

Full Length Research Paper

Project reviews: The vehicle for learning in organisations

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Project reviews are an essential process of learning new things and capturing what has been learned in a project. This is done in order for future projects to benefit from this knowledge. A study conducted revealed that four out of five organisations did not conduct post-project reviews. However, if they do conduct project reviews, there are no guidelines on how to do it. The aim of this article is to ascertain how organisations conduct project reviews, share lessons learned gathered during and after an information technology project. The scope is limited to three organisations in the Netherlands, China and South Africa. The study is carried out using a qualitative research approach through interviews, observations and documentation gathering. It is evident that organisations do not have guidelines on how to conduct project reviews. Moreover, there is no formal mechanism used to integrate lessons learned into the organisation. The value is that it provides insight into current practices which allows for recommendations to be made to improve learning from project reviews. The paradoxical results show that there is an absence of formal processes linking organisational learning to project reviews although respondents were of the opinion that organisations do project reviews.

Key words: Qualitative research, information management, lessons learned, organisational learning, project reviews, case studies.

INTRODUCTION

There have been a significant number of academics and practitioners who have shown the affiliation between project management and knowledge management (Kamara et al., 2000; Gilbert and Holder, 2000; Disterer, 2002; Desouza and Evaristo, 2006). With knowledge management in mind, Maqsood et al. (2006) noted that organisations and their project teams opt to base their project management activities upon past experience.

Organisations recognise project management as a strategic tool impacting on business performance, profitability and competitiveness (Panico, 2007). The guide to project management body of knowledge (PMBOK® Guide) (Project Management Institute, 2008) lists 42 key processes of best practices for project

management and defines a project as “a temporary endeavour, undertaken to create a product, service or solution while defining the beginning and the end”. Project management has been presented as the application of knowledge, skills, tools and techniques to project activities so as to meet or exceed stakeholder needs and expectations (Duncan, 1996; Shtub et al., 2005).

By incorporating knowledge-sharing as a best practice, organisations are able to develop better judgment, and improve the planning and managing of future projects (Bansler and Havn, 2001). Whilst these factors may hold true for any managed project, for the purpose of this research the focus is on information technology (IT) projects.

Some of the challenges that cause IT projects to fail include complexity of scope; failure to reuse deliverables and processes; rare capturing, retention or indexing of project information for other people to utilise; and the use

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of new technology and consequent dispersal of newly trained project team members throughout the organisation (Bainey, 2004). Moreover, research has revealed that many organisations have a tendency to repeat the same mistakes, particularly in relation to knowledge transfer and the reuse of the information derived from past IT projects (Collier et al., 1996; Desouza et al., 2005; Desouza and Evaristo, 2006).

Godbout (1996) as well as Finestone and Snyman (2006) define knowledge as a "resource and a process". These views state that knowledge is a resource because it gives its carrier (the individual or organisation) the capacity to act and make decisions; the latter because it is reliant on experience and background. For Sveiby (2000) knowledge is embedded in human beings and is thus a personal quality. Knowledge management is then a process that recognises, generates, and transfers explicit and tacit information and data between people so as to increase the organisation's effectiveness (Davenport and Prusak, 1998; Rossett, 1999; Jackson et al., 2003).

Although knowledge is internal to an individual or collective memory, the explicit and tacit aspects of it have a great influence on how knowledge-sharing takes place. Tacit knowledge, according to Becerra-Fernandez et al. (2004: 20), includes insights and perceptions of individuals, while for Jackson et al. (2003) it is difficult to document and is passed to others through direct expressions. Explicit knowledge, on the other hand, can be documented, communicated and formalised, and is often processed, transmitted and stored in a systematic manner. Little et al. (2001) believe that, to understand the true sense of knowledge and its creation, it would necessitate people recognising that tacit and explicit knowledge go hand-in-hand, and that both types are essential for knowledge-creation. Thus, managing knowledge has become part of the process by which the organisation generates wealth from its knowledge or intellectual capital.

Sharing of information prevents IT project teams from reinventing the wheel while embarking on projects, and so promotes innovation (Six, 2008). However, information-sharing can be a particular challenge when it comes to multi-national organisations (Jais, 2007), as tacit knowledge stored by individuals and team members may be difficult to articulate and communicate across different cultures and languages. In addition, project teams from multi-national organisations are faced with challenges regarding project members not wanting to share knowledge. A relationship based on trust facilitates communication between project team members but, conversely, a lack of trust between project team members poses a threat to the success of projects. Such lack of trust may arise when organisations and project team members do not want to share information for fear of not being acknowledged.

Finestone and Snyman (2006) mention that organisations

discourage the sharing of lessons learned and experiences gained for fear of losing their competitive advantage. Documentation is inaccessible, locked in systems that people cannot readily access (Fujitsu, 2008). In other instances there is inadequate technology to enable project team members to share knowledge.

The article provides an overview of the literature available, focuses on the research methodology, analyses and interprets the results presented and concludes, while focusing on recommendations and future research.

LITERATURE REVIEW

Organisations are faced with a need to improve the quality of their products or services in a competitive environment (Tee et al., 2007). Delivering a quality product and/or service is associated with the project manager's capability to manage a project (Kotnours and Vergopia, 2005). They further claim that the project manager's capability is generated over time from working on many projects.

The organisation's next project should produce better results because current experience helps improve quality (Rose, 2007). Rose further notes that in conducting post-project reviews, organisations get to reflect on the project history including lessons learned. As per the PMBOK® Guide, lessons learned are recognised so they can form the historical databases for the project and the performing organisation (Project Management Institute, 2008). Moreover, lessons learned should include the root cause of variances, the reasoning behind the corrective action chosen and other types of lessons learned from cost, resources and/or resources production control. However, documentation of these lessons learned should be made available to other projects in a timely manner.

It is argued that organisations find it difficult to learn from past experiences, and that a process is required to support learning among project teams throughout the project life-cycle and not just at project closeout (Ricks, 1997; Kotnours and Vergopia, 2005). It is important to note at this point in time that there is a difference between the learning organisation and organisational learning. The most common way to distinguish between organisational learning and the learning organisation in existing literature are that learning organisation is a form of organisation while organisational learning is activity or processes (of learning) in organisations (Örtenblad, 2001). The focus of this article is not learning organisations as defined by Senge (1990) but the process of learning within organisations. Learning is a process where knowledge is created from experience and the path by which improvement occurs. Love et al. (2000) write that for learning to occur, processes and structures need to be put in place so that they may continue to improve learning.

Learning occurs while post-project reviews are being

conducted (Project Management Institute, 2008). However, lessons may also be learned at any time during the project. Kerth (n.d.) writes that post-project reviews should not be regarded as sessions of blame and shame but rather as sessions of constructive learning from someone else. For Simon (1991) and Williams (2007) learning occurs mentally and an organisation learns either from its employees or by hiring new employees who have the knowledge that the organisation did not have previously. However, they further note that what individuals learn within an organisation is reliant on what the other employees know and what form of information is available within the organisation.

Learning is regarded as a process that is created through experience. On the other hand, it is claimed that learning occurs through projects during post-project reviews. Ultimately, once lessons learned have been created, they have to be integrated back into the organisation if they are to facilitate organisational learning.

Project management requires that post-project reviews be conducted so as to determine what went wrong or right and what lessons can be learned from the project (Frigenti and Comminos, 2002: 244). Post-project review is a process of identifying areas of improvement in future projects (Cleland and Ireland, 2007: 327). This process can be conducted either at the end of the project or after major project milestones (Hallows, 2005: 271).

A project review is as important as the project itself; however, many organisations are looking at this process as a low priority one (Anbari et al., 2008). It was revealed that four out of five organisations did not conduct project reviews (Von Zedwitz, 2002). According to Koners and Goffin (2007), once a project has been completed, whether it was a success or not, there is normally learning that is generated for the organisation.

Maqsood et al. (2006) state that project reviews are badly designed, implemented, managed and incorporated into the organisation. The main reason is a lack of support from senior management and proper incorporation into the vision and strategies of the organisation. Moreover, Williams (2007) states that integrating lessons learned from project reviews into the organisation has attracted less attention, indicating that further research needs to be conducted.

However, research has shown that by conducting post-project reviews, organisations benefit from their past project whilst minimising their mistakes (Collier et al., 1996; Turner and Simister, 2000; Wallace, 2007; Anbari et al., 2008). The following section expands the benefits of project reviews, thereby increasing the validity of conducting project reviews.

Conducting project reviews routinely could refine the product and improve the benefits (Anbari et al., 2008). In contrast to the challenges discussed previously, according to Collier et al. (1996), the goal of a project review is to use project analysis results to improve future

project management, methods and practices.

Project reviews are essential tools to help learn the lessons of one project for the benefit of future projects. Wallace (2007) noted that project reviews are to be conducted in order to ascertain the success of a project, especially the way in which it has achieved its objectives. Frigenti and Comminos (2002) write that conducting project reviews can be used to assist the organisation in performing better in their next project. They further argue that project reviews are opportunities for project teams and the organisation to learn from experience. Thus, it is important for senior managers to go through the results of the review.

As has been stated by Kotnours and Vergopia (2005), lessons learned at the end of the project are biased and focus more on recent occurrences rather than what has happened during the project. Moreover, Keegan and Turner (2001) found that ongoing project reviews are the most effective ones. For Robertson and Williams (2006), it is widely agreed that project reviews should be conducted during the project and not afterwards; thus, facilitating learning in the process.

Robertson and Williams (2006) suggest that if organisations wish to achieve better project output, they ought to learn from their previous experiences. They must examine the event of the project that has led to either the success or the failure of the project. Disterer (2000), and Robertson and Williams (2006) have found organisations failing to accomplish project reviews, leading to them repeating the same mistakes. In addition, Schindler and Eppler (2003) note that organisations that have the capability to learn from project reviews are able to draw comparisons among projects that they have undertaken and record the best problem-solving practices. The reason for this is that they are able to minimise risks in their next projects. By applying the best practices the organisations will have learned from their past projects.

According to Frigenti and Comminos (2002) as well as Perkins (2007), project reviews can be carried out using techniques and tools such as brainstorming meetings, workshops, audits or multi-week sessions. However, it is vital for the project team to be involved. Project reviews are conducted with project teams to determine the extent to which learning has been utilised on the job. Furthermore, the reviews are conducted to determine the project manager's success in meeting the project stakeholders' needs (Phillips et al., 2001).

In recent years there has been some confidence that project reviews are beneficial to the organisation (Anbari et al., 2008). Various project review processes exist currently and have been adopted (Collier et al., 1996; Anbari et al., 2007; Perkins, 2007; Westland, 2006; Bradley, 1993; Schwalbe, 2010; Project Management Institute, 2008). All these processes display variance in the way project reviews are conducted.

Based on the literature review, the following research

questions have been derived:

- 1) Is access to project information available to project teams?
- 2) Are project reviews conducted during and after the project?
- 3) Are lessons learned incorporated into the organisation to assist in managing future projects?
- 4) Is learning from past projects a facilitation process?

The following area describes how multiple case studies are utilised to answer the research questions.

MATERIALS AND METHODS

Olivier (2009) highlights the importance of conducting a case study. It is used to obtain broad information pertaining to one or a few subjects. According to Yin (2003), case study research can be based on two major studies: single or multiple case studies. A single case study focuses on a single source whereas with a multiple case study data is collected from multiple sources. Olivier (2009: 99) states that single case studies are ideally suited "to confirm, challenge or extend a theory". Multiple case studies, on the other hand, facilitate comparison among cases contributing to the conclusion. In this instance, multiple case studies have turned out to be the more favourable of the two.

Case selection for this multiple case study is conducted through a sampling technique which for qualitative research focuses on ascertaining information from specific groups in the population (Hancock, 1998). Thomas (2002: 254) argues that sampling is used to focus research with a smaller group of participants who precisely represent the population. A purposive sampling technique (Patton, 1990; Merriam, 2002) in the form of convenience is used to produce information-rich cases that clarify the research. Three international companies were selected for comparison purpose.

Case description

Case 1: Netherlands

With the headquarters based in the Netherlands, this consultancy and engineering organisation provides services and sustainable solutions to various markets. The organisation has subsidiaries in Europe, Africa, Asia and North America, with some 2055 employees.

Case 2: South Africa

The second case is a leading South Africa-based consulting engineering and project management group that provides solutions in various markets. The organisation employs 1000 staff on a full-time basis with 22 offices countrywide.

Case 3: China

The third case is a leading China-based consulting organisation. Its major activities include aviation, infrastructure, tunnels, railways, water and building. This organisation employs around 695 employees from both their Beijing and Shanghai offices.

Here are the motivating factors for using these three organisations for the research:

- 1) All three companies have independent IT systems.
- 2) Assuming that all three companies use English as their method of communication, it does not necessarily mean that their knowledge is stored in English. People of the Netherlands speak Dutch as their first language. Therefore, there is a probability that their knowledge is stored in Dutch.
- 3) The three organisations have jointly worked on various IT projects.

Data gathering methods

The following data collection methods are used in the research:

Observation

Observations are a necessary data collection method when the researcher wishes to capture participants' natural behaviour using their usual context (Mack et al., 2005). Time was spent with the Dutch project team to gain first-hand experience on how project teams share knowledge and manage it during a project. During the observations field notes have been documented and questions asked. Field notes of the observations consist of descriptions of the setting, identity of the people and documenting participants' reactions and interactions (Westas, 2002).

Interview

Interviews provide the researcher with the opportunity to probe and solve a problem through interactive measures (Lewis, 2000). Semi-structured interviews were used for this research. The two types of interviews used in this research were focus group interviews and individual interviews. The same questions were posed to the various participants from the different organisations to ensure validity. Although only the three Chief Information Officer (CIO)'s were interviewed, they provided a holistic view of all the projects within the respective organisations. The alternative was to interview all the respective project managers but the notion was to interview the CIO's as they would have a better idea and understanding whether learning in the organisation took place.

Documentation

A document is "any written or recorded material" (Lincoln and Guba, 1985; Westas, 2002). Documentation such as conversations via e-mails, minutes of a meeting and information taken from IT project files have been collected and combined with the data acquired. Once the data-gathering process was completed, all the collected data were analysed for patterns and themes. Once data was collated from observations, interviews and documentation, the next step was to analyse it. The analysis step examines the collated data and also compares what has been discovered.

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Analysis of qualitative data

Qualitative data analysis provides ways of sharpening, contrasting

and interpreting meaningful patterns or themes from information that has been collected (Westas, 2002). In transcribing interviews verbatim (Merriam, 2002) the “ums” and “ahs” and number of seconds of a pause are recorded. As highlighted by Gilgun (2004), these details are important clues about the participant’s way of thinking as they underline state of mind. Notes are written using all the collected data to capture the researcher’s thinking and understanding.

ATLAS.ti is a computer assisted qualitative data analysis software (CAQDAS) tool that is utilised in the analysis of qualitative data. The reasons for using software, as affirmed by Hancock (1998) and Gilgun (2004), are that qualitative data analysis software are quick and easier in locating codes within text.

A thorough coding procedure guides the analysis to develop a theoretically informed interpretation of the data (Strauss and Corbin, 1990; Merriam, 2002). The principal aim of coding is to assist with the development of a comprehensive understating of the phenomena that the data is understood to be representing (Lewins and Silver, 2007). Inductive coding is used to block any existing theory in the quest of revealing new theories. Inductive coding consists of open and axial coding.

Data analysis progresses through the phase of open coding (Merriam, 2002). Open coding is followed by axial coding as the second phase of coding (Lewins and Silver, 2007). In axial coding inspections are fixed in paragraphs of transcriptions and field notes, with each incident, idea or event being given a name or a code that represents the concept underlying data collection. Codes are shaped in terms of similarities and differences with categories constructed from patterns or themes discovered in data.

Assessment and evaluation

With the use of multiple data collection methods the aim is to triangulate the trustworthiness and creditability of obtaining consistent, dependable and congruent data (Teddlie and Tashakkori, 2009). Triangulation eliminates the researcher’s biased views while enhancing the trustworthiness of the study. The three data gathering methods were used: the results of the interviews were compared with that of the physical documentation collected as well as the results of the various observations. This provided the researchers with a holistic view on the lessons-learned process. The researchers could determine whether there is consistency within the three data gathering methods. Rolfe (2006) affirmed that “a study is trustworthy if and only if the reader of the research report judges it to be so.” In addition, Moule and Goodman (2009) regard it as vital for the researcher to maintain trustworthiness for the quality of the entire research. One of the criteria of trustworthiness, creditability, refers to the research being carried out according to good practice and submitting research findings to the participants who took part in the study to confirm what they have said (Bryman and Bell, 2007).

Participants are informed about the overall purpose of the research and its main features, as well as of the risks and benefits of participation. Consent is requested through the participants and verbally for all the research proceedings. Confidentiality and avoidance of harm are assured to all the participants.

RESULTS AND ANALYSIS OF INTERVIEWS

Research question 1: Is access to project information available to project teams?

From all the interviewees there was no clear indication of the mechanism used to obtain information from prior projects. In the Netherlands, prior to the project initiation,

a series of meetings have been held to determine whether a similar project existed before. There are project reviews that happen informal for instance “*Well, IT projects are handled by a series of meeting where there will be minutes. There will be agendas and people brought in and out of those teams as and when required based on the skills that needed to be able to roll-out that project.*” The CIO from the Dutch organisation mentioned that there was no mechanism in place to ascertain if information from previous projects existed and claims that “*I use personal experience from previous projects and I didn’t use anything which was written down from that previous project.*” The Dutch CIO stated that his project team has access to the project information. This was confirmed by the project team but it is limited to the project team only.

In the South African organisation, the project team has access to all the necessary project information.

However, in China, the project manager, has mentioned that “*I did not know the background because I took this job over in the middle of this project.*” Therefore, she has not been part of the initial process and did not know if there had been previous project information. On the other hand,

The following conclusions can be drawn from the interviews:

- 1) Only the Dutch organisation uses different mechanisms such as a series of meetings or past experiences to gather information regarding previous projects.
- 2) Where access to project information is available, it is only granted to the project team or those who are regarded as specialists. However, there is an awareness that access needs to be granted to those who are not immediate to the project.

Project management requires that information be made available to team members. Project information is captured using a variety of media that allow access to all the team members. The interviews revealed that there is no formal mechanism used to explore previous project information. Thus, some of the project teams use their collective past experiences.

However, by implementing an information management system, the organisations can introduce a mechanism that would be used for capturing, sharing, storing and disseminating project information. Granting access to the information management systems is to be made available to the respective project teams.

Research question 2: Are project reviews conducted during and after the project?

When asked about the term project reviews the interviewees had an idea of what it was and when it should happen. They said that a project review was a

“process of making corrective measures”.

The interviewees revealed the importance of conducting project reviews. In the Netherlands, project reviews have been conducted to *“reveal deviation that needs to be realigned or done something with, add money, add people, re-scope whatever that needs to be done ...”*

The South African team concur that reviews are platforms to come up with new solutions to the project. In addition, project reviews provide a review of the progress of the project; that is *“... Are we still on target? Are we still meeting our objective?”* In China, project reviews are used to determine the points that need improvement and to come up with a solution to address the problem. In addition, the project manager has stated that *“project reviews reveal the kind of things that need more attention”*.

The responses confirmed that project reviews are conducted within the three organisations. While the Chinese organisation says that they have reviews during the project and after the completion of the project, the project team in the Netherlands conducts project reviews at every project milestone and also during the project. The South African project team conducts their project reviews also on an on-going basis. Conversely, at the end of the project they also conduct a project review of how the project has been managed.

Project team members in the Netherlands are required to *“prepare a report of highs and lows that were encountered during the week and they are also required to attend meetings to discuss improvement and finding new solutions. Moreover, to plan for the next weeks project activities.”*

It can be concluded from the interviews that project reviews do take place. However, there is no formal process or written procedure on how to conduct them.

The interviewees have expressed their understanding of the term *project review* and the concept of conducting a project review. However, project reviews that are conducted are less structured, as there are no guidelines or mechanisms on how they should be conducted. The interviews revealed that amongst all the project reviews conducted, there is a range from discussing what went right, what went wrong and whether they were meeting their objective, to planning of the following week's project activities.

The three organisations conduct project reviews during the project, and at other instances project reviews are conducted at major project milestones and at the end of the project.

Research question 3: Are lessons learned incorporated into the organisation to assist in managing future projects?

Question two revealed that lessons learned are gathered,

shared, captured and stored during project reviews. During the project a large number of documents are produced that contain lessons learned. These are stored using different storing mechanisms including an electronic collaboration tool.

The Dutch organisation introduced a plan of capturing the lessons learned but it is hardly promulgated to the all the project teams. The lessons learned are saved on project servers and are then archived. The CIO mentioned that they prefer using *“past experience as opposed to documents for incorporating lessons learned into the organisation”*.

The CIO of the South African organisation, contradicted himself when mentioning that *“there is a concern that technology is changing fast; therefore, it is deemed valueless to store lessons learned for a long time”*. Observations of scheduled project reviews revealed that the project team have captured their lessons learned in a formal document. Moreover, the CIO is looking to introduce an information manager who will take control of all the information during the projects. *“We also need to have what I call an information manager to make sure these documents are up to date and physically make sure that the people that need them gets them and that is where we actually do fall down in the end making the information that we have available to others.”* The CIO noted that *“there are lots of documents and manuals that are produced during the project; however they are all over the place”*.

The project manager in China stated that all the lessons learned from the project are stored in a project-specific folder on their local file server. However, it was not clear from the interview how long the Chinese project team plans on keeping the lessons learned for future use. The interviews have revealed that storage of lessons learned varies from project to project. For instance, in the Netherlands *“in the field of information and communications technology (ICT) lessons learned could only be kept for a period of a year to two years”*. The South African project team revealed that *“lessons learned are kept until the end of the project or until the system collapses”*. Adding to that, it was mentioned that *“there is going to be operation and maintenance; therefore, the lessons learned will need to be kept for a long while after the project has ended”*.

The Dutch project team has mentioned that there is no formal mechanism and that *“... by thinking of lessons learned and doing them for example, one of the things that we improved from the previous projects was communication”*. In South Africa, the team said that *“lessons learned are incorporated during the planning phase”*. There are some lessons learned that do not go beyond the project team. *“The results I would say could be lessons learned which we will apply in future projects but the results as a norm tend not to go beyond the project team. And I would say, you know, at the end of the day is that one has got to ask what are the benefits*

of displaying those results."

The Chinese project manager said that the end users are important role-players in the project. Their feedback is vital for the progression of the project. Once feedback from the end users is received, it is assessed and improvements are made.

It can be concluded that documents are produced that contain lessons learned. However, there is no formal mechanism of storing them. There is also no formal way of integrating lessons learned into the organisation other than project teams using their past experience in their other projects.

The project team reviews the project deliverables and the outcomes are captured as lessons learned. On the other hand, there is no formal mechanism to integrate lessons learned into the organisation. In other instances lessons learned do not go beyond the project teams into the organisation, because there is no formal process of capturing, storing and disseminating lessons learned within projects.

The interviewees expressed their use of past experience in a current project. The organisation needs to introduce a formal procedure for capturing tacit knowledge from the individuals with project experiences. Davidson and Rowe (2009) affirmed that "... Tacit knowledge adds a perspective that comes only from an individual's experiences, and maybe initiative, but yet it contributes to judgment and wisdom." The organisation is set to benefit from encouraging their project teams to share tacit knowledge within the organisation and project environment.

Research question 4: Is learning from past projects a facilitation process?

The Dutch project team held meetings where learning takes place as well as the utilisation of a 'Plan of Record' which enhances their learning opportunity. "*So what we have is, what we will retain is a plan. We maintain a plan of records. This is a document which contains all projects in running.*" However, in these instances there is no formal approach related to the way in which learning could be carried out within projects.

The South African team learns through sharing tacit knowledge during project reviews. The team also learns from technical and specialists who are part of the external project team members. In addition, tacit knowledge is shared when a project team utilises the whiteboard to express what they know: "*like when we are discussing sometimes certain issues, sometimes it would seem that one also wants to write down and share certain information in a visual way as well.*"

No formal process to facilitate learning from projects exists in the Chinese organisation. However, learning takes place when the project teams assemble to discuss their weekly progress and share the experiences they

have encountered during the week. "*So that means we should manage and use each location, each unit location that is maybe different requirement should be analysis of what their requirement at that point is. And then taken as a base, I mean, requirement to the system where you implemented this project should be customised ... Cannot cut over each location the same method or same ways, does not work.*"

It can be concluded that learning does take place during project reviews held during the entire project life-cycle. There are however no formal guidelines on how learning should be carried out within projects or how it should be promulgated to the rest of the organisation. There is also no structure in place on how tacit knowledge should be incorporated.

Learning from one project to the next is a worthwhile exercise on which effort should be spent (Williams, 2007). Marchewka (2010) further notes that an organisation that learns from its mistakes while bettering its processes is regarded as mature. Unfortunately often no mechanisms or motivation factors to facilitate learning exist within organisations (Williams, 2007). Even from the interviews the results show that there is some form of learning that takes place within the project although it is not formalised. This learning is not promulgated into the organisation so that other people outside this project can learn from it.

Summary of the results

Based on the findings so far, Table 1 presents a summary of the comparison between the theory and practice of project reviews.

Table 1 shows that the three organisations practise project review but not in a formal and structured approach. There is an awareness of what it is and how it should be done but this has not yet translated into common practice. A major challenge seems to be adapting current practices to be aligned with best practices and standards.

Conclusions

Project reviews entail an important process within project management. The purpose of project reviews is to enhance the delivery of future projects by eliminating mistakes as well as maximising the process that has been successful. There are various methods and processes regarding project reviews but the main focus is that the lessons learned should be incorporated back into the knowledge base of the organisation in order for learning to take place.

The research into the three organisations has suggested no difference in the way in which the organisations function with regards to lessons learned.

Table 1. Comparison between theory and practice.

No	Research question (Theory based on literature review)	Finding (mostly true, partly true, false) (Practice based on interviews)
1	Is access to project information available to project teams?	Mostly true
2	Are project reviews conducted during and after the project?	Partly true
3	Are lessons learned incorporated into the organisation to assist in managing future projects?	Partly true
4	Is learning from past projects a facilitation process?	Partly true

The difference is that each of the organisations has its own way of performing lessons learned as well as its own terminology. The research also indicates that although information and knowledge might be shared within a project team, it is not shared within the larger organisation. This implies that learning within the organisation cannot take place and defeats the purpose of the lessons learned process.

It can be concluded that the three organisations need to formalise their project review process. Another process should also be instilled to address the notion of transferring the gained knowledge within the organisation in order for learning to take place. The organisations are performing the basic processes regarding lessons learned but need to optimise these processes.

A much wider implication from the results is that it seems as if organisations do perform project reviews and thus comply with theory. The issue at hand is why are the lessons learned and subsequent learning not incorporated into the organisation. This implies that learning does not take place and that IT projects are continuing to be seen as failures.

Further research needs to be conducted to understand the total phenomenon of project reviews within organisations. The current suggestion is that organisations do project reviews but that the knowledge and subsequent learning is not made available within the organisation.

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