Enterprise Resource Planning Systems and Change in Accounting Processes: A Case of a Manufacturing Company (Page 52-73)

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Abstract

With the development of information technology, the business environment has become more dynamic, globalized, and competitive. To survive in such a complex and competitive environment businesses often opt for implementing an integrated solution like Enterprise Resource Planning System (ERPS). The integrative nature of the ERPS has substantially aided in resolving complexities and streamlining the business processes. Since ERPS functions with business processes, it requires changes in the way of doing business activities. However, high rates of ERPS implementation failures are recorded due to lack of knowledge on practical consequences of it. Presently, Sri Lankan businesses also opt for ERPS, yet quite a few researches have been conducted on ERPS in Sri Lanka. Thus, this research studies on the changes of the accounting processes with the implementation of ERPS in the Sri Lankan context. The study is conducted as a case of a Sri Lankan manufacturing company. The change in accounting processes covers both the changes in accounting practices and change in accountant's role. The findings of the study suggest that the ERPS does not bring in fundamental changes to the accounting processes, but facilitates improvements to the accounting functions and eventually streamline the accounting processes. Nevertheless, ERPS relieve the accountants from routine tasks and assign them new roles such as, analysts, consultants and strategic agents.

Key words: *Enterprise Resource Planning System, Accounting processes, Accounting techniques, Accountant*

1. INTRODUCTION

Today's business world is becoming more dynamic, competitive and globalized. Thus, businesses have become more outward oriented and are exposed to unwieldy work and information. In such an environment, organizations and businesses are compelled to obtain the support of information and communication technology to survive in the rapidly changing world (Spathis & Ananiadis, 2005). Enterprise Resource Planning System (ERPS) is one of the Information Systems (IS) that most of the organizations seek to cope up with the dynamic environment (Nicolaou, 1999). Thus, many companies opt for integrated software packages like SAP, Oracle, Baan, etc. It was estimated that in the past decade about $500 billion was invested in ERP systems worldwide (Carlino & Kelly, 1999; Gefen & Ragowsky, 2005).

ERP system is an integrated computing system designed to automate the flow of material, information, and resources across all functions in an enterprise, with a shared database.

American Production and Inventory Control Society (2001) has defined ERP systems as “A method for the effective planning and controlling of all the resources needed to take, make, ship and account for customer orders in a manufacturing, distribution or service company”.

The emergence of ERPS is considered as an extended form of Material Requirement Planning (MRP I) and Manufacturing Resource Planning (MRP II) in early 1990’s and it brings in various benefits which other conventional information systems failed to bring in to organizations (Spathis & Ananiadis, 2005). An EPRS would automate and integrate business processes, produce real-time data, simplify business processes (Bae & Ashcoroft, 2004), remove non-value adding work and improve customer services (Nah, Lau & Kuang, 2001) which would ultimately increase the efficiency, enhance the decision-making and reduce the cost in businesses. Thus, ERPS brings changes in to organizations while providing competitive edge.

Research issue

Even though ERP system has been developed, evolved and implemented around the world for almost two decades, there are still many recently published reports about the difficulties in ERPS implementations (Lui & Chan, 2008). According to Chakraborty and Sharma (2007), ninety percent of all initiated ERPS projects can be considered failures in terms of project management. In addition, surveys show that more than seventy percent of ERPS implementations do not achieve their estimated benefits (Technology Strategies, 1998).

One of the largest business magazines in Canada, “Backbone” conducted a survey on ERPS failure and the findings reported that twenty five percent of failures are due to not having realistic ERPS implementation expectations. Further, the study stated that some companies become dissatisfied and abandon the ERP system after the implementation, claiming that the system did not meet the expectations. This was not due to the fault of the system, but the companies’ expectations were very much high and unrealistic.

One of the prime reasons behind the incongruences between organizational expectations and ERPS real outcomes is the unawareness of practical reality of ERPS. Though businesses are aware that ERPS implementations are closely associated with BPR, the availability of information about the practical outcome of the ERPS is very less. According to Sutton (1999), “The adoption of ERP systems is widespread… Yet, we know very little about how well these systems have actually facilitated improvements…What are the long-term effects on organizational structures, organizational culture, and the workers within these organizations?

There are many questions related to ERP systems and little research that provides potential answers to these questions" (as cited in Granlund & Malmi, 2002, p.300). Thus, the knowledge on practical consequences of such systems is very little and it creates a knowledge gap on the practical consequences of ERPS (Granlund & Malmi, 2002).

Accordingly, based on the research phenomenon that ERPS implementation and the real change in business processes, a literature survey was conducted and it was identified that most of the ERPS research articles were based on European and Asian Pacific context and did not address the Sri Lankan nor South Asian context. Further, these Western researches are hardly applicable to South Asian countries like Sri Lanka due to differences in socio-cultural aspects and the level of technology. Further, with the development of technology and globalization in the present context, ERP systems are becoming very popular in Sri Lanka. The CEO of SAP India, Ranjan Das, while addressing the fifth SAP Summit, an annual business and technology forum held in Mumbai , pointed out that Sri Lanka is a big market for SAP, which will increase its market share by twenty percent. Thus, in the recent past many Sri Lankan organizations have initiated ERPS implementation projects aiming to centralize and streamline their organization's processes for better performance. However, success of these ERPS implementation would be questionable if not implemented with proper understanding of the impact of ERPS.

Hence, based on the background and issues emerging from the background, the researcher was interested to carry on a research, which would address the *changes that an implementation of an ERPS brings in to the business processes, specifically to the accounting processes in the Sri Lankan context.* The research scope was narrowed down to evaluate the changes in accounting processes as accounting is one of the dominant underlying function of profitability and subject to change with the change in business. Guptha and Gunasekaran (2004) mention that there are many areas in managerial accounting being redefined due to the paradigm shift in manufacturing and service enterprises. To evaluate the research issue farther, changes in the accounting practices and accountant's role were scrutinized using a case study of MAS Intimates Ltd.

2. THEORETICAL BACKGROUND

Over the past decade, Enterprise Resource Planning Systems have been receiving a significant attention from academic researchers focusing on the motivations to implement ERPS, Critical Success Factors of ERP implementation, ERP change management, and ERP risk management (Schlichter & Kraemmergaard, 2010). In addition, there are several research articles, which describe the impact of ERPS on accounting processes, mostly on management accounting.

Spathis and Constantinides (2004) conducted a quantitative study in Greece to understand the impact of ERPS on accounting processes. As a result, the researchers found that integration of applications and the real time information are the main reasons for Greek companies to adopt ERP systems. The study reported that after the ERP implementation a number of companies introduced financial ratio analysis, production of budgets, profit centers, absorption costing, profitability analysis per customer and internal audit. Thus, ERP has provided platform to introduce new methods and techniques to accounting processes, which has significantly changed the outcome of accounting processes.

However, Scapens and Jazayeri (2003) on the longitudinal case study conducted at the European subsidiary of a multinational company found that there were no fundamental changes in the nature of management accounting information after the ERP implementation. The research conclusion was that ERPS facilitate an evolutionary change in accounting processes rather than a revolutionary change as there is no fundamental changes in the management accounting function. Nevertheless, there were changes in the role of management accountants such as the elimination of routine jobs, line managers with accounting knowledge, more forward looking information and a wider role for the management accountants.

Confirming Scapens and Jayazeri's view another research on the impact of ERPS on accounting processes stated that ERPS influence a greater level of integration, flexibility and functionality, but use of new accounting practices associated with ERPS is less (Galani, Gravas, & Stavropoulos, 2010).

However, according to Granlund and Malmi (2002) the impact of ERPS on management accounting and management accountant is moderate. According to the research conducted on Finnish companies, the researchers indicated that ERPS has led relatively small changes in management accounting, because companies use more advanced and sophisticated management accounting techniques with the use of separate IS. In addition, ERPS has helped the management accountant to be relieved from routine tasks and involve in analytical tasks.

Caglio (2003) studied an Italian company to understand how the implementation of an ERP system challenges the definition of the expertise and roles of accountants. Caglio (2003) found that is a higher degree of standardization of accounting activities and practices; a stronger need for integration and inter-functional collaboration; and a more prominent role for the accounting department in the management of the new IT system. Further, in a field study of a single company, Burns and Baldvinsdottir (2005) observed that with the implementation of ERPS the accountants became "Hybrid accountants" where management accountants were away from their routine tasks and they have become rather the analysts of business. Thus, the previous researches provide insight on the existing knowledge on ERPS and change in accounting processes.

As mentioned above, Sri Lankan companies are culturally as well as technologically divergent from the European countries. The European companies, which were subject to researches, had advanced legacy systems or other sophisticated information systems prior to the implementation of ERPS. Nevertheless, the prevalence of same scenario in Sri Lankan context is doubtful. Therefore, research on the consequences of ERP implementation on accounting processes in Sri Lankan context would be a valuable contribution to the literature.

3. METHODOLOGY

The main purpose of this study is to address the issue; what are the accounting changes that an ERPS brings into an organization in the Sri Lankan context. This study is focused on exploring the organizational effects and influences of the ERP system, which is the subjective aspect of the IS. According to Myer (1997), qualitative research methods are more suitable for studies, which focus managerial and organizational issues of Information Systems. Further in information systems, interpretive research is appropriate at producing an understanding of the context of the information system and the process whereby the information system influences and is influenced by its context (Walsham, 1993). The interpretivism research paradigm enables a researcher to enhance the understanding of critical, social and organizational issues and it helps to ask questions such as "what", "why" and "how" in relation to a particular issue (Deetz, 1996). Moreover, qualitative research assists the researcher to become more experienced with the phenomenon and get a deep understanding of the issue. Hence, depending on the nature of research issue and research objectives the study adapts the interpretivism research paradigm.

Case study is an "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident" (Yin, 1994, p.13). Ryan, Scapens and Theobald (2002) discussed that case studies are more concerned on explanations, rather than prediction and the researchers must avoid statistical generalization and it leads in understanding of subject area in that context which help the researcher to study the issue in depth. Another fact is that case study method tries to identify the dynamics presented in a single setting at a natural context (Yin, 1994). This often helps the researchers to not only explore or describe the data in real life context but also to explain the complexities of the context, which may not be captured through experimental, or survey research (Zaidha, 2003). Further, case study method involves a small sample (Yin, 1994) where that entails an extensive examination of the context (Hussey & Hussey, 1997). Thus, the research was carried out as a qualitative case study based on a manufacturing company; MAS Intimates.

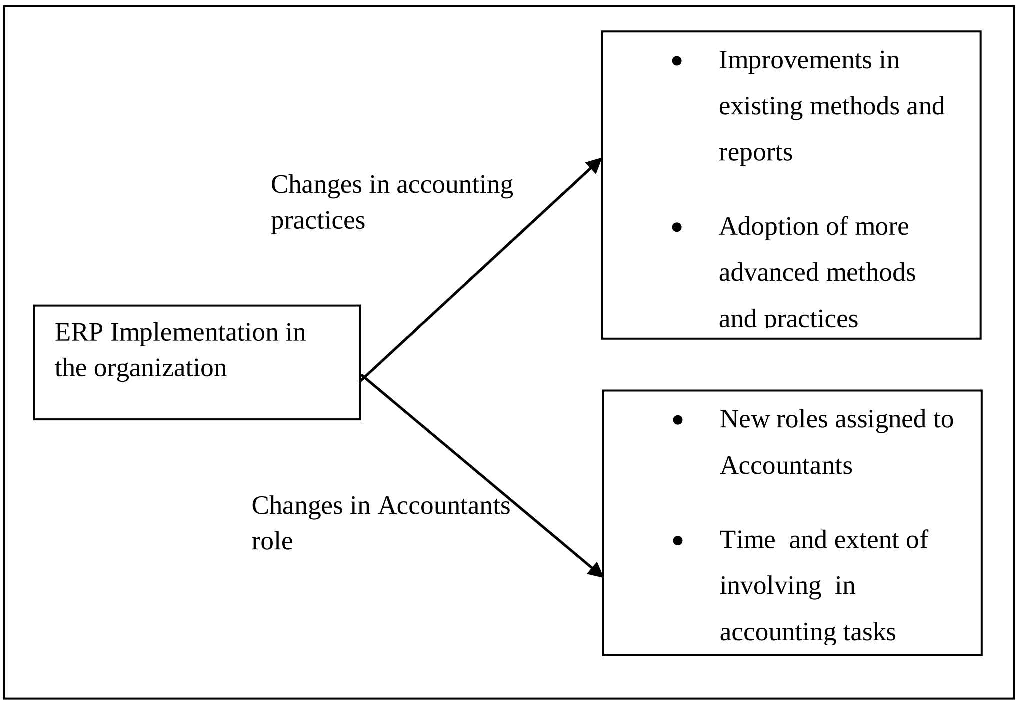
Within the case, a sample of nine informants were selected and semi structured interviews were conducted for data collection. The collected data were organized and analyzed using pattern matching technique and conclusion was drawn after the systematic analysis of data.

3.1 Conceptual framework

The below Fig. 1 is the theoretical framework of the study on “Changes in accounting processes with the implementation of an ERPS”. This framework is developed with the insight gained from the previous researches on this phenomenon.

The impact of ERPS on accounting processes is twofold. One is the changes in accounting practices and the other is the changes in the role of Accountant. To understand the changes in accounting practices two aspects are need to be scrutinized. They are identifying the improvements in existing methods and reports; and adoption of new methods.

Fig. 1: Conceptual framework



To identify the changes in accounting practices, understanding the existing practices and modifications to existing practices after the implementation of ERPS is important. This would help the researcher to identify the incremental changes in the accounting processes. Granlund and Malmi (2002) found only minor changes in budgeting and forecasting after the ERP adoption and hence concluded that ERPS brings small impact on management accounting, where Scapens and Jazayeri (2003) suggested that the budgeting process has taken a forward-looking emphasis and claimed that ERPS brings incremental changes to the accounting processes. Thus, understanding the improvements in the existing methods would help the researcher to identify the consequence of ERPS.

Reporting is a vital tool to measure the impact of ERPS on accounting processes. According to Spathis and Ananiadis (2005), need of real-time information is one of the main reasons to implement an ERPS. As stated in previous researches, ERPS generate quick, accurate information and provide improved quality reports which are vital for the efficiency of the accounting processes (Granlund & Malmi, 2002; Spathis & Ananiadis, 2005). Thus, improvements in existing practices and reporting is one of the important aspect to look for, in order to understand the changes in accounting practices.

However, identifying the use of new accounting techniques and practices is also important since such improvements can be considered as fundamental changes in accounting practices. According to Scapens and Jayazeri (2003), revolutionary change occurs when there is a fundamental disruption of the prevailing routine work. Further, the researchers stated adoption of new method is a fundamental change in routine work. Thus, Scapens and Jayazei (2003) stated that ERPS facilitates evolutionary change rather than a revolutionary change because no adoption of new accounting techniques has been accompanied with the ERPS implementation. Hence, deep scrutiny on above two aspects would provide knowledge on the changes of accounting practices with the implementation of ERPS.

Previous researches have also studied changes in management accountants' role as a result from ERP implementations (Granlund & Malmi, 2002; Spathis & Constantinides, 2005; Scapens & Jazayeri, 2003). Anastas (1997) claimed that such systems will enhance the role of management accountants and financial managers, and they will become advisers or consultants to other managers (as cited by Scapens and Jayazeri, 2003). Further, Granlund and Malmi (2002) proposed that ERP systems would provide controllers more time to prepare sophisticated analysis. Scapens and Jazayeri (2003) suggested that management accountants would become analysts after the ERP implementation since the time needed to conduct routine tasks will reduce and the accountant would be responsible for the system rather than the content of the final report. Therefore, identifying the new role of accountants; time and extend of involvement in accounting task would provide knowledge on changes of accountants role with the implementation of ERPS. Thus, investigation on changes in an accounting practices and the changes in accountant's role would provide a deep understanding on the changes on accounting processes with the implementation of ERPS.

4. BACKGROUND OF THE CASE

MAS, is the South Asia's largest intimate-apparel manufacturer and happens to be the region's fastest-growing supplier of sportswear and casual wear. The company has 27 years of history in garment manufacturing and manages the entire value chain from product design, development, manufacturing and raw-material supply, whilst using the latest technology and knowhow. MAS caters many international brands like Victoria's Secret, Triumph, Nike, Speedo, Adidas, M&S, GAP and etc. through the 30 factories island wide, by employing more than 34,000 people. The MAS Holdings has clustered all the companies of the group in to four main divisions, namely MAS Intimates, MAS Active, MAS Fabrics, and MAS Investment. MAS Intimates, first established with MAST Industries and concentrated on manufacturing intimates garments from design to delivery. MAS Active is the sport ware manufacturing cluster in the group. MAS Fabrics, supporting the backward integration strategy of the organization, handles and manufactures materials, accessories and components required for production. MAS Investment is the non-apparel sector of the group. It is the driver of the strategic new projects.

In 1997, MAS Holdings (Intimate division) implemented SAP Apparel and Footwear Solution (AFS) as the ERP system of the organization. This software is specially developed for the apparel industry. MAS, was the first to implement the SAP AFS system in the South Asian region. Presently, MAS Intimates occupies the ERP Control Component (ECC) 5.0 of SAP AFS with four general modules of financial and control module (FICO), sales and distribution module, material management module and production planning module.

Before the implementation of ERP, MAS used legacy systems, which were developed in house. Each plant had different information systems, which were developed, based on plant's operational requirements. Thus, these systems were neither linked nor integrated with each other. As SAP consultant explained, "We had legacy systems developed by the internal IT division using Foxpro language. Each plant used different systems in house developed according to their requirements". Because of this, the plants were not clustered into specific divisions or SBUs and functioned independently. This lead to lack of control in the organization and deprived the economies of scale of procurement and production. These were the main reasons for MAS to go for an ERPS and the ERPS implementations lead to the creation of four main clusters in the organization. The companies/plants under each cluster were linked and integrated. Despite the benefits incurred through the SAP implementation MAS too had problems in ERPS implementation such as change management, Difference between plant functions, migrating information from legacy systems to ERPS and so on. However, the organization had a good action plan to mitigate such issues. Systematic training and education of employees; appointing support service agents called “power users”; harmonizing the processes of the plants together; and systematic migration of data from legacy systems to ERPS were some of the strategies that MAS used to mitigate SAP implementation issues.

MAS Holdings has implemented SAP AFS in all four clusters of the group. However, the ERPS of each cluster has not been linked to each other due to the divergences in the functions of each cluster. Nevertheless, each cluster comprises of number of manufacturing facilities and business units, which makes the SBUs similar to a separate organization. Thus in this study, only the ERP system of MAS Intimates is selected as the case, due to the fact that there is no linkage between the clusters’ ERP systems and in order to avoid complexities which may arise due to the differences in the functions of each cluster.

MAS Intimates is the core division of the MAS Holdings and comprises of ten manufacturing plants which mainly concentrate on lingerie and intimate garment manufacturing. Further, the financial division of the MAS intimates comprises of finance director, financial controller, financial managers (operational finance, general ledger, shared service center, and trading), group accountants, management accountant and plant accountant.

4.1 ERPS and accounting processes

In MAS Intimates prior to the implementation of ERPS in the organization, accounting was basically done using spreadsheets. There were no accounting packages or systems to do the accountings function and each plant handled the accounting function on their own. However, after the implementation of SAP, accounting is done using the SAP system.

After the SAP implementation in MAS Intimates, several alterations in the accounting practices occurred. One of such important change is the standardization of accounting practices, which has created technical standards in the accounting processes and facilitated the organization to have a smooth process across several plants. The financial controller of MAS Intimates explained, “Accounting was not standardized before the SAP. Before SAP, all the factories ran alone and there was nothing to standardize. But after SAP we were able to bring everything to one platform and create clusters”. Also the ERPS implementation has fragmented the accounting function across the organization and has increased the involvement of line managers in accounting function. They had to take the ownership of the transaction and costs of their departments and functions such as preparing budgets, explaining variances, producing forecasts and so on. Nevertheless the control of accounting remains with the finance division. The financial controller explained, "…true that line managers have the responsibility of cost. But the budget would never go by passing the accounting division….in that sense it is not loss of control….but earlier everything has to be done by finance because there was no visibility"

Further, management accounting took a significant place in the organization after the implementation of the ERPS. Earlier, only costing part was considered and more prominence was given to the financial reporting. Conversely, after the ERPS implementation, financial reporting and account preparation are done through the ERPS and thus, attention of the business moved towards the implications of the figures and values generated through the ERPS. Since management accounting is more forward oriented the company's focus turned towards management accounting. Nevertheless, the management accounting functions (costing, budgeting, valuations, etc.) are still carried out off the ERPS.

In MAS Intimates, standard costing is used as the main costing method. Though this is a traditional costing method, MAS still use it, as it is the most suitable method of costing with nature of products that MAS produce. The financial controller MAS Intimates explained:

> …Fashion industry is driven by designs not by activities. ABC [Activity Based Costing] can be used in a company, which has a standard way of production. Since their production is predictable, it is easy for them to use ABC. But here styles keep on changing, the production process change. So we can't stick to one set of activities. So we had to use bill of material for each style and thus we use standard costing in the organization.

However because of SAP, the MAS Intimates have been able to set the standards and do the costing more accurately as ERPS assists and provides information for accurate costing. The Finance Manager- Operations stated,

> …How we do standard costing now is different to what we did before the ERP implementation. Before the SAP, we did not even have a standard bill of material. We just had the customer costing with buffer and we just ran the order by that. We never knew what the standard cost. But now we have that and more than that.

After the implementation of ERPS, budgeting in MAS has taken a different perspective than before. Though budget is prepared using spreadsheet and uploaded to the SAP system, it provides the variations and indications promptly. The visibility and transparency of information and integration of the processes has enabled the budgeting process to function with reality than just functioning as a year plan. As finance manager-trading explained,

> …the availability of up-to-date information from the SAP system, enable individual managers (and their staffs) to forecast better. Rather than being a static or a fixed plan for the year, budgets are now more dynamic and flexible. They still set the initial framework for the year but do changes and modifications as the year progresses through a process of ongoing forecasting.

The finance manager-operations indicated that the budget, which is set prior to the beginning of the year, could always be subject to changes as the managements views may change later. Thus, the original budget is time dependent, and as the time passes it becomes an historical statement, updated budgets are needed. The availability of up-to-date information from SAP assists to update the budget. Thus, budgeting process of the organization has a more forward-looking emphasis.

Under the SAP environment, capital budgeting of MAS Intimates is done off the SAP. All the calculations and evaluation related to capital budgeting is done off the system and decisions are taken based on such evaluation. The financial controller Justified,

> You can't expect a system to give solution for payback. Payback of course the way SAP does is simple mathematics. You can't depend on the mathematical calculation when you are going for standard things. That is why we didn't want to go for forecasting and human related things in SAP. That will make your decision uncompetitive.

However, all Key Performance Indicators (KPI) are easily and accurately calculated by SAP. Before the SAP, MAS intimates did calculated KPIs but those were limited to financial KPIs. But because of integrative and standardized nature of ERPS, the company is able to get both financial and non-financial KPIs. The financial controller stated, "…we don't evaluate anything, say on time delivery to GRN balance to debtors balance to efficiency, nothing is count on excel. Only SAP…. Nowadays nobody take excel serious. When you are rewarded through SAP numbers, you are pretty sure it is accurate".

Implementation of SAP system has created a hassle-free financial accounting task in the organization. Under the ERPS environment, all the transactions are real time processed and thus, complicated tasks have become simple. The integration and standardization of processes keeps the chart of accounts updated and therefore, the updated accounts and the final accounts could be viewed as at any time. Thus, preparation of final accounts is not time-consuming tasks anymore. The finance manager-shared service center (SSC) explained,

> ….Now everything is done on real-time basis. As when a transaction takes places, the relevant double entry is posted, the balance of the accounts is changed accordingly and eventually the P&L and the balance sheet get updated. So, you can have the final accounts on your fingertips. You can always view the P&L and balance sheet as at the time you want it. So accounting has become very easy.

He added, "…I would say all these happened because of the automation and integrative nature of the ERP system". Because of SAP, the organization has been able to overcome some of the accounting issue the company had. Explaining such an instance, the finance manager-trading stated,

> …Earlier there wasn't a proper stock valuation process in the organization. The raw materials were valued at one method and work-in-progress goods and finished goods were valued at another method. That is because the entity was not integrated and no proper communication among departments. But now, all the functions are integrated and thus accurate and prompt valuation takes place.

In addition, SAP accommodates the Sri Lankan accounting requirements. For instance, since any method of depreciation could be used in SAP, the organization can settle on a method suitable to the organization and practice the depreciation according to the standards. Thus, SAP has never become an obstacle for practicing accounting based on Sri Lankan accounting standards or International Financial Reporting Standards (IFRS).

Another, major change that ERPS brought in to financial accounting part of the organization is the centralization of financial accounting function. With the ERPS quality of integration and standardization the company was able to create a Shared Service Center (SSC) for accounting function of the group and the SSC mainly handle accounts receivable, accounts payables, taxation, document management, general ledger and banking process. MAS Intimates group accountant described:

> …I would call the creation of SSC as the prime change that ERPS made to the financial accounting. Because of the generic characteristics of ERP like integration and standardization we were able to centralize the accounting receivable and accounts

> payable initially and then the taxation and general ledger part of it as well. The creation of SSC brought us an immense cost saving.

The work at SSC is more or less routinized as it mainly deals with payables and receivables. At the plant level, as and when a transaction happens the data entry operator would key in the details of the transaction and the source document into the ERP system (GRN process). Once GRN-in is done, the SSC would automatically receive the required details and the transaction is processed at the SSC. The automation of accounting by the use of ERPS is explained by the finance manager-SSC as follows,

> ….With ERPS lot of things could be automated. For example, manually a clerk would check purchase order, invoice and cross check. But in an ERPS these things would be automatically checked and it would be just processing the payment. So such manual things could be automated by SAP & eliminate non value adding activities….thus the routine stuff can be done in SAP including verification of documents.

The finance manager further explained how the job of accounts clerk/assistant would affect with such automation,

> ….this would make the life of an accounting clerk so much easier. The number of times that he/she has to call the merchandiser, supplier back and forth is very limited, unless otherwise there are any discrepancy in these cross check…SAP highlights issues in the documents whom should be contacted. Thus, the clerk can clear out issue easily and go ahead with the payment.

Accordingly, the accounting function of the plants has been simplified and SSC acts as an internal form of outsourcing.

Internal auditing is introduced to MAS Intimates after the implementation of the SAP system. Even it is introduced with the implementation of the ERPS; it never became a complex process in the organization. Because of the visibility and control through SAP, internal auditing has become simpler. Further, MAS Intimates employs only one internal auditor to audit the entire SBU. The financial controller described, “I have only one internal auditor for all 14 factories, and he is in Bangladesh. Earlier we didn’t have internal auditing. If we had, I would have required at least 5-6 people….because of the visibility through SAP internal auditing has become simpler”. Confirming the view of the financial controller, the finance manager-SSC elucidated how the SAP has simplified the internal auditing function in the organization:

> ….SAP has all audit trails. If you enter an entry in the ERPS you can see the history of that entry including amendments and correction entries. In the P&L you will have the both

> the wrong entry and the correct entry so you can see the erroneous entries as well. So internal control wise it is so much easier. Nobody can fool around and do manipulations.

Reporting was a tedious task in the organizations. Each month accountants had to prepare number of reports to the management including supporting reports to the main reports. Nonetheless, after the implementation of the SAP system, the number of reports has reduced and the reporting task has become trouble-free while having high quality of reports. As SAP consultant- FICO module explained,

> …In MAS, the accounting division was creating around 60 reports per month. After the ERPS implementation, it was cut down to 13 but without quality being compromised. In addition, the reports have a high level of reliance because of the visibility in the ERPS. Earlier most of the reports were supporting reports to the main reports. But because of SAP the need of such reports has been eliminated.

However, the finance manager-SSC stated though ERPS provides quality information for reporting, not that all the reports that the management use are generated from the SAP. The finance manager claimed that as ERPS is not a decision supportive system sometimes the managers have to extract information from the system and do the analysis off the system.

4.2 ERPS and accountant's role

Prior to the SAP implementation the accountant's role in MAS Intimates was to account for monetary transactions and preparation of final accounts. Each plant employed a separated department for accounting and the accounts department was responsible for all the transactions done in monitory terms. The financial accountant was engaged in final accounts preparation and reporting while management accountants were mainly concerned on costing and providing reports on business performances. Thus, financial accountant was performing the role of a traditional accountant. The financial controller described the earlier accountants‟ role as, "Their responsibility was to enter the data and do the financial accounting part and preparation of final accounts". But the current state of financial and management accounting has changed. The SAP system does all the routine tasks of financial accounting such as record keeping and account preparation. The finance manager-operational finance explained,

> ….SAP system has all the historical data. In this level an accountant is not expected to stick only for record keeping or prepare final accounts, but to be more informative,

decision making and more management oriented in to the business. Accountant is needed to drive the business.

With the spread of accounting function across the organization, the accountant also has to focus on the other functional areas as well. The group accountant explained,

…In MAS, accounting is no more a function which works within the finance division. It is a function which will tell the business, which way we are heading and which way we should head. Also it will prompt us different highlights in different functions. For example, for human resource department accounting may indicate their over costs and provide suggestions. In that particular review that an accountant gives to the business is very important…accountants evaluate and suggest functions to perform better. That piece of information is only available with the accountant. So that is the way he/she should contribute to the business.

Thus, the accountants of the organization have become internal consultants of the organization. The finance manager- trading clarified,

The cross-functional line managers whenever making a decision, they will also consult the accountant/finance manager to see whether there is a feasible option. Whenever there is a capex [capital expenditure] or an opex [operational expenditure] approval, they will come up with the payback period. They also do their calculations or homework and come to us.

The finance manager further justified this transformation in accountants as crucial thing for the success of future:

….Because of ERP the accountants‟ scope has enhanced. I would say the scope of the accountant is no more stuck with passing double entry and getting the P&L and balance sheet. Reading the numbers of the financials is what expected from accountants. Thus, the accountants have to use their skills to understand the outcomes of the financials.

Similarly, the accountants of the organization also view the adoption of ERP as a way of coming out of the shell for the accountants who were stuck in the framework of traditional accounting. The group accountant mentioned,

…. I think SAP is a fabulous system which is beneficial to the business as well as the accountants. The automation, integration and visibility that are created by the ERPS help the accountants to come out of the box. The traditional accountant was always stuck with double entry and preparation of accounts. But the implementation of ERPS enhances the scope of the accountant and goes beyond the record keeping role.

The accountant added, "…being more analytical and strategic focused leads the accountant to the top management. Because of the ERPS, accountants have become familiar with all the functions of the company which is beneficial them to reach a top position of the management". Hence, the traditional tasks of accountants are no more required by the organization and new roles are assigned to the accountants.

5. DISCUSSION

The ERPS has definitely brought in changes to the accounting practices in MAS Intimates. The accounting function has been streamlined in the organization with the SAP system. As finance manager-trading stated, "Yes, SAP did bring in changes to the accounting division of the organization. Because of SAP we can do things more efficiently and effectively. Now it doesn't take a long time period to record transactions and prepare final accounts. Now we can get the accounts at a wink". Scapens and Jayazeri (2003) further confirmed this view, where it is stated that efficiency and effectiveness is gained in the accounting function of the organization after the implementation of ERPS. Thus, ERPS has been a facilitator of efficiency in accounting practices.

When looking into specific practices, financial accounting has been significantly influenced by the implementation of the SAP. One of the major impacts of financial accounting is that the creation of the SSC, where the routine accounting functions is centralized. Integration and standardization of ERPS lead the creation of SSC in the organization. Granlund and Malmi (2002) in the study conducted on impact of ERPS on management accounting specified that SSC provide more effective accounting activities with lower cost and better quality. Further, King (1998) argued that by consolidating specific operations in one location can provide quality services at a lower cost. Such an approach has become feasible for MAS Intimates with the development of the SSC.

In addition, real-time data processing, access to accurate information made the financial accounting task easy for the finance staff in the organization. Also, since the SAP system accommodates changes in accounting methods (e.g. accounting standards changes) finance team could carry on the work without a hassle. Thus, in terms of financial accounting ERPS has been a trigger of efficiency. Spathis and Anandais (2005) confirmed this in the survey study conducted on Greek companies and mentioned that ERPS facilitate high quality work in financial accounting.

When considering the management accounting techniques, the costing part of the organization has been more accurate and reliable as the product-costing (bill of materials) is done in the SAP. As Galani et al. (2010) stated though ERPS does not influence selection of method of costing, the high access to information through ERPS enable the company to engage in costing with accuracy and costing.

According to Galani et al. (2010), ERPS has some implication for enhanced forecasting as ERPS provides integration and updated information and that bring effect on budgeting. This is evident in the case of MAS Intimates as well. As in costing even though there is no substantial difference in the budgeting the flexibility of budgeting has increased with the use of SAP. As the finance manager explained, integration, transparency, real-time processing are the factors of flexibility in budgeting. As Scapens and Jayazeri (2003) confirmed, with ERPS budgets have become more forward-emphasis. Further, because of the SAP system, use of non-financial performance indicators has increased in MAS Intimates. As SAP integrates all the modules in the system access to information of other divisions like marketing, human resource, manufacturing, etc. is possible with in the ERPS. Thus, use of both financial and non-financial KPIs has increased with the implementation of ERPS (Galani et al., 2010; Granlund & Malmi, 2002; Scapens & Jayazeri, 2003: Spathis & Constantinited, 2004).

Reporting is one of the important tools used in the accounting process. In MAS Intimates, after the implementation of SAP, number of reports prepared is reduced without the content being compromised. In fact, the reports prepared with the use of SAP are higher in quality. Spathis and Constantinited (2004) also specified that ERPS provide improved quality of reports and financial statements. Further, Galani et al. (20101) mentioned that reporting becomes more flexible and efficient with high quality in the ERPS environment, which is clearly evident in MAS Intimates.

Precisely the implementation of ERPS has improved the existing accounting practices and reporting in the organization. Further it is clear that these changes evolve from the integration of applications, the production of real-time information and particularly information for decision making.

As per the discussion with the finance staff, MAS Intimates has adopted internal auditing and profit center accounting after the implementation of SAP system. Spathis and Constantinides (2004) also stated that many organizations adopted internal auditing and profit center accounting after the implementation of ERPS. However, finance controller stated that adoption of internal auditing and profit center is not purely influenced by the SAP system, but with the growth of the business. As the finance manager-operations stated,

> …. We did not start using internal auditing or profit center accounting right after the implementation. We could have used those techniques even before the implementation of the SAP system. But we did not as it was not imperative for us. We adopt those techniques with the growth of the business.

The finance controller added, “Accounting techniques have been changed but not because of the SAP. They have changed with the business requirements and when the world moves we have changed the indicators, but not because of SAP. SAP has improved the accuracy and the timeliness”. Thus, it is considered that adoption of new methods and techniques did not purely be influenced by the adoption of the ERPS.

Scapens and Jayazeri (2003) stated that ERPS implementation does not impact in adoption of new techniques but improvement of existing techniques. Since no new methods were adopted the researchers stated it as no “fundamental changes” in the accounting processes and concluded that ERPS brings evolutionary change; not a revolutionary change. Granlund and Malmi (2002) also stated that adoption of new accounting methods did not result from ERPS implementation. Confirming the view if both studies, Galani et al. (2010) stated little in accounting processes is resulted from ERPS implementation as it does not influence in adoption of new methods or techniques. Hence, adoption of new techniques in the organization cannot be solely credited to the implementation of ERPS.

Since the implementation of SAP, system in the organization the accountants’ role has drastically changed. The accountants are no more traditional accountants in MAS Intimates. The accountants’ role has enhanced and enlarged after the implementation of the SAP system. The current accountants’ scope is widely focused on business support. The accountants analyze the outcome of SAP and prompt the management on the direction that business is heading and which way it should be directed. As the finance manager-SSC stated,

> …SAP system has all the historical data. In this level an accountant is not expected to stick only for record keeping or prepare final accounts, but to be more informative,

decision making and more management oriented in to the business. Accountant is needed to drive the business.

Thus, the accountants have some or rather converted in to "internal consultants" of the organization. Burns and Baldvinsdottir (2005) specified accountants role, as business analysts rather that analytical accountants. Scapens and Jayazeri (2003) mentioned, "Such an integrative role, within the SAP environment, has potentially put management accountants in BM (Europe) in the position of 'internal consultants' or analysts, who assist managers to create strategies and to tale operating decisions" (p.223). This is vividly seen in the context of MAS Intimates.

Further, Scapens and Jazayeri (2003) stated that the move from record-keeper to internal consultant requires management accountants to acquire new skills. Rather than information reporters, management accountants need to be sales persons and change agents. In the researchers‟ view, management accountants need to sell ideas for accomplishing strategy with information. With the discussion with finance managers and accountants, it is stated that with the new role, accountants need to develop particular skill like interpersonal skills, analytical skills, consultancy skills, etc., which would enable the accountants to link the financial information with the strategic development of the business. Moreover, Granlund and Malmi (2002) confirms the transition of accountant's role and need of new skills by stating, "In general terms, the ERP-implementation experiences of accountants demonstrate the need for a good understanding of the business, management and accounting processes and communication and team working skills especially because implementation necessitates a lot of cross-functional cooperation" (p.311). Thus, in MAS intimates the role and scope of the accountants has changed with the implementation of SAP and transformed into internal consultants or rather strategic agent of the business.

As mentioned above with the implementation of SAP in MAS intimates, the accountants‟ scope and job role has significantly changed. Because of the automation, integration and standardization of SAP, accounting has become much easier in the organization. Since SAP does the most of the tasks of double entry posting and accounts preparation, the accountant's involvement in accounts preparation has lessened. The routine works are centralized in the SSC and thus, account clerks/assistants handle those routine jobs in the ERPS. Thus, accountants have moved away from handling traditional routine work and involve in ad hoc jobs like report analysis, decision making, etc. Burns and Baldvinsdottir (2005) also mentioned that after the implementation of ERPS accountants hardly involve in routine accounting work. The researcher stated, "They may post the odd correctional entry. But not in routine work". Thus, the involvement of accountants in routine and traditional accounting work has reduced to a great extent as SAP facilitates such routine work through automation, integration and standardization.

6. CONCLUSION AND IMPLICATIONS FOR RESEARCH

Through the evaluation of data collected in the study, it is identified that ERPS has brought in considerable changes in the accounting processes in MAS Intimates. Although the ERPS has not influenced in adopting new accounting methods and techniques, it has aided the organization to improve the accounting processes of the organization.

As Scapens and Jayazeri (2003) mentioned specific characteristics of ERPS (integration, standardization, routinization, and centralization) have contributed to the changes in the accounting processes. These characteristics have created more visibility and control in the organization and streamlined the accounting processes. Thus, ERPS facilitates incremental changes to the accounting processes of the organization rather than changing the processes radically.

Although, there are no fundamental changes in the accounting practices/techniques by the implementation of the ERPS, there were changes in the role of the accountant. As Galani et al. (2010), Granlund and Malmi (2002), and Scapens and Jayazeri (2003) stated, the traditional role of accountant has been changed drastically after the implementation of the ERPS. The accountants' role has been enhanced to analysts and consultants. Thus, the role of accountant has substantially changed. Thus, this study identifies that, ERPS implementation facilitates the efficient and effective use of accounting while widening the role of accountants.

However, the current study is conducted as a single case study of an organization in manufacturing sector in Sri Lanka. Hence, the findings of the study might not be comprehensively applied to the other business sectors in Sri Lanka as the nature of the sector influences the nature of accounting processes. Therefore more researches are needed to explore the implications of ERPS implementation further.

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