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User Disengagement and the Turnaround of a Failing Project

Guy Fitzgerald¹, Howard Harris² and Sungmin Park²

Abstract

This paper reports on an in-depth case study of a large and strategic IT development project facing business user disengagement and potential system rejection. Somewhat belatedly senior management recognised the threat and appointed a new project manager with a brief to rescue the project whilst keeping to the original implementation deadline. Much to almost everyone's surprise the new project manager, and his radical approach, produced the required significant results. The paper examines the changes instigated by the new project manager and a group of newly appointed Business Analysts (BAs). The approach, based on participation ideas, utilized an adapted state modelling technique, and was framed within the agile informed management approach, succeeded in achieving an emergence of business users' belief and the feeling that they could not just influence the system but design it in a way that was needed by the business and that would support the current required workflows as well as for the future, which was somewhat uncertain. The detail of the approach is described and the way in which the disengagement and turnaround was achieved is provided. The paper concludes by outlining the contributions of the case and the approach and suggesting a relevance not only to the systems development and participation literature but potentially to the concept of systems ownership and Psychological Ownership (PO) which it could be argued were invoked in the case.

Keywords: Case Study, Stakeholder; User participation; Project management; Turnaround; Ownership; IS/IT ownership; Business Analysts

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1 Introduction

This paper reports on a case study of a major systems development project in a large organisation. The project was originally conceived as a technical project and was developed using a traditional waterfall approach, controlled by the use of the project management method, PRINCE2. The project ran into serious difficulties including the very real threat of rejection by disengaged stakeholders, including users and user management. On realisation of the seriousness of this threat, and the business consequences, senior management appointed a new project manager with a brief to turn the project around. The new project manager was able to be relatively radical and introducing a change programme, with some innovative ideas, based on the invoking and management of an attitudinal change in the various stakeholder groups and in particular, the user group towards the new system.

The earlier scenario based on a traditional development approach has long been associated with problems of various kinds. They often result in disengagement of stakeholders, even if there was an agreement among stakeholders in the early conception and requirement stages. The top causes of project failures are often attributed to poor stakeholder communication and poor stakeholder management (e.g. McManus and Wood-Harper, 2007 and Eskerod and Huemann (2013). Indeed, Eskerod and Huemann (2013, p44) argue that; ‘stakeholder issues are treated superficially’ in systems development and that there is ‘a need for a paradigm shift in the underpinning values, a shift from stakeholder compliance towards management-for-stakeholders’.

The IS/IT development literature has advocated a variety of approaches to fix these kind of problems including; iterative development, flexibility design, XP, and Agile methodologies (Stephen, 2011). Many of these methods advocate a fundamental change from the traditional life cycle or waterfall model which include calls for greater user participation, long regarded as one of the key success factors for IT projects (e.g. Ives and Olson, 1984; Kyng, 1991; Kyng and Greenbaum, 1991; Beath and Orlikowski, 1994; Doherty and King, 1998; Butler, 2003; Lynch and Gregor, 2004; Pan, 2005; Rondeau et al., 2006). Incorporating user participation is considered important to improve system quality through validation of the system both technically and organizationally (Franz and Robey, 1984), which in turn helps to diffuse resistance (Hirschheim and Newman, 1991) and leads to a greater degree of user satisfaction and acceptance (Amoako-Gyampah and White, 1993; Butler, 2003). Further, some have specifically argued that a lack of user involvement and participation results in a lack of ownership (Schultze and Boland Jr, 2000; Pan, 2005; Doherty et al., 2006) and ownership has been generally considered as one of necessary factors for project acceptance (McBride, 1997; Schultze and Boland Jr, 2000; Schwarz, 2002) and specifically wider stakeholder user group ownership (Hornby et al., 1992; Breitman et al. (1999).

In relation to the question of how ownership might be invoked, Beath and Orlikowski (1994) argued that despite the perceived importance of user involvement and due to the prescriptive nature of traditional system development methodologies, there is an unequal relationship between IS staff and users, who are given a relatively passive role. Being directed or coerced into involvement can provoke negative reactions. Valentino et al. (2009) suggest that an important step in fostering ownership is to address the feelings of efficacy, an emotional motivational trigger, that invokes a need or want to be involved, likely to lead to positive participation towards a system.

Thus, the case presented in this paper demonstrates the change management process and activities that led to the invoking of ownership by the users. These elements are then discussed and concepts of ownership highlighted as critical to successful IS/IT development in organisations. The paper is structured as follows. Firstly, the case study background is outlined, followed by the research approach, data collection and analysis used in the second part of the case. We continue with the findings, discussed in two sections: firstly ‘antecedent conditions leading to change’ discusses the technological and organizational issues that resulted in the user disengagement that framed and

justified the changes in project management approach, and secondly ‘analysis of the changed project management’ reports on the change management process adopted, and in particular the two inter-related main changes: ‘introducing business analysts (BAs) as facilitators and communicators’ and ‘Business State Modelling (BSM) at user led workshop’ and. Finally, the issues arising and the implications and importance of ownership are discussed and the theoretical construct of Psychological Ownership (PO) is argued to be a relevant and useful lens in relation to IS/IT development research.

2 Research Method

2.1 Case study background

ACCAM (pseudonym) is a large multinational IT software company who won a contract from Great Publishing Press (GPP) (pseudonym) in 2005 to develop an integrated publishing system to manage content in support of the publishing house process. The GPP is a large publishing company with a wide customer base serving the UK market. They held a large catalogue of material of print, film and video dating back 30 years which needed to be integrated into the new system to deliver improved performance and competitive benefit. The case study research began at the end of 2007. The IT hardware procurement and software development had started over two years prior to this study. The two key objectives of the new IT system were firstly, to support the extensive film, video and print library content for re-use and secondly, to support the development and publication process of various formats of new material. From an organizational business viewpoint, ACCAM set out to improve communications and efficiencies, reduce costs, ensure consistent delivery of quality standards and place a control structure on the various work processes. The project was of strategic importance to GPP as it addressed the majority of its business processes.

2.2 Data collection and analysis

Drawing on the research literature about qualitative methods (Trauth, 2001; Yin, 2003) and in utilizing a case study as a means to develop and refine concepts (Cavaye, 1996) the research strategy was in the main line of the information Systems (IS) research tradition (Avison, 1997) in providing descriptive accounts upon sense making activities and interactions. The research approach utilized open-ended interview techniques by asking ‘what’ and ‘how’ type questions. These interviews were conducted concurrently with the ongoing change project, aiming to capture some of participants thoughts and experiences about the events as and when they occurred. This helped to minimise any ‘post-hoc historical glossing’ (Jefferson, 1985) and allowed the capture of important insights into the approach. Any difficulties were noted down and returned to later in the interview seeking clarification upon the nature of the problems encountered and how they were being resolved. These noted problems led to further investigations in subsequent interviews with others, as confirmations or as openings. The interview process attempted to create a relaxed environment, with a conversational attitude, of gentle questioning in an attempt to allow the interviewee to explore and reflect on and about their thoughts and processes concerning the project.

The research involved three data collection stages. In the first phase, twelve open-ended interviews were conducted with the project manager and the two principle Business Analysts (BAs) together with a number of observations of the BAs meetings with users, in which supplementary notes were taken. The first data collection stage generated insights upon the technical and organizational problems that were mainly borne out of the previous project approach and the new approach and changes that were being introduced. The second stage of data collection involved a further twenty one interviews with stakeholders, including re-interviewing of the project manager and the two principle BAs from the first stage. In this stage, additional BAs were included together with clients, users, the Web programme manager, the product delivery manager, the business organizational manager, senior test analysts, the solution architect, two implementation managers and the data migration manager. These

stakeholders all helped to not only give detail to the different perspectives but also provided a rich picture of the context into which the system was being placed. The last phase included two post implementation telephone interviews to confirm the handover issues and acceptance and success criteria of the users. In total, thirty five in-depth interviews were conducted lasting between 30-120 minutes. Supporting documentation was also collected, including the GPP project plan, scoping documents, Business State Modelling (BSM) maps, test scenarios, internal memos, open day leaflets, confidential feedback, acceptance criteria, bug and change requests, various meeting memos and internal exit interview reports.

The collected interview data were catalogued and through iterative listening, the key interview parts were identified and transcribed. The transcribed interviews were re-read repeatedly to produce rich descriptions which were analysed together with the other collected documentation. This enabled patterns to emerge with thematic analysis (Lofland et al., 2006), assisting the development of plausible descriptions (Prasad, 1997). The next section outlines the antecedent conditions just before the realisation of the problems and the introduction of the new project manager and the change of approach.

3 Antecedent conditions

3.1 Technical issues

The development team followed the PRINCE2 methodology from the initiation stage, reflecting a typical type of traditional top-down waterfall approach that includes voluminous documentation. Most technical difficulties had emerged as a consequence of the system design, its complexity and its integration with other parts of the business. The overall project design involved the fitting together of many applications, requiring the orchestration of eleven different off-the-shelf software packages that included Adobe InDesign, Oracle's Stellent and Microsoft products; each of which had been tailored to integrate with the customised enterprise content management system. Consequently, many specialist interfaces had to be designed and a multitude of software modifications had to be made. Running in parallel with the GPP system development was the content migration; the transfer of the large library catalogue to the new system. This included data conversion, migration and cleansing, which highlighted but did not resolve a multitude of content copyright issues. Testing and training programs were introduced, however delays in the delivery of a number of IT component programmes resulted in pressure on the project team who were having to deal with complications emerging from the many change requests including bug fixes and alterations identified and required by the business users.

3.2 Organizational issues

Six months prior to the project completion deadline GPP senior management belatedly realised that there was a lack of take-up of training together with numerous negative responses from the business users indicating their frustration and ultimately disengagement from the project. A clear breakdown of communication had occurred, for example, some of the business users had even stopped responding to the project team's requests causing conflict between the IT project team and the business users.

GPP management were not unduly worried by the escalating costs but were concerned by the threat of a delay to the implementation deadline, which they regarded as immovable. A number of issues had emerged; these included a lack of a clear conceptual overview of the project. As indicated it was a complex integration of a number of different pieces but as the development progressed some of this became changed with the result that the original design concept was, if not totally compromised, then certainly confused. This confusion even extended to differing understandings of the overall project aims and objectives, for example, one senior manager viewed it as a publishing system while another

understood it as a content management system. The consequence of these differing perceptions was that it filtered down the organisation resulting in confusion and disunity.

There were also difficulties with dealing with archive material, and in particular the geographical separation of the teams, causing delays and misunderstandings. Due to a loss of morale staff turnover was high, both in the business and the development project team, and this came to a head with the loss of one particular key knowledge worker that left both the business and the development team floundering in one important area. As a result an increasing number of contractors and temporary staff were employed, resulting in a short-term and discontinuous environment. For example, one of the contract engineers recalled spending his first few weeks "continuously grabbing people and asking them for information".

3.3 Changes in project management approach

As indicated these technical and organizational issues had led to disengagement of the business users and the realisation by GPP senior management that the project was in serious trouble. Their response was to appoint a new project manager with overall responsibility for the project and a brief to not only bring it in on time but also ensure its success in the longer term in supporting the business. This was quite some task as the time scale was fixed and limited, and there was little scope to fundamentally change the technical aspects of the project, since a substantial number of the architectural and program components were already in place.

However, if the new project manager was daunted he did not show it. His first step was to conduct a brief review of the situation and identify what needed to be done. His first action was to deal with the long list of change requests and enhancements so that the users felt that their work was being recognised and that their needs were being acted upon. He realised that he could not de-scope the project, as it was all highly integrated but he did recognise that the previous technically driven development approach had caused problems. His response was to introduce a new role of business analysts (BAs) who were to link with, and liaise between, the IT development team and the business. Two BAs were appointed initially and were increased to five after a short period. The role was essentially to be on the side of the business users and managers to ensure that their needs and requirements drove the project and that they were not intimidated or marginalised by the IT developers. This was calculated to bring them back on board, as he felt this was critical, and counter their disengagement. He managed to persuade senior GPP management of this approach and was supported by them with necessary resources. Obviously a re-engagement would not happen immediately and would need to be worked on and the role of the BAs was to be the means for such a change.

The initial response to this was resistance, but this time from the developers, who thought their role was being criticised and usurped but the support of senior management and their communication of this to the business as a whole, and to the developers specifically, was important, and as a result the rationale for the adoption of the new approach was established.

4 Analysis of the change management approach

The ethos of the change management approach adopted had the aim of fostering a cultural shift in perspective, seeking to engage beyond the boundaries of the system being developed, towards the problems faced in the implementation of the system into the business environment. Overall, the project manager employed a project management/system development approach that could be described as 'agile' informed, although no specific agile method was employed and indeed the term agile was never used. Reflecting the ethos of engendering a cultural shift small scale workshops were used as a vehicle to achieve this objective seeking to engage business users and the IT developers. An important tool in this approach was something termed Business State Modelling (BSM) which was used to build

relationships with the business users. Regular workshops, two or three times a week, with an average four to five attendees were employed in the various different business areas. Importantly, these workshops were facilitated by the BAs, which was a key part of their success. The participants were the key players holding the relevant specialist knowledge concerning the business and the business processes. Thus, there was a change from a traditional deconstruction of processes by IT specialists for a technical design to an approach that was driven by the needs of the publishing process and an understanding of the workflows are undertaken in a publishing business, from the business user's perspective together with appropriate improvements and opportunities.

4.1 Business facilitation and communication

The workshops were used to facilitate the emergence of the tacit and explicit knowledge of the situated work practices so that the business objectives could be identified and focussed upon. The decisions were then communicated to the rest of the stakeholders including the IT development team through the BAs. The BAs played a key role in liaising between the business users and the project team by acting as facilitators and communicators to translate the GPP system from technical language and specifications to the business and its needs. The BAs provision of services to the users and business stakeholders was critical, Their role was to support the shift of the business users' mindset to one in which the business could see and appreciate the role of the system and that they could not only influence but determine its outcome. As explained by the project manager,

“The business analytical team is really a service component, we provide services and anybody outside of us is customers, we consider them as the customer”.

This understanding was supported by the BAs themselves, and as one stated,

“My sole focus is achieving the business goal. Understanding what the monster in the sky is... right down to granule level, every time I get invited to a discussion in various implementations, I am asking myself what is the business goal..., what the business wants out of this conversation, what is the quickest way we can get to that, even if it is a low fidelity technical solution.”

As a result one of the first steps taken by BAs was to gain a clear understanding of the technical system as well as the organizational structure of the project. Thus, they became key mediators between all the stakeholders. As explained by one of the BAs,

“by becoming the key communicators between different stakeholders, we were able to effectively communicate the business needs to the development team and assure the business users that their business objectives were being reflected in the system design”

A key element of the workshops was the careful selection of the business process experts in their domain, as holders of tacit and explicit knowledge and who were considered to be able to exercise organizational influence. This arrangement ensured the system design was orientated towards their knowledge based work processes and patterns and provided a reason for the business users to invest their time and effort in system design. In the workshops, they were given support to exercise and affect organisational influence as a possible means to enhance, as well as protect, their particular working patterns. Therefore, the business users were able to see that it was in their own interest to invest themselves in the process. As one of the BAs reflected,

“We are starting to (have) one heart in mind. It is a slow process. So far everybody comes over for the user acceptance (sessions) where we demonstrate systems processes to them, have them walked through with their working scenarios, we have won them over, they are positive”

One particular concern of the project manager was that the business users were interpreting the GPP system as a threat to their working practices and even to their jobs leading to their defensive reaction.

To address this anxiety the project manager and the BAs set about building relationships between the business users, the IT development team, and the GPP system. There were a number of activities implemented but one of the important ones was the staging of an 'open-day', three months prior to the system handover. The 'open day', was an informal get-to-know event which was carefully planned and stage managed to engage the business users and to have them interact with the development team. The development office environment was turned into an exhibition space with the desks being arranged in sections (relevant to the business) with the IT development team on-hand to interact and present themselves and their work to the business users. There were large graphic wall posters together with handouts and various take-away goodies which all helped to explain and familiarize people with the overview of the project and to highlight detailed parts of the system in business terms. The open day also attempted to forge relationships by running a prize quiz draw compiled from questions about little-known life facts about people in the IT development team for the business users to fill out. This semi-informal event set out to invoke a feeling of closeness and of all being part of a team. Whilst it is difficult to know exactly what the impact of each of these events were, overall they seemed to work and develop engagement and more harmonious relationships.

The emphasis and recognition of the business users as prime decision makers and the BAs as facilitators also helped reposition the relationship between the business users and the IT development team. After their initial resistance the developers began to understand and respond to the need to make the system fit with the business and support the new workflows. This reciprocal understanding of each other's roles was an important benefit of the new approach.

4.2 Business State Modelling

Having put a number of organisational issues in place to encourage participation and the building of better relationships the project manager recognised the need for a method or technique that could enable the business users to express their understanding and their requirements in the necessary level of detail. Business State Modelling (BSM) was selected as an appropriate technique that would enable the users to express themselves clearly in business rather than technical terms and at the right level of detail such that technical solutions could be implemented.

State modelling is relatively well known and is a mechanical type of representation that provides mappings of inputs and outputs. According to Gill (1962), this concept can be traced directly back to 1936, when Turing categorised computers and specifically digital computers within the class of 'Discrete State Machines'. This approach to design represents a system within a clearly defined boundary. Each state is logically and coherently defined by drawing a box around the functions of the system that transforms an input to an output. These 'discrete state machine' characteristics have been abstracted from the original mechanistic applications and have been adapted as an analytical tool. Although in this case BPP adhered to the principles of state modelling by modelling the transition between states, their version is somewhat different. Its focus is not on the representation of the mechanical decomposition of the system but on the aligning of business goals and outcomes underpinned by a shift from representing 'what a system does' to 'what needs to be achieved'. It starts by describing an initial state and then explores the transition that needs to occur (trigger) to reach the next state, in order to progress towards the business objective. In BSM the question asked is, 'what are the things that we need to have done (objectives) to get from A to B?' (at any particular stage in the delivery cycle from the business users' perspective). The perspective is that the IT system is not the objective but rather is the enabler of the actions that need to be taken to get the job done. As with most modelling techniques consensus is achieved by a series of discussions and agreements that occurred in the workshops, i.e. the technique enables understanding and communication.

BSM was quite different to the more traditional process modelling approach used previously at GPP, which was one of its benefits. It focused on capturing sequential and interdependent actions which consequently prompted questions about the necessary tools and technologies, i.e. the possible modes of delivery. In BSM, the focus is on the outcome of the business objectives, represented in states, with triggers and actions that needs to be performed to get to the next state. The BSM maps initially presented ‘as-is’ logical perspectives free of IT implementation detail and constraints which enabled focus on what the system does and possible improvements from the users’ perspective. The technical functionalities are subsumed within states that allow the technical details to be exposed only as and when required. As described in an internal scoping document, BSM “...details the specific states that content needs to attain at the various stages of the publishing process. These states are further elaborated by triggers and actions”.

A typical and highly simplified example of BSM in publishing is provided in Diagram 1. Arrived content (state A) is reviewed (state B) and once these states are mapped, the key triggers and key actions required to enable this transition are identified.

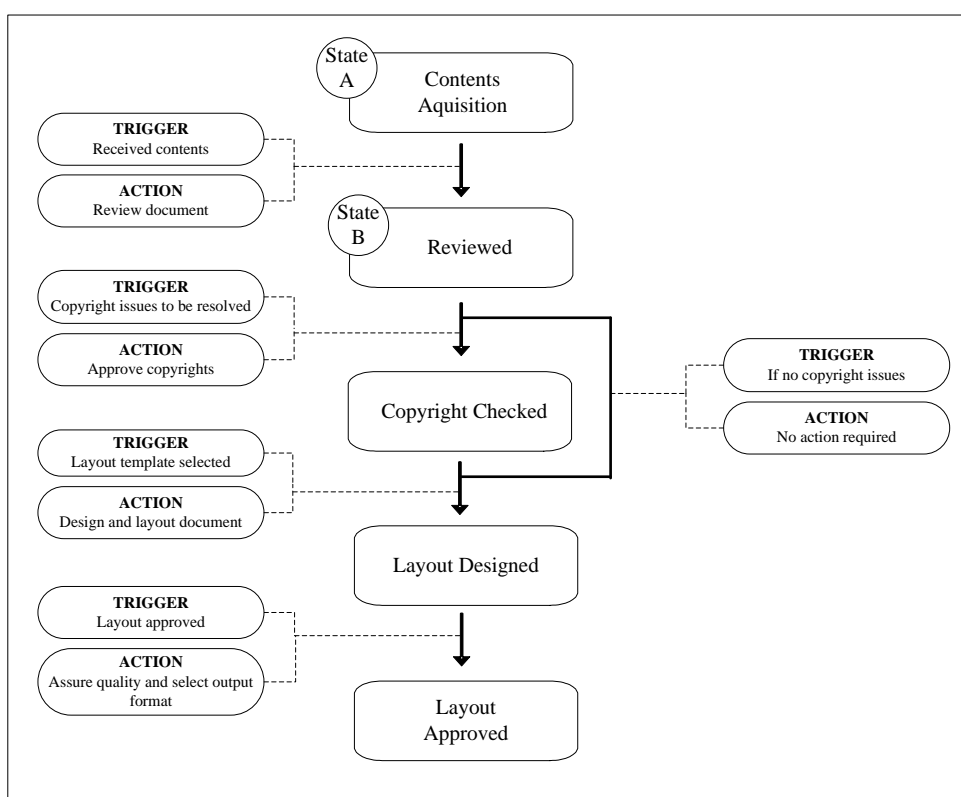


Diagram 1. Example of Business State Modelling (BSM)

This shift in the perspectives from technical functions and process design, towards conceptualising the necessary actions involved in the business publishing process allowed firstly, the IT development team to focus clearly upon the delivery of the functional requirements and secondly, the business users to exercise autonomy to discuss and influence the system design, as explained by one of the BAs,

“What we aimed to do was to describe the states that need to be achieve, so actually it changes the dynamic all together by emphasizing states..., it gives absolute, total mental freedom, conceptual freedom to add any mode of delivery to it, so it tells you what state needs to be achieved, it doesn’t prescribe how you are supposed to do it, so that pretty much applies to anything, you can apply anything to try to meet that object, to meet that state.”

BSM was utilized as a communication tool in the workshops to facilitate discussion and present business perspectives, providing the business users with an overall picture of the GPP system. As explained by a BA,

“It was the first time they’d seen it all in one paper, one area, one model that is successfully articulated in a state model”.

Thus, BSM became an influential technique in BPP because of the focus on the business users in meeting the business objectives. The sense of control was enjoyed by the users as they were given space to openly and freely discuss the order of work processes according to their understanding of their importance and relevance. The pictorial representation provided by BSM, i.e. the maps, helped break the communication barriers by creating an unthreatening environment for users who did not necessarily understand or even want to use technical terms. As one said, “It made sense to us!”.

It came to be considered as the business language, as one of BAs confirmed,

“BSM is being used in the business to talk about things learnt in the BSM language, that is, by most of the senior management who are involved. These guys are talking the language. They are really engaged”.

It was an iterative process, starting from the key identified initial states, with subsequent workshops confirming, refining and developing the details and capturing the necessary knowledge of the publishing process. Firstly, the diagramming facilitated the appropriate level of granularity by displaying or hiding different levels of complexity. This helped avoid problematic discussions by focusing on only specific job roles and duties. Secondly, by moving the flexible boundaries of the BSM maps allowed different user participants’ perspectives to emerge. Thirdly, it supported the validation of the business processes, as these actions were provided by the appropriate users in the workshops. In this process, the business users began to open up and lose their anxiety as they began to feel involved and able to make informed decisions.

4.3 Outcome

Over time the project became regarded as highly successful, not just by the project manager or the BAs but by the users and user management stakeholders, who not only accepted the system but had a feeling of involvement in its development and ultimately a feeling of ownership of the system. It was implemented, in a phased approach. The project manager was able to negotiate, from a position of strength, that some aspects of the system could be deferred but the major elements were implemented only one month later than the original deadline. The legacy library catalogue was transferred effectively and the system worked well and was accepted and embraced with enthusiasm by the users and the business and proved to be very effective.

These outcomes and perceptions were supported by post-implementation interviews that indicated pride in the system and its effectiveness in supporting the publishing process and the new ways of working. The system was deemed to have met its objectives, produced high quality outputs, and enhanced the new business processes and business flexibility required in a rapidly changing publishing world. Indeed, it became an essential element in the long-term sustainable success of GPP.

5 Discussion

At one level this can be viewed as an interesting case of the issues of systems development and the implementation of technology. Highlighting the problems that typically occur and the attempts to overcome such problems by adopting a different, perhaps more radical, participative change management approach. Participation of both users and business management is clearly of significant importance. However, although there are many studies that emphasise the importance of such

participation there are relatively few that provide a level of detail regarding the way that it was engendered and achieved. Thus, contribution is claimed beyond just the efficacy of participation. Specifically, in this case, the support and communication of senior management for the approach, the identification of the importance of the range of stakeholders involved, the BAs in providing the critical interface between the users and the developers, and their role as advocates for the users. Further, the effectiveness of the workshops, with the relevant users, as the mechanism for achieving engagement, facilitated by the BAs, was important. And also important was the adoption and use of BSM and the resultant maps, as a technique for modelling situations and requirements, acting as a language with its graphical representation, was significant for expressing, understanding and communicating business processes. The workshops and BSM technique also enabled discussions at appropriate levels of detail helping the resolution of problems between stakeholders.

At a second level the traditional approach to systems development is challenged by the shifting of responsibility and reassigning the ownership of the design away from the technology focus to the business users who are the experts and owners of the domain knowledge, and some of the concepts underlying agile development are clearly appropriate here.

So, positioning the case could be relevant to many concepts and subject matter in the literature, including; change management, project acceptance, user participation, disengagement and re-engagement, stakeholder management, etc. However, one important theme that emerged, and that was specifically identified by the project manager, was the concept of business and user ownership, and indeed lack of ownership. Ownership goes beyond participation and is perhaps an outcome of participation, and possibly other factors. Ownership has been recognized by some as a key element for success, for example, as the need for the business users as stakeholder to 'feel a sense of ownership of the project' (The British Computer Society, 2004) and as mentioned earlier it is found embedded in many alternative development techniques, such as RAD (Beynon-Davies, 2003) socio-technical approaches (Mumford, 2003) and as one of the core practices of Agile, i.e. 'Collective Ownership' (<http://www.agilemodeling.com/practices.htm#CollectiveOwnership>). However, although alluded to, ownership in this context has not been analysed in any great detail. One notable exception is the work of Barki and Pierce in relation to Psychological Ownership (PO). Pierce et al. (2001) argued that a 'feeling of possessiveness' and 'of being psychologically tied to an object' is at the core of PO, which gives a conceptual distinctiveness in comparison with other organizational related psychological relationships, such as organizational commitment, organizational identification and internalization. Barki et al. (2008) conceptualised IS/IT ownership using (PO) concepts from the work of Pierce (2001). Their premise is that IS/IT can help satisfy three PO motives; 'having a place', 'efficacy and effectance' and 'self-identity'. They argue that through the usage of IS/IT, a person is offered a sense of belonging and self-identity and 'efficacy and effectance' motives by the ability to control one's own environment. Barki, et al.'s second premise is that all three main routes to PO: 'controlling the target', 'coming to intimately know the target' and 'investing the self into the target' can be experienced by users through participation in system development or implementation of IT. They then compared and examined three potential mediators; User Involvement (UI), Cognitive Absorption (CA) and Psychological Ownership of Information Technology (POIT) and found that POIT, which is defined as 'the sense of ownership an individual feels for an IT or IS', is a significant mediating factor between user participation and system acceptance. Pierce and Barki further argue that through the introduction of enabling strategies, there is the potential for managers to foster the emergence of PO in an organization and to develop a richer sense of belonging and a positive attitude towards organisational change. These PO concepts are closely related to ideas of emotional involvement with a system as an important factor in its acceptance (Beaudry and Pinsonneault, 2010).

Reflecting on the GPP case in this context it could be argued that management, and in particular the project manager, 'fostered' such a sense of ownership by their interventions. Examples of such fostering are clearly important and necessary to support Pierce and Barki's contentions and in this case it might be argued that such fostering was achieved by the adopted project approach and the

techniques adopted, and specifically the level of detail provided. However, although this is an interesting avenue the research in this case was not motivated by these concepts and so further analysis and research is needed before any definitive conclusions can be reached.

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