An Investigation of Contingent Factors for ES Benefits Realisation

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Abstract

In the last decade, organisations throughout the world have adopted sophisticated Enterprise (or ERP) Systems to help improve their business capabilities. However, research has shown that not all adopters have fully realised the benefits from their Enterprise Systems (ES) investments. The achievement of ES benefits is dependent on organisational factors that are often contingent in nature. This paper investigates how organisational learning, organisational innovation and other contingent factors inherent to ES implementation projects impact ES benefit realisation. It includes a review of literature on factors for ES benefits, analysis and findings of the research that has been accomplished via interviews with ES managers in nine large Australia organisations.

Keywords

Enterprise Resource Planning, Enterprise Systems, Contingency Theory, Contingent Factors, Benefits Realisation

INTRODUCTION

Enterprise systems (ES) have been widely adopted by large organisations to provide them with the necessary capabilities of automation, processing and analytics (Davenport, 2000; Seddon et al., 2010). Although adoption of ES promise organisational wide benefits (Shang and Seddon, 2002), existing researchers (Seddon et al., 2010; Staehr et al., 2012) have argued that ES implementations undergo organisational changes that changes the dynamics of the interactions of the social systems within and outside of the organisations (Teo et al., 2010).

The evaluation of benefits derived from ES requires more in-depth understanding of the factors that may impact on the outcomes of ES use and benefits (Seddon et al., 2010; Staehr et al., 2012). The synergies created by the use and interactions different of different modules are also required to be considered in the evaluation (Hsu and Chen, 2004). Complexity of ES benefits evaluation is not limited to temporal variations (Somers et al., 2000) but also includes factors that impact on the outcomes (Staehr et al., 2012). This can also be inherent to the way the ES implementations were managed (Seddon et al., 2010; Staehr et al., 2012). This paper discusses the factors that affect ES benefits realisation, and the use of contingency theory to understand the impact of contingent factors on ES benefits realisation. It is based on a qualitative study that involves interviews with the ES managers of nine Australia organisations. The next section of the paper will include a review of the literature, a brief description of the research method and a discussion of the findings.

LITERATURE REVIEW

Studies (Murphy and Simon, 2002; Annamalai and Ramayah, 2011) have shown that organisations do not always achieve all their expected benefits. Possible explanations are that ES benefits vary across industries (Gefen and Ragowsky, 2005), affected by the organisational level of ES implementation (Yang and Su, 2009), and also intangible benefits are often dependent on the industry of the adopting organisation (O'Leary, 2004). Levenburg and Magal (2004) argue that achieved benefits from an IT implementation may not be the same those that motivate the organisations to adopt it. As benefits derived from ES evolve over time (Staehr, 2010), and subjected to factors such as organisation change (Staehr et al., 2012) and learning (Marabelli and Newell, 2009), that may led to benefits that are intangible or unexpected (Stefanou, 2001). Schubert & William's (2009a) study suggest that the most expected and realised benefits for ES adopting organisations primarily involve the availability of information. As such, realised benefits delivered from IS should be evaluated after taking consideration of the total costs of ownership, the opportunity costs due to inflexibility, the improved responsiveness and cost savings (McLaren et al., 2002). In additional, ES benefits evaluation should take into consideration of factors such as temporal variations (maturity), as most organisations take time to mature in its use of IT systems (Brynjolfsson, 1993) in particular ES (Häkkinen and Hilmola, 2008).

Besides IT maturity, the review of literature has identified that organisational inertia (Seddon et al., 2010), role of change management (Aladwani, 2001), organisational learning (Nwankpa and Roumani, 2014) as well as organisational innovation (Ram et al., 2014). The subsequent sections elaborate on factors that affect ES benefits realisation.

IT Maturity

Research (Häkkinen and Hilmola, 2008) shows that most companies took a few (varies from 4 to 12) months after implementation to determine if any benefits were achieved. Wieder et al. (2006) suggest that there is a correlation between the experience of usage of the ES and overall organisational performance – the longer the experience of usage, the higher the overall performance. "The value of an ERP lies not so much in the product itself, but in its effective and efficient usage" (Kremers and van Dissel, 2000, p.54). The value of ES can be effectively evaluated during the "on and upward phase" when the organisation captures actual business results but these results only happen when the systems are already successfully implemented and integrated into business operations (Markus et al., 2000). Holland and Light (2001) similarly suggest that the business benefits of ES occur in the third stage of evolution which is the period of high penetration of ES usage leading to strategic benefits. Due to "lag and learning", there is a lack of productivity benefit from IT/IS investments (Brynjolfsson and Hitt, 1998). During this time, it is the maintenance activities involved that may assist the realisation of benefits (Häkkinen and Hilmola, 2008). Such activities include: i) fixing bugs; ii) performance tuning; iii) adding hardware capacity; iv) technology upgrading/migration; v) retraining; vi) continuous business improvements and adding people to accommodate training (Bajwa et al., 2004).

Organisational Inertia and Change Management

Seddon et al. (2010) defined that overcoming organisational inertia (OOI) as the "extent to which members of the organisation have been motivated to learn, use and accept the new system" (p. 313). Staehr et al. (2012) identify change management as an important enabler for achieving ES benefits. Techno-change management is needed to overcome user resistance to ES use and to foster new job designs that may enforce discipline and promote organisational learning (Staehr et al., 2012). Studies on ES have emphasised on the need for organisational change management (Kemp and Low, 2008), BPR and knowledge transfer for successful implementations (Gattiker and Goodhue, 2000). Research shows that change management promotes knowledge transfer (Wang et al., 2007) and organisational learning (Seddon et al., 2010) for ES benefits realisation. Preparation of users via effective change management (Nah et al., 2003) for ES implementations is necessary for any successful implementation (Davenport, 2000). Regardless how good the ES is, unless users in the adopting organisation are motivated to use the system and have sufficient knowledge to utilise the system effectively, the organisation may not reap benefits from the ES (Robey et al., 2002). Strong and Volkoff (2010) have similarly expressed that the people in organisations are required to be motivated and to possess sufficient knowledge in order to gain the desired benefits from the systems. A culture of continuous learning is cultivated if internal ownership of new processes are embraced and practiced, and unless users are motivated to use the system and possess sufficient knowledge to utilise ES effectively, the organisation may not reap the benefits from the ES (Bajwa et al., 2004).

Organisational Learning

An ES implementation is considered an opportunity to facilitate organisational learning (Soh et al., 2000), and it fundamentally changes the way organisations uses information as a knowledge asset (Newell et al., 2003).

Organisational learning can be defined as "a dialectic between old memory and new knowledge. When an ERP package is rolled out, organizational members must acquire complex new knowledge and simultaneously unlearn what they already know. They must learn to overcome knowledge barriers related to ERP and the organizational changes that implementation carries with it. However, knowledge barriers are not easy to overcome, even where formal training is available." (Robey et al., 2002, p. 22). Marabelli and Newell (2009) suggest that the development of learning capabilities or organisational learning is fundamental to achieve the potential of the ES and claim that ES implementations undergo a series of learning cycles and is viewed not "as a one time process but rather as a series of implementation and practical use cycles". Soh et al. (2000) claim that key personnel involved in the implementation process will gain experiences that enable them to be more effective in subsequent system implementation projects and users adapting to the system and learning more about its functionality will allow more benefits to surface. Srivardhana and Pawlowski (2007) state that an ES implementation gives the adopting organisation opportunities to "acquire knowledge from external sources, develop common cognitive structures among employees from different functional areas and implement new routines and processes to significantly increase the level of a firm's absorptive capacity related to business process innovation" (p. 55).

Organisational Innovation & Creativity

The adoption of an ES can be seen as a form of IT innovation (Rajagopal, 2002). Wang et al. (2006) argued that implementation of ES is an architecture innovation that "destroys the existing knowledge of specialised subroutines are systemically integrated, while leaving the knowledge underlying those subroutines intact" (p. 235). On the other hand, ES implementations can also lead to organisational innovation via effective change management (Kemp and Low, 2008) and organisational learning (Bradford and Florin, 2003). Gattiker and Goodhue (2005) have demonstrated that interdependencies between the organisational subunits contribute to benefits due to ES's ability to coordinate and facilitate information flows that may led to greater level of benefits through learning and collaborative relationships formed from the use of their IT capability (McLaren et al., 2002). Also, the integration of operational processes can lead to more innovation (Wang et al., 2006). Alvarez (2008) suggests that ES implementations are complex and contested social and imaginary phenomenon as much as they are technical ones. An IT system innovation, particularly ERP system, can be considered as a dynamic process of mutual adoption (Hong and Kim, 2002) as result of reinvention of the technology use and organisational change (Leonard-Barton, 1988). Willis and Willis-Brown (2002) suggest that ES innovation and optimization should ultimately lead to growth, improved organisational agility and profitability. Often adopting organisations undertake ES improvement projects after implementation (Seddon et al., 2010) that may results in enhancement of capabilities (Staehr et al., 2012). Hence it can be argued that organisational innovation (Bradford and Florin, 2003; Seddon et al., 2010) and creativity (Legare, 2002) are both outcomes and benefits of ES implementations. Organisational creativity (i.e. innovation) is defined (Legare, 2002) as the creation of a useful and novel product, service, procedure or process as a result of individuals cooperating in a complex social system on heuristics, whereas organisational innovation is an outcome of ES implementation (Bradford and Florin, 2003; McAdam and Galloway, 2005). In the context of ES, innovations can be the enabling of new market strategies, building new process chains, or create new business (Shang and Seddon, 2000) or upgrading functionalities of existing ES (Seddon et al., 2010). ES also provides a common technology platform for other forms of EAI (Enterprise Application Integration) that may allow for other benefits.

CONTINGENCY THEORY

The *Contingency Theory* argues there is no one best way of achieving organisational effectiveness, depending on the situation and variables considered, different outcomes may be achieved (Fiedler, 1964; Weill and Olson, 1989; Fiedler et al., 1996). Kast and Rosenzweig (1972) state that "*the contingency view seeks to understand the interrelationships within and among subsystems as well as between the organisation and its environment and to define patterns of relationships or configurations of variables. It emphasises the multivariate nature of organisations and attempts to understand how organisations operate under varying conditions and in specific circumstances*" (p.460). Contingency researchers try to identify the important variables that impact on organisational performance (Weill and Olson, 1989). Weill and Olson (1989) suggest that general contingency variables that are of interest to IS research include: strategy; structure; size; environment; technology; task and individual characteristics. In additional, they propose that specific contingency relevant to an IS function should comprise of: i) management of the system; ii) implementation of the system; iii) structure of the system; and iv) development of the system.

As discussed above, organisational change is constant and therefore ES benefits may also be emerging and vary over time. Existing approaches make little distinction between time in terms of whether the ES benefits achieved is a "desired/perceived benefit, an emergent benefit or one that is realised (or unrealised)" (Schubert and Williams, 2009b, p. 3). In addition, Brown and Vessey (1999) claim that there are no systematic investigation of contingency variables in ES implementations and the identification of these variables are crucial to the success of

ES implementations. Current research (Seddon et al., 2010; Staehr, 2010; Staehr et al., 2012) strongly suggest that ES benefits are subjected to different factors such as change management, education (Staehr et al., 2012), organisation learning (Marabelli and Newell, 2009; Seddon et al., 2010), culture (Cullinan et al., 2010). Given that not all ES adopting organisations have the same business model, offer the same product/services and operate in the same structure, this research argues that the use of *Contingency theory* provides an appropriate lens to investigate the dynamic organisational factors influence ES benefits and study its impact.

RESEARCH METHODOLOGY & APPROACH

This research used qualitative methods for the establishment of cases to explore the complex social relationships that have been constructed as a result of an ES implementation in the organisation. The adoption of ES can be considered as "an iterative process entailing on-going social action that is clearly constrained by the both the structural properties of the organisation and the built-in properties of the ERP" (Hong and Kim, 2002). Establishment of cases via relies on qualitative methods interviewing, observing and document analysis. A case may be simple or complex and may be a result of event that may involve multiple participants (Guba and Lincoln, 2005). Multiple-case ensure that an issue "is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood" (Baxter and Jack, 2008, p. 544). Through observing similarities and contrasts between cases, multiple-case allows the researcher to understand a single-case finding, establishing findings by specifying "how", "where" and if possible "why" (Miles et al., 2013). As this research attempts to explore and determine the contingent factors and benefits related to ES implementation, it is therefore necessary to establish a number of cases instead of using one in-depth case. The numbers of cases selected for the study should reflect the diverse industries operating in Australia and at the same time ensure allows for rigour in the findings. A range of organisations has been selected to participate in this research to reflect the diverse industries that operate in Australia.

Over twenty Australian large organisations were contacted using an ES vendor conference contact and nine agreed to participate in this study. The industry sectors that the nine organisations are operating in include manufacturing, governmental, environmental services, consumer goods and services, entertainment. This research opts for the use of interviews supplemented by secondary online data to establish cases. The interviews consist of structured, semi-structured and open-ended questions. The interviews followed a general schedule but without all prescribed line of inquiries, transitions and follow-ups established at the onset. Interviews were analysed interpretively guided by hermeneutic principles. Interviews collected, averaging 2 hours, were audio-recorded and transcribed. (Pope et al., 2000). Thematic coding (Miles and Huberman, 1994; Boyatzis, 1998) was applied to the data collected. Coding captures the qualitative richness of the phenomenon that assist in the identification and development of themes (Boyatzis, 1998). A theme is defined as a pattern that minimally describes or organises possible observations or interprets aspects of the phenomena (Boyatzis, 1998). Descriptive or inferential information from the analysis were labelled and catalogued. Catalogued information were organised to detect any similarities to distinguish the benefits achieved by the organisations.

FINDINGS

The theoretical lens of contingency theory was used to help analyse the various contingent variables with the nine case organisations. A cross analysis of the ES implementation project background was conducted using the information gathered from the nine cases.

Similarities among the ES Implementation Projects

Commonalities in the ES implementation project variables have been identified. It is evident that all nine ES implementation projects have following common characteristics:

- **Top management sponsorship** – Projects tend to be sponsored by a member of the senior management. Four of the projects were championed by the organisations' CFO whereas the remaining five projects were championed by their organisations' Managing Director/Head.

- **Technology vendor** – All organisations purchased their ES software from the dominant vendor, SAP.

- **Project cost** – ES implementation project costs were at least $AUD 4 million. However, it varies from $AUD 4 million to $AUD 27 million.

- **Maturity** – All organisations have implemented ES for at least 3 years as the interviews and cases were established in 2009.

- **Finance module** – All organisations installed SAP's FI-CO module as part of the initial implementation.

Contingent Characteristics of the ES Implementation Projects

Despite the commonalities highlighted, it is also obvious that the nine organisations also implement their ES differently. The differences are discussed as follows:

ES Implementation Project Team

The composition of the project teams working in the ES implementations vary in the nine organisations. The lack of in-house ES development expertise had led to three organisations (EntertainCo, PackCo and ClubCO) to outsource the implementation project. On the other hand, GovDep and PipeCo had their implementation managed by an in-house team. The remaining four organisations (DiaryCo, ConfecCo, EnviCo and ElectriCO) used a mix project team that consists of external consultants, developers and in-house IT employees.

Implementation Approaches

EntertainCo, PackCo and PipeCo ES implementation opted for a big-bang approach due to the need for integration of business process and unification reporting. The remaining six organisations preferred a phased approach. The reasons for adopting a phased approach for ES implementations can be attributed to the unique operating environment, organisational structure or politics.

Selection of ES Modules

All nine organisations had installed SAP's finance module, the other modules that the organisations have purchased varies. DiaryCo has installed the most number (eight) of ES modules that includes: i) *FI-CO (Financial & Controlling)*; ii) *MM (Materials Management)*; iii) *SD (Sales & Distribution)*; iv) *WM (Warehouse Management)*; v) *PM (Plant Maintenance)*; vi) *CRM (Customer Relationship Management)*; vii) *PS (Project System)*; and viii) *BW (Business Warehouse)*. EnviCo had the least number of ES modules installed: i) *Plant Maintenance (PM)*; ii) *Sales & Distribution (SD)*; and iii) *Human Resources (HR)*. The reasons for the differing types of ES modules implemented to date are mainly attributed to reasons for adopting ES.

Time Taken to Realise ES Benefits

ES managers from three out of the four organisations that have adopted big-bang approaches for ES implementation have suggested that benefits are achieved the moment the system goes live. In the case of EntertainCo, PackCo and PipeCo, the managers have claimed that centralisation of database and the reengineered business processes have contributed to improved accuracy in reporting and better efficiencies. Besides the ES benefits that are inherent to integration and automation when the ES system goes live, six managers have also stated that it took some time for their end-users to familiarise with the use of the ES and to fully optimise the functionalities embedded in the ES. Four ES managers (EntertainCo, DiaryCo, PipeCo and ElectricCo) have suggested that it would take a minimum of six months for the end-users to be competent in using the ES. EnviCo's ES manager and ConfecCO's ES manager believed it took their end-users 12 months and 36 months respectively to be comfortable in using the ES.

Contingent Factors Contributing to ES Benefits

Besides differences in the way ES are implemented in the nine organisations, the manner how the ES implementations were managed in short term and long term also differs. Sub-themes that have been identified to contribute to ES benefits realisation from the nine cases are presented in Table 1.

Table 1. Factors Contributing to ES Benefits

Theme	PipeCo	EnviCo	GovDep	EntertainCo	PackCo	ConfecCo	DiaryCo	ElectricCo	ClubCo
Change Management	✔	✔	✔	✔	✔	✔	✔	✔	✔
Testing & Acceptance				✔					✔
Education, training & support	✔	✔	✔	✔	✔	✔	✔	✔	✔
Increased Knowledge of ES		✔					✔		
Receptive to Business Improvements	✔	✔	✔			✔	✔	✔	
Managing of ES					✔		✔		✔
Monitoring of ES Performance	✔				✔	✔	✔		✔
Policies & Frameworks to Control Change		✔	✔				✔		✔

Change Management

All nine managers interviewed had expressed the importance of change management and the processes of managing change for the ES implementations. The basic understanding provided by the mangers interviewed was that change management was necessary to communicate changes that were going to be implemented to all

relevant users that are going to be impacted by the ES implementations. EnviCo, DiaryCo and ElectricCo managers suggested that proper change management allowed for users' "buy-in" to overcome user resistance and this ensures support for the ES use.

Managers of EntertainCo, PackCo, DiaryCo and ClubCo explained that the steps involved in their change management of ES implementation require proper strategies. All change management needs to ensure that requirements are well understood and at the same time functionalities are developed to meet business needs. This involves creation of feedback mechanisms and channels for managers and employees that will be using the ES.

The importance of change management strategy was also reflected in PackCo top management's effort to ensure that all users and middle management were consulted on the implementation to ensure that business processes and workflows are designed with right inputs. PackCo's steering committee made it mandatory for managers to attend consultative sessions with the implementation team to provide necessary feedback on proposed changes. The managers were required to educate their own staff about the changes and bring about greater awareness.

PipeCo's ES Manager: "So there was a very large mindset change that I think we underestimated. We also didn't know at that point what the effect would be on people's role, yeah, what new role would be required, what would disappear."

Testing & Acceptance

Two managers that were interviewed highlighted that testing of the system by the end users is extremely critical for ensuring the ES to deliver its benefits. EntertainCo and ClubCo had their ES prototypes underwent extensive testing by the end-users before going live. Testing of the trial systems are seen as an essential step to ensure that all the requirements and specifications of the ES are developed and delivered to the end users in accordance to the plans. This also ensures that the newly designed processes are working properly and accepted by the end-users who had input in them. Testings were used to evaluate whether expected benefits from the ES were ultimately delivered.

EntertainCo's ES Manager: "Change management is involved in terms of blueprinting a solution, getting their confirmation around a proposed solution and getting them involved in user acceptance testing."

Education, Training & Support

Part of the change management strategy of the organisations that adopted ES was to ensure that the users were educated and well trained in the use of the ES. The education and training was primary managed with the use of super users, ES support team and external consultants in all nine organisations. Importance of training was emphasised strongly for all nine organisations particularly for EnviCo. In the case of EnviCo, the ES team and the steering committee established that the users could not revert back to the legacy once the ES goes live. End users were given intensive training before and after the ES implementations.

The mangers of all nine organisations agree that training contributes to organisational absorption of ES usage knowledge. There is mutual exchange of information between the end users, super suers and ES support teams that provided the training. The communications from the training sessions assisting in the identification of issues and allowed the ES implementation teams to address or resolve them before the ES goes live e.g. incorrect data conversion from legacy systems to ES.

EnviCo's ES Manager: "So you know (during training), every data conversion load, the data improves, you find errors and you fix them."

ES technical support was not limited to ensuring the ES were operational but also assist in the promotion of learning between the end users and the ES support teams. All nine organisations have established formal ES teams to provide support and solutions for issues raised by the end users. The ES teams' support serves as a feedback channel that allowed the end users to seek clarifications and at the same provides the teams opportunities to enhance the performance or functionalities of the ES post implementation.

The role of ES support teams of EnviCo, GovDep, EntertainCo, PackCo, DiaryCo and ElectricCo went beyond the provision of support. The ES support teams were proactive in implementing users' change requests. Change requests were made by end users if the functionalities in the ES did not confirm to their expectations.

EntertainCo: ES support team was responsible of the implementation of new modules not offered by their ES vendor. EntertainCo's end-users found that the functionalities offered by ES was not sufficient and had to get the IT team to develop an in-house application to manage intellectual property of their media products.

ES support teams in these organisations were able to learn and identify areas for improvements through the interaction with the end users and at the same time allow the end users to know whether if a proposed business process or functionality can be implemented in the system. The end-users via this mutual exchange of

knowledge and learning further enhance their experience with the use of the ES and improve their capability to utilise the ES more effectively. This aspect will be elaborated in the next paragraph.

Increased Knowledge of ES

Mutual exchange of knowledge between the key stakeholders of the ES implementations promotes the organisational learning. Managers of EnviCo and DiaryCo have elaborated on the role of knowledge transfer in achieving ES benefits. The transfer of knowledge between the vendors, ES Support teams and end users of EnviCo's and DiaryCo had allowed the organisations to learn to use their ES platforms more effective.

EnviCo: Implementation team that consists of technical personnel mainly provided by the implementing vendor that lacked the knowledge of existing business processes and IT systems platform. Implementation team was highly dependent on the in-house ES support team and the end users to get the initial implementation requirements correct. The inputs from the ES support team and users from earlier rollouts had also provided the company with a project template that resulted in quicker later installations.

The involvement of subject matter experts will enable the ES implementation team to develop an effective ES that delivers all the expected benefits and also assists the ES support team in identifying areas for improvement. Manager of organisation B recognised that it took some time for his organisation to fully achieve all the expected benefits with the help of the Super Users. Super Users in organisation B understood that their feedback to the support team was important to optimise the ES.

Receptive to Business Improvements

It was found that organisational innovation in the six organisations was enabled by a positive culture within the top management to be receptive towards business changes and improvements. Organisations that had top management and ES support team that understood the need to be open to new business improvements that were not initially planned for the ES implementations to be incorporated. These organisations realised that the initial requirements gathered by the implementation team may not always be fully accurate and therefore it was essential to establish channels to allow users to provide feedback on the functionalities or new business processes that they were adopting.

The feedback obtained becomes a basis for change requests that amend the existing functionalities within the system e.g. reporting tools, the way information have been automated etc. This is evident in the way EnvirnCo, GovDep, EntertainCo, PackCo, ConfecCo and DiaryCo treated the users' feedback.

Furtheremore, EnviCo, GovDep, EntertainCo and DiaryCo also had an "open door" culture that encourages users to propose improvements to the ES functionalities or ask for additional capabilities that may not been developed as part of the initial implementation. The top management fully supported end-user to have an active role in the improvement of their ES performance. Their ES support teams were proactive in soliciting feedback as part of the post implementation evaluation. The ES support teams uses the users' input to optimise the performance and capabilities of the ES.

PackCo: End users requested to incorporate under-utilised functionalities in the ES modules that were already in the ES but not implemented as existing business processes were not compatible. This was made possible by the top management that allowed further reengineering of their business processes after the ES have been implemented to allow for the under-utilised functionalities to be available to the end-users.

Managing ES Performance

ES Managers of PackCo, DiaryCo and ClubCO have emphasised the importance of proper management of ES use to ensure that benefits are derived from an optimised systems. PackCo's ES manager suggested that reviews of performance, best practice modelling, training and maturity and innovation are critical elements of good ES governance. DiaryCo has a strong steering committee that oversees the performance of the ES and ensures that ES improvements are made. ClubCO employed an ES solution architect sits on the change control committee to advise the senior management of potential impacts due to ES changes. In the context governance of ES use, two other sub-themes were identified from the cases: i) *monitoring of ES performance* and ii) *policies & frameworks to control change*.

Monitoring of ES Performance

Steering committees for EnviCo and EntertainCo tasked their ES managers to undertake constant reviews of the ES performance after ES went live. The review exercises were required to ensure that ES implementation were providing a return on the ES investments and delivering the promised benefits. Likewise, ES support teams of PackCo and ConfecCo were also given similar responsibilities to ensure that the ES were effectively utilised by the end users. The ES support teams had to determine users requirements planned for ES implementations were aligned to the functionalities deployed.

ConfecCo: End users may able to use ES competently but still not achieved the desired benefits due to lack of streamlining or efficient workflows.

The ES managers of EnviCo, EntertainCo, PackCo, ConfecCo and ClubCo were of the opinion of end users' familiarity and learning have an impact on ES performance. Monitoring of ES performances in their organisation provided their teams with opportunities to identify areas that need attention and improvements. Areas that have been identified to be underperforming were analysed to understand the causes for lack of productivity or efficiencies so that solutions can be designed to allow end users to fully exploit the potential of the ES capabilities. This sometimes may include more user training even after the systems have been implemented.

Policies & Frameworks to Control Change

The managers of EnviCo, GovDep, DiaryCo and ClubCo have emphasised the importance of design effective policies and framework to govern the use of ES so that the performance improvements and return on investment could be achieved. Effective policies guided the ES managers and their support teams to prioritise what ES improvements, modules or services should be purchase/implemented after implementation.

The implementation of policies and governance frameworks allowed the organisations to prevent unnecessary wastage of resources from post implementation initiatives. This allowed the organisations and users to understand the importance of realising the planned benefits from the ES before embarking other ideas. Stringent policy ensures that new requirements or requests from end-users to be scrutinised to determine their priority levels and how well the new requirements fit with the current ES configurations.

DiaryCo: Frameworks and models allows for the benchmarking of their ES performance. It is important that organisations should establish frameworks that incorporate the best practices to assist that in understanding how well their ES is performance against other adopters in the same industry. This provides a guide for the ES manager, the ES support team and top management to determine if the current performance is satisfactory before embarking on initiatives to improve the ES functionalities or added new functionalities.
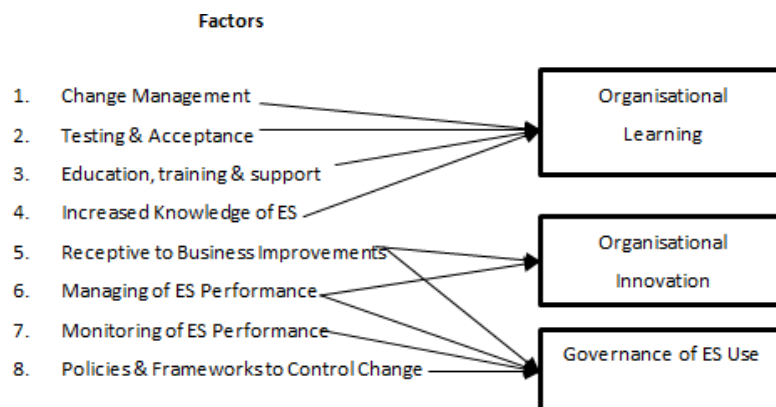
DISCUSSION & CONCLUSION

Figure 1. Factors Catergorised in General Themes of Organisational Learning, Innovation and Governance.

The eight contingent factors that have been identified from interviews (listed in Table 1) have been categorised into common themes of organisational learning, organisational innovation and governance of ES use. Preliminary findings suggested that organisational learning is affected by the change management strategy, testing, education, training, support and increased knowledge of ES use. The data indicate that organisational learning as a result of increased knowledge of ES. This can happens when the ES support teams, end-users and the top management understood the capabilities and limitations of their ES through the activities: i) change management processes, ii) testing & acceptance; and iii) education, training & support. The activities promote the transfer of knowledge between the key players for the ES implementation. The ES support team will gain technological expertise knowledge after deployment. End-users will be educated and become more adapted to the ES capabilities and functionalities. End users will also provide input to the support teams to assist them in the identification of areas that did not perform to expectations. The data also suggest that receptiveness to improvements as a result of increased knowledge of ES led to business innovations. Organisations possessing an open culture towards business changes allow for the creation of new ES functionalities for their already implemented ES. Lastly, the findings also indicate that governance and management of ES use provides clear polices and guidelines that management adopts for monitoring, control and upgrading the ES capabilities.

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