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Transferring IT project management experiential knowledge into organisational learning

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ABSTRACT

Purpose of the study: A fundamental complexity within IT projects is how knowledge management and organisational learning exploit project management experiential knowledge from previous IT projects to improve these project initiatives' benefits. This study investigated the banking sector's challenges in sharing and managing project management experiential knowledge within IT projects. The goal of the research was to determine how IT project management experiential knowledge is integrated into organisational learning.

Design/methodology/approach: An interpretivist lens via an exploratory case study was adopted. The case study was based on a single case focusing on a multinational financial institution's IT project management office. A total of 12 IT project managers were willing to participate.

Findings: This study's key findings reveal a lack of a central and standard model used by IT project managers to capture, store and share project management experiential knowledge within the organisation, especially in IT projects. From an organisational learning perspective, most participants could not define organisational learning, and others defined it differently. Regarding project learning and knowledge management in IT projects, the participants understood project lessons and project learning as being done through post-project sessions. Finally, project learning practices were understood by participants to be post-project review meetings, templates and collaborative technology to collect, store and retrieve the project lessons.

Recommendations/value: This research promotes a "how" focus built on the emergent insights from the six themes. The guidelines ensure that previous IT project management experiential knowledge is seamlessly integrated into new IT projects through organisational learning.

Managerial implications: A life cycle model for translating IT project management experiential knowledge into organisational learning was developed to assist IT project managers. The model allows organisations to ensure

that the three key factors, i.e. knowledge management, project learning and organisational learning, are managed effectively.

Keywords

Business management; IT management; IT project; Lessons learned; Lessons learnt; Operational management; Project knowledge management; Project learning; Project management experiential knowledge; Risk management

JEL Classification: M15

1. INTRODUCTION

The benefits of capturing project management experiential knowledge and integrating it into organisational learning are clear, but project complexities challenge the integration of experience-based knowledge acquisition (Fai Pun & Nathai-Balkissoon, 2011; De Toni & Pessot, 2021). A critical problem is that knowledge sharing within and between projects is inefficient and ineffective, resulting in repeated mistakes and a lack of growth in project management effectiveness (Rowe & Sikes, 2006; Favoretto & Carvalho, 2021).

Nonaka and Takeuchi (1995) and Malik *et al.* (2020) have discussed the importance of managing knowledge for a competitive advantage. The sharing and application of knowledge are key sources of sustained competitive advantage. Cerezo-Narváez *et al.* (2021) argue that sustained competitive advantage can be achieved through robust knowledge management practices. These practices ensure that project lessons are learnt and shared through appropriate mechanisms. Furthermore, Kotnour (2000) and Okudan *et al.* (2021) pinpoint the value of capturing project management experiential knowledge to mitigate project risks by identifying actions to avoid, solutions to implement and knowledge-sharing mechanisms. Taking a knowledge-based perspective in any project undertaken by the organisation will enable project success and overall organisational growth (Wu & Passerini, 2013).

Fai Pun and Nathai-Balkissoon (2011) believe that organisations are most likely to become and remain market leaders if they integrate knowledge management into organisational learning effectively. They mention how this helps organisations identify, create, store and share important information. Furthermore, knowledge management is a systematic process for acquiring, organising and communicating knowledge among organisational stakeholders to facilitate efficiency and productivity (Ajmal *et al.*, 2010). Organisational learning can occur at individual, group and organisational levels. Firestone and McElroy (2004) assert that the relationship between organisational learning and knowledge management is close enough to be intimate. One cannot exist without the other (Fai Pun & Nathai-Balkinssoon, 2011). They

should join forces to develop a unified discipline because this can expand the body of research work (Firestone & McElroy, 2004). Firestone and McElroy (2004) assert that the relationship between organisational learning and knowledge management is close enough to be intimate and suggest that organisational learning and knowledge management join forces to develop a unified discipline because this can expand the body of research work. The problems with organisational innovation, integrity, accountability and risk management could be alleviated if the common concerns are embraced, and different parts of the organisation work together towards solutions based on learning and organisational knowledge growth (De Castro *et al.*, 2022).

Haak-Saheem and Tamer (2014) indicate that the only way to create sustainable economic and social development is to promote learning in all aspects. The knowledge management approach can be developed to focus on creativity and organisational learning (De Castro *et al.*, 2022). Haak-Saheem and Tamer (2014) have proved that a knowledge-oriented economy is not so much about the number of educated people as it is a mindset that focuses on making the right decisions in winning opportunities and visions and creating a vibrant culture that fosters creativity and innovation. Duffield and Whitty (2015) distinguish between social and cultural factors, as experiential knowledge is disseminated through the knowledge management process and social-based methods. Knowledge sharing is arguably most effective when individuals communicate through various networking and mentoring processes.

A fundamental complexity within IT projects is how knowledge management and organisational learning facilitate learning from previous IT projects to enable improved benefits from these project initiatives (De Toni & Pessot, 2021). Authors such as Pessot (2017), Marnewick and Joseph (2020) and Joseph and Marnewick (2021) argue how information, communication and organisational learning are complex components within projects. The reality is that while IT projects serve as significant strategic initiatives, knowledge management is not sufficiently embedded in project management processes (Foote & Halawi, 2018). Pettiway and Lyytinen (2018) identify several learning methods in the project management environment, and experiential learning is reflected as a pivotal learning method. Moreover, IT projects are potent vehicles for facilitating organisational learning when effective knowledge transfer protocols are in place (Pettiway & Lyytinen, 2018; Hussien *et al.*, 2021; De Castro *et al.*, 2022). Current research either stipulates the “what” aspects of transferring knowledge in and between general projects or does not contextualise “how” experiential knowledge is transferred in and between IT projects. The gap this research aimed to address was how project management experiential knowledge is transferring into organisational learning. It was imperative to explore the application of project management experiential knowledge from the

knowledge and organisational learning perspective as it is a critical and value-adding aspect of the project management life cycle (Williams, 2008). Project management experiential knowledge adds more value when it is documented, communicated, archived and adaptable.

This study investigated challenges in the banking sector in sharing and managing project management experiential knowledge within IT projects. A model is presented that organisations can use to create a culture of continuous learning through IT projects implemented in the organisation. There is evidence of low IT project success, even though organisations recognise that they need to understand project management in order to be successful (Standish Group, 2018). A positive relationship has been found between project performance and project learning; a better understanding of how to share and manage knowledge in IT projects effectively should increase the chances of project success (Anantatmula, 2006; Fauzi *et al.*, 2021).

The goal of the research was to determine how IT project management experiential knowledge is integrated into organisational learning. The research objectives were to understand: (i) organisational learning regarding IT projects, (ii) project learning and knowledge management in IT projects and (iii) IT project learning practices.

The article consists of five sections. Section 2 is an outline of the literature reviewed, covering critical concepts involved in this study. The research methodology used in the study is discussed by detailing how data was collected, prepared and analysed in Section 3. Section 4 presents the results and discussion, and section 5 contains practical recommendations. Section 6 includes a summary of the study outcomes, with implications and study limitations.

2. LITERATURE REVIEW

Knowledge transferred in and between projects can be referred to as expert, methodological, procedural and experiential knowledge, contributing to the organisational knowledge base (De Castro *et al.*, 2022). Therefore, taking a knowledge-based perspective in any organisational project should enable project success and overall organisation growth. The lack of organisation, socialisation, integration and knowledge transfer negatively impacts project performance (Wu & Passerini, 2013). Knowledge management in project situations merges knowledge management and project management principles. Knowledge within projects, knowledge between different projects and knowledge about projects form part of project learning and knowledge management. The transfer of project experiential knowledge facilitates project success and organisational learning growth (Pettiway & Lyytinen, 2018; Fauzi *et al.*, 2021; Hussien *et al.*, 2021). Literature reflects organisational learning, project knowledge management and project learning as pivotal themes underpinning project

management experiential knowledge transference (Firestone & McElroy, 2004; Wu & Passerini, 2013; Pettiway & Lyytinen, 2018; Fauzi *et al*., 2021; Hussien *et al*., 2021; Joseph & Marnewick, 2021; De Castro *et al*., 2022).

2.1 Project learning and IT projects

IT projects are knowledge-intensive, making it necessary for organisations to respond quickly and adapt to new changes. Williams (2008) notes how project management experiential knowledge is the most critical and value-adding aspect of the project management life cycle, but has been reported as the most ignored aspect during and at the project's end (Duffield & Whitty, 2015).

The Project Management Institute (2017) describes a project as a temporary and unique undertaking at all levels in the organisation and involving all individuals. Shenhar (2001) notes how a project is a collection of tasks that involve a group of individuals tasked to deliver services or products within a set time frame. Projects are the template for organisations to operationally and strategically redesign how they respond and adapt to the environmental changes. Strategic project implementation ensures that the highest returns are achieved by expanding human knowledge creation and effective organisational design that supports project management (Cicmil, 1997).

For Argyris and Schon (1978) and Huber (1991), project learning involves creating, sharing and applying knowledge. Scarbrough *et al.* (2004) believe that applying that knowledge depends on the more expansive organisational learning. From a project perspective, organisational learning is a multi-level concept as it involves learning among individuals, teams and the organisation as a whole (Wiewiora *et al.*, 2020). This learning process is facilitated via feedback and feedforward loops to ensure a continuous flow of knowledge sharing. Yang *et al.* (2020) contend that a major hindrance is the retrieval of information that fosters knowledge development and organisational learning. Ayas (1996) maintains that project learning requires a deliberate effort designed and integrated within organisational project practice. Project lessons must be significant because they have a material impact on operations and are applicable to identify specific design processes that reduce potential failures and enforce positive results (Tukel *et al.*, 2008; Rubin, 2013).

Numerous practices highlight the importance of incorporating and capturing project management experiential knowledge into organisational procedures and project management methodologies. Project lessons can be captured through the use of IT infrastructure and systems. Weber and Aha (2003) identify informal and formal connect systems, and informal and formal collect systems which organisations can use to collect data. Formal group meetings

are also used to facilitate project management experiential knowledge (Williams, 2008). Sessions such as brainstorming, post-project reviews and storytelling are standard practices to collect project management experiential knowledge. Communities of practice are another avenue where the interactions of groups share a common goal or problem. Wenger-Trayner and Wenger-Trayner (2015) suggest implementing communities of practice across organisational business units to foster knowledge sharing. This is in line with Lee *et al.* (2014), who state that knowledge management systems and communities of practice can be used to foster organisational learning, as organisations often lose valuable knowledge due to employees leaving the organisation. Collecting project management experiential knowledge at the end of each project phase and storing all this knowledge in a central database creates a project knowledge management culture (Wierzchon, 2005). This culture encourages people to use the stored project management experiential knowledge, continuously review the stored lessons and ensure that improvements are made. This allows technology-mediated informal learning where project lessons are reflected on to develop new and improved work techniques (Za *et al.*, 2014).

In essence, projects are about change, and an organisation may require new skills, changes in the organisational structure and revised stakeholder accountability after project implementation (Jin Xiu, 2019). Organisational culture, knowledge process and technology are identified as critical inhibitors relating to knowledge management effectiveness and its influence on IT projects (Jin Xiu, 2019).

2.2 Critical inhibitors to project management experiential knowledge in IT projects

Most organisations still rely on the command-and-control culture – a military model (Project Management Institute, 2017). Williams (2008) believes that organisational culture is a significant barrier to organisational learning. Suppiah and Singh Sandhu (2011) maintain that organisational culture is ignored as an essential factor due to organisational values being taken for granted, as assumptions are made without facts or communication of expectations. According to Rubin (2013), the lack of leadership commitment to the learning process is one of the most giant stumbling blocks to developing project management experiential knowledge. Organisations that consider culture can plan strategically and decide on the types of knowledge management initiatives to carry out (Ajmal *et al.*, 2010; Foote & Halawi, 2018). Standish Group (2018) found that one of the key reasons IT projects fail is poor understanding and organisational culture management. This implies that the culture and structure of an organisation influence the way projects are managed and executed.

Martín Cruz *et al.* (2009) point out that knowledge transfer increases work efficiency among employees, making it essential for efficient management. The extrinsic and intrinsic motivations are significant determinants for knowledge transfer. Effective knowledge transfer, improvisation in knowledge transfer and advising against knowledge replication are identified by Krylova *et al.* (2016) as the three ways of dealing with the question of knowledge transfer. For Zapata Cantú *et al.* (2009), direct contact is crucial for developing trust and understanding between organisational parties. Knowledge transfer and sharing are developed by cultivating and encouraging employees to participate in knowledge transfer and retrieval practices (Cerezo-Narváez *et al.*, 2021). Knowledge transfer practices should underpin initial project estimates and planning.

Wu and Fang (2010) explain that knowledge transfer challenges emerge from various knowledge characteristics that require governance mechanisms to manage knowledge transfer. The governance mechanisms Wu and Fang refer to are made up of four constructs: the market-based mechanism (lower context and lower content ambiguity), trust-based mechanism (lower context and higher content ambiguity), reciprocity mechanism (higher context and higher content ambiguity) and norm-based mechanism (higher context and lower content ambiguity). Davenport and Prusak (2000) believe that the primary role of knowledge management systems is to accelerate the knowledge transfer speed. Knowledge management tools mainly address the problem of knowledge transfer and promote knowledge sharing.

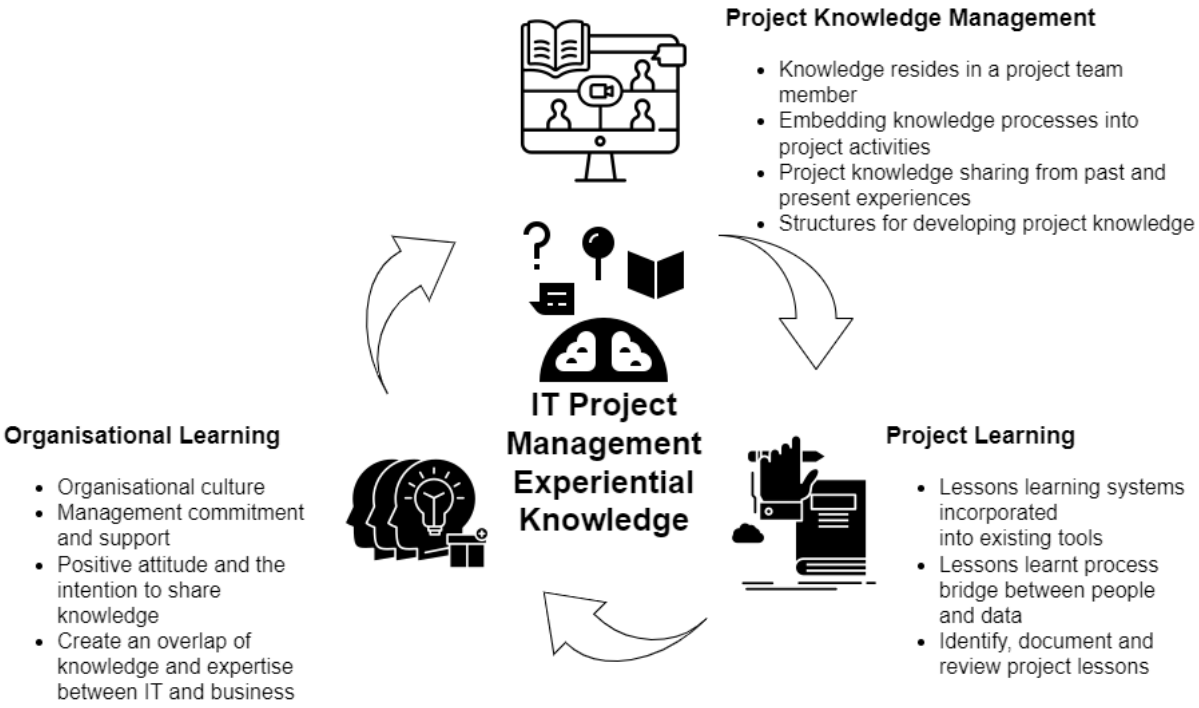
However, according to McLaughlin *et al.* (2008), no single technological solution exists for knowledge management across the organisation as most organisations are still reliant on legacy systems. Wagner *et al.* (2002) believe that intranets' success depends on proper planning, implementation and use by the organisation. Raymond *et al.* (2020) investigated the importance of aligning IT capabilities with strategic capabilities and found that this fosters improved organisational learning and success in the long term. Conversely, Santoro *et al.* (2018) investigated the role of IT infrastructure, collaborative technologies and IT adoption and revealed that there is no direct relationship with innovative organisation projects such as IT projects. However, the relationship is mediated by implementing effective collaboration practices that explore internal and external knowledge to enhance innovative initiatives. Hari *et al.* (2005) mention that knowledge capture initiatives promote innovation, improve project methodologies, reduce costs and save time. The above implies that technology, directly and indirectly, enables and exploits knowledge management and organisational learning practices within IT projects.

2.3 The triad of organisational learning, knowledge management and project management experiential knowledge

Fosshage (2013) identifies the following as considerations for implementing project lessons within an organisation: (i) an honest critique of whether the success criteria of company culture, processes and management commitment are in place before proceeding, (ii) management support is an essential ingredient for any organisational process, (iii) lessons learning systems need not be stand-alone and could be incorporated into existing tools and (iv) the experiential knowledge acquisition process should act as a bridge between the people and the data. Project knowledge management links the principles of knowledge management and project management. Knowledge within projects, knowledge between the different projects and knowledge about projects form part of project management experiential knowledge (Hanisch *et al.*, 2009). Due to the temporary nature of projects, project knowledge is shared throughout the organisation at the end of the project, and this can be referred to as knowledge fragmentation. Because of the time factor, lower priority is given to tasks which do not directly contribute to project deliverables. Furthermore, project managers identify and document and review project lessons during the project close-out meetings, but do not ensure that they are transferred into organisational learning (Trevino & Anantatmula, 2008).

According to Wu and Passerini (2013), knowledge management aims to create, organise, store, transfer and coordinate the adoption of acceptable business practices to improve organisational performance. Furthermore, Khoza (2019b) reveals that the most practical knowledge management process in software development projects is knowledge discovery, knowledge sharing and knowledge application. These are further supported and facilitated by the social constructs of positive attitude and the intention to share knowledge. Bassellier *et al.* (2003) suggest that organisations should create an overlap of knowledge and expertise between IT and businesspeople. This will improve the coordination of these interdependencies (Gemino *et al.*, 2015). The application of project knowledge management and project management experiential knowledge remains limited within the organisational practice. It will also advance successful project implementation, IT-based innovation, sustainable competitive advantage and the ability to cope with business and technology changes. The business benefits of knowledge sharing are only achieved when knowledge is transferred between individuals in the organisation (Johansson *et al.*, 2013). Therefore, IT project management experiential knowledge must be accessible and tied to both organisational and individual performance objectives. Figure 1 provides an overview of the triad of organisational learning, knowledge management and project management experiential knowledge.

Figure 1: Facilitating project management experiential knowledge



Source: Own compilation

3. METHODOLOGY

In the study an interpretivist approach was adopted. Blaikie (2009) defines interpretive ontology as the science or study that deals with reality and individuals' belief systems which reflect their interpretation of what constitutes facts. Although this approach has its limitations, such as result subjectivity, it provided more detailed and in-depth data on what was happening in the organisation surveyed. The exploratory case study approach was selected for this study mainly because the researcher was focused on the "how" aspect of the research phenomenon, i.e. how IT project management experiential knowledge is integrated into organisational learning.

Furthermore, it is essential to understand and evaluate the context of the research. The study followed the high-level case study process of Yin (2012), which is plan, design, collect data, analyse data and share the data through a report. The case study was based on a single case focusing on a multinational financial institution's IT project management office.

A total of 50 IT project managers were identified as valuable contributors to the objectives of the study. However, only 12 IT project managers were willing to participate and were interviewed for approximately 60 minutes using a semi-structured interview guide. The 12

participants were geographically dispersed across the globe, and telephonic interviews were deemed the most appropriate method for this study (Farooq & Villiers, 2017). Telephonic interviews have multiple cost and time benefits while facilitating anonymity and privacy and negating distractions (Block & Erskine, 2012; Drabble *et al.*, 2016). Drabble *et al.* (2016) explain that compared to face-to-face interviews, telephonic interviews can yield quality results suitable for various research initiatives.

The interviewees were opposed to recording the interview sessions because of organisational constraints. In Chong's study (2008) interviewees also opposed the recording of the sessions and explicit notes were therefore taken to capture the insights regarding each interview question. Two principles were adopted to ensure explicit note taking (Zahle, 2021): adequate description and relevance. Adequate description ensures that the interview notes clearly articulate and approximate the words an interviewee would or did use. Relevance ensures that the interview notes accurately capture insights about the interview questions and overarching research question. Explicit notes were captured on the interview guide of each participant (Appendix A).

The interview guide was based on answering the research question to determine how IT project management experiential knowledge is implemented for organisational learning. Reliability in qualitative research is approached differently, as researchers cannot apply statistical tests as in quantitative research. The research methodology section thus provides detail and transparency regarding the research decisions and implementation (Coleman, 2021). Moreover, the findings were presented to subject matter experts and other project managers within the case study organisation to ensure that the preliminary themes and results were logically formulated (Coleman, 2021). Face and content validity were applied to enhance validity. For face validity, the researcher ensured that the interview questions were clear and understandable by clarifying with the participants whenever required. Probing questions were also used to ensure that the information captured was a true reflection of what the participants intended to say. For content validity, member checking was applied in that all participants were provided with the initial findings to verify their accuracy.

Interviews were conducted with 12 of the 50 targeted project managers, and a consent form was completed by each participant. The interview guide focused on project learning, organisational learning, project knowledge management and suggestions on how to integrate project management experiential knowledge in organisational learning. As noted previously, explicit notes were captured on the researcher's interview guide (Farooq & Villiers, 2017). The coding model of Qureshi and Ünlü (2020) was adapted: initial coding, focused coding and theoretical coding. Initial coding required the explicit notes from each interview (Appendix A)

to be refined into concise memos under each interview question (Appendix B). Codes were inductively identified, written and classified. Initial categories were identified and defined during the latter stages of the initial coding phase. Focused coding involved refining and strengthening the codes and categories emerging from the data. The focused coding process was done using constant comparison, thus allowing the researchers to refine the codes and categories. Theoretical coding logically mapped the categories to identify emergent themes to address the research problem and goal.

4. FINDINGS AND DISCUSSION

The bond yield was relatively high at the beginning of the study period and peaked at 16.99 percent in May 1995. Since that period, the yield rate had declined to the lowest point of 6.09 percent in May 2013. The 12 interview participants were from Mexico, USA, Ireland, Canada, France, Singapore and India because of the organisation's global footprint. 33 percent had IT project experience of 6-10 years, 25 percent had 1-5 years and another 25 percent had 11-15 years, 8 percent had 16-20 years and another 8 percent 21-25 years. Interestingly, half of the participants used a customised project management methodology, followed by 25 percent using a waterfall and agile combination. These results indicate that the organisation had not defined a centralised methodology to be used. This could harm the organisation due to the inconsistency in methodologies employed, suggesting a lack of project management experiential knowledge practices. An overview of the participants is provided in Table 1.

Table 1: Summary of participants

Participant number	Role	Responsibilities	Experience	Project methodology	Country
1	Project Manager	Manage infrastructure, application development, change management, regulatory matters and technology projects	13 years	Waterfall and agile	Singapore
2	Portfolio Manager	Responsible for managing project managers in EMEA and North America, manage infrastructure, custody marketing, technology and product management projects	30 years	PMBOK and agile	USA

3	Project Manager/BA	Responsible for planning, finance, implementation and closing of the project, control risks and issues, attend business unit meetings and do business development	5 years	Waterfall and agile	Mexico
4	Project Trainer	Manage project tools and training, responsible for project governance, processes and procedures	10 years	Waterfall	India
5	Implementations Team Lead	Provides support to all Implementation Managers in EMEA	11 years	Customised PMBOK, agile and waterfall	Ireland
6	Project Management Officer	Responsible for banking channels' new releases	20 years	Scaled agile	Ireland
7	Project Manager	Responsible for managing projects from start to finish	10 years	Waterfall and agile	India
8	Programme Manager	Manages project managers	13 years	Customised PMBOK	Mexico
9	Portfolio Manager	Manages project managers	15 years	Waterfall	Canada
10	Programme Manager	Manages project managers	7 years	Customised PMBOK	Poland
11	Programme Manager	Manages project managers	25 years	Agile	France
12	Programme Manager	Manages project managers	10 years	Did not say	Canada

Source: Own compilation

As per Table 2, six themes emerged. A coding design was developed to identify the participants' ideas and statements (Appendix A; Appendix B). The coding process was repeated three times to ensure that nothing was overlooked. Final checks were done to see if codes relating to the same theme and matching codes were merged. A final transcription analysis grid was written and displayed in table format according to the themes (Table 2).

Table 2: Breakdown of interview themes and codes

Theme	Code
Organisational learning	Project management training
	Semi-structured procedures
	Knowledge sharing
	Learning and implementation
Organisational learning process	Collaborative technology
	Procedure & process training
	No process defined
Knowledge sharing process and practices	Knowledge repository
	No formal process
	Reactive sharing
	Team meetings
	Collaboration methods
Project learning	Project management experiential knowledge practices
	Not defined
Project learning process	Post-project review
	No project management experiential knowledge repository
	No formal process
Integrating project management experiential knowledge into organisational learning	Best practice
	Document templates
	Review meetings
	Implementation guides

Source: Own compilation

4.1 Organisational learning and knowledge management

Organisational learning and knowledge management was first explored in this study. The first interview question was: "*How do you define organisational learning?*". Table 3 provides an overview of how organisation learning was defined and viewed from the participants' perspectives. Based on the organisation's global footprint, it was interesting to note how participants from the same regions had different definitions. The participants would have been expected to have had the same or similar definitions.

Interviewees 3 and 6 defined organisational learning as part of project management training. While De Toni and Pessot (2021) argue that training is an essential part of enabling organisational learning, there is no specific mention of project management training. Given the interviewees' background (Table 1), they viewed organisational learning from a project management perspective and believed that proper discipline training could enhance organisational learning in the long term.

Interviewees 2, 5 and 9 defined organisational learning as a set of semi-structured organisational procedures. This is in line with the view of Wang and Ahmed (2003), who highlight learning processes or systems as one of the five concepts forming the basis of organisational learning. Hasson *et al.* (2016) point out that organisational learning is enabled when internal and external organisational systems are interconnected.

Interviewees 7 and 11 defined organisational learning as knowledge sharing. Marsick and Watkins (1999) highlight that organisations need to ensure that proper knowledge structures and a knowledge sharing culture are in place for organisational learning to be effective. Hasson *et al.* (2016) regard the creation and sharing of knowledge as one of the four dimensions of how organisational learning occurs. Furthermore, Kotnour (2000) shows that mature organisations create, acquire, transfer and continuously improve to reflect on new knowledge.

Interviewees 4, 8, 10 and 12 defined organisational learning as a form of learning and implementing the learnings. Wang and Ahmed (2003) identify the learning process as part of the five organisational learning concepts and practices. Argyris and Schon (1978), Seely *et al.* (2000) and Bourne and Walker Derek (2004) indicate that for organisational learning to be effective, the organisation needs to learn and implement the learning for continuous improvement.

The overall findings of the first question revealed the organisational learning theme. Interviewees acknowledged the importance of project management training and how it facilitates organisational learning from a team and individual perspective. Furthermore,

organisational learning is facilitated by well-defined and consistent semi-structured procedures within the organisation. Knowledge sharing among all organisational staff and entities is the realised benefit when correctly implementing training and procedure initiatives. Subsequently, learning is facilitated from current projects and implemented in future projects. Table 3 provides an overview of how organisation learning was defined and viewed from the participants' perspectives.

Table 3: Organisational learning

Interviewee	Region	Organisational learning	Code	Percentage
3	Mexico	To be considered regularly and training to be provided on project management	Project management training	17%
6	Ireland	Have created specific training packages for specific roles within our teams		
2	USA	A set of procedures	Semi-structured procedures	25%
5	Ireland	Semi-structured processes, organisational learning comes from processes defined within the organisation		
9	Canada	A set of procedures		
7	India	Knowledge sharing	Knowledge sharing	25%
11	France	Knowledge sharing		
1	Singapore	Available for all to use by all entities		
4	India	The overall learning promoted by the organisation	Learning and implementation	33%
8	Mexico	Organisational learning and sharing		
10	France	Organisational learning and sharing		
12	Canada	Learning from previous projects		

Source: Own compilation

The second question was: "*Do you have a process for organisational learning?*". As for the first question, different organisational processes were used by interviewees from the same region. Table 4 shows that interviewees 1, 3, 7, 9 and 12 used collaborative technology as an organisational learning process. Wu and Fang (2010) highlight that organisations need to adapt to rapid technological changes and adopt technologies conducive to enabling

organisational learning. Abdul *et al.* (2014) note IT as an enabler for organisations to manage organisational learning.

Interviewees 4, 8, 10, 11 and 6 said that they implemented the organisational learning process through continuous procedure updates and process training. Bourne and Walker Derek (2004) mention in their definition of organisational learning that organisations need to create an environment supporting some trial and error to help individuals learn. Liao *et al.* (2008) refer to two methods by which organisational learning occurs, namely single-loop learning and double-loop learning. Both methods involve how organisations can improve their actions based on the strategy and policies governing the organisation.

Interviewees 2 and 5 mentioned the non-existence of an organisational learning process. The literature does mention how important it is for organisations to have processes in place; Hasson *et al.* (2016) highlight that strategic leaders need to provide and steer the organisation in the right direction regarding an organisational learning process. Marsick and Watkins (1999) emphasise that organisations need to ensure that they have proper knowledge structures and encourage sharing knowledge.

The organisational learning process theme emerged from question 2. Collaborative technology is considered a powerful tool to support the organisational learning process. Using customisable, collaborative technology such as SharePoint provides project teams and managers with a toolbox to document and share project management experiential knowledge. However, the collaborative technology cannot simply be selected and adopted as there should be training on the organisational learning processes and procedures governing technology usage. That said, a concern emerged from two interviews where no formal organisational learning process was defined. The organisational learning process cannot be an ad hoc endeavour and should be clearly articulated to facilitate organisational learning from project management experiential knowledge. Table 4 provides as overview of how participants perceived organisational learning processes.

Table 4: Organisational learning process

Interviewee	Region	Organisational learning process	Code	Percentage
1	Singapore	Document the knowledge	Collaborative technology	42%
3	Mexico	Customised learning platform		
7	India	SharePoint		
9	Canada	SharePoint		

12	Canada	Project management experiential knowledge toolbox		
4	India	Provide basic procedures	Procedure & process training	42%
8	Mexico	Project management experiential knowledge training		
10	France	Training		
11	France	Project management experiential knowledge training		
6	Ireland	Learning roadmaps for team members on agile, JIRA skills		
2	USA	No formal process defined	No process defined	17%
5	Ireland	No formal process defined		

Source: Own compilation

The third question was: "*How do you individually use and share knowledge within the organisation?*". Table 5 lists the various knowledge sharing processes and practices within the organisation. Interviewees 1, 4, 10, 12, 8 and 9 used knowledge repositories to share knowledge within the organisation. Treser (2016) supports the use of knowledge repositories for sharing knowledge as this helps to ensure that knowledge is created correctly, stored and used. Abdul *et al.* (2014) add that using information systems helps organisations manage knowledge more effectively and efficiently.

Interviewees 7 and 11 acknowledged how sharing knowledge was a reactive endeavour as issues were analysed as they occurred. Santoro *et al.* (2018) emphasise how critical it is for organisations to create a proactive knowledge sharing culture, as a reactive approach is not effective in the long run. In many instances, knowledge is stored within individuals rather than using knowledge sharing systems to enable sharing. Khoza (2019a) argues the role of knowledge leakage where knowledge is lost due to staff turnover, among other factors. It is therefore imperative to ensure that appropriate knowledge sharing processes and practices are in place.

Interviewee 5 said that knowledge was shared during team meetings. Yang *et al.* (2020) identify culture as an influence on the behaviours that contribute to knowledge creation, sharing and application, which supports sharing knowledge in team meetings. Williams (2008) advocates the use of formal group meetings to facilitate project management experiential

knowledge and knowledge sharing. Sessions such as brainstorming, post-project reviews and storytelling are powerful practices to enable knowledge sharing.

Interviewee 6 said they used collaborative tools to share knowledge. IT is highlighted as an enabler of knowledge sharing in the literature. Abdul *et al.* (2014) are of the opinion that most organisational leaders support the use of computers and communication technologies. Santoro *et al.* (2018) reveal how the use and implementation of IT infrastructure, collaborative technologies and IT adoption are mediated by implementing effective collaboration practices. Moreover, Raymond *et al.* (2020) assert the importance of aligning IT capabilities with strategic capabilities to foster long-term knowledge sharing and organisational learning.

It was discouraging that interviewees 2 and 3 did not have any formal process within the organisation regarding how knowledge was to be shared. Santoro *et al.* (2018) mention that organisational culture could hinder building knowledge creation and management in an organisation. Khoza (2019b) highlights the importance of knowledge management processes in software development projects and reaffirms that it is difficult for organisations to have structured knowledge management practices without processes.

The third question revealed the knowledge sharing process and practices theme. Most interviewees maintained that a knowledge repository ensures good knowledge management governance through a portal that provides templates to store and share project management experiential knowledge. Repository usage was supported in team meetings and collaborative methods. However, it was concerning that some interviewees noted no formal knowledge sharing process and practices, as reactive sharing was preferred. Insights from questions 1, 2 and 3 are explicit on the need for clear and consistent structures; otherwise, project management experiential knowledge sharing processes and practices cannot exist. An overview of knowledge sharing processes and practices is presented in Table 5.

Table 5: Knowledge sharing process and practices

Interviewee	Region	Knowledge sharing process and practices	Code	Percentage
1	Singapore	Knowledge stored in the repository to meet governance requirements	Knowledge repository	50%
4	India	Through SharePoint		
10	Europe	Knowledge repository		
12	Canada	Repository		
8	Mexico	Portals used to store and share knowledge		

9	Canada	Templates used to store and share the knowledge		
2	America	No formal process defined	No formal process	17%
3	Mexico	No formal process defined		
7	Asia	Issues analysed as they occur	Reactive sharing	17%
11	Europe	Issues analysed as they occur		
5	Ireland	Happens a lot within our teams during meetings	Team meetings	8%
6	Ireland	Teams are used to collaborate, scrum of scrums and other mechanisms	Collaboration methods	8%

Source: Own compilation

4.2 Project learning and organisational learning

Project learning and its relation to organisational learning was explored next. The first question was: "*What is your understanding of project knowledge and learning from your perspective?*". Table 6 provides an overview of how the participants perceived project learning.

Most of the participants arguably had a good understanding of what project learning entails and defined it as identifying project success and failure, including making recommendations on how to improve future performance or delivery of projects. Interviewees 2 to 10 described project learning as part of project management experiential knowledge practices. Ayas (1996) and Scarbrough *et al.* (2004) define project learning as creating, sharing and applying project management experiential knowledge throughout the broader organisation. Tukel *et al.* (2008) highlight that in a project-driven organisation, learning only comes from the improved project efficiency obtained from repetitive tasks. Practices such as project review meetings, communities of practice and technology-mediated informal learning are commonly used for project learning.

However, interviewees 1, 11 and 12 were not able to define their understanding of project learning. Williams (2008) mentions that although project management experiential knowledge is seen the most critical and value-adding aspect of the project management life cycle, it is reported to be the most ignored step of the life cycle.

Project learning was the fourth theme emerging from the data. Project management experiential knowledge practices are significant in this theme as interviewees argued for best practices to be in place to support long-term organisational learning. The organisational

learning and knowledge management processes and procedures should not be ad hoc and should feed directly into project management learning endeavours. Correctly aligning organisational learning and knowledge management practices would address instances where no formal project learning practices are defined. Participants' interpretation of project learning it presented in Table 6.

Table 6: Project learning

Interviewee	Region	Project learning	Code	Percentage
2	America	Set of procedures followed by project	Project management experiential knowledge practices	75%
3	Mexico	Learning about what went wrong vs what was done well Most people focus on what went wrong Should encompass both the good and bad as well as suggestions on how to improve To be identified at every stage and not just at the end of a project Document project management experiential knowledge through the whole project to assist others in learning		
4	India	End of a critical project when a post-project review is done Each project has its life cycle and duration		
5	Ireland	Company learning and using best practice		
6	Ireland	Scrum of scrum and agile retrospectives		
7	Asia	Company learning and using best practice		
8	Mexico	Company learning and using best practice		
9	Canada	End of a critical project when a post-project review is done Each project has its life cycle and duration		

10	Europe	Learning about what went wrong vs what was done well Most people focus on what went wrong Should encompass both the good and bad as well as suggestions on how to improve To be identified at every stage and not just at the end of a project Document project management experiential knowledge through the whole project to assist others in learning		
1	Singapore	Cannot define	Not defined	25%
11	Europe	Cannot define		
12	Canada	Cannot define		

Source: Own compilation

The second question was: "*What process do you use in your team to leverage knowledge in projects?*". An overview of project learning processes and participant responses is given in table 7. Interviewees 1, 2, 4, 6, 9, 11 and 12 confirmed that they conducted post-project review sessions as a project learning process to capture project lessons. Weber and Aha (2003) identify four systems used by organisations to collect project lessons: informal connect and collect systems as well as formal connect and collect systems. The formal connect and collect systems are more structured as teams share and collect project lessons. Williams (2008) mentions the use of different formal meetings such as group meetings, brainstorming sessions, post-project review groups and storytelling to collect project lessons. Lee *et al.* (2014) support communities of practice where groups of people gather to share concerns or problems to find a solution on an ongoing basis. Technology-mediated informal learning practice suggested by Za *et al.* (2014) involves daily project task reflections, knowledge sharing and innovative behaviour by project teams. These ensure that progress is reviewed and project knowledge is shared for each project.

The insights above articulate the project learning process theme and link closely with important insights within organisational learning and processes. Processes specific to project management should include post-project reviews, as these openly discuss project management experiential knowledge. While post-project reviews should be common knowledge, the format, structure and timing must be relevant to exploit the insights from participants. A flaw identified was that there are not always processes or repositories at project

level to capture project management experiential knowledge. The organisational learning and knowledge management repository should not exist in isolation and should be fully integrated at project level. Table 7 reveals the how the project learning process is articulated by the participants.

Table 7: Project learning process

Interviewee	Region	Project learning process	Coding	Percentage
1	Singapore	Sessions are held to share project management experiential knowledge	Post-project review	58%
2	America	Project management experiential knowledge meetings conducted		
4	India	Post-project review done		
6	Ireland	Scrum of scrums, project management experiential knowledge and retrospectives		
9	Canada	Post-project review done		
11	Europe	Sessions are held to share project management experiential knowledge		
12	Canada	Sessions are held to share project management experiential knowledge		
5	Ireland	No project management experiential knowledge repository; if anything goes wrong, changes are made in the implementation procedures and guides	No project management experiential knowledge repository	25%
7	Asia	No project management experiential knowledge repository; if anything goes wrong, changes are made in the implementation procedures and guides		
8	Mexico	No project management experiential knowledge repository; if anything goes wrong, changes are made in the implementation procedures and guides		
3	Mexico	No formal process defined	No formal process	17%
10	Europe	No formal process defined		

Source: Own compilation

The third question was: "*Describe how you integrate* project management experiential knowledge *in your current projects.*". The various approaches to integrating project

management experiential knowledge into organisational learning are shown in table 8. Interestingly, there was a broad spectrum of approaches acknowledged by participants. Interviewees 1, 11 and 12 all noted the use of SharePoint as an integration tool to store and retrieve project management experiential knowledge from each other to create organisational learning. Lee *et al.* (2014) advocate the use of knowledge management systems to foster organisational learning. Furthermore, Raymond *et al.* (2020) acknowledge IT capabilities' role in fostering improved organisational learning and success in the long term.

Interviewees 2 and 6 predominantly used document templates to capture project management experiential knowledge and maintained a record of documents as part of organisational learning. This is arguably an inefficient approach to enabling organisational learning (Favoretto & Carvalho, 2021). We now live in a technologically dominant age where digital platforms serve as long-term solutions to enable organisational learning (Santoro *et al.*, 2018).

Interviewees 3, 4, 9 and 10 maintain the use of review meetings for sharing project management experiential knowledge. While sharing lessons is effective among the various stakeholders, this knowledge remains tacit and should be combined with explicit knowledge to transfer into organisational learning (Cerezo-Narváez *et al.*, 2021). Conversely, Santoro *et al.* (2018) reveal that platforms such as meetings could mediate organisational learning, as implementing effective collaboration practices can combine internal and external knowledge to enhance innovative initiatives.

Finally, interviewees 5, 6 and 8 realised organisational learning through implementation guides to ensure that project lessons were integrated into organisational learning. Implementation guides serve as checklists to ensure that project learning processes and practices are executed (Duffield & Whitty, 2015). Continuously updating implementation guides as new aspects are learnt and running audit tests ensure that everyone uses and follows the guides.

Regardless of the various approaches above, it could be argued that organisational learning is enabled through one of the four dimensions defined by Hasson *et al.* (2016). Furthermore, Ajmal *et al.* (2010) stress that knowledge management is a crucial prerequisite for project success and further that knowledge gained from failures and successes can encourage areas of practice within organisations. This will lead to improved implementation of future projects and expansion of an organisation’s project capability if knowledge is a transferable asset within the organisation.

Integrating project management experiential knowledge into organisational learning as a theme arguably underpins the previous themes. Insights from table 8 solidify arguments that

best practices, review meetings, implementation guides and supporting document templates encourage a holistic transference of experiential knowledge from project management endeavours.

Table 8: Integrating project management experiential knowledge into organisational learning

Interviewee	Regions	Integrating project management experiential knowledge into organisational learning	Code	Percentage
1	Singapore	Through post-project meetings SharePoint Documented in templates for governance purposes	Best practice	25%
11	Europe	Through post-project meetings SharePoint Documented in templates for governance purposes		
12	Canada	Through post-project meetings SharePoint Documented in templates for governance purposes		
2	America	Templates are used to document project management experiential knowledge Dashboards used Project managers are slowly adopting the process	Document templates	25%
6	Ireland	Project management experiential knowledge is reused for new project efforts Standard templates used to document the project management experiential knowledge Small changes are introduced into the projects in an incremental fashion		
3	Mexico	Project management experiential knowledge shared in monthly management meetings and memos No process defined to document the project management experiential knowledge Project management experiential knowledge completed at post-implementation phase	Review meetings	25%

4	India	Post-project review Project managers encouraged to share project management experiential knowledge		
9	Canada	Post-project review Project managers encouraged to share project management experiential knowledge		
10	Europe	Project management experiential knowledge shared in monthly management meetings and memos No process defined to document the project management experiential knowledge Project management experiential knowledge completed at post-implementation phase		
5	Ireland	Updated implementation guides The changes are tested through audits to ensure that everyone uses and follows them	Implementation guides	25%
7	Asia	Updated implementation guides The changes are tested through audits to ensure that everyone uses and follows them		
8	Mexico	Updated implementation guides The changes are tested through audits to ensure that everyone uses and follows them		

Source: Own compilation

The themes and insights discussed above present arguments and initial suggestions for transferring project management experiential knowledge into organisational learning. In the following section practical recommendations are made for conceptualising and executing the transferring process.

5. PRACTICAL RECOMMENDATIONS

Research often lacks practical relevance without explicitly articulating the significance and application of insights gathered (Cuervo-Cazurra *et al.*, 2013). In this section practical recommendations are made for transferring project management experiential knowledge into organisational learning by applying the themes and insights from the interviews.

5.1 Implementing IT project learning

For implementing organisational learning, organisations need to create and promote an IT project learning culture, driven by senior managers in the organisation as recommended by authors such as Wierzchon (2005) and Foote and Halawi (2018). A continuous IT project learning process should be developed that focuses on translating individual learning into IT project learning. This can help organisations function at a higher level (Kotnour, 2000; Treser, 2016). The research findings presented in section 4 are that each IT project creates a learning opportunity to gain insight into how project teams work, how processes are developed and the delivery of more successful projects. These lessons can create better project teams, implement changes that work and deliver more successful projects. Za *et al.* (2014) encourage organisations to implement and adopt project learning technologies to achieve effective group learning quickly and efficiently.

5.2 Transferring project management experiential knowledge into organisational learning

The first and most critical step in ensuring that IT project lessons are implemented is to create the awareness that the best way to learn and improve is to conclude past experiences. Trevino and Anantatmula (2008) suggest a five-step continuous learning life cycle which can be used to create a culture of successful IT project delivery. The five steps are as follows:

Collect data: Data collection should occur after each project phase rather than at the end of a project. As revealed in table 6, the majority (75%) of the participants agreed that project lessons should be identified at every stage of the IT project. As data is collected, leaders in the organisation need to ensure that they drive, promote and support creating a project knowledge learning and sharing culture. A process for capturing project lessons must be developed: This can be done through the five-step process by defining the lessons, determining the methods to be used, reviewing and analysing, storing, sharing and distributing the lessons. Knowledge sharing must be promoted through organisational policies and procedures. Employees must be encouraged to provide constructive feedback on the sharing of knowledge within the organisation.

Analyse data: Data needs to be analysed and verified. Table 7 shows that 58 percent of the participants agreed that post-project review meetings are an essential project learning process. Emphasis should be placed on reviewing and analysing the captured data to ensure that only relevant information is captured. This step involves cleaning, transforming and modelling data to determine the information that will be useful for future IT projects and the organisation.

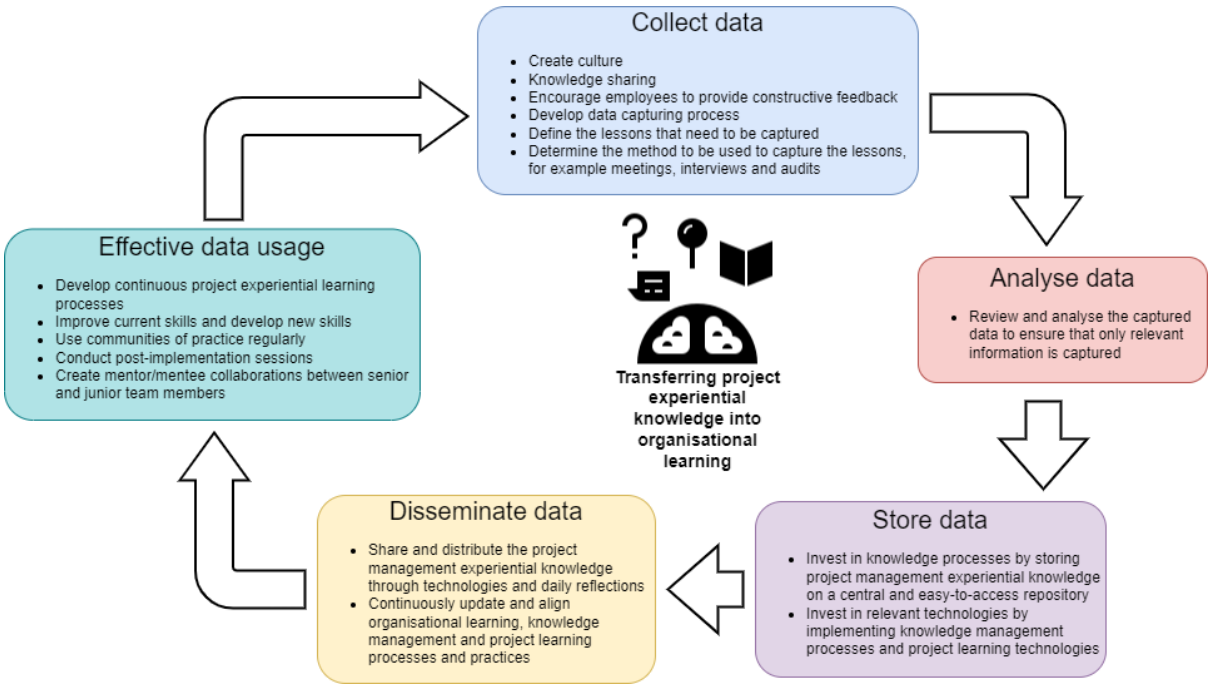
Store data: Storing data is imperative as the data can be accessible by anyone in the organisation. Table 5 shows that a knowledge repository is a powerful tool for knowledge sharing. Furthermore, table 8 provides four approaches to storing IT project lessons to enable organisational learning. Thus, once the data is analysed in step 2, organisations need to ensure that they implement and invest in effective and reliable knowledge sharing processes and technologies. The project lessons are to be stored on a central and accessible repository. The documented project management experiential knowledge should be stored in a database, such as a shared drive or SharePoint. This makes the lessons easily retrievable for project teams to review or add new project lessons.

Disseminate data: The lessons need to be disseminated in real time as soon as they are captured and stored. Similarly, table 5 notes the importance of a knowledge repository for storage and sharing through an accessible organisational platform. The lessons captured and stored need to be shared and distributed across the organisation using knowledge management technologies such as organisational intranets or SharePoint. The organisation can also distribute IT project lessons through reflection on daily activities. IT project teams can review progress, identify areas for improvement and conduct knowledge sharing sessions to discuss and exchange ideas.

Make effective use of the data: As soon as the data is accessible, those who need it or can use it can immediately start using it and thus transfer it into organisational learning. Although table 8 provides four approaches for generating organisational learning, SharePoint, review meetings and implementation guides are arguably the tools for enabling IT project organisational learning. The organisation should develop continuous IT project learning processes to ensure that project lessons are continuously implemented. This can be done through skills improvement, using communities of practice, conducting post-implementation review groups and creating mentor/mentee collaborations. Senior team members should be paired with a junior member for knowledge sharing. Organisational processes are also continuously updated as new lessons are learnt and implemented.

Figure 2 depicts a model that organisations can use to transfer project management experiential knowledge into organisational learning. It incorporates the research findings and recommendations. To implement the model successfully, organisations should ensure that the three key factors, i.e. knowledge management, project learning and organisational learning, are managed effectively as they are the key contributors to each of the steps discussed above.

Figure 2: A life cycle model for transferring IT project management experiential knowledge into organisational learning



Source: Own compilation

6. CONCLUSION

The levels of government bond prices and yields affect the broad economic and also monetary and fiscal policy environment of any economy.

The research goal was to determine why previous IT project lessons are not seamlessly integrated into new organisational learning by asking how IT project management experiential knowledge is transferred into organisational learning. This study's key findings reveal a lack of a central and standard model used by IT project managers to capture, store and share project management experiential knowledge within the organisation, especially in IT projects. While the lack of centralisation could be evidence of information or operational silos, this study articulates the experiential knowledge transference by establishing six themes (Table 2). From an organisational learning perspective, most participants could not define organisational learning, and others defined it differently. The organisation either uses various processes to store organisational knowledge, or the stored knowledge is shared through knowledge repositories. Regarding project learning and knowledge management in IT projects, the participants understood project lessons and project learning as being done through post-project sessions. Finally, project learning practices were understood by participants to be post-

project review meetings, templates and SharePoint to collect, store and retrieve the project lessons.

A life cycle model that incorporates the research findings is proposed (Figure 2). It is posed as a tool that can be used to transfer IT project management experiential knowledge into organisational learning. The model embodies the connection of the insights from the six emergent themes and underpins the link between organisational learning, project knowledge management and project learning.

The theoretical implication is that this research promotes a "how" focus built on the emergent insights from the six themes. The guidelines ensure that previous IT project management experiential knowledge is seamlessly integrated into new IT projects through organisational learning. It is essential to create a culture that promotes knowledge sharing through organisational policies and procedures. Employees must be encouraged to provide constructive feedback regarding the sharing of knowledge. The practical and managerial implications focus on adopting the five-step model (Figure 2) to assist with exploiting IT project management experiential knowledge. Developing a continuous project learning process ensures that the model is amended to reflect changing practices and processes. Proactive and adaptive project management experiential knowledge processes must be actively championed and maintained while being periodically reviewed for effectiveness and integrated to improve organisational processes and success. The implementation of the recommendations and implications involves a paradigm shift from collecting and archiving lessons to turning an organisation into a learning environment where lessons are learnt, collected, analysed, stored and disseminated effectively.

6.1 Limitations and future research

There are a few limitations regarding this study. Although 50 project managers were initially identified and approached, only 12 volunteered or agreed to participate in the study. It would have been ideal to include more participants. The researcher had limited access to the participants as they were geographically dispersed, and face-to-face interviews were not possible. The data analysed is on IT projects, so projects of different types may yield different results. The exploratory qualitative research methodology could be expanded through a quantitative study to confirm or adapt the insights and themes to allow more generalisable implications and recommendations.

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APPENDIX A

Project Management

1. Could you share briefly your project management role, responsibilities and experience?
   a) Role refers to tasks allocated or assigned. (Which business division or unit name)
      - Team lead of IMPS in EMEA
   b) Responsibility refers to managing and performing tasks and duties assigned.
      - Support all the IMPS managers about 9 IMPS
   c) Experience refers to the knowledge or skill in a particular role that has been gained (Number of years in the project management role)
      - 6 yrs in organisation 2012
      - Started in 2005 - 2010 in Change Management and as Jnr PM
2. Could you describe the characteristics of the projects you manage?
   a) Project characteristics refers to scope of project (goal of project), size of project, project budget, project duration, number of project stakeholders and project complexity (Is it simple/complex or very complex)

      Scope: Dedicated corporate cash products

      Size: single to global

      Duration: 6 weeks to 2 yrs

      Large programs

      Stakeholders: 5 different stakeholders up to 20

      Complex
3. What project methodology is used in your organisation?
   - PMI methodology tailored to organisation
4. What type of methodology waterfall, agile or organisations own methodology: In company methodology

Organisational Learning

1. How do you define Organizational Learning?
   - Structured process, org learning comes from the processes defined within the org
2. Do you have a process for organisational learning?
   - Automation
3. How do you individually use and share knowledge within the organisation?
   - Happens a lot within our teams
4. How do you use and share knowledge among each other within the organisation?
   - Everyday questions of how do you do, subject matter experts with-in each team
   - Product developers to help with complex projects
   - Training provided the team and get the knowledge

Project Knowledge management

1. What is your understanding of project knowledge and learning from your perspective?
    a. This refers to your understanding regarding project lessons learned and please provide examples company learning
    b. Company learning and using best practise
2. What process do you use in your team to leverage knowledge in projects?
    - No lesson learned repository
    - If anything goes wrong changes are done to the Imps procedure and guide
3. Is the process easy to use? Please explain the process
    - Yes it used as IMPS Managers used the guide
    - Specific process used for each project that needs to be followed and maintained
    - And tested via audits to ensure that everyone uses and follows this
4. Describe how you integrate project lessons learned in your current projects
    a. What process do you use?
    b. Do you document the lessons learned? If yes how are they documented?
    c. How do you use these lessons in your current projects? Please give examples
    d. How often do you use lessons learned?
5. Which technology tools do you use to integrate technical and business knowledge in a project?
    - SharePoint
6. Is the technology user friendly? Please explain the technology used
    - **Yes**

Conclusion: Summary

1. From your experience, what are some of the project knowledge management practices you think would ensure success in integrating lessons learned into organizational learning?
    - Making sure that we integrate any project lessons learned into product learning
    - This will assist in improving of our product solutions
    - Have an agreed process that is used by everyone
    - Global process and procedure to avoid regional issues
    - As new things happen then we need to adapt our processes to the changes. Tailor the Imps to match actual client requirements.
2. Do you have any questions or comments?
    - None

APPENDIX B

Interview no.	Organisational Learning Definition	Organisational learning process	How do you share knowledge	How do you use knowledge shared
1	Available for all to use by all entities	Document the knowledge	Knowledge stored in repository to meet governance requirements	Knowledge repository not effectively utilized for the learning
2	A set of procedures	no formal process defined	no formal process defined	no formal process defined
3	To be considered regularly and training to be provided on project management (Defined Project learning)	Customized learning platform called Degreed	no formal process defined	no formal process defined
4	Is the overall learning promoted by the organization?	Provide basic procedures	Through SharePoint	Through forums and SharePoint
5	Semi-structured processes, organisational learning comes from processes defined within the organization	no formal process defined	Happens a lot within our teams	Everyday questions of how do you do, subject matter experts with-in each team, Product developers help with complex projects, Training provided to the team to share the knowledge
6	Have created specific training packages for specific roles within our teams	Learning roadmaps for team members on Agile, JIRA skills	Teams use collaborate, scrum of scrums and other mechanisms	Email notices, calls and meetings
7	Knowledge sharing	SharePoint	Issues analysed as they occur	Use dashboards and templates
8	How organizations learn and share the learning's	Lessons learnt trainings	Portals used to store knowledge	Meetings used to distribute the knowledge
9	A set of procedures	SharePoint	Templates used to store the knowledge	Dashboards used to share the knowledge
10	How organizations learn and share the learning's	Trainings	Knowledge repository	Subject matter experts assist with the knowledge sharing
11	Knowledge sharing	Lessons learnt trainings	Issues analysed as they occur	Meetings used to distribute the knowledge
12	Learning from previous projects	Lessons learnt toolbox	Repository	Newsletters shared via emails