The Impact of the Implementation of an Enterprise Resource Planning System on a Typical Governmental Office

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Abstract

Enterprise Resource Planning (ERP) systems are part of Information Systems which organisations depend on when conducting business. An ERP system offers useful functionality in the smooth running of an organisation. This study investigated the impact on ERP implementation at SASSA North West Regional Office, a typical governmental office. It highlighted problems of the current ERP system by delineating the weakness and pitfalls. ERP systems are focused on standardisation and synchronisation of information as a result improved organisational efficiency, unfortunately problems with ERP system can create challenges and dissatisfaction among the end users, and that they fail to deliver the anticipated benefits. The findings of this study revealed that there was deficiency in ERP system; employees were worried about data loss when they use the system, found system errors, experienced difficulty in exporting data, and were not satisfied with quality of output from ERP system.

Keywords: enterprise resource planning, SASSA North West Regional Office, organisational efficiency, governmental office, implementation.

Introduction

Enterprise Resource Planning (ERP) evolved from Material Requirement Planning and Manufacturing Resource Planning in order to meet the needs of industry and was named by the Gartner Group of Stamford, Connecticut, USA in 1990. Since then the ERP market has expanded worldwide (Urban & Mashinini 2008: 224). ERP systems are often viewed as the strategic computing platform for organisations, however over 70% of ERP

implementations has been judged as unsuccessful. ERP implementation success studies typically deal with issues such as ERP project implementation problems and critical success factors. As a consequence, some effort has been spent in an attempt to identify the factors responsible for a successful ERP implementation (Wang, Shih, Jiang & Klein 2008).

Statement of Problem

The consolidation of information for national reporting purposes is frustrating and time consuming. Furthermore, the lack of timeous information due to the delays in extracting and combining the information may lead to incorrect management decisions being made. This may be detrimental for a business that runs on cost recovery only and sufficient cash flow is important for it to continue with its daily operations.

SASSA's business strategy is to align all the processes, which must include all business processes. A single business software system aligns and in turn meets the SASSA's strategic objectives. The standardisation of the business systems nationally may produce a cost savings opportunity thereby reducing costs within the long term. The process may increase the functionality and effectiveness of the business by reducing duplication of effort if the staff uses it correctly.

The intentions of this research are to assess the usefulness of ERP to SASSA North West Regional Office and establish how user friendly the system is. The problem to be investigated was to determine the impact of staff usage on the success of an ERP system in SASSA's North West Regional Office. Kansal (2006: 165) states that ERP is a socio-technical challenge that requires a different outlook from technology driven innovation. It will depend on a balanced perspective where the organisation, as part of a total system, is considered. Furthermore, many organisations adopting ERP have experienced conflict with their business strategies while some of the ERP projects are characterised by unhappy staff, delays and cost overruns (Kansal 2006: 165).

The Theoretical Framework

The review is made under certain topics that include the definition of Enterprise Resource Planning and its characteristics, the rationale used by a

business to undertake an ERP initiative, followed by ERP implementation. This is followed by a description on the conclusions that resulted from reviewing the literature.

ERP Definition

According to Jakovljevic (2000), ERP software is a set of applications that automate finance and human resources departments and help manufacturers handle jobs such as order processing and production scheduling. ERP began as a term used to describe a sophisticated and integrated software system used for manufacturing. In its simplest sense ERP systems create interactive environments designed to help companies manage and analyse the business processes associated with manufacturing goods, such as inventory control, order taking, accounting, and much more. Although this basic definition still holds true for ERP systems, today its definition is expanding

ERP Characteristics

ERP's integrated structure is supported greatly by its physical infrastructure and architecture. Jakovljevic (2005) writes that the first ERP software packages were applied in a mainframe computer environment. He further states that personal computers are nowadays powerful enough to take on some of the processing tasks that used to be performed solely by mainframes. Its growth as software has thus developed around a changing technical environment where computers have moved from its mainframe base to that of wide area networks.

Jakovljevic (2005) explains that it is impossible to devise an ERP system without a sophisticated IT infrastructure. He also comments that the system is based on a distributed relational database technology, which means that the database software must support multiple copies of a production database that are transparent to the user anywhere around the globe.

A Business Rationale for ERP

Urban and Mashinini (2008) confirm that ERP is a concept in today's business world. The term refers to a method of getting and keeping an overview of every part of the business (a bird's eye view, so to speak), so that production, development, selling, and servicing of goods and services will all be coordinated to contribute to the company's goals and objectives.

Urban and Mashinini (2008: 225) state that successful ERP implementation can provide real business benefit and sustained performance, whereas an unsuccessful implementation may have disastrous consequences. Operating costs as those associated with forms administration, data capturing, computer processing, report preparation, report utilisation, report storage, system and software surveillance are all necessary in ERP implementation. In addition Urban and Mashinini (2008: 226) explain that ERP implementation can be evaluated against a set of key performance indicators and critical success factors. ERP implementation and related change issues can assist organisations in considering the significant factors influencing the change process.

The essence of ERP is the immediate effect one transaction has on all relevant data and modules of the system. As Turbit (2003) notes, the word 'Enterprise' in ERP means that whatever happens on one area has a ripple effect in other areas. Understanding the implications of actions of one area, on other areas of the company, is not something that happens overnight (Turbit 2003).

ERP Implementation

Wu (2011) highlights that it must be noted that ERP implementations are complex and costly, even though advanced ERP systems have evolved several favourable features, such as: more wide intensive and extensive coverage, better flexibility in handling functions and web–centric application. The decision to implement an ERP system is not made lightly, it is expensive and it usually takes eighteen to twenty four months to implement from the start of the process to when the first function goes live. Attempting to implement an ERP system without sufficient funds will only lead to a negative outcome and to unhappy stakeholders and customers.

Institutions planning to implement an ERP system fail to understand the cost of ownership of such an undertaking. The cost of ownership includes not only the implementation cost but acquisition and long term on-going support as well. It includes all direct and indirect cost that might be associated with the life cycle stages of an ERP project, including its implementation, operation and eventual replacement (Babey 2006).

Boonstra (2006: 38) asserts that ERP successful implementation is urgent, since the costs and risks of these technology investments rival their

potential pay-offs. Failures of ERP system implementation projects may lead to bankruptcy. Botta-Genoulaz and Millet (2006: 204) highlight that there are reasons why a company would implement enterprise solutions: the provision of a single source of data, the potential cost reduction (maintaining old computer systems can lead to enormous costs), and the potential gain in business integration when reducing indirect costs, or more precisely, the effect on customer responsiveness and manufacturing productivity if the safes/ordering systems are not linked to the production scheduling systems.

According to Jones, Cline and Ryan (2006: 412), a successful ERP implementation requires organisation group to break the barriers of knowledge sharing. ERP systems integrate business processes across functions and units, thereby creating a divergence in the required knowledge of organisational members. ERP implementation is considered successful if it facilitates the accomplishment of a substantial proportion of its potential benefits, which may include: personnel reductions, a decrease in the cost of information technology, better inventory control, and identifiable level of return on investment (ROI), and /or an improvement in order and cash management (Wang, Shih, Jiang & Klein 2008: 1611).

The study of Tsai, Shaw, Fan, Liu, Lee and Chen (2011) suggest that successful implementation of an ERP system requires a strategic fit between the product and the organisation. The benefits of ERP depend on the clients operations, maintenance, and upgrading skills and knowledge, which can be learned, acquired and transferred from a consultant. Without external help, few organisations can implement ERP successfully.

Summary

Wu (2011: 6946) states that ERP implementation is viewed as a solution for corporations aiming to meet increased competitive pressures and globalisation. Kansal (2006) asserts that the implementation of ERP system is strategic, complex, and expensive activity to extend its scope beyond operational improvements induced by the software's functionality.

ERP is the technology that drives the reformation in the realm of economy and impacts people's life style indirectly. ERP system now is going towards a system with more coordination/collaboration, higher heterogeneity and integrity, more intelligent, operating on the level of knowledge and even wireless-enabled (She & Thuraisingham 2007).

Research Questions

The following research questions guided this study:

1. To what extent is the ERP system reliable and relevant to the job within the organisation?
2. What extent is the benefit and perceived usefulness of ERP within the organisation?
3. To what extent does the ERP project faster progress and success quality within the organisation?

Research Methodology

A survey was used for the study with the help of a questionnaire. In the survey certain specific questions were asked and the analysis was done on application of Pearson correlation co-efficient and p-value. The survey was conducted with the custodian of the ERP system in different business units within the organisation, to test the impact of implementation of ERP system at SASSA North West Regional Office.

A simple random sampling was used for the purpose of this study. The researcher's sample consisted of different departments drawn from SASSA North West Regional Office and the response rate was 80% resulting in 45 respondents.

Results According Research Questions

To what extent is the ERP system reliable and relevant to the job within the organisation?

Nicolaou (2004: 79) asserts that research indicated that successful adoption of IT to support business strategy can help organisations gain financial performance. A recent wave of ERP system adoptions promised businesses the ability to incorporate information needs of all function areas into a single system that captures event data relating operational and information needs of all business processes.

The variations in terms of ERP system reliability is slightly significant of respondents, 25 (56%) indicated that the ERP system is reliable. It was found, as Figure 1 show, that most frequent responses, 42 (94%) are worried about data loss when they use the system.

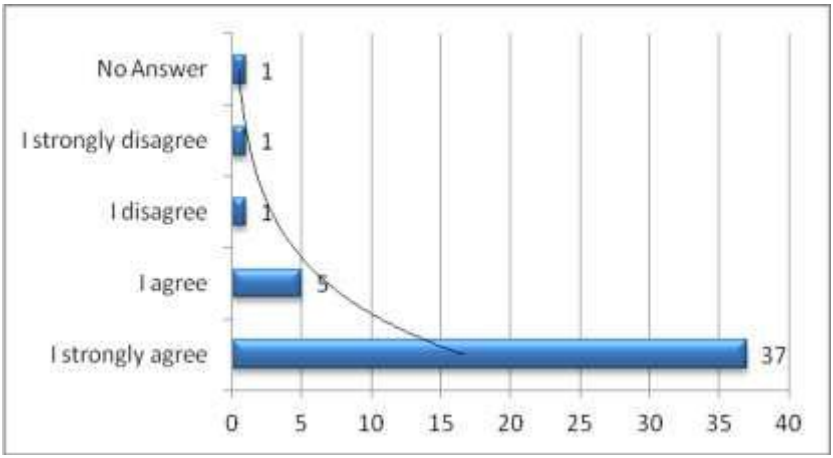

Figure 1: Do you worry about data loss when you use the ERP system?

It was found that 42 (94%) of respondents indicated that they find system errors when using ERP system. The correlation between experiencing difficulty in exporting data from ERP system or software and worrying about data loss when using the ERP system is a significant -0.722. The majority of respondents (31 or 69%) assume the ERP system usage being relevant. Twenty (44%) of respondents noted that they don't experience difficulty in exporting data from ERP system or software currently used. Based on this, it implies that employees presume the ERP system (or software currently used) inadequate.

The research concluded that respondents are not satisfied and experience challenges with the ERP system. SASSA management should explore an opportunity to ensure that the respondents are trained to be familiar with the system, to and improve the ERP system reliability and reducing possible system errors. Dowlatshahi (2005) argues that ERP systems similar to other new technologies in an organisation require training for employees to be able to use them correctly and effectively.

To what extent are the benefits and perceived usefulness of ERP within the organisation?

In order for an ERP system to become effective for organisations, massive changes must occur. An ERP system strives to increase efficiency, which is often the result of a new mode of operations or utilisation of resources (Dowlatshahi 2005).

It was found that most of the respondents (28 or 64%) assume that an ERP system increase the organisations business value and productivity. However, it was found that most respondents (36 or 82%) did not answer the question relating to ERP system improving performance and productivity. This could be blamed on the fact that most of the respondents were not certain with their response. The response is contrary to the result, where most respondents presumed the ERP can help increase company business value and productivity.

The majority of the respondents (25 or 59%) believe that the ERP system improve effectiveness (see Figure 2). The opposite reflection could be attributed it has a lack of experience in the use of ERP system. This implies that the respondents consider the use of ERP system effective. Dowlatshahi (2005) assert that organisations have begun implementing ERP systems to improve the efficiency and decision making processes. The aim of ERP system is to increase efficiency and profitability while simultaneously increasing the level of control a company has over its entire operations.

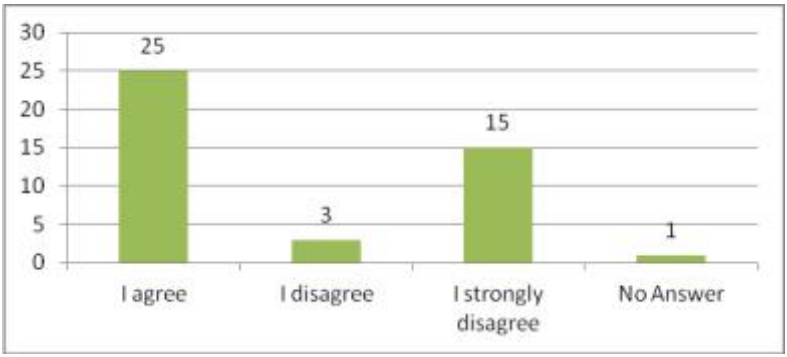

Figure 2: Does the use of ERP improve effectiveness?

Out of the sample of 45 respondents, 24 (53%) indicated that the ERP system is very useful in their job (see Figure 3). This implies that employees are certain about benefits, efficiency and effectiveness of ERP in the organisation, and perceive it being useful. Jakovljevic (2005) provides that the ERP system should be easy to use. A complex system decreases usefulness, which also make users reluctant to work with. To make the system easier, it should be carefully designed to be user friendly, considering screen design, user interface, page layout, help facilities and menus.

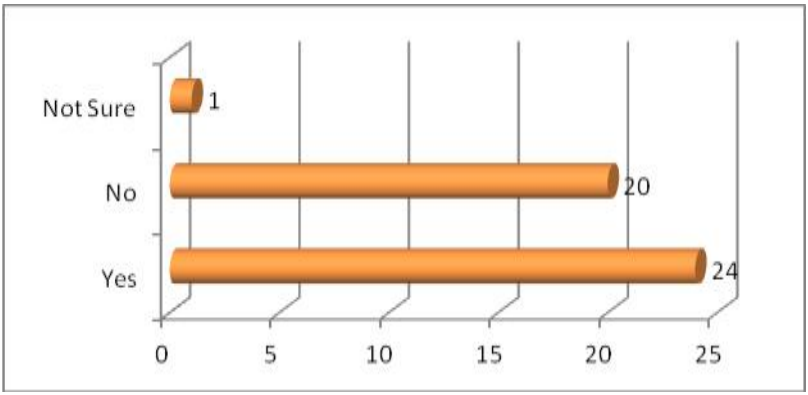

Figure 3: Is using the ERP system very useful in my job?

Out of the sample of 45 respondents, 24 (53%) indicated that the ERP system is clear and understandable. This implies employees are not clear about ERP systems. The responses could be attributed to lack of training. Tsai, Shaw, Fan, Liu, Lee and Chen (2011) suggest that when users are trained to be familiar with the ERP systems, ERP implementation will improve. Nicolaou (2004) suggests that ERP implementation were reported to be negatively affected by a lack of understanding of the system by users, inadequate training and support for end users to understand the newly adopted business processes and workflows, inadequate system testing, and inadequate communication of system objective. In addition, it was found that the correlation between the ERP system reliability and the quality of the output from ERP system is a significant -0.832.

Lastly, it was found that most of the respondents (43 or 96%) assume the ERP system have more prestige. In addition to this, it was found that the correlation between the ERP system reliability and the ERP system having more prestige than those who do not is -0.306, a negative correlation. This suggests that the respondents doubt the ERP system reliability and does not think it has more prestige.

The research concludes on this part of the research question, that respondents are satisfied with the benefits and usefulness of the ERP system. However management should explore opportunity to increase satisfaction with the quality of the ERP system. Frolick (2003) indicates that most of ERP pitfalls relate to the implementation and organisation itself, and can usually be avoided. Without proper planning and organisation, an ERP project is sure to fail. ERP software is worthless without the people to implement, use, and maintain its functionality.

To what extent is the ERP project progress and success quality within the organisation?

Tsai, Shaw, Fan, Liu, Lee and Chen (2011) assert that project management of ERP implementation is considered one of the important institutional factors that influence technology adoption in an organisation. Specifically, the role of project management in the successful ERP implementation is critical. Thus it was found that most of the respondents (25 or 56%) assumed the ERP implementation was completed on time. This implies that employees may have insufficient knowledge of ERP project implementation. In addition to this it was found that the correlation between the ERP system reliability and the consultant having led the organisation in the right direction during ERP implementation is a significant -0.832.

The majority of the respondents (34 or 76%) assume that the ERP implementation project completed within the budget. This implies that employees consider the ERP project completed within the planned budget. Babey (2006: 24) states that a realistically developed and funded implementation budget that covers all components and aspects of the project ensures a smooth process and lessens some degree of stress that ERP implementation places on staff. In addition an appropriate budget will minimise the surprises of unexpected costs and the abrupt search for funds to cover the cost.

Out of the sample of 45 respondents, 35 (78%) are not in agreement. The result could be attributed by challenges experienced by ERP system. Kansal (2006) highlights that in spite of growth in the ERP market, recent research shows growing dissatisfaction with ERP that they failed to deliver the anticipated benefits. Furthermore, Nicolaou (2004) indicate that while companies worldwide have made substantial investment in installing the ERP systems, implementations have proven to be unexpectedly difficult, and final benefits have been uncertain. Tsai, Shaw, Fan, Liu, Lee and Chen (2011) suggest that the successful implementation of an ERP system requires a strategic fit between the product and the organisation. The benefits of ERP depend on the clients operations, maintenance, and upgrading skills and knowledge, which can be learned, and transferred from a consultant.

It was also found, as Figure 4 shows that most of the respondents (24 or 53%) believe the consultant led the organisation in the right direction during ERP implementation. Thirty Four (76%) of the respondents indicated that the management reports from ERP system are very useful. This implies that employees are satisfied with management reports from ERP system. This could be attributed to usefulness of management reports generated by the use of ERP system. Boonstra (2006) states that to make the ERP system more useful, the company should focus on enhancing the quality of output during its implementation, especially in management and measurement reports.

However 24 or 53% of the respondents do not consider the quality of the output from an ERP system being high. This implies that the employees are not happy with the quality of the output from ERP system. It was also found that the correlation between the ERP system improving performance and productivity and the management report from ERP system being useful is a significant -0.764. The correlation between the ERP system reliability and the quality of the output from ERP system being high is a significant -0.832.

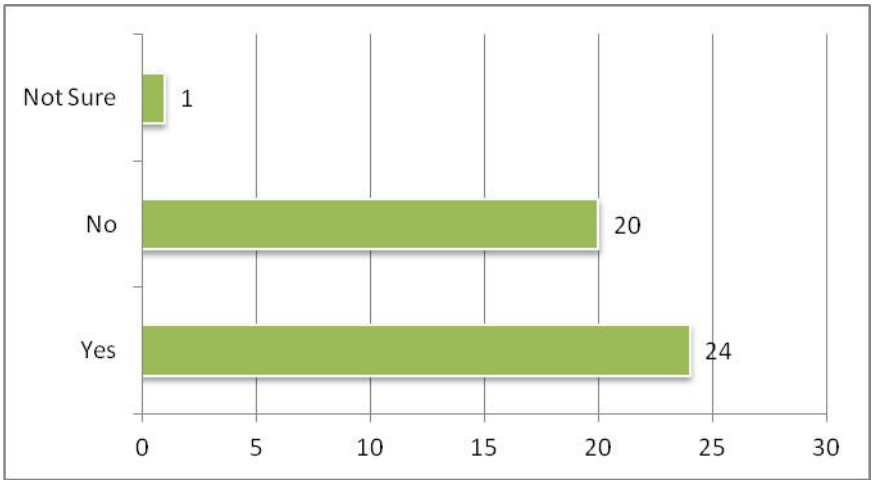

Figure 4: Do you think the consultant led your organisation in the right direction during ERP implementation?

The research concludes for this research question that respondents are satisfied with the project progress and unhappy with the success quality. Management should explore the opportunity to match ERP with company needs and improve the quality of the output of ERP system. According to Jones, Cline and Ryan (2006) a successful ERP implementation requires organisation group to break the barriers of knowledge sharing.

ERP systems integrate business processes across functions and units, thereby creating a divergence in the required knowledge of organisational members. Davenport (1998), in Botta and Millet (2006: 205), highlights that the ERP failure occurrence by two reasons: the technical complexity of the solutions that requires a great deal of expertise, and mismatch between technical specifications of the system and the business requirements of the company.

Conclusion and Recommendations

The purpose of this research was to determine the extent of the implementation of ERP system in SASSA North West Regional Office, a governmental organisation. The research identified and analysed critical

factors to be considered to ensure successful ERP system implementation, describing the developments and implementation of ERP system and analysing the developments, as well as identifying and analysing critical factors that should be considered to ensure successful ERP implementation.

The study provided an outline of ERP system implementation in terms of definitions, effectiveness and efficiency, ERP benefits, challenges of ERP, change management, ERP implementation, cost of ERP an ERP success factors. ERP implementation is viewed a crucial solution for any organisation aiming to meet increased competitive pressures and globalisation (Wu 2011). A successful ERP can be the backbone of business intelligence for an organisation, giving management a unified view of its processes. Unfortunately ERP's have a reputation for costing a lot of money and providing a meagre results, because the people who are expected to use the application do not know what it is or how it works. When ERP fails, it is usually because the company did not dedicate enough time or money to training and managing culture change issues. Faulty technology is often blamed, but eight out of nine times ERP problems are performance related (Kansal 2006: 168).

The findings of this study provide a point of departure for ERP system on the impact of the implementation of ERP system in SASSA North West Regional Office, a typical governmental entity. The study has highlighted ERP system challenges as experienced by employees. The study indicates the ERP system implementation can be identified to five major types: there is deficiency in the ERP system; employees are worried about data loss when they use the system, they find system errors when using ERP system, experience difficulty in exporting data from ERP system, and are not satisfied with quality of output from ERP system. Results highlight the need for SASSA management to explore opportunity to ensure that the employees are trained to be familiar with the system, improve ERP system reliability and reducing possible system errors.

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