Management accountants: a profession dramatically changed by ERP systems.

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Preface

This research presents the experiences of a limited number of companies, reported to us, by the participants in ERP systems implementation and operation. Some of the companies had successfully implemented their ERP systems a few years ago, while others were still trying to obtain significant value from their ERP system. While the number of participating firms is small, they are from a wide variety of industries and share commonalities with almost any firm. We believe that anyone thinking of implementing (or re-implementing) an ERP system should consider the findings reported in this research, as it suggests that management accountants need to be engaged from the outset in ERP implementations.

1. Overview

An effective software system that will standardise processes, eliminate redundancy, and integrate information across business units is one of the ways to help achieve a competitive advantage (or at least not at a competitive disadvantage), as efficient business processes help to better serve the needs of its customers.

It is commonly accepted by the business world that information technology should be viewed as more than just an automation of business processes; information technology can fundamentally change the way business is done. Many organisations therefore seek to improve their competitiveness by utilizing advanced information technology, such as Enterprise Resource Planning (ERP) systems.

ERP systems are becoming increasingly commonplace. In addition to their implementation in large enterprises, ERP systems are now implemented in many mid-sized organisations.

The implementation and subsequent operation of an ERP system, however, is not an easy task and can have far reaching consequences for organisations and their employees. One group that is often particularly affected by ERP implementations are management accountants.

2. Objectives and methodology

The objective of this research project is to provide further insight into the changes resulting from the implementation of ERP systems on the work and behaviour of management accountants. Whilst there has been research undertaken on the effects of ERP systems on management accountants, this study provides critical insights into the behaviour changes of management accountants resulting from ERP systems.

This report focuses on the differential effects of successful as compared to less than successful ERP system implementations on the role of management accountants. It identifies what changes should occur in the practice of management accounting as a result of the implementation of ERP packages and provides advice to management accountants whose organisations are undergoing an ERP implementation or re-implementation project.
A series of semi-structured interviews were conducted in seven organisations that had implemented ERP systems. These organisations are large, publicly quoted companies from a wide range of industries (Table 1):

<table>
<thead>
<tr>
<th>Company*</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>B</td>
<td>Heavy engineering and chemicals</td>
</tr>
<tr>
<td>C</td>
<td>Audio and telecommunications production and distribution</td>
</tr>
<tr>
<td>D</td>
<td>Food services and beverages</td>
</tr>
<tr>
<td>E</td>
<td>Food and consumer products</td>
</tr>
<tr>
<td>F</td>
<td>Automotive</td>
</tr>
<tr>
<td>G</td>
<td>Energy/aerospace</td>
</tr>
</tbody>
</table>

*Company names changed for anonymity

Table 1. Company and industry

These implementations ranged from the very successful (in the opinion of the interviewees) to the less than successful. Whilst success is a subjective measure, the following reasons were sometimes given for determining whether the ERP implementation had been successful or not:

- there is a reduction in stock levels
- the monthly accounts are now closing in fewer days (e.g. two days versus ten days prior to the ERP system)
- financial accuracy and financial efficiency has improved
- reports are being produced that the business understands and the business ‘actually work to and it is only one number’
- improved visibility and access to information
- improved financial control
- there was a reduction in staff (e.g. from 55 to 33) due to automation of clerical tasks
- cost savings were achieved (e.g. procurement)
- the implementation avoided issues related to the ‘millennium bug’
- there is more time for business partnering.

The interviews were used to inform the development of a questionnaire used in a postal survey that was subsequently mailed to almost 700 CIMA members. The findings from this survey were used to validate the findings from the interview process.

The results of this study are important to both management accountants and other organisation leaders as they examine where they and their organisation stand, relative to other organisations that have implemented ERP systems.

3. Findings

3.1 The motivations for ERP deployment

The organisations interviewed in this study shifted towards using ERP systems for a variety of reasons. Prior to adopting an ERP system, operations in these organisations were supported by non-integrated legacy systems. Due to increased competition and business growth, management felt the need for a system that could provide cross-functional integration and data sharing across key applications.

In companies A, B and F, year 2000 issues were the main driver; whereas the desire to move on to a common standard worldwide was a significant impetus in companies B, C, D and E. The difference between the groups in motivations
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and requirements behind the need of the new system makes it difficult to compare outcomes across companies. In particular, in company B, the major focus was both the unification of the disparate accounting systems and processes of the business units, and avoidance of year 2000 problems. As such, the system implementation at company B was a ‘replacement’ compared to a ‘benefits driven’ case.

3.2 Sponsorship of the decision to deploy ERP systems

The issue of project sponsorship in each of the organisations appeared to be an important factor in determining the success of the ERP implementation.

In company A, the managing director sponsored and backed the implementation and played a vital role in ensuring that the implementation ran smoothly. If a major problem occurred during the implementation with either people or process, the managing director was called upon to find the solution. This ensured that the people and process changes were implemented smoothly and contributed to the success of the new system.

In company D, however, the project was initially championed mostly from an IT perspective and did not have sufficient business focus. There were no management accountants involved in the initial design of the financial portion of the system. There were a number of financial staff involved, but they did not have the appropriate perspective to really identify what the processes should do and how to simplify the process. The implementation became bogged down in complex interface issues, rather than on getting the ‘quick wins’ and had to be halted. A decision was then made to simplify the current business practices so they would better match the way that the ERP system processes the transactions. Eventually, the business was able to turn the implementation around through ‘stealth reengineering’ (focusing on small wins and fixes) and the leadership of the group financial controller who insisted that everything that was done needed a business focus.

3.3 The role of management accountants in ERP systems rollout

The involvement of management accountants is seen as another important success factor for ERP implementations.

In the three organisations where the management accountants were actively involved throughout the implementation process (companies A, B and C), a significant change in the tasks performed by the management accountants occurred. These organisations also had a high level of perceived success in the ERP implementation (Table 2). Furthermore, the two organisations that involved the management accountants in the second phase of the implementation (companies D and E) had a moderate level of ERP success, and the management accountants experienced moderate changes in their role. In the case of the two organisations that did not involve the management accountants in the ERP implementation (companies F and G), there was limited perceived success of the ERP system and the management accountants continued to perform their tasks as they had prior to the ERP implementation.
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<table>
<thead>
<tr>
<th>Company</th>
<th>ERP system</th>
<th>Start year</th>
<th>Number of years</th>
<th>MA involvement</th>
<th>Success of ERP*</th>
<th>Change in MA role*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>JDU</td>
<td>1999</td>
<td>1</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>SAP</td>
<td>1997</td>
<td>2+</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>SAP</td>
<td>1997</td>
<td>3</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>SAP</td>
<td>2002</td>
<td>Ongoing</td>
<td>in 2nd phase</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>SAP</td>
<td>1999</td>
<td>Ongoing</td>
<td>in 2nd phase</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>BAAN</td>
<td>1999</td>
<td>0.83</td>
<td>No</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>SAP</td>
<td>2002</td>
<td>1.5</td>
<td>No</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*Scale of success of ERP/change in MA role

<table>
<thead>
<tr>
<th>3</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Moderate</td>
</tr>
<tr>
<td>1</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

Table 2: ERP success –v– Management accountant involvement in the ERP implementation –v– Change in the role of the management accountant

Data was not obtained concerning why involvement of the management accountants resulted in superior outcomes in the ERP implementation. However, possible explanations can be found in previous research. It is critical to get support and buy-in from all users. Ownership is easier to cultivate if the user takes part in specifying how the system should work, and how they will be able to best use the system in their job. Also, since management accountants play a critical role in providing data and information to manage the business, their participation is critical to ensure that the needed data are available and so that the management accountants will know how the data are obtained and reported.

3.4 The impact of ERP systems on the work of management accountants

In all of the ERP implementations studied, whether successful or not, the management accountants were affected. The significance of the impact of the ERP system on the management accountants was related to the perceived success of the system implementation, with more successful organisations experiencing more dramatic changes. Even in organisations that were initially not very successful, there was a profound impact on the management accountants as their organisations learnt how to obtain more value out of the system. This indicates that as every organisation learns how to use the ERP system and obtain value from it, there will be a significant change in the role of the management accountants, the tasks performed by the management accountants, and the skills required by the management accountants.

The extent to which the new system has had an impact on the role of management accountants was assessed by several criteria:

1. **Changes in time spent on data collection** - All firms agreed that the management accountants spent significantly less time on data collection following the implementation of the ERP system irrespective of whether the implementation was a success or not. There was also an indication that the type of data collected had changed. For example, company E indicated that the manual accruals had decreased considerably since implementation of the ERP system.

2. **Changes in time spent on data analysis** - Most companies agreed that management accountants are spending a lot more time on data analysis. This was particularly the case for the more successful implementations.
3. Changes in involvement in business decision-making - All companies agreed that management accountants were more involved in business decision-making following the implementation of the ERP system. This also varied with the relative success of the ERP implementation, with the changed involvement in business decision-making being scored highly for the most successful implementations.

4. Changes in focus on internal reporting - The focus of the management accountants on internal reporting (for example performance measures and control issues) increased in all companies except company G (which was a less than successful implementation) where it was considered to have decreased.

5. Changes in focus on external environment - The focus of the management accountants on the external environment (for example benchmarking) had increased where it was applicable to the company. This change in focus was not related to the success or otherwise of the ERP system implementation.

6. Changes in focus from historic to forward looking analysis - In all the organisations that had a successful implementation, the management accountants are involved in significantly more forward looking analyses. This is most likely a result of the capability of the ERP systems to generate virtually any desired historical-based report. As such, there is limited need for the management accountants to perform this type of task. The management accountants are spending much more time and effort on business planning.

7. Changes in focus from domain specific to cross-functional analysis - The implementation of ERP systems is viewed as a prerequisite for cross-functional analysis for most of these organisations. In virtually every instance, prior to the implementation of the ERP system, the data wasn’t available to undertake cross-functional analysis. Now that the data is available, the management accountants are able to be involved in cross-functional analysis.

8. Changes in use of time resulting from elimination of routine report generation – Since routine report generation was previously the responsibility of the management accountants, they now have more time available to complete other tasks. In most organisations, this time has resulted in a change in how the management accountants approach their job, and in how the management accountants are perceived by others in the organisation. In some settings, the management accountant is becoming more of a business partner to senior management.

9. Changes required in the management accountant’s communication skills - Management accountants need to be technically competent, and must be able to communicate those technicalities. While communication was always important, the study found that the need for improved communication skills has expanded because of the way management accountants are now involved in discussions with the business management team. In order to be business partners, management accountants must provide insight and present the information at the time that the manager needs that information.

10. Changes in the formal and informal communication structure resulting from the ERP system - No link was found between the implementation of the ERP system and the changes in the formal and informal communication structure. The ERP system, by its very nature, results in significant centralisation of data. This is often associated with a more formal communication structure. The existing organisational structure and culture seems to have a greater impact on the communication structure than does the ERP system. ‘Whether it is more formal or not is difficult to say, I think it is a company culture thing rather than a management accountant thing. We are in a fast moving industry, things change so rapidly a lot of what we do is informal’ (Company A).

11. Changes in the management accountant’s satisfaction resulting from the ERP system - The ERP systems implementation generally resulted in increased job satisfaction for the management accountants. Job satisfaction needs to be examined over a period of time, rather than at a specific point in time. If asked immediately after the ERP system was implemented, most management accountants would be very frustrated with the software, the hours, the task, and many other aspects.
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After the system was operating for a longer period of time (usually at least six months), the level of job satisfaction would be significantly higher. This was particularly apparent in the case of company G - after the system has been operational for a period of time, the management accountant had learnt the software, knew what data was available, and had seen how the job would be evolving from putting historic numbers together to becoming a business partner to top managers. As a senior executive in the company explained ‘They are getting out [into the business] more and the drive is for the accountants to become… a business partner rather than just a bean counter’. A number of organisations also reported a reduction in staff turnover after the implementation of the ERP system. However, others reported increased turnover during and shortly after the implementation. This was viewed as a process of self-selection on the part of management accountants. Those who preferred the ‘old’ way of doing things sought employment in organisations that were not undergoing change while those who remained embraced the new way of doing things and enjoyed the changes brought about by the ERP system.

The management accountants’ contribution to the ERP system success - In a number of organisations, the management accountants played a critical role in the implementation and success of the ERP system. The more active the role played by the management accountants, the higher the level of perceived success for the ERP implementation. This was consistent across all organisations visited. If the management accountants were actively involved in the ERP implementation from the beginning, and acted as a change agent, the system was a success. ‘If the management accountants had resisted the changes, the new system would still have been successful but to a lesser degree’ (Company A). If management accountants were brought in late on during the implementation, the implementation was less successful.

3.5 Recommendations for management accountants in an ERP environment

The participants in this research were very consistent with their perception of the skills needed by management accountants in ERP environments. All of the interviewees started from the perspective that the management accountant has both appropriate and adequate accounting training. Some believed that a formal accounting qualification was very desirable as a way to signal that a management accountant possesses the requisite skills. Almost every participant identified the need for good communication and interpersonal skills. Analytical skills and the ability to focus on objectives and prioritise work (work management) were also deemed important. As a senior executive in company C explained, ‘There is a danger when you have a new system that there is so much information – they need the analysis ability but, together with that, they need the decision making ability to decide what is important and what isn’t important…. they have to be able to prioritise what is the stuff we really need to look at and what we don’t need to look at.’

The increased importance in understanding the business was also emphasised, as was the need to have ‘entrepreneurial salesman skills.’ That is, the management accountants need to be able to communicate with the management team and synthesize and explain the results (the impact of the financial data) in a way that can be easily understood. Management accountants need to take on a partnership role with the managers. This will sometimes result in the management accountants supporting major decisions by influencing managers onto the right area through a thoughtful and reasoned explanation of what the information means.

Along with these skills, other non-traditional skills were identified. These included being an educator as the management accountants must be able to explain how the numbers were obtained and what they mean, and they might also be asked to explain how the system generates those numbers. Patience was also identified as needed since the ERP packages are very difficult to use when they are first implemented.
3.6 Business and implementation issues

The study found a close link between the strength of the perceived need for an ERP system and implementation success. When the legacy system in a company is unable to process reliable operations data, and consolidated information becomes inaccessible to management, it has a direct bearing on profitability. In such a situation, it is much easier to get buy-in for the new system from top management. More often than not, top management must push through the implementation of the system and make the hard decisions in allocating resources. At the same time, it is as important to generate participation from user levels like the management accountants.

Having identified the need, alignment of the need with the software package selected plays an important role in the success of the project. While a package strong in its financials will be a good fit for the financial services industry, a manufacturing or distribution focused business needs a package strong in its manufacturing or distribution module.

Also, as seen from the implementation success, especially for companies D and E (which turned around a failing implementation by abandoning old business processes in favour of new processes that matched the ERP system processes), the need for and result of re-engineering is obvious. Furthermore, the ERP implementation provides a significant opportunity to address certain critical challenges with regards to alignment of a company’s business and IT needs. Trying to fit the software around the existing business process generally results in failure.

4. Conclusion

The findings of this study indicate that when management accountants are involved in the implementation of an ERP system there is an increased likelihood of success. The task is not easy and there was much frustration in the implementation process. However, in the successful implementations, data quality increases, there is more timely access to information, and decision-making is improved. Furthermore, a successful ERP implementation results in significant changes in the tasks of the management accountants. The management accountants become more closely involved in business decision-making and perform other value adding tasks rather than the mundane reporting tasks that are now performed automatically using the ERP software, and this is best reflected in the observation of one of the top management interviewees who stated that the management accountants become business partners, not just budget buddies.
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APPENDIX

Case Studies

Case A
Company A is a large company in the telecommunications industry and is part of a much larger multinational corporation in related industries. It works with customers on relevant design, construction, operations and management. In 1999, the company implemented the JD Edwards (JDE) ERP system. The full time project team of eight people included a management (project) accountant. The modules implemented included financials, distribution and supply chain. A motivation for the implementation of the ERP system was the year 2000 problem.

Case B
Company B is a heavy-engineering/chemicals company with multiple reporting units. In the late 1990s, company B decided that it wanted to sell off one of its main reporting units, which at the time consisted of six individual business units. These business units all operated slightly differently from each other and had different accounting systems and business processes based on legacy systems. The legacy systems were considered seriously at risk because of the millennium bug. In addition, company B was concerned that outdated systems would reduce the potential revenue from the sale of the businesses.

Company B decided to bring all the business units within the reporting unit onto a unified accounting system based on ERP technology. SAP was selected as the software and in 1997, the decision was taken to proceed with the implementation. As the major focus of the programme was unification of the disparate accounting systems and processes of the business units, and avoidance of millennium bug-related problems. The system implementation could be described as a ‘replacement’ as opposed to one that was driven by a ‘heavy-benefits’ case. This distinction had a major influence on the ultimate assessment of the success of the implementation.

Case C
Company C is a very large audio and telecommunications production and distribution organisation, with substantial operations in the UK and internationally. In 2000, it completed implementation of various modules of SAP, including all the finance modules: sales ledger, purchase ledger, general ledger, and fixed assets. Only some of the non-finance modules were implemented.

The implementation of SAP was part of a change strategy aimed at reducing organisational costs. Firstly, transaction processing was outsourced and all those employed within it were transferred into the new organisation. Secondly, in order to streamline the business information system and eliminate duplication, company C decided to switch to an SAP-based system that would not only be implemented across the entire organisation but also used in the same way, irrespective of where in the organisation it was being used. That is, specially written reports were replaced by generic, organisation-wide practices.

Case D
Company D is a listed company in the global food services and beverage industry. Company D has a distribution network in over 50 countries, and an international franchise business. About one-third of their business is in Europe, one-half in North America and the remainder in Latin America and Asia.

Company D is implementing an end-to-end SAP R/3 environment. The selection and impetus for the SAP system originated in a European office and was subsequently embraced for all of Europe, the UK, and North America. The project was initially championed mostly from an IT perspective and did not have sufficient business focus. In addition, the project had a country focus, and was not directly scalable up to a complete company level. The initial implementation, a ‘big bang,’ was temporarily stopped for a variety of reasons, and was not viewed as a success. The implementation focused on the most difficult parts rather than on getting the ‘quick wins.’
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Case E

Company E is a global food and consumer products company with sales in over 100 different countries. Interviews were conducted at a Research and Development (R&D) site. This R&D site is different than a ‘traditional’ production or operational customer site (there is no stock, no manufacturing, and no sales). The focus of this site is on developing and improving products rather than producing or selling those products. The accounting system is primarily used to develop budgets, provide information about proposed projects, and the control of the expenditures for current projects. Further, a significant investment in fixed assets exists at this location.

Company E implemented SAP in 1999, and prior to SAP, Oracle Financials were used. The decision to move to SAP was based upon a desire to standardise on one platform throughout the worldwide company. At this location, company E implemented SAP modules; financial accounting (including a large fixed assets segment), controlling (cost/management accounting) and materials management (implemented only for the procurement of non-production inventory). Consultants were involved in the initial implementation.

Case F

Company F is a leading provider of technology and engineering services to the automotive industry worldwide. Company F is a large listed company and employs over 1700 people throughout the world. The company’s customer base includes the leading automobile manufacturers worldwide. Company F has had a four-fold growth since it implemented its ERP system, and the head count in support areas such as finance and systems has grown at a slower rate than the corporate growth.

Company F implemented BAAN in September 1999 mainly motivated by the year 2000 problem. Several modules of the BAAN system were implemented, including financials, manufacturing and warehouse. A ‘big bang’ implementation strategy was followed; the entire company went live at the same time and for all modules. Company F was among the first companies in the UK to implement BAAN.

Case G

Company G is a large company in the energy/aerospace industry, with substantial operations in the UK and internationally. In 2002, the company implemented various modules of SAP. The modules implemented were financial accounting, controlling, assets management, sales and distribution, project systems (project management), production planning and human resources.

The SAP implementation at company G was undertaken with a full-time project team of four people including the systems management accountant. The others included staff with a projects background, a procurement background and the project manager, who had an engineering/logistics background. There were no external consultants on the project team. Other staff were included on a part-time basis, including a sales and distribution manager and other accountants. There was also an executive who championed the implementation.

The implementation was done in stages, from 2002 through to 2003, with functionality gradually increased over an 18 month period. There was a migration from an old legacy system to the financial module of SAP in some divisions of the business, and then further implementation across other divisions in 2003. Company G had implemented various modules of SAP before the financial module. The legacy system still exists in some divisions of company G.