS staff and the business unit representatives are capable of reconstituting the order which appears unproductive, they are constrained by the structure they operate in - a structure that deters mutual understanding and sharing of resources.

(iii) Time Period 3 – T3:

Interactions over time can contribute to the creation of a different structure, and the IS staff as knowledgeable agents can contribute to the outcome of this change process. They have the capability to act as change agents to transform current negative beliefs into positive beliefs and create a structure in which they are not constrained, but are enabled to provide greater service to the business units. As Giddens (1976) notes, when "the mutual knowledge required to sustain interaction is not present and the expected order cannot be established, humans are motivated to act to alter the course of events" (Giddens, 1976, p.117).

Reflecting on their previous behavior, the IS staff at all three organizations admitted to modifying their behaviors. The IS manager at HTM directed his employees to reduce the use of technical terms and spend more time in the Pharmacy, watching and learning from the activities that took place there. The demonstration of such improved social skills was met with increased acceptance and sharing of information from the Pharmacy staff. Likewise, IS managers in AHS recognized that they had not been attentive enough. Armed with such insights, IS function could find ways to transform the existing structures by repeatedly reinforcing positive IS perceptions in their daily interactions. The business unit directors at AHS acknowledged they were surprised by the capability of IS specialists to understand their business. These actions changed the perceptions of the IS function in all three organizations. The IS manager at HTM felt that the project "has really improved the way in which IT is viewed here (at the hospital)." Comments from AHS and AEC business unit representatives second this: "Our view of IT changed greatly – positively…" (Two patient-center leaders, AHS), "(IT) hasn't played this visible a role before." (IT project manager, AEC).

With effective sharing of information, the IS staff were able to mobilize the appropriate resources to achieve the outcomes sought after by the business units. This "transformative capacity of human action", which Giddens refers to as "power" (1976, p.110) creates a new structure, one in which the IS staff enjoy high credibility with their clientele and the business units gain the value they require from the IS function.

DISCUSSION

This study contributes to the existing understanding of the credibility of IS function by applying the lens of Structuration Theory and highlighting the importance of social structure in business interactions. Specifically, it points to the fact the credibility of IS function could change over time. At different time points, however, different dimensions of structure play a dominant role (Table 1).

At T1, the structure of legitimation dominates the process. In all three cases presented above, the existing norms accentuate the beliefs among business units that "IS does not have credibility". Such norms cloud any interaction opportunity between the business units and the IS function. In the case of AHS and AEC, the norms even barred the IS function from participating in the initial phase of their IS projects.

At T2, the structure of signification plays the dominant role. At this point, the IS function in all three cases were involved in the IS projects. Members from business units and IS function started interacting. However, the interaction process is still bounded and biased by previous negative perceptions of the IS function, leading business units to believe that IS function does not work towards the same goal as theirs. Such ineffective communication process increases the negative feelings towards the IS function and causes the credibility of the IS function to decline.

Table 1: Changes in dominant dimensions of structure over time

Time Line	Dominant Dimensions of Structure
T_1	Legitimation – institutionalized norms (due to the lack of credibility) constrains interaction
T_2	Signification – ineffective communication constrains the process of building credibility
T_3	Domination – transformative capacity of knowledgeable agents permits mobilization of resources, thus building credibility

At T3, the structure of domination becomes important. At this stage, business units and IS function have overcome the initial hurdles that prevent effective communication. Business units become aware of and begin to believe in the capability of IS staff. With this awareness, they start to form new perceptions of the IS function. Here, IS staff use available resources to transform previous IS perceptions and establish themselves in the organizations. At this point, a new, improved and positive structure is formed. Such structure houses a new environment where the IS function has high credibility.

The findings of this study have implications for the academicians and the practitioners. For researchers, this study unveils a new avenue to explore the value of IS and provides a theoretical framework to examine the credibility of IS function. For practitioners, this study answers the question on why the IS function continues to suffer credibility problems even though admittedly IS adds value to organizations. Specifically, it emphasizes that the IS function has the power to manage and change the perceptions business units hold towards the function and should take a proactive role in doing so. Open and effective communication with business units is a necessary first step in this process. This would help build the mutual understanding that is essential in improving the credibility of the IS function.

ENDNOTES

[1]Pseudonym

[2]In the article, Barley presented the structuration process as different temporal phases demarcated by significant shifts in organizational strategy or exogenous events.

REFERENCES

Barley, S. "Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments," *Administrative Science Quarterly*, 1986, pp.78-108.

Bashein, B., and Markus, L. "A Credibility Equation for IT Specialists," *Sloan Management Review*, 1997, pp.35-44.

Brynjolfsson, E., and Hitt, L. "Beyond the Productivity Paradox," *Communications of the ACM*, 1998, pp.49-55.

Doll, W., and Ahmed, M. "Diagnosing and Treating the Credibility Syndrome," *MIS Quarterly*, 1983, pp.21-32.

Farbey B., Targett, D., and Land, F. "Evaluating Business Information Systems: Reflections on an Empirical Study," *Information Systems Journal*, 1995, pp.235-252.

Fatt, J. "It's Not What You Say It's How You Say It," *Communication World*, 1999.

Giddens, A. *New Rules of Sociological Method: A Positive Critique of Interpretative Sociologies.* Hutchinson of London, 1976.

Giddens, A. *The Constitution of Society: Outline of the Theory of Structuration*, University of California Press, Berkeley, 1984.

Hoffman, T. "Forrester: Dissatisfied Business Execs Frequently Clash with IT," *Computerworld*, 2003.

Johnson, M. "Credibility Challenged," *Computerworld*, 2003.

Lacity, M., and Hirschheim, R. *Information Systems Outsourcing: Myths, Metaphors, and Realities*, John Wiley & Sons, Chichester, 1993.

Markus, L., and Benjamin, R. "Change Agentry - the Next IS Frontier," *MIS Quarterly*, 1996, pp.385-407.

Rose, J., and Lewis, P. "Using Structuration Theory in Action Research: An Intranet Development Project," *Realigning Research and Practice in Information Systems Development*, 2001, pp.273-296.

Smithson S., and Hirschheim, R. "Analyzing Information Systems Evaluation: Another Look at an Old Problem," *European Journal of Information Systems*, 1998, pp.158-174.

Strassmann, P. "Outsourcing: A Game for Losers," *Computerworld*.