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Control in E-Government Projects: An Exploratory Study

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ABSTRACT

This study highlights a distinct lack of research on control in e-Government projects and provides a framework using control theory to address this. The paper draws on four exploratory case studies, highlighting a number of key issues regarding e-Government control. Unique features of the public sector are identified that strongly affect the environment in which e-Government teams operate. In particular this paper finds the customer may provide an idiosyncratic influence on public sector teams, there is significant potential for disharmony arising from controls used by commercial organizations in the public sector, and great potential exists for control theory to contribute to more innovative practices in e-Government ISD. The main contribution of this paper is an identification of the gaps in the current body of knowledge regarding e-Government project control research.

Keywords: Electronic government, IS Project management, public sector, control mechanisms, outcome control, behavior control, clan control, self-control

INTRODUCTION

It is well known that the majority of information systems development (ISD) projects perform poorly and often fail altogether. Various studies have found that between 40% and 50% of ISD projects fails to meet budget estimates and that the degree of overspend can exceed 200% (Bartis and Mitev, 2008; Chiang and Mookerjee, 2004; Conboy, 2010; Goldfinch, 2007; Keil, Mann and Rai, 2000; Robey and Keil, 2001; Whittaker, 1999). These issues seem to be even more prevalent where the public sector is concerned with between 20-30% being categorized as total failures and between 30-60% as partial failures (Goldfinch, 2007). Such levels of failure clearly have a profound impact on public finances (Collins and Bicknell, 1997; Heeks and Bhatnagar, 1999). Although there has been an increasing number of studies aimed at evaluating e-Government projects e.g. (Irani, Love, Elliman, Jones and Themistocleous, 2005) these have been primarily post-implementation. Little or no research has focused on control over public sector projects during the development itself. This is noteworthy given that e-Government and indeed public sector projects exist in a very different environment to their private sector counterparts particularly in terms of project goals, regulatory and political pressures, differing users and many other ways (Bozeman and Bretschneider, 1986; Bretschneider, 1990).

While a number of studies have concentrated on the different control modes used in various ISD projects, research is limited in relation to the extent to which specific control mechanisms are used in ISD projects. This research intends to extend control theory to study the use of control mechanisms in ISD e-Government projects from a management and project

management perspective using innovation adoption theory. The aim of this research therefore is to explore the challenges and current gaps in knowledge in relation to the use of controls in e-Government ISD projects.

The next section of this paper summarizes the pertinent literature on control theory and presents the framework adopted as a theoretical lens in this study. This is followed by a review of the existing e-Government and public administration literature, highlighting a distinct lack of activity to date. The research approach is then detailed and the findings from the four 'revelatory' case studies is presented and analyzed. The paper concludes with a discussion of the implications of the study and recommendations for future research.

CONTROL THEORY

There are many different definitions of the concept of control as detailed by Flamholtz, Das and Tsui (1985). For the purposes of this study control is defined as the set of mechanisms designed to motivate individuals to work in such a way that desired objectives are achieved (Jaworski, 1988; Kirsch, 1996). Two broad classes of controls have been identified in the literature, namely, formal control and informal control (Eisenhardt, 1985; Jaworski, 1988; Ouchi, 1979). Formal controls employ rules and procedures that require particular patterns of behavior to be followed in order to achieve desired goals (Das and Teng, 1998; Nidumolu and Subramani, 2003), whereas informal controls are social or people-based, relying on common values and beliefs, or traditions among people or individuals (Ouchi, 1980).

The two modes of formal control are behavior (or process) controls and outcome control (or output control). Behavior controls are a direct form of control (Snell, 1992), which require the identification of appropriate behavior to complete a task (Nidumolu and Subramani, 2003). They are ideal for controlling routine and simple tasks (Susilo, Heales and Rohde, 2007). Outcome controls require controllers to define appropriate outputs for tasks and allow controlees to decide how to achieve those output targets (Kirsch, 1997; Kirsch, Sambamurthy, Ko and Purvis, 2002). Informal controls are often classified into clan control and self-control. Clan control is defined as a group of individuals who are dependent on one another and who work together to achieve a common goal (Ouchi, 1980). As a result, clan control evaluation and reward are a function of the group as a whole (Kirsch, 1996). Self-control requires individuals to set their own goals; determine the actions by which those goals should be achieved; monitor their own work; and reward themselves accordingly (Choudhury and Sabherwal, 2003; Henderson and Lee, 1992; Kirsch and Cummings, 1996). Each control mode is enforced through the use of control mechanisms. The framework presented in Figure 1 illustrates that each mode of control can be implemented by a wide variety, or portfolio, of control mechanisms. The control mechanisms used can vary depending on the context. For example, in ISD projects both formal and informal control mechanisms are necessary, rather than one single control mode (Choudhury and Sabherwal, 2003; Harris, Collins and Hevner, 2009; Kirsch, 1997; Lee and Hyunchul, 2009).

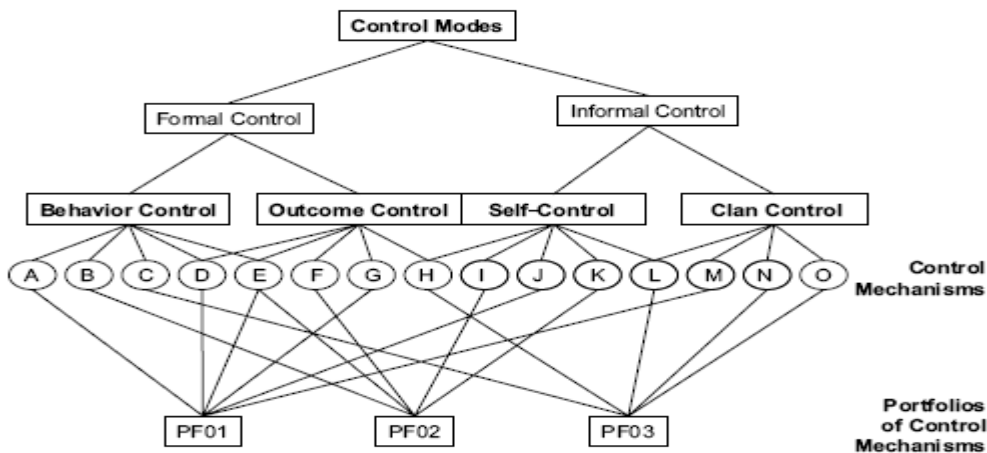


Figure 1: Control Modes and Mechanisms (Choudhury and Sabherwal, 2003)

CONTROL IN THE PUBLIC SECTOR CONTEXT

As part of this study the researchers undertook a systematic review of the e-Government and public sector ISD literature in an effort to identify studies that utilize control theory. This process highlighted a distinct absence of research that focused on either control theory in general or on any of the four underlying modes of control that adopted an approach sensitive to the unique environment of the public sector. Despite the widespread use of IT within government bodies, research on control modes and mechanisms in ISD has focused mainly on the private sector. However, given the inherent differences between private and public sectors it is not clear that findings in one sector may be easily transferable to the other (Rubin, 1986). Indeed, there is much theoretical evidence from the Public Management Information Systems research stream to conclude that there are fundamental differences in the operation, motivation and use of IS (Bozeman and Bretschneider, 1986; Bretschneider, 1990). In the public sector, the scope of users, the type of decision the IS supports and other factors such as time pressures and accountability make IS evaluation even more complex than in the private sector (Newcomer and Caudle, 1991). Hence, public sector IS managers cannot assume that the set of determinants for IS success in the private sector will hold for the public sector (Bajjal, 1999; Rosacker and Olson, 2008).

Mansour & Watson (1980) further argue that government organizations function in an environment that is quite different from that faced by private business organizations. Public sector organizations have been characterized as dominated by concerns for accountability and openness (Bozeman and Bretschneider, 1986). In terms of investment in IT resources, the public sector tends to focus more on cost containment rather than bottom line considerations (Rosacker and Olson, 2008). Concomitantly, the evaluation of purchasing decisions cannot solely rely on traditional economic criteria as they would in the private sector. Public organizations face equally important criteria such as procedural equity (Rainey, Backoff and Levine, 1976).

Caudle, Gorr and Newcomer (1991) provide one of the most influential studies that identify distinct issues the public sector face in the management of information systems. Drawing on the seminal work of Rainey et al. (1976) the following categories are presented as key distinguishing features: Environment Factors, such as less market exposure, more legal and formal constraints and higher political influences; Organizational/Environmental Transactions, such as more mandatory actions due to the coercive power of governments, higher level of scrutiny of public officials; and Internal structure and processes, such as more complex criteria, less decision-making autonomy, more frequent turnover of top managers and difficulties in devising incentives for individual performance (Caudle et al., 1991). This study provides further evidence of the impact of certain unique features of the public sector impacting the management and implementation of technology in government.

Against this backdrop it is surprising that there has been little research conducted in the process and development of IS in the public sector. Green (1989) and Rubin (1986) provide good examples of studies that have highlighted idiosyncrasies in public sector that impact upon the success of software development projects. Green (1989) for instance noted the lack of salary incentives influencing systems analysts in the public sector and the importance that public sector participants attribute to camaraderie with colleagues, in comparison to their private sector counterparts. Further research was strongly recommended by both studies, concentrating particularly on the organizational context of the public sector, the task environment and in understanding the behavior of public sector employees. However, paradigms for public sector software development have not been addressed by the literature, either to guide practitioners or to inform our understanding of this particular challenge.

RESEARCH METHODOLOGY

Given the lack of research in relation to controls on ISD projects in the public sector this study highlights the need for exploratory research in this domain. In order to identify the types of controls used and to obtain some understanding of control in ISD projects in the public sector four case studies were conducted. Case studies are particularly appropriate for researching concepts that are at an early stage of maturity (Benbasat, Goldstein and Mead, 1987). The case studies selected provided the researchers with an opportunity to explore each particular situation in detail as the researchers selectively chose what Yin (2003) calls 'revelatory' cases. The study involved ISD projects at local and central government level, involved small and large teams and involved both in-house and outsourced projects. These cases were selected for their inherent differences.

BACKGROUND TO THE CASES

Case A involved a team that developed an online system to provide local businesses with information on their water usage and water bills. The project had both an internal customer (water services department) and an external customer (businesses within the catchment area), but the external customer was not directly involved in the project. Even though the project was

delivered two months late it was still considered a significant success and of great public value to the business community in the region.

The project team in Case B was involved in specifying requirements for a new information system that supports internal corporate functions such as Finance and Human Resources. This team was very mature and experienced in terms of software development, implementation and ownership of IT systems within the public sector. Staff on this team have been employed by the public sector for between twenty and thirty years. Projects for this team tend to be few, but long-term (i.e. last a number of years) and costs can reach millions of euro. The staff on the project team in Case C were more recent recruits to the public sector and had little to no experience of IT. Projects for this team tend to be small and short (i.e. a number of months) with budgets typically between €40k and €80k. The project studied focused on the development of an information system to support an internal building control function for the public sector. The system is used by building control officers to inspect buildings during construction, and report on compliance or otherwise with building regulations. Case D involved the development of a large online tax system developed by a European-based national tax department in conjunction with a large multinational consulting organization. The developers from both organizations were co-located and the tasks of each largely overlapped and were tightly integrated for the duration of the project. The team was subjected to controls of both the tax department and also the consulting organization. A summary of the profile of each project team is displayed in Table 2 below.

	Case A	Case B	Case C	Case D
Project duration	10 months	6 months(Phase 2 of the project)	5 months (Phase 1 of the project)	2.75 years
Team size	3	9	4	96
Team composition	1 project manager 2 developers	3 IT staff 3 internal customers 3 staff from the vendor 1 project manager	2 building control officers 1 project manager 1 quality control Third party vendor	1 executive liaison 6 managers 37 developers 52 external consultants
Location	Located in one office	Located in one office Third party vendor located in a separate city	Located in one office Third party vendor located in a separate city	Distributed across 3 offices, same city
Development Method	In-house ISD method	Development was outsourced to a third party vendor who used their own method	Development was outsourced to a third party vendor who used their own method	In-house ISD method
Type of system developed	Online system that provides business customers with a facility to monitor their water usage	Internal CRM system	Internal system to monitor compliance of construction companies with building regulations	Online tax system
Customer type	Internal department Businesses within the catchment area of the local authority	Internal department	Internal department	General population

Table 1: Profile of the Four Cases

DATA COLLECTION

Data was collected over a 2-month period using a semi-structured personal interview. The interview guide was developed from the literature based on the four modes of control presented in Figure 1 (behavior, outcome, clan and self-control) and it

used both open-ended and closed interview questions. Using a semi-structured interview gave the researchers more control over the data collection than other types of data collection methods and also provided the researchers with the opportunity to ask additional questions (Cooper and Schindler, 2001).

Four different public sector ISD projects were selected as the cases. Personal contacts were used to identify suitable cases. Contact was made with one individual in each project team to request participation in the study. In all cases the participants agreed to participate. A date and time was agreed with each participant for the interview. Each participant was provided with an interview guide several days prior to the interview. This guide explained the objective of the study; provided a description of each of the four types of control along with the characteristics of each type of control and provided an explanation of the stages of the assimilation model (see Table 2) used in this research which was used to determine the extent to which a specific control mechanism was utilized. The responsible senior manager for each project was interviewed followed by more detailed interviews with the project manager in each of the four cases. The participants were interviewed at their place of work and each interview lasted approximately one hour each.

At the start of each interview the participant was asked to provide background information on the IT department, its structure and the type of work carried out by the IT department. The participant was then asked to select a specific project and the questions asked related to the control mechanisms utilized during the selected project. Follow-up questions were asked and clarifications were sought where required. Each interview was recorded and transcribed.

DATA ANALYSIS

A detailed summary of each case study was written which was organized by control mode. The data was then analyzed using innovation adoption theory. Several such theories, models and frameworks exist, the most notable being Davis, Rawana and Capponi (1989), Fichman (1992; 2001), Fichman and Kemerer (1994) and Gallivan (2001). An assimilation stage can be defined as a description of how deeply an adopted innovation penetrates the adopting unit (company, group or individuals) (Fichman, 1992; 2001). In order to give strengths for understanding the various stages of assimilation of innovation, including the factors and events that influence them, Gallivan (2001) suggests a six-staged model for describing innovation assimilation based on the work of Cooper and Zmud (1990) and Saga and Zmud (1994). The latter three stages, namely acceptance, routinisation and infusion (see Table 2), were considered appropriate for the study of controls, and are therefore used as a lens for this research.

Assimilation stages	Conceptualization in studying control mechanisms in use
Acceptance	A control mechanism is used only when needed, or in some special situations.
Routinisation	A control mechanism is used regularly, as a routine part of the process.
Infusion	A control mechanism is not only routinely used, but also in a comprehensive and sophisticated way, which is indicated by: - Intensive use: a control mechanism is used more frequently or more intensively than suggested by the process; - Integrated use: a control mechanism is used in an interconnected way with other processes and practices; - Emergent use: a control mechanism is used in the areas not prescribed by the process.

Table 2. The Later Assimilation Stage of Control Mechanisms

FINDINGS

Consistent with prior research on controls in ISD projects a portfolio of controls was employed to control ISD projects. The findings from each of four control modes are detailed below. The formal controls are presented using the assimilation model, as these types of control mechanisms were tangible and measurable. It was not possible to use the model to present the informal controls as these are intangible and it was difficult to determine the extent to which each informal control mechanism was utilized.

Outcome Control

In all four public sector projects several different outcome controls were utilized (See Table 3). However, their usage varied from being informal and ad-hoc to formal and more frequent. As expected project plans were used on all projects, but with differing objectives. In Case A, project plans were utilized to track detailed progress for each phase of the project. In contrast, in Case B and Case C project plans detailed high-level key milestones that were monitored by the project manager.

OUTCOME CONTROL MECHANISMS	Acceptance	Routinisation	Infusion
CASE A	Team Meetings Status Reports Milestone Reviews Customer Reviews Budget	Project Plan Design Reviews Management Reviews Customer Satisfaction	
CASE B	Design Reviews Management Reviews	Project Plan Team Meetings Status Reports Milestone Reviews Customer Reviews Customer Satisfaction Budget	
CASE C	Project Plan Design Reviews Milestone Reviews Customer Reviews Customer Satisfaction Management Reviews Budget	Team Meetings Status Reports	
CASE D	Project Plan Management Reviews	Team Meetings Status Reports Customer Reviews Milestone Reviews Customer Satisfaction Budget	Estimations

Table 3. Outcome Control Mechanisms

Some mechanisms were used more routinely than others as the third-party vendor enforced them. For example, in Case C the vendor provided status reports on a weekly basis as this was part of their own internal process. Other control mechanisms that are typically used in the private sector were not used at all such as the budget, profitability and defect tracking. The budget was of little concern to all public sector project managers as projects were on a fixed budget. Instead the pressure was on the vendor to deliver within the agreed time and budget as “any deviation from that [the tendered price] was to be borne by the client” (Project Manager C). Defect tracking was poor or non-existent with Case B and Case C considering it the responsibility of the vendor.

In Case D, the tax department staff were subjected to no apparent outcome controls, and “performance was considered satisfactory as long as the process was followed”. In contrast, outcomes were perceived to be of utmost importance to the consultants. Each was measured on (i) the amount of functionality delivered and (ii) defect rates. A lot of frustration was caused because, according to the consulting developers, tax department staff spent most of their time debating requirements and carefully planning work to a minute level of detail, but spending very little time delivering the software that the consultants were measured and ultimately rewarded on.

In terms of infused controls, estimation practices were significantly modified on the project in Case D. Firstly developer estimates were extended beyond the team, and were used to feed into the long term project budgeting process. Estimates were based on a collective ‘wideband delphi’ activity where a consensus for each estimate was reached for every task. Bonus

holiday vouchers were then issued to developer groups who met their estimates continually. According to management, this added ‘incentives and fun’ to development and ‘definitely drove productivity’ (Senior Manager D).

Behavior Control

A limited number of behavior controls were utilized on the projects studied (See Table 4)

BEHAVIOR CONTROL MECHANISMS	Acceptance	Routinisation	Infusion
CASE A	Process training	Formal processes or procedures for the controlee to follow Management by walking about	
CASE B	Process training	Formal processes or procedures for the controlee to follow	
CASE C	Process training	Formal processes or procedures for the controlee to follow	
CASE D	Process training	Change Management Board Process documents Requirements specification documents Test sign-off sheets	

Table 4. Behavior Control Mechanisms

Process training was only conducted when required, for example, with a new employee. In Case A, the processes used referred to a project management methodology that was initially introduced by the project manager. The project manager enforced the use of the methodology and the project manager verified adherence to the methodology informally. Different processes were in existence in Case B and Case C as these organizations outsource their software development. The processes and procedures employed related to procurement and post-implementation processes such as Service Levels Agreements. These processes had to be followed rigorously and routinely in order to ensure transparency and equality for all vendors involved in the tendering process. The focus in these cases was on outcomes rather than on behaviors.

In Case D, the tax department staff were subjected to “severe” (Manager D2) behavior controls which often inhibited progress. For example, new requirements had to pass through a change management board which met at most once per month, and comprised of revenue, finance, legal and IT representatives. Poor attendance at each meeting delayed universal agreement and approval every month and so requirements took an average of 2.2 months from idea to approval. In contrast the consultants were not subjected to any significant behavior controls. The ISD method was ‘nothing more than a reference guide’ (Manager D1) as opposed to a prescription to be followed rigorously. Meetings, status reports and documents were ad hoc and done ‘when we felt like it’ (Manager D2).

Case A was the only instance where “management by walking around” was present as a control mechanism. This mechanism was used frequently in this case. In addition, the behavior of the team varied depending on who was present (i.e. management/customer), and behavior also varied depending on the level of experience of the (internal) customer. Some internal departments (customers) were more familiar with project management processes and had higher expectations of the IT team, whereas in other departments the staff were junior members of staff had no expectations from a project management perspective and therefore, they were handled differently.

Clan Control

Clan control mechanisms were very strong on all four cases. Peer pressure is a clan control mechanism that had been identified in the literature to exist in project teams in the private sector, which was not evident in the public sector. Instead a

mechanism called “peer support” was identified. There is a very collegial culture amongst public sector staff and there is a willingness to assist other team members. Staff in the public sector tend to work together for 20-30 years or longer and often their customer is also their colleague. Those interviewed believe that staff need to have a good relationship with each other in order to work together for such a long period of time. This contrasts with the private sector where staff may only work with a customer for a specified period of time.

In Case C there were instances in the past where the project manager had to intervene when team members had not taken their holiday entitlement or were working more hours than were allowed by legislation. This seemed to rise organically and not because individuals felt under pressure to stay working later than a colleague. There is also a huge amount of trust, mutual respect and loyalty amongst the team with evidence of team members feeling so loyal to the clan that they felt they did not have to consult with anyone and continued to work on a particular task that may not be of any great business value. In such instances the project manager has had to intervene to discontinue this practice.

In three cases (A, B and C) no financial incentives or career incentives exist to motivate project team members to meet their project goals and objectives. The career path for IT personnel within the public sector is quite limited with very little movement of IT staff. However, a specific incentive motivates the project team in Case A, which is driven by the project manager. This project team has been very successful in winning innovation awards at national level for their projects, which is a huge motivation for the project team. In Case B and Case C staff are motivated if they have clear goals and they are also motivated by wanting to deliver the “best possible product” for their customer, who is effectively a colleague.

The culture within Case A is very different to the private sector in terms of the pressure that project teams face. In the private sector project teams are often forced to deliver a project in a shorter timescale than is projected by the project team. In contrast this project team may “tell them [the internal customer] it will be three months [to delivery] and we try to make it in two [months]”. This project manager is of the opinion that this “keeps everyone happy” and also it “keeps the pressure off”. Pressure from the external customer does not exist although there is an informal demand from the general public to have improved customer services. In some instances there may be pressure from internal management, where an individual has a personal interest in the project and wishes to see the project delivered quickly.

In three Cases (A, B and C) there was no incentive for non-IT departments to become more efficient or innovative from an IT perspective. The initiative usually originates from within the IT department, or by a “champion” within the organization to improve existing processes within the organization from an IT perspective. There is a concern that implementing new IT systems may impact on resources within a department. In addition, some staff have a preference for a particular department and do not wish to relocate. In relation to staffing one manager stated that the public sector was “overstaffed for what we are doing, and understaffed for what we ought to be doing”.

While clan control mechanisms can often be subtle, the contrast between the clan-like behavior of the consultants and the non-clan-like behavior of the public sector developers was very evident in Case D. There were many shared beliefs and values among the consultants that differed from the tax department staff. According to many interviewed there was a “divisive” (Manager D1), “them and us” (Manager D3) mentality. The consulting ‘clan’ would often have informal impromptu break-out sessions among themselves during the development iteration. In contrast, substantive communication between consulting developers and tax department developers was “minimal” (Manager D3) and “non-existent” (Manager D1) where certain project tasks were concerned, apart from the formal end of iteration meetings.

According to the framework adopted in this study, goals are determined by the clan and evolve during the task period. This certainly occurred in Case D. For example, midway through the project the consultants spent increasing amounts of time summarizing project work and artifacts and uploading them to a new global organizational intranet, simply because the organization had stated this new system to be a strategic priority for all staff.

In three cases (Case A, B and C) informal communication with both internal management and the internal customer was used extensively. Informal communication could consist of emails, phone calls and informal chats in the corridor or in the canteen. In contrast, when communicating with the vendor communication was very formal (Case C).

Self-Control

Self-control was used to some extent in three of these cases. No evidence of self-control was found in Case D.

In Case A the project manager had a certain amount of autonomy over the software projects that were selected for development as projects were often instigated by the project manager. Typically, the project manager determines the project milestones and deadlines. It was interesting to find that it was common for the project manager to set a deadline that could easily be achieved. This contrasts with Case B and Case C. In Case B the project timelines were agreed between the IT

project team, a steering group and the Directors with the IT project team. Decisions for the project are made by the steering group, based on input from the IT department. However, it is important to note that certain individuals, including personnel from IT, can be very influential in this steering group. In Case C the project manager established the timeline for the project, milestones, and goals of the project, which were accepted by the vendor.

In Case A the project manager established standards for the behavior of the team and set the goals for the team. The project manager also determined if there was a requirement to tailor a process or tailor the methodology. In contrast, staff in Case B and Case C, where the software development was outsourced, had to adhere to various policies and procedures that are in existence for the public sector. While the public sector staff had to adhere to certain standards and behaviors there was no requirement for the vendor to adhere to specific standards or behaviors.

CONCLUSIONS AND FUTURE RESEARCH

This paper contributes to e-Government and software development literature by providing the first application of control theory in the domain of the public sector. A framework is presented, detailing four control modes that are used to analyze four e-Government case studies. This study highlights the absence of previous research on the use of controls in e-Government projects.

This study argues that there is a strong need for future research to explore software development in the public sector and based on the following observations, we propose that control theory is a highly effective means to accomplish this. First, case studies used in this research show the presence of numerous controls that have impacted upon the development of software projects. Managerial action however clearly shows that controls have been adapted for the particular challenges evident in the public sector environment. Future research therefore must revolve around understanding how the use of controls is related to successful outcomes. Second, control theory is a well-established set of practices highly influential in the private sector and although there are singular differences between sectors there are also many similarities to be found. In this study, very few examples of infused controls were discovered and those that were originated from the private sector case study. As such the public sector has much to learn about developing innovative practices and control theory is a particularly fertile approach for exposing areas for development. Third, there is an increasing trend for the use of private sector companies in the development of e-Government systems (Ya Ni and Bretschneider, 2007). Given the ubiquitous nature of controls in the private sector there is a growing imperative to understand how these practices will affect the development of projects when commercial companies collaborate with their public sector counterparts. Case D provides an insight into the potential for disharmony and tension when cultures collide, emphasizing the need to progress research in controls in the public sector to ensure mutual understanding and productive relations.

A number of gaps were found in the current body of e-Government project control research. The systematic literature review revealed that little or no existing research to date has focused on control in e-Government projects. The study identified many unique features of the public sector that strongly affect the environment in which e-Government ISD project teams operate (e.g. compliance with frequently changing regulatory requirements (Cases A, B & C), delays due to political agreement/decisions (Cases A, B & C), and restrictive public procurement processes (Cases B, C & D). Although many controls were present in the case studies, few were routinised and most followed an ad-hoc approach to adopting or using formal processes/controls (See Table 4 & 5). The cases studies were considered successful by those interviewed, despite this lack of routinisation. The cases showed that hardly any controls were infused and these were driven, not by the public sector participants, but by the external consulting partner in Case D (See Table 4 and 5). In some cases, it was clear there was little or no reward for meeting control criteria. It was shown that even minimal recognition could have a disproportional positive impact on successful outcomes e.g. national awards in Case A. The customer provides a different influence and impact in the public sector than it does in the private sector. In this study customers were often fellow agency workers and collegial relations dictated the need to maintain good working relations above other considerations. This supports the findings of (Green, 1989) who also found that fostering good relations were highly prioritized. The customer exerted no pressure on the development team in terms of requirements, budget or time scale. The level of involvement of the customer was very low across most of the case examples (Case A, B and C). Finally, significant tension was noted in Case D where controls used by the private sector clashed with those used by their public sector counterparts.

As with any study there are limitations associated with qualitative research. This research studied the perspectives of management and project managers in four different e-Government ISD projects. Further research could extend this study to include the perspectives of all team members and to broaden the research to a wider range of e-Government ISD projects.

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