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Achieving IT Acceptance – An Outcome Control Perspective

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Achieving IT Acceptance – An Outcome Control Perspective

Completed Research Paper

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Abstract

This paper provides a framework that describes the role organisational control can play in user acceptance of an information technology (IT). Using the case study approach, we adopted the “soft positivism” research philosophy, to investigate the development and acceptance of an IT from the outcome control perspective. Our framework highlights how outcome control mechanisms exercised during the development and acceptance/usage stages of an IT respectively. The framework also helps indicate that outcome control, which is conceptualised in the literature as deliberate and forceful in nature, could also, unlike behaviour control, be exercised in measures that do not need to coerce or be forceful. By adopting a control perspective on IT development and acceptance/usage, the framework can inform how senior management can influence the achievement of user acceptance of an IT after members’ resistance had occurred.

Keywords: *IT implementation; IT resistance; IT acceptance, IT usage; outcome control mechanisms.*

Introduction

The difficulty for an organisation getting its members to accept a new Information Technology (IT) is normally due to the dynamic and multi-stakeholder nature of implementing the technology (Newell et al. 2004). Organisation stakeholders are bound to have different interpretations to the rationales for implementing an IT. Senior management might see the organisational need to implement an IT to bring improvements in traditional ways of practices and ideas. While employees who are majority of the users of the technology may perceive it was offered in a forceful manner, putting them under pressure to change their work habits and routines. These different stakeholder perceptions on why an IT is implemented could cause internal conflicts and user IT resistance during the implementation process (e.g. Ravishankar et al. 2011; Wagner and Newell 2011). Thus to improve chances of achieving IT acceptance, senior management would have to adopt policies that formalise, dictate and align (i.e. control measures) stakeholder's efforts during the IT implementation process. Existing literature suggest that exercising a portfolio of control modes i.e. formal (behaviour and outcome) and informal (clan and self) controls during dynamic IT projects could help identify and encourage in a well-ordered and subtle manner, members' acceptance of an IT (e.g. Choudhury and Sabherwal 2003; Kirsch 2004; Rustagi et al. 2008). Despite the literature suggesting that exercising of portfolio of controls (i.e. formal and informal control) is required for achieving organisational acceptance of IT, an alternative view in the literature, highlight that the exercising of portfolio of control modes, which involves numerous applied control mechanisms could be unpredictable, consequently instigating ambiguity and frustration for controllees (Fitzgerald et al. 2006; Orlikowski 1991). This suggests a difficulty in exercising a range of control modes to ensure members accept a new IT. Thus the exercising of control mechanisms need to be similar or have a degree of uniformity (Cram and Brohman 2013), otherwise the applied controls would be ineffective. The exercising of a consistent control mode prevents members' tension, resistance and conflict but enables members to easily adopt organisational beliefs and values that manifest desired behaviours (Orlikowski 1991). Thus the main aim of our paper is to explain how exercising a single control mode could facilitate the successful implementation of an IT. Our main research question is how can the application of outcome control facilitate the development and acceptance/usage activities of an IT? In this paper, we focus on the exercising of outcome control as an example of formal control. Unlike behaviour control, outcome control provides flexibility and latitude to controllees, as controllers are mainly concerned with final outputs (Kirsch 1996), especially during unstable processes such as implementing dynamic IT projects. While explaining how outcome control mechanisms were exercised to ensure members successfully implemented an IT, we also show that outcome control which is conceptualised in the existing literature as deliberate and forceful in nature (e.g. Chua et al. 2012; Kirsch et al. 2002), could also, unlike behaviour control, be exercised in measures that do not need to be forceful or coercive i.e. subtle. This re-conceptualisation of the outcome control suggests a theoretical implication that is different to the existing literature on control. We achieve this by following recent research on control and IT that argue that due to the flexible and uncertain nature of IT implementation, control typology should go beyond the conceptualisation of control as mode-based (e.g. Harris et al. 2009) but combine with manner the control is exercised i.e. control styles (see Heumann et al. 2014), consequently we draw upon Adler and Borys (1996) concept of 'enabling' and 'coercive' styles of control.

The next section is the theoretical foundation section, which highlights a review of organisational acceptance and organisational resistance to IT implementation, review of the control literature and its application in achieving IT implementation. Subsequently, we discuss our research methodology, followed by presentation of the study's findings. Next, we discuss the findings and finally, conclude by eliciting the study's implications, limitations and recommendations for future research.

Theoretical Foundation

Organisational Acceptance and Organisational Resistance to IT implementation

In many cases, users resist the acceptance and usage of an IT (Lapointe and Rivard 2005; Robey et al. 2002), engaging only superficially with the technology due to perceived threats, such as control/power loss (Markus 1983), deskilling (Alvarez 2008) and distrust of the benefits of the IT (Marakas and Hornik 1996). The literature suggests that adequate training and change management strategies are crucial in lessening IT resistance (Jasperson et al. 2005; Robey et al. 2002). However, to overcome the problems of

resistance and of the simple and superficial use of IT systems, senior management, business managers and users of the systems must be convinced that the features of the system will help them achieve their work objectives in simpler ways. Within the IS literature, a number of models/frameworks have been proposed and developed in a bid to better understand IT acceptance. The Technology Acceptance Model (TAM) proposed by Davis (1989) is one of the most commonly adopted theoretical frameworks utilised empirically in IS research to explore IT acceptance and usage in various contexts (Hsieh and Wang 2007). The TAM offers a set of explanations about why a given system comes to be accepted. These predictions have been based on the suggestion that attitudes and beliefs (Perceived Usefulness – PU and Perceived Ease of Use - PEOU) shape the individual behavioural intention to accept the use of a system. The empirical work of Hsieh and Wang (2007) adopted the TAM model to investigate the extended use of complex IT systems. As they noted in their research, organisational members' interpretations of an IT system often determine how the system is implemented and used. They have highlighted factors such as PU and PEOU as vital antecedents to organisational usage of the technology. Hsieh and Wang (2007) point out that beyond technology attributes and the personal effect of users, organisational complexity involving organisational, managerial, and social factors can significantly influence IT usage behaviours.

Hsieh and Wang's (2007) arguments has caused many IS scholars to interpret the dynamics of IT acceptance and usage as a political process, where the order and the course of IT implementation activities are shaped by the conflicting interests of different stakeholders in organisations, creating user resistance to the organisational change of implementing IT. For instance, Wagner and Newell (2011) suggests that user resistance to IT implementation is mainly due conflict among users for increased power, highlighting the political play that occurs during implementing a system that spans across an organisation. The solution to achieving IT acceptance may lie in an examination of applying organisational controls in order to overcome strong user resistance that sabotages IT acceptance and usage (Hsieh and Wang 2007; Xue et al. 2011). Therefore, examining the influence of formal controls on acceptance and usage of an IT may be beneficial. Studying the application of formal control by senior managers to ensure members' compliance with the acceptance and use of complex IT could enhance our understanding of how organisations could overcome the effects of IT resistance.

Control and IT Implementation

Ouchi (1979) defines control as a practice where hierarchical authorities create and monitor rules in order to regulate and restrict members' patterns of interaction with organisational processes. Similarly, Orlikowski (1991) define organisational control as an organisation's effort to increase the prospect that members behave in ways that could lead to achievement of organisational aims and objectives. These aforementioned studies highlight a form of formal control to enforce members behaving in particular ways to achieve organisational outcomes i.e. behaviour and outcome control modes. The control literature also suggests that control could be informal, which rely on self and clan control mechanisms that ensure that members adhere strictly to prescribed processes to achieve performance standards (Ouchi 1979). Broadly, the control literature highlights how control mechanisms could be deployed formally or informally to improve the relationship between team members' actions and team performance in relation to development and usage of IT.

Formal Controls

The two commonly studied modes of formal controls as identified in the literature are behaviour and outcome control (Ouchi 1979; Eisenhardt 1985). Behaviour control is applied when controllers pre-specify to controllees the kind of behaviours they are expected to exhibit (Kirsch 1996; Eisenhardt 1985). While in outcome controls, controllers specify to controllees targets and outputs that are expected, rather than behaviours (Henderson and Lee 1992; Kirsch 1996). Henderson and Lee (1992) investigated how a range of behaviour control mechanisms affected the performance of an IT design team. They pointed out that project managers who served as controllers exercised behaviour control mechanisms, such as codified standards, procedures, and practices on team members (controllees) to achieve performance during system-design tasks such as requirements elicitation, programming and documentation for the implementation of software projects. It can be argued that the application of the behaviour controls during IT projects is dependent on the clarity in the context where the controls are applied, i.e. whether

both controllers and controllees are clearly aware of the information, procedures and methods required to get tasks done.

Nidumolu and Subramani (2004) argue that when uncertainty regarding technological requirements for IT implementation is high, there could be ambiguity in information about methods that should be adopted to implement IT. This hinders the ability to enforce and monitor the desirable organisational behaviours required to accept to develop and use the IT. Hence, organisational attempts to control behaviours in an ambiguous environment are likely to be counterproductive and unachievable because knowledge of precise behaviours and processes that will transform inputs into outputs are low and not clear (Eisenhardt 1985; Ouchi 1979). Therefore, the exercising of behaviour control may not be effective in such context but control mechanisms that specify organisation's targets without necessarily being concerned with the process of achieving the targets, i.e. outcome control. The exercising of outcome control during the development and usage of an IT could be more beneficial due to the flexibility and autonomy controllees have in undertaking such IT activities (Kirsch 1996).

Kirsch (1996) argues that exercising of outcome control is easier to implement compared to the behaviour control, especially when there are high uncertainties in processes and methods required for tasks specifications. Nonetheless, Kirsch (1997) suggests that outcome controls can only be effective if task specifications and task outcomes are measurable against set standards. Davis and Venkatesh (2004) implicitly highlight an example of the application of outcome control mechanism in their study. They argued that user acceptance testing during IT implementation is an influential control for the acceptance of IT. A more recent study by Heumann et al. (2014), reported that senior managers used the outcome control mechanism - project plan to state all milestones and deliverables as a basis for regular feedback from project managers to achieve systems developments.

It is clear that outcome control is used when controllers can evaluate outcomes to determine if controllees produce the required outputs, irrespective of the process or behaviours followed. Overall, the literature suggests controllers apply formal control modes in an intentional and forceful manner on controllees to achieve organisational objectives (Kirsch et al. 2002).

Informal Controls

Informal controls are modes where the controller relies on social or norm-emphasising strategies to ensure set objectives are met by the controllee (Choudhury and Sabherwal 2003; Kirsch 1997). Informal controls are of two types - self- and clan-controls (Choudhury and Sabherwal 2003; Kirsch 1997). Self-control is an example of an informal control mode which refers to a relational form of control that does not require any form of formal control by the controller, but based on a controllee's driven measures that are aligned with the controller's goals and objectives (Jaworski 1988; Kirsch 1997). Choudhury and Sabherwal (2003) highlight that while exercising self-control, the controllee adopts mechanisms such as establishing standards for his or her own behaviour, establishing a timetable for project milestones and monitoring progress against milestones.

Kirsch (1996) suggests that when multiple stakeholders (project managers, IT managers and users) are involved in the development of an IT, the application of self-controls can be beneficial to the project. She highlights how IT managers are more likely to induce self-control than IT users, because the former have more experience of managing IT Development (ITD) projects, unlike the users who are less familiar with such IT implementation activities. The key idea underpinning self-control is that group members take the required initiative to motivate themselves to perform required tasks or employ alternative work procedures to ensure the achievement of organisational goals.

Clan control indicates a form of control that is applied in a scenario where a group of people are dependent on others based on their shared common goals (Ouchi 1979). He further argues that clan control will be suitable when there is an identification of acceptable behaviours via shared experiences and rituals, and project outcomes are difficult to measure. Thus, there may be a need to choose members carefully with suitable professional training, socialise them to the aims and values of a clan. The clan control mechanisms tend to lessen the potential differences between the controller's and controllee's goals by transmitting an integrative culture among the controllees, so they can all have the same beliefs, values and the same behaviour (Choudhury and Sabherwal 2003; Chua et al. 2012; Kirsch 1997). Choudhury and Sabherwal (2003) highlight, in their study of outsourced ITD projects, the positive impact relying on clan

control mechanisms, such as common cultural beliefs among user groups and self-managed individuals on the development process of IT. They suggested that a typical buyer-vendor relationship was transformed into a clan-like scenario when clients and vendors involved in projects arranged their contract so that each would be able to use the developed system to present their individual technologies.

Nonetheless, the literature highlights that the exercising of self and clan controls may be difficult because of possible stakeholders differences while collectively attempting to develop and use a complex IT (Newell et al. 2004). This is usually evident if the adopting organisation may be classified as “late adopters” of technological innovations (Thong 1999). This kind of organisation, usually embarking on complex IT implementation for the first time, would have little technological sophistication to undertake complex IT implementations, thus inhibiting the abilities of the different stakeholders to work as clans or have the intrinsic motivations to undertake the implementation of a complex IT. Also, as noted by Kirsch (1997) and Jaworski (1988), exercising of informal control modes may be more suitable for smaller projects because they are likely to be less complex, consequently ideal for social or norm-emphasising strategies (i.e. clan and self-controls) to accomplish set objectives. Therefore, during the implementation of large complex IT in a multi-stakeholder context, senior management are more likely to exercise formal controls rather than informal controls.

However, Zmud and Apple (1992) argues that formalisation, such as well-documented procedures and policies when applied to facilitate use of IT has a negative effect on IT acceptance. This view has made IT practitioners baulk at the idea of applying strict policies and guidelines to facilitate members’ acceptance of IT. Similarly, Adler and Borys (1996) viewed bureaucratic processes as control mechanisms exercised by managers to either enable or coerce members to achieve set tasks. They noted that coercive procedures on members smothers creativity and encourages member dissatisfaction, while enabling procedures would only help committed members do their jobs more efficiently. Thus, it could be argued that the reviewed work on control highlights positive and negative consequences on IT acceptance; this implies the relationship between control and IT as complex. However, these conflicting results should be expected and not perceived as an inconsistency or weakness in the application of control theory. As argued by Adler and Borys (1996), organisation characteristics may account for the central tendency of members’ attitudinal responses to implemented controls. This implies that distinct differences found in organisations would influence the outcomes of exercised controls on IT acceptance.

In summary, as the review above demonstrates, the exercising of portfolio of control modes (i.e. formal and informal controls) has contributed to our understanding of development and implementation of complex IT projects. However, the exercising of range of control modes may cause ambiguity and frustration for controlles, consequently making it difficult for the applied controls to ensure members accept a new IT. To address this concern, we explore how exercising a single control mode could facilitate the successful implementation of an IT. We explore this via our main research question - how can the application of outcome control facilitate the development and acceptance/usage activities of an IT?

Methodology

We adopted a single case study approach (see Yin 2009), to explore our research question. The specific research method to undertake the study was the “scientific realism” or ‘soft positivism’ approach (Kirsch 2004; Madill et al. 2000), applying this approach allowed us examine pre-identified constructs as in the positivist manner, but also draws from the interpretivist approach to allow new findings and explanations to emerge from the data (Ravishankar et al. 2011; Walsham 2006).

Research Site/Case Study Selection

At the time of our data collection, we chose from one of the few banks in Nigeria, which had just implemented a management information system (MIS). This was ideal because the implementation strategy of the selected bank was driven by the bank’s appetite for structures, processes and governances i.e. organisational control. This provides context and insights about how outcome control mechanisms facilitated the successful development and usage of an IT. The success of this specific bank made it an attractive case site to undertake our research. The bank is a multinational financial institution, operating in 22 countries including the UK, the US and France. It has over 13,000 employees, servicing over seven million customers. The bank controls a total asset in excess of \$19 billion.

Data Collection

We studied the outcome control relationship between the organisational level (i.e. senior management) and the project level (i.e. members' roles and responsibilities) during the implementation of an IT. A steering committee made up of the Group Managing Director (GMD) and some selected senior managers was mainly responsible for the exercising of the control. The selected senior managers were mainly individuals who were former executives of foreign western banks. Our data was collected mainly from the conduction of 48 semi-structured interviews with 32 participants. The interviews were between December 2010 and August 2011. The participants' i.e. senior managers and members were mainly from finance, operations and IT departments of the bank. The IT group served as the project team. The interviewees were conducted with members from the top, middle and lower hierarchical levels of management (table 1). This permitted the capture of the representativeness and consistency in informants' descriptions of the exercised outcome control. This also enabled the comparison of the viewpoints of the managers across the different levels i.e. data triangulation. The data triangulation allowed construct validity and enhanced the richness of the findings (Yin 2009).

S/N	Group	Top Management	Middle Management	Lower Management	Total
1	Finance	3 (1)	7 (2)	4 (3)	14 (6)
2	Operations	2 (1)	4 (2)	4 (2)	10 (5)
3	Information Technology	3 (2)	3 (2)	2 (1)	8 (5)
	Total	8 (4)	14 (6)	10 (6)	32 (16)

(*) Follow-up interviews via telephone and email within each interviewee category.

Table 1: Interviews and interviewees group

The first author conducted the interviews in person and over the telephone for some of the follow-up interviews. Interview data were supplemented with unobtrusive observations of members in their interaction with the MIS and information that served as formal documentations regarding policies guiding the implementation process, applied structures and governances i.e. control policies (e.g. business case for the IT project and memos and e-mail correspondence).

The interview schedule was developed based on existing literature on control and IT implementation. Although not rigid, a standard set of questions via an interview guide was asked across all interviewees in order to achieve consistency across the conducted interviews. This help gave direction and focus to the key aspects of the research interests. We asked interviewees about their role, tasks and responsibilities during the MIS implementations. We also asked questions regarding the participants' views of the exercised controls during the MIS implementations. To understand how senior management exercised control, we followed Kirsch's (1997) and Ouchi's (1979) conceptualisation of 'control exercised' and 'control received'. Therefore, we asked the senior managers about the mechanisms used to control members (control exercised) during the development and usage of the MIS. Similarly, we asked members about their opinions of the controls exercised by senior managers (control received) during the development and usage of the MIS. Collecting data from both sides of the control dyad i.e. senior managers and members, serve as a form of triangulation (Heumann et al. 2014). Thus increased the probability to make well-substantiated conclusions. We also asked both set of interviewees of their views of the implications of the applied controls on the development and usage of the MIS.

Data Analysis

We coded the data by drawing upon our theoretical lens – control as the structures, processes and governances implemented during the development and acceptance MIS stages. The coding of development and acceptance stages highlight members' rejection or acceptance to use the MIS. Our deductive approach was a conscious plan because we were drawing on literature that had earlier developed strong link between outcome controls and IT implementation (e.g. Choudhury and Sabherwal 2003; Kirsch 2004; Kirsch et al. 2002). Nonetheless, due to the exploratory nature of the research, we

subsequently adopted the inductive approach, to allow new findings to manifest from data. This effort facilitated during the coding process, the discovery that the exercised control mechanisms, although all belonged to the outcome control mode, but some differed in their applications in the development and acceptance/usage stages of the MIS. Thus, we drew on Adler and Borys (1996) concept of 'enabling' and 'coercive' nature of controls to interpret our findings for building on and augmenting the existing literature on exercising of outcome control during IT implementation.

In our coding, we consciously considered the multi-level (i.e. senior management and members) and multi-process (i.e. development and acceptance/usage) contexts of the MIS project by evaluating comments relating to the control initiator (controller) and recipient of the control (controllee) during development and acceptance/usage of the MIS. The data was analysed in several iterations to evaluate the degree of agreement among informants on their perceptions of the MIS project based on the implication of applied control mechanisms during the implementation process. Upon the first author completion of the coding, the other authors reviewed the coding scheme to ensure the data interpretations were accurate, consistent and to check for possible coding bias.

Research Context

The studied MIS, a three-tier software architecture was developed to improve the organisational processes of the bank. The objective of the MIS project was to replace outdated and manual methods of performing organisational tasks, such as relying on Excel spread sheets to generate management reports and a legacy MIS called INFOPOOL. It was envisaged that the new system would reduce errors that could occur from members working on local versions of spreadsheets to generate more accurate, timely information for management. The MIS was developed in-house by a dedicated management information (MI) team made up of IT expatriates from India and local IT personnel supervised by an IT expert, a former top executive of Citibank, London.

We present how outcome control mechanisms were exercised in the development and usage stages of an MIS.

Findings

Application of outcome control during the development stage of the MIS

The following criteria from the existing literature were applied to pre-identify constructs as examples of outcome controls:

- Mechanisms that were issued to test and validate the quality of MIS outputs.
- Mechanisms that applied timelines and milestones during the MIS implementation.
- Mechanisms that explicitly specified desired outcomes and the evaluation of these outcomes.

While trying to develop the MIS, the IT group had *implementation timelines and milestones as project plan/schedule* to exercise outcome control mechanisms. This was to ensure the MIS was rolled out to members at the stipulated time. This is evident in the example provided by a senior IT programmer: *We had an implementation/project plan and milestones set in the project, expected to be achieved to ensure we deployed the MIS for organisational use.* This is similar to previous findings in IS/Control literature, which highlight project planning as example of control mechanisms applied to plan and organise resources to measure progress against plans to achieve success of IT projects (e.g. Heumann et al. 2014; Kirsch et al. 2002). Also, the IT group conducted extensive user acceptance tests i.e. *system testing*, which served as an example of outcome control mechanism (Choudhury and Sabherwal 2003; Kirsch 1997) and validation of report templates that they had designed for users. These were conducted as part of the IT group's job functions to evaluate the outputs of the implemented MIS. The tests were to ensure users' expectations and requirements for the reports were met. A database administrator stated: *"We actually do validation processes whenever we create a template in the MIS for information and reports, system testing and quality check to make sure that the content is according to what the members want."* Users confirmed this, for example: *We did tests on the MIS to confirm what IT had done on the MIS (...) this gave us the confidence to use the system when it was introduced.* Product Manager. The *system testing* i.e. UATs provide a conversation between the IT group and the users to check the correctness of

the implemented MIS and if it was at an acceptable quality. The UATs established a sense of control during the MIS implementation. Similar to findings of Davis and Venkatesh (2004), the UATs provided valuable insights into users' actual expectations from MIS in the post-implementation environment.

The IT group felt the responsibility was on them to successfully implement the MIS. They completed their tasks in a consistent and reliable way with no need for management pressures. Therefore, it was intrinsic and default to them to apply the controls. This is highlighted by the Head of MIS: *"Everybody does their job and not dependent on others to do their job or pressure from a higher authority to get the job done (...) because all the four wheels are rotating in the same speed. Unlike other departments in the bank, we work with little or no supervision (...) management does not need to breathe down on our necks."* The IT group felt they were self-sufficient and understood they didn't need to be controlled because they had confidence in their technical abilities and their professionalism to deliver. They had the autonomy to manage and define how they best deem fit to implement the MIS. The knowledge that they were free to implement the MIS as they deemed fit, gave them the impetus to take the required initiative to exercise control measures that ensured the successful development and implementation of the MIS for organisational use.

We argue that the IT group exercising outcome control highlight a link between members on the same level of authority during the exercising of the control, without a need for a higher chain of command. This was as a result of their organisational role, tasks and responsibilities. This is unlike the nature of exercising of outcome control during IT projects reported in the literature. For example, Kirsch et al. (2002), reported that although controllers permit controllees choose how they completed the IT project, controllers used scheduling and specification of deliverables as examples of outcome control mechanisms to specify how to achieve systems developments.

User Resistance to the MIS Implementation

Upon the development of the system, it was introduced to users via training, awareness and promotion campaigns. Despite the new MIS had been integrated into the organisation's governance systems such as the central banking database, FREEDOM database used by the mobile banking unit and an accounting software for the stockbroking unit, there was evidence of user resistance to the new system. The users felt the MIS was not meeting their needs, requiring several attempts to generate reports causing delay to generate information, consequently thought to be hindering their performance. An informant commented: *"When they (IT Team) implemented the MIS, it wasn't what we wanted, so we went back and forth, it was difficult and it was affecting performance."* Business Operations Support.

The steering committee as represented by senior management felt members' rejection of the MIS was just an excuse to continue with previous methods of producing management information, a suggestion made by the head of project management: *Well initially like any new system, there would be resistance from users, coming up with excuses not to engage with the new MIS since there were already existing number of fragmented applications that were going to give way to the new MIS. Thus we implemented planning and execution in terms of training, procedures, structures and generally creating platforms to ensure users use the new MIS.*

The Head of the Operations Group highlighted a specific aspect of the MIS, which explains why users resisted the system. The MIS was increasing the level of visibility of individual and departmental performance and raising an expectation of increased levels of collaboration across the bank. He clarified that in his view, several business areas of the bank operated a 'silo mentality' that resulted in their behaviours and views being heavily influenced by their own group's agenda and priorities. Thus, the increased level of visibility the new MIS was enabling, appears to have triggered concerns among some groups of users due to the required change in individual working practices, from no longer just being concerned with their individual contribution to a process, but having a wider appreciation and openness to sharing information with other departments. Thus, limited the use of the new system. The Head of Operations commented: *"Staff resisted the new MIS because it encourages team working and transparency in work activities. They were not just used to having such level of openness, most people were just used to only seeing what they were doing in their silos (...) people had to get used to the concept of compare and share."*

Due to the evidence of user resistance, the bank exercised control measures during the acceptance stage of the MIS.

Application of outcome control during the acceptance stage of the MIS

Senior management, from January 2011 to apply in a hierarchical manner (Kirsch et al. 2002), formal control in the form of outcome control to ensure members used the MIS to produce management reports. Thus, an identified outcome control was senior management specifying a clear *timeline* for the cut-over from existing data analysis processes to the sole use of the MIS. This timeline essentially forced members to realise and accept that they had to engage with the new MIS in order to fulfil their work tasks and performance measures because the existing methods would no longer be acceptable for use after the cut-off date. A Senior Financial Analyst made the following comments: *“What our bosses did was to put a stipulated timeline for using the MIS. They fixed the deadline and they insisted that everyone must cut over on the deadline date. It wasn’t negotiable. Since the cut-over date, we have been using the MIS. All information, financial data are sourced from the MIS.”*

Another type of outcome control applied to overcome the user resistance and ensure members accepted the use of the MIS was evaluating of members reports (Choudhury and Sabherwal 2003; Kirsch 1997). Senior management scrutinised reports to investigate if members were actually using the MIS for organisational use as stipulated by the bank. They stipulated through emails and memos the exact specification for the final outputs i.e. presentation of management reports, which could only be achieved using the MIS. Members highlighted that their superiors emphasised that they were only going to accept management reports generated from the MIS and reports produced contrary to what was instructed would not be accepted. However, it was left to the members to work out the specifics of using MIS to produce these reports. An informant commented: *“Just a memo from the financial controller forced us. [It said] ‘This is the format I want this report from the MIS in and any report rendered that is not in line with it will be rejected.’ Nobody wanted his name to be flying over the place for non-compliance.”* Head of Trustees.

The strict outcome control was applied consistently and without deviance and helped to overcome the user resistance to members accepting to use the MIS, depicting a hierarchical control relationship between senior management and members. Between January 2011 and June 2011 the update of the MIS usage considerably increased with many members using the system to complete their day-to-day work activities. For example, informants commented: *“We were forced to use the MIS and we were told how reports could be generated from the MIS module. We now accept it, so we are now using system. Financial Analyst. “Since senior management made their position clear [that staff had to use the MIS], everybody has decided to get their heads down and learn how to use it. Now we use it [the MIS] to our benefit and today everybody uses it. After the [control] policies put in place by management, everybody has adopted and is using it [the MIS]”* Head Registrars.

Their renewed engagement with the new MIS suggested that there were greater levels of acceptance of the new system across the bank and that members were now beginning to use the system to undertake their organisational tasks.

Discussion

Our data analysis provides evidence of senior management exercising a number of outcome control mechanisms to influence members’ acceptance and use of an MIS. The outcome control mechanisms – *implementation/project plan* and *system testing* allowed the successful development of the MIS, while the exercising of specific *timelines/deadlines* and *evaluation of MIS outputs* contributed to members using the system. Our data suggests that *the system testing* provided the opportunity for users to test all their modules designed on MIS by the IT department as a form of quality assurance i.e. outcome and control measure (Choudhury and Sabherwal 2003) to determine whether the system met users’ business requirements and to uncover any possible defects in the system. This is consistent with Choudhury and Sabherwal’s (2003) argument that the nature of applied control mechanisms, i.e. outcome, can be helpful in achieving the precision with which the desired outputs are specified to make the applied control be effective. Despite the dynamic nature of the implementation process (i.e. transition of the MIS from the development stage to the acceptance/usage stage), senior management was consistent in its exercising of

outcome control mechanisms to ensure members used the MIS. They gave a strict fixed deadline as a *project plan* (Choudhury and Sabherwal 2003; Heumann et al. 2014; Kirsch et al. 2002) to instruct members on rules and procedures to cut over from previous methods to the use of the MIS. Thus, they realised that after the cut-over date there would be no workaround to circumvent the use of the MIS. This was vital to encourage members' use of the MIS, because all the previous methods had been cut off via the specification of strict set of rules (Ouchi 1979). Further, to change user resistance to user acceptance, senior management *specified desired outputs* and *evaluated such outputs* as mechanisms to consistently exercise examples of outcome control (Choudhury and Sabherwal 2003). Senior management used these mechanisms to instruct members to produce reports that could only be generated via the use of the MIS. Senior management explicitly specified to members the *desired outputs* they wanted from the MIS, but unlike the process of behaviour control, left it to members to determine the more detailed aspects of producing the specified job (Choudhury and Sabherwal 2003 and Kirsch 2004). Nonetheless, members had some latitude in interpreting and applying the specifications required to produce the reports. As argued by Ouchi (1979), senior management were able to apply the outcome control because their desired outcomes (management reports) could be established and evaluated, i.e. outcome measurability as an example of task characteristic, serving as an antecedent to the choice of controls (Choudhury and Sabherwal 2003).

By examining the reasons why outcome control was applied during the implementation of the system, provides fresh insights on how these outcome control mechanisms were exercised. Drawing upon the existing control literature, Kirsch et al. (2002) argues that formal controls – behaviour and outcome controls are required because the controllers and controllees have contrasting goals that need to be aligned (Kirsch et al. 2002). In other words, controllers and controllees are on different levels. Our results provide a shift from the existing conceptualisation that formal controls are primarily deliberate and forceful in its applications (Chua et al. 2012; Kirsch et al. 2002). We highlight this by highlighting that the outcome control applied in the development stage of the MIS was exercised in mechanisms that were unintentional and unforceful. As highlighted in figure 1, when the IT group members exercised outcome control mechanisms (implementation/project plan and system testing) during the development of the MIS, the controllers and the controllees were the same.

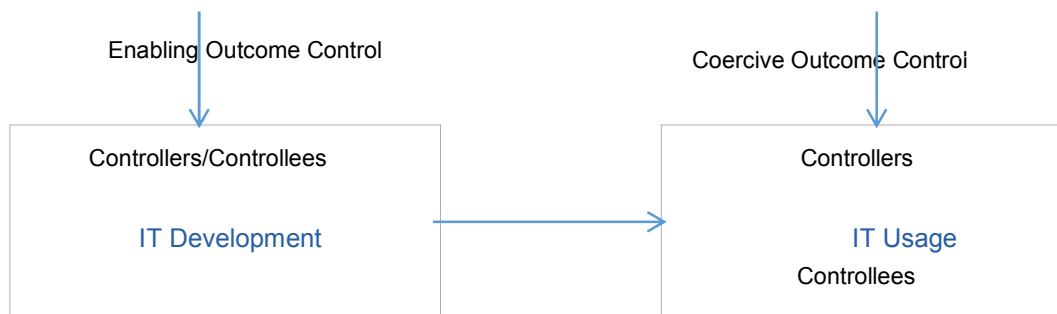


Figure 1: Conceptual framework highlighting outcome control influencing IT acceptance

Perhaps, the IT group members being on the same level of authority during the application of the outcome controls, without a need for a higher chain of command, was because they did not have contrasting organisational goals and objectives regarding the MIS implementation. This is unlike the self-control conceptualisation, where the controllees are different from the controllers, consequently on different hierarchical levels (Chua et al 2012; Kirsch et al. 2002).

Choudhury and Sabherwal (2003) and Kirsch (2004) argue 'role expectations' as a factor influencing choice of control mode. It was evident from our results that the IT group exercising subtle examples of outcome control was because they believed it was necessary based on their inherent tasks and responsibilities, which they, and not senior management would guide on how to control the project. These control mechanisms were due to the nature and expectation from the job i.e. by default, they did not need

to be coerced or extrinsically motivated or senior management or themselves applying extra pressure because they felt it was part of their remit to implement the MIS. Nonetheless, in the later stage of the implementation process i.e. acceptance/usage stage, the outcome control mechanisms exercised were mainly forceful and authoritarian. The outcome control deployed by senior management was from a different level to the members who utilised the controls (see table 2 & figure 1).

Outcome Control Mechanisms	Development		Usage	
	Enabling	Coercive	Enabling	Coercive
Implementation/Project Plan	✓			
System Testing	✓			
Scheduling timelines/deadlines	NA	NA		✓
Evaluating outputs	NA	NA		✓

Table 2:
How Outcome Control was exercised during the development and usage of the MIS

Drawing further insights from our analysis, we argue that the outcome control mechanisms exercised in the development and acceptance/usage stages of the MIS, although similar were ‘enabling’ and ‘coercive’ in nature (Adler and Borys 1996; Heumann et al. 2014) respectively. The ‘enabling’ type of outcome control in the development stage of the MIS was also in a collaborative control manner (Adler, 1999), due to successful interaction between the IT group and users (i.e. system testing to achieve an acceptable quality). This really provided the foundation for the MIS implementation to be successful when it was implemented for use despite the need to also exercise the ‘coercive’ type of outcome control to force members’ usage of the system. In other words, the nature of the ‘enabling’ and ‘coercive’ outcome control styles allowed consistency and clarity in the applied control, vital for achieving the desired control objective i.e. members acceptance of the MIS project. It is worthy to mention that our example of ‘enabling’ outcome control differs from Heumann et al.’s (2014) conceptualisation because unlike our findings they highlight a controller exercising control down to a controllee i.e. controller on a higher level to a controllee. Nonetheless, our conceptualisation of ‘enabling’ outcome control slightly overlaps with the self-control. This may be expected, because as argued by Choudhury and Sabherwal (2003) and Kirsch (1997), exercised control mechanisms can support more than one control mode. Our study shows the control mechanisms such as *implementation/project plans* and *system testing* were exercised due to the IT group’s volition and their established standards of the IT group thereby highlighting self-control. Nonetheless, the same *implementation plans* and *system testing* were also mechanisms of outcome control by outlining initial and final targets for the project (Choudhury and Sabherwal 2003 and Kirsch 1997).

As we highlight in our conceptual framework in figure 1, the control exercised within the IT group highlights how the ‘enabling’ outcome control was engendered. This is unlike the senior management and members controlled relationship, which engendered the ‘coercive’ outcome control in the acceptance/usage stage of MIS.

It is worthy to mention that Nigeria with a high power distance of 77 (Hofstede, 1980), suggests the power distance cultural structure would be evident in a Nigerian organisation. Therefore, a top-down approach would be seen as the appropriate approach and not senior management and members having a cordial relationship to exercise the portfolio of informal controls, which typically relies on norm-emphasizing relationships and self-motivation behaviours.

Conclusions, Limitations and Future Research

The aim of this study was to present the results of a case study research to explain how outcome control mechanisms were exercised during the development and acceptance stages of an MIS, which facilitated the usage of the technology. Using the case study approach, we adopted the “soft positivism” research philosophy, to investigate the implementation of an MIS from the organisational control perspective. The study was able to collect rich data, underpinned by Kirsch's (1997) and Ouchi's (1979) conceptualisation of organisational controls as interpretive lenses to unearth the dynamic relationship of how the application of outcome control was necessary for the development and acceptance/usage of an MIS. The implications of this study for theory and practice are discussed below.

Implications for Theory

Our study highlights that although members viewed the applied outcome control mechanisms as inconsistent with the way they did things, but the clear, consistent procedure of the senior management's position in deploying the outcome control mechanisms positively influenced the acceptance/usage of the MIS. It helped overcome the initial resistance members had towards the system when it was prepared for use and introduced for organisational use. The bank's senior management utilised the exercised formal controls to shape the earlier members cognitive structures towards the use of the technology, which resulted to the behavioural outcome of members accepting to use the system. This suggests that members were forced to use the system despite not mentally accepting to use it. However, their initial mental rejections and attitudes towards the MIS did not have a negative impact on the system's use after the controls were enforced, as they were mandated to accept and use the system. Past studies have highlighted that conflict in mental acceptance and actual behaviour, a term called ‘innovation dissonance’, may lead to tensions inhibiting a higher level of IS use (Hsieh and Wang, 2007). It can be argued from our results that the members' earlier rejections and resistance to the MIS and subsequent usage of the system upon the application of outcome control relates to conflict in mental acceptance and actual behaviour. Therefore, this study has been able to highlight that the initial ‘innovation dissonance’ has not negatively impacted the acceptance of a technology, as the applied outcome control mechanisms enabled members to accept to use the system. The application of outcome control was unlike in a voluntary setting where members could have been able to control their own actions towards a technology, resulting in them rarely using the system and leading to them not possessing the required knowledge to utilise the system in an effective and efficient way (Hsieh and Wang, 2007). Our results helps respond to call to study IT usage in a mandatory setting, the resulting effect of mental acceptance of a technology and the impact it can have on individual usage (Hsieh and Wang, 2007).

Further, our study's results help extend the existing conceptualisation on outcome control by indicating that outcome control, which is primarily conceptualised as deliberate and forceful in nature (e.g. Chua et al., 2012; Kirsch et al., 2002), could also, unlike behaviour control, be exercised in measures that do not need to be coerced or forceful, a concept we call ‘enabling’ outcome control, a theoretical implication that extends prior research on control. Our study has empirically shown that within the IT team in the development stage of the MIS, the controllers were also the controllees in the exercising of mechanisms that engendered outcome controls i.e. did not need to be coerced or extrinsically motivated.

Implications for Practice

Our study highlight that senior management should be aware that for exercised controls to achieve the expected results in IT implementations, they do not necessarily always have to be forceful or extrinsically motivated, but formal control can also be intrinsically motivated from members themselves (e.g. enabling outcome control). This could encourage members taking ownership of the system to deal with the complexities involved in using a complex IT. Therefore, facilitating members engaging more with the features of the technology to achieve higher usage levels and correspondingly attain higher efficiencies in the organisation's value chain activities.

We acknowledge three limitations of our study, which could be addressed by future research. First, based on our results, it could be argued that it was convenient for the IT group to exercise the subtle mode of outcome control because the MIS implementation was in-house rather an outsourced project. Thus the IT members would normally be in tuned with the organisational objective of implementing the system. Also,

senior management would feel comfortable giving the IT group the full freedom to implement the MIS as they deem fit. Hence, we suggest that our findings on subtle mode of outcome control may be relevant to IT implementations conducted in an in-house context. Therefore, it would be interesting to find out if subtle mode of outcome control could be exercised if the project was in an outsource context.

Second, considering, the degree of control imbalances in controller-controllee relationships will depend to an extent on the image and reputation of the controller. The 'coercive' outcome control was mainly exercised by a steering committee largely made up of senior managers who were former executives of foreign western banks. Therefore, future research could study the effectiveness of the exercised controls on IT acceptance and usage if the controllers were locals and not from foreign western banks.

Finally, future research could try to tease out the temporal aspects of how exercising formal controls could go beyond user acceptance, but formal controls being effective in achieving deeper levels of IT use, vital for successful IT implementations and the attainment of organisational efficiencies.

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