Managing Beyond the Comfort Zone: An Exploratory Study of IS Project Managers

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ABSTRACT

This paper reports preliminary results from a case research on the question of how project managers adapt to managing IS projects when the project is beyond their comfort zone. 'Comfort zone' is used in this study to denote the area or areas in which a project manager has technical expertise, or a background in a particular area of IS, and at the same time a good understanding of project management methodologies. The main finding from this study is the development of an emergent model of Active Knowledge Gapping which describes the processes that project managers use when they adapt to managing IS projects which are beyond their comfort zone.

Keywords: IS project management, case research, IS education, human resource management

1. INTRODUCTION

During the 1990s as the importance and dependency of Information Systems (IS) to the success of organisations increased, IS projects became commonplace. However, in many organisations, due to the high failure rate of IS projects and the associated costs, effective and successful IS project management became a crucial issue (Whittaker 1999, Mahaney and Lederer 1999).

Project management as a discipline is well defined and expanding rapidly throughout many fields (Hoffman 1997, Pinto 1997). There is a large body of research which investigates the skills that effective project managers need (Weston and Stedman 1998, Steen 1997, Posner 1995), why IS projects fail (Sauer et al. 1998), and how to overcome failure (Whittaker 1999, Mahaney and Lederer 1999), as well as project management methodologies that can be applied to ensure the success of projects (Frame 1995, Meredith and Mantel 1995, Rosenau 1998, Lloyds TSB 1998, Project Management Program 1997).

Despite this research and the range of methodologies available for IS projects, there has not been a noticeable performance improvement with IS projects within the IS field (Sauer et al. 1998).

Because of the complexity and ever-changing nature of IS, IS projects can be considered distinct from other projects, requiring a different form of organisation and management (Sauer et al. 1998). IS project management as a discipline therefore requires further investigation and a correspondingly greater level of understanding than just the skills required and methodologies that can be used.

This paper reports results from an exploratory case research and develops a model of *Active Knowledge Gapping*, which describes the processes that project managers use when they manage IS projects which are beyond their comfort zone. 'Comfort zone' is used in

this study to denote the areas where the project manager has technical expertise or a background in a particular area of IS, and has a good understanding of project management methodologies.

This paper is organised as follows. The following section provides a literature review to provide background of project management as a discipline, the second section describes the research methodology, the third section describes the research findings and the final section discusses the implications of the study and possible future research directions.

2. LITERATURE REVIEW

The following literature review will provide a definition of projects and project management, background to the project management discipline, the general skills project managers require and issues in IS project management. While there is a lack of literature in the area of this study, the literature reviewed provides some background to project management in general and how project management in IS differs.

2.1 Defining Projects and Project Management

A project can be defined as a one-time, unique objective, with a definite start and finish date, involving a number of resources (Schackleton and Tatnall 1995, Rosenau 1998, Meredith and Mantel 1995). A definition of project management is:

> …planning, organising, directing and controlling resources to meet a certain, one-time objective by a specific date and within a finite budget. (Schackleton and Tatnall 1995, p. 842)

These general definitions also apply to IS projects and IS project management

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2.2 History of Project Management and IS Project Management

The management of projects has been around for thousands of years, but it was not formally validated as a discipline until the 1950's (Project Management Program 1997). The main development from the 1950's was the need to establish a project manager to take on the full responsibility for achieving project objectives.

In the 1960's two major professional project management groups were established (one in North America and one in Europe). Project management at that time was mainly identified in the areas of construction, defence and aerospace industries (Project Management Program 1997). The 1970's saw the spread of project management into most industries, IS being one of them.

Today IS project management concepts are generally applied in system analysis and system design (Shackleton and Tatnall 1995) although IS projects often also involve a variety of activities such as software development, systems integration, network implementation and investigating outsourcing (Sauer, Johnston and Lui 1998). IS project management as a methodology is very new compared to other industries such as construction, who have had established methodologies and years of experience of using them.

2.3 Project Management Skills

Through a variety of studies and articles on project management, there are common skills and traits identified that are deemed essential to be an effective project manager. These are as follows (Mateyaschuk 1998, Sauer, Johnston and Liu 1998, Posner 1995):

1) Strong planning and organisation skills
2) Communication
3) Team building
4) Coping skills
5) Leadership
6) Ability to identify risks and create contingency plans
7) Produce reports that can be understood by business managers
8) Evaluate information from specialists
9) Flexibility and willingness to try new approaches.

Feeny and Willcocks (1998) highlight that the main criteria for an effective project manager are the manager's credibility among stakeholders and successful project experience. This is to ensure that the business supports the project and that the project manager has the necessary skills to execute and see the project through to completion. Understanding the business is another skill that has been highlighted for effective project managers (Mateyaschuk 1998, Weston and Stedman 1998, Steen 1997).

While project management skills are common across different fields, there tends to be disagreement in the literature as to whether IS projects should be managed by technical or business project managers (Feeny and Willcocks 1998, Lee and Roberts 1998, Weston and Stedman 1998, Bloom 1996). Many agree that business skills are required as well as technical skills, but others suggest that you need someone with more technical experience to successfully manage IS projects. We have not found any research that has studied which is the better background, business or IS, for managing IS projects.

2.4 Issues in IS Project Management

Although IS project management as a methodology is not as mature as other industries and can be said to be "new" (Sauer, Johnston and Liu 1995), the failure of IS projects is not. The failure of IS projects is a critical issue for organisations due to the complex nature of IS, the high investment cost and the organisations dependency on IS for success (Sauer, Johnston and Liu 1995). Many believe this problem of IS project failure is not improving (Mahaney and Lederer 1999).

The most common reasons found for IS project failure are (Whittaker 1999):

1) Poor project planning
2) A weak business case
3) Lack of top management involvement and support.

Whittaker also identified that project management execution also contributed to project failure where:

1) Risks were not addressed in several areas
2) The project manager did not have the required skills or expertise
3) Project progress was not monitored and/or corrective action was not initiated
4) The experience, authority and stature of the project manager were inconsistent with the nature, scope and risks of the project.

Another study we came across compared IS project managers with project managers in the construction field (Sauer, Johnston and Liu 1998). The differences and issues they found in terms of IS projects were as follows:

1) Lack of importance placed on IS project managers
2) Unknown/unwilling sponsors
3) Half hearted steering committees
4) Haphazard approach to managing project management
5) IS project management is difficult discipline and IS project managers need to be valued and supported accordingly in order to achieve success
6) Successful construction projects managed by managers with long and deep experience – it is the basis of their careers.

Sauer, Johnston and Liu (1998) found there were many lessons to be learned for organisations. Their main insight was:

> Project management is a difficult discipline, and until this is recognised and IT project managers are valued and supported accordingly, that is until IT project managers are treated more like their "regal" cousins in construction, it is folly to suppose that consistent project success will be achieved (p. 554).

Both of the above studies highlight the need for organisations to value and support IS project managers more than what is currently done when undertaking any IS project.

On review of the literature it can be seen that there are certain skills that are required for any project manager, including IS project managers. It has also been identified that there are major issues concerning the success of IS projects. While these skills and issues are acknowledged and widely known, there is no research within IS project management that we have found, that studies "how" IS project management is completed within organisations.

This study attempts to fill some of this gap by understanding how project managers, who have a technical background, manage IS projects that are beyond their comfort zone. This focus on "beyond the comfort zone" is due to the ever changing nature of IS and from my experience that there is always something new in any IS project.

3. CASE RESEARCH METHOD

Case research method is used to shed light on a phenomenon (process, event, person or object of interest) and has been noted for three purposes: to produce detailed descriptions of a phenomenon, develop possible explanations of it, or evaluate it (Leedy 1997). The method is considered useful when a natural setting is needed and the study is exploring a contemporary event, and where control of subjects or events is not necessary and there is not already an established theoretical base (Benbasat et al. 1987). Finally, the case research method is considered appropriate for organisational studies because it uses direct observation and systematic interviewing to gather data, and in particular when 'how' or 'why' questions are being posed (Yin 1989, Cresswell 1994).

Six IS project managers (participants) were interviewed from two different organisations. Each manager averaged six years in an IS environment and most had "fallen" into IS project management as a result of their background and skills.

All participants had previous background and experience in a particular area of IS and were beginning to learn other areas and manage projects in those areas.

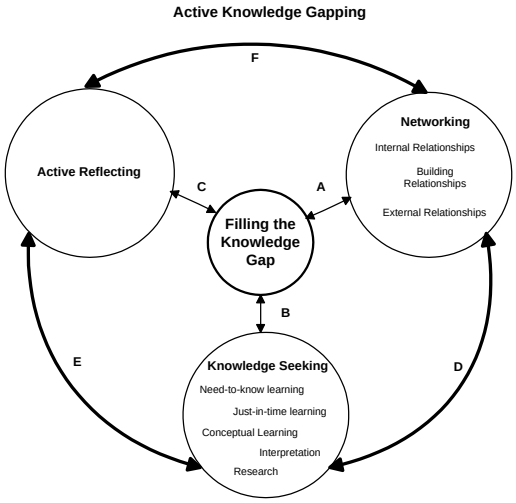

Fig. 1. IS Project Management Beyond the Comfort Zone

One-hour unstructured interviews with open-ended questions were conducted with each participant and tape recorded. Data and questions were reviewed on the completion of each interview, and questions changed as patterns and categories emerged. Transcriptions were validated by the interviewees.
From the data analysis, a conceptual model was developed that linked the emergent conceptual categories. The participants checked the model and their suggestions for improvements were incorporated.

4. FINDINGS

The main finding from this study is the development of a model of *Active Knowledge Gapping*, which describes the processes that project managers use when they manage IS projects which are beyond their comfort zone (see Figure 1). The processes are *networking (A), knowledge seeking (B)* and *active reflecting (C).*

The model also indicates that when project managers are managing such projects their main objective is to use these 'adaptation' processes to gather as much information and knowledge to "fill the knowledge gap" so as to become comfortable with the projects and move back into a comfort zone.

4.1 Networking

Networking is described as the process of interacting and communicating with other knowledgeable people in order to acquire relevant information and understanding relating to the project.

The research showed that networking played a large part when participants went beyond their comfort zone, especially with people outside the project team or outside the organisation.

Networking was used to provide validation in areas of concern or confusion, gather information in the areas where the participants had little or no knowledge or experience, and also to seek out sounding boards.

The dimensions of networking established for this model were internal relationships, external relationships and building relationships. Networking was found to be closely used for knowledge seeking, particularly for validation of the information gathered or to gather the information itself. The networking dimensions (and the overlaps with knowledge seeking) are described below.

Using Internal Relationships: Internal relationships are described as existing relationships the participants have with others within the organisation. The participants would use these established relationships when confronted with issues or problems in areas that were beyond their comfort zone. These relationships were with people who were 'trusted' to provide the right answer, provide further information, validate information given to them by others or just be a "sounding board", and were generally with someone outside the project team. The following excerpts are from participants describe whom they went to when out of their comfort zone and why.

> "…and at the same time bringing in a few other subject matter experts, more in the IT area, particularly some people that I had access to in my own project management group who had heavy IT experience, and just asking them to sit in on the meeting and give their thoughts…"

> "It is the knowledge of those people, it is the trust I have in those people [to provide the right answer]".

Using External Relationships: External relationships are relationships that the participants already had with others outside of the organisation. In some instances the project manager would use his or her external contacts, either on a formal or informal basis, to provide answers and information similar to those from internal relationships.

> "…I was a bit caught out by not having the in-depth technical knowledge. I employed Anderson Consulting and got an expert in to sit beside me and whisper in my

> ear. He knew all about the various standards for the different protocols, all that deeply technical stuff…"

Building New Relationships: Another aim of networking was to build new relationships, either internal or external. Participants saw all relationships as a way of overcoming lack of authority and technical knowledge.

4.2 Knowledge Seeking

Knowledge seeking is described as the action of actively seeking out specific information to gain further knowledge on a subject or area of an IS project. The research uncovered several dimensions within this process:

1) researching
2) conceptual learning
3) just-in-time learning
4) need-to-know learning
5) interpreting.

Researching: Researching is described as studying materials in order to further understand an area or gain knowledge about an unknown area. Some participants would do their own research on project management, project management methodologies, and other areas where they did not have experience, in order to fill the "knowledge gap".

> "…started then by reading a book on project methodology and on management of projects and starting to manage the thing by the text book".

Their research involved either in-depth or high level studies in the relevant "knowledge gap" areas, as well as using their networks to gain further information and knowledge.

Conceptual Learning: Conceptual learning is described as a general level of understanding (not an in-depth understanding) of a process or aspect of a project. In all cases the participants would have an understanding of the project from a holistic or conceptual viewpoint gained by talking to their project team members or using their networks. Participants felt that they did not need to know all the technical "in's and out's" of every aspect of the project, but rather that they did "…need to understand what they are changing and why they are changing it".

The participants would seek the conceptual view or obtain a "high level understanding" in the areas where they did not have the technical knowledge.

Just-in-Time Learning: Just-in-time learning is described as understanding a particular aspect of the project just before they needed to. This was important to the process of adapting beyond the comfort zone because the participants generally had to pick things up very quickly when they were managing the projects outside their area of expertise. Learning was conducted within a short time frame and just in time for when it would be used. Participants would go away and quickly find the answers if something were not known.

Need-to-Know Learning: Need-to-know learning is described as learning with necessity. It is where the learning is essential to the success of the project and where knowledge is needed by the project manager to manage the project.

> "It's amazing how quickly you can come up to speed, or I guess it's like learning in a foreign country, not knowing a word of whatever the language is and by necessity you pick it up pretty damn quick, and by necessity you can do it."

The twin processes of need-to-know learning and just-in-time learning provided the project managers with both relevancy and immediacy in their learning while managing projects out of their comfort zone.

Interpreting: Interpreting is described as the explanation of the language and technical aspects of a project. A common complaint of the business is that technical people have an elaborate use of jargon that others cannot understand (Taylor-Cummings 1998). Even though the project managers had all come from a technical background they still encountered this problem and the "technical jargon" used in the areas outside of their comfort zone sometimes required interpretation.

Another aspect of interpreting is understanding what others in the project team are saying, and whether it is in fact true. In some cases the participants would use people in their network as interpreters to explain what their teams were telling them, or what was happening in the project.

Active Reflecting: Active reflecting is described as learning by reflection upon experience. Learning from reflection can also be based on someone else's experience as well as one's own, with both instances leading to a valuable learning process.

Active reflecting is the third process used by the participants to "fill the knowledge gap". Participants

gave accounts describing their reflective processes when they were managing beyond their comfort zone.

> "The first lesson I learned was never ever attempt to make a decision without subject matter experts."

In this case, the participant had made a decision without a technical expert opinion in an area outside his or her comfort zone. On reflection the participant decided that any future decisions would be made with the help of subject matter experts. This decision is typical of the active reflecting process.

Reflection - continually learning from experiences and applying lessons learnt to new contexts seems to play a large role for managers working beyond the 'comfort zone'.

5. DISCUSSION

This exploratory study and findings have implications for IS project management both in practice and research.

5.1 Implications for practice

Understanding how IS project managers manage projects beyond the comfort zone may have significant implications both for human resource management and for professional development. This understanding can provide relevant information for the selection and continuing professional development of project managers. For practitioners the *Active Knowledge Gapping* model will help understand the support that is required when they are beyond their comfort zone. The model could also help with projects that involve new technology, ensuring a support structure is in place to help the project manager manage in areas of little or no experience or knowledge.

5.2 Implications for research

Further in-depth investigation of each of the processes of the *Active Knowledge Gapping* model could further support and expand the findings of this research.

In particular, *active reflecting* can possibly be extended to include an Active Reflection Model, based on the works of Schön (1987), Boud et al. (1985) and expanded by Yoong (1999). This model explains the reflection process as two types of reflection: Reflection-on-Action and Reflection-in-Action. Due to the scope of this study, further break down of the reflection process was not possible. This would be an important feature of any further research on the model.

Another area for research would be to investigate the impact of the success of IS projects in relation to the project manager's project experience. In reality, many IS project managers have fallen into the role of project manager and this could be one of the weaknesses leading to IS project failures.

Other areas not reviewed in the study due to time constraints were:

1) socialisation
2) culture of organisation
3) the existing value and support of IS project management within the organisation.

Investigation into these areas in relation to IS project management could provide further contextual information to explain the behaviour of project managers when managing beyond their comfort zone.

6. CONCLUSIONS

The aim of this study was to understand how IS project managers with a technical background adapt when they are managing projects beyond their comfort zone. This paper proposes an emerging model of *Active Knowledge Gapping*. The model consists of three processes that the participants used when they were beyond their comfort zone, the active processes being networking, knowledge seeking and active reflecting. These processes help to "fill the knowledge gap" which was the main aim of participants when beyond their comfort zone.

Previous literature has stated that project managers require experience and knowledge to successfully manage a project. From this study we believe that at some stage all IS project managers, even with technical backgrounds and experience, will have to manage an IS project that is beyond their comfort zone due to the changing and complex nature of IS.

Although this study is exploratory, we believe it has filled in some of the literature gap that is missing for understanding further what is required to manage IS projects. Understanding how project management of IS projects is actually done may provide more knowledge and information to help identify more specifically where IS projects are failing and why there is a higher failure rate, despite having access to a range of project management methodologies and understanding the skill requirements for project management. It may also help identify the types of people suitable for project management by how they will deal with the processes of knowledge gapping.

In particular, a more in-depth understanding of how IS project management is generally handled when the project is beyond the comfort zone of a project manager will provide valuable information as to further support and education required by the organi-

sation to try to ensure a projects success, especially since IS is continually changing and becoming more complex. We strongly believe that the continuing education and professional development for IS practitioners will benefit from these studies.

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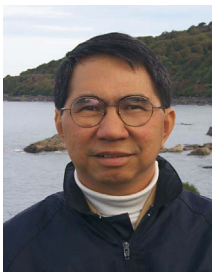

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