

BUSINESS CASES FOR ERP IMPLEMENTATIONS

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ABSTRACT

The rising expenses of information systems and their growing importance to organizations have made the justification of projects increasingly critical. The justification is usually done through a business case that is an initial step for organizations approaching an ERP implementation. The issue of developing a business case and using it during ERP implementations successfully is challenging and under-researched. This paper is a literature review on business cases in ERP, we try to identify the research issues that need to be addressed in this area and give some guidelines to developing a business case for ERP implementation.

Keywords:- *Business Case, ERP, Organization, integrity.*

1. INTRODUCTION

With a history that spans almost three decades, ERP has truly become a mature business application. Businesses of all sizes are looking to information technology to better integrate with business partners, reduce costs, and provide competitive advantage. According to Davenport [5], the business world's embrace of enterprise systems may in fact be the most important development in the corporate use of information technology in the 1990s. A recent industry report by Hamerman [12] reveals that "The ERP applications market, currently about \$38 billion in total revenue, is growing at an annual rate of 6.9% and will reach \$50 billion by 2012."

ERP can be described as an enterprise-wide set of management tools that balances demand and supply, containing the ability to link customers and suppliers into a complete supply chain, employing proven business processes for decision-making, and providing high degrees of cross-functional integration among sales, marketing, manufacturing, operations, logistics, purchasing, finance, new product development, and human resources, thereby enabling people to run their business with high levels of customer service and productivity, and simultaneously lower costs and inventories; and providing the foundation for effective e-commerce[28].

As a growing number of companies adopt ERP systems, ERP systems implementation and upgrades are identified as one of the top five IT priorities among global CIOs according to independent surveys conducted by Morgan Stanley[27] and Deloitte & Touche/IDG Research Services Group[6]. A successful ERP can be the backbone of business intelligence for an organization, giving management a unified view of its processes [21].

Murphy *et al.* [19] argue that the escalating expense of information systems and their growing importance to organizations have made the justification of projects increasingly critical. The justification is usually done through a business case that is an initial step for organizations approaching an ERP implementation. This paper is a literature review on business cases in ERP, we try to identify the research issues that need to be addressed in this area and give some guidelines to developing a business case for ERP implementation. The remaining of this paper is organized as follows: section 2 gives a review of the literature on business cases for ERP particularly addressing the definition of a business case and the rationale for a business case. Section 3 presents several guidelines that should be followed when developing a business case for ERPs. In section 4 we conclude our research and in section 5 we present future work.

2. BACKGROUND STUDY

Developing business cases prior to approving IT projects is a commonplace practice in today's business. Yet, research indicates that many companies (65% of a studied sample) are not satisfied with their business cases [29]. However, given the importance of business cases in ERP implementation, there is surprisingly little research in the literature on business cases as specifically related to ERP. A search of scholarly databases using the keywords of business case and ERP yielded few results that were actually addressing business cases in ERP as the main topic of the paper.

In this research we attempted to raise the issues that need to be researched on business cases as specifically related to ERP. Some important issues that we assume need to be addressed are: *What is the role of the business case in the ERP implementation. Is it a critical success factor? Is it just a step that has to be done? What is its impact on the life cycle of ERP implementations? What should be included in the business case to make it compelling?*

2.1 Business Case

A Business Case is a structured proposal for business change that is justified in terms of expected costs and benefits [26]. According to Robertson [24] a business case provides a mechanism for justifying and guiding the project and helps to answer questions such as "Which requirements are most relevant for the desired benefits?" and "Which design decisions contribute the most value?"

2.2 Rationale for BC

Literature indicates that for most IT implementations, business cases are developed [29], but are solely used to obtain funding approval for the huge up-front financial investment and not to actively manage the project [20,24].

Ward *et-al* [29] pointed out that in addition to obtaining funding for the IT investment, a comprehensive and robust business case is also necessary to: enable priorities to be set among different investments for funds and resources, identify how the combination of IT and business changes will deliver each of the benefits identified – a benefit realization plan, ensure commitment from the business managers to achieving the intended investment benefits, and importantly to create a basis for review of the realization of the proposed business benefits when the investment is

complete. Davenport [4] suggested that even if the decision of implementing an ERP has been made, a business case should be developed to understand how to achieve maximum benefit from the ERP.

Finney *et-al* [9] in their comprehensive compilation of all previously identified ERP implementation success factors, found that business case was only cited as a critical success factor three times in the literature. Bradely [3] in his review of literature on critical success factors found that motivating business justification was considered by Laughlin [16] which can be interpreted as the business case. Al-Mudimigh *et-al* [1] considered a dynamic business case as a dominant factor; by dynamic they mean that the business case should be modified and interactive through all project stages. Markus *et-al* [17] identified the following four phases in an ERP life cycle:

- (1) *Chartering*: decisions defining the business case and solution constraints;
- (2) *Project*: getting system and end users up and running;
- (3) *Shakedown*: stabilizing, eliminating "bugs", getting to normal operations;
- (4) *Onward and upward*: maintaining systems, supporting users, getting results, upgrading, system extensions.

The chartering phase comprises decisions leading to funding of the ERP system project. Key players in the phase include vendors, consultants, company executives, and IT specialists. Key activities include initiation of idea to adopt ERP, developing business case, decision on whether to proceed with ERP or not, initiation of search for project leader/champion, selection of software and implementation partner, and project planning and scheduling. Poon *et-al* [23] in a multiple case study summarized the lessons they learned in ERP procurement practice into 10 lessons, one of them is to develop a business case. Ross [25] points that companies that progress to continuous improvement—and possibly to transformation—demonstrate their commitment to ERP by developing a clear business case that clarifies performance objectives.

After this study it is clear that the role of a business case in the ERP implementation has not been researched enough to determine if it is actually a critical success factor or just a step or phase that has to be done at the beginning of an ERP implementation.

3. BUILDING THE BUSINESS CASE

As the importance of ERP to today's businesses has increased, so has the structure and content of business cases used to justify ERP implementations has been in need to be revised. Business cases were traditionally used to obtain funding for the ERP project [29] and weren't leveraged to guide the project, it often lacks important factors such as alignment with business objectives and stakeholder involvement and commitment. It also focuses on technology not people and processes and doesn't identify all potential benefits and their measurements [10]. Ward *et al* [29] pointed out the dangers of a purely financial focus.

In the following we present some guidelines that can be followed when developing the business case:

a. Ensure stakeholders are involved in business case development

Business case development should not be the responsibility of one person. A joint business/IT/finance team should be established and all stakeholders identified and involved in the development. Stakeholders seek different benefits from an ERP and their involvement in the development of the business case ensures that no benefits are overlooked. This also ensures their commitment to the project. Gattiker *et- al* [11] in their study of understanding project champions' ability to gain intra-organizational commitment for environmental projects pointed that the project champion's use of a business case to gain commitment is effective.

b. Define Business Drivers and Investment Objectives

Ward *et-al* [29] suggested that a convincing and robust business case should start with a statement of the current issues facing the organization that need to be addressed i.e. the business drivers which could be both external and internal. By addressing these business drivers, clear objectives/ goals, which have a desired value, are formulated for the business case [7].

c. Identify Benefits, Owners and Measurements

This is by far the most critical step in the development of the business case. Benefits should be identified according to the objectives/goals defined in the previous step. Each stakeholder should identify the benefits he/she expects to arise when the objectives are achieved. Several benefit frameworks have been proposed in the literature to assess in benefit identification [7,19,29]. Once the desired benefits are identified, several attributes

related to the benefits need to be identified as well: these are owners, measurements and quantifications. For each benefit, an owner needs to be identified who will gain from the successful ERP project, it is his or her job to provide a 'value' for that benefit in the business case and to ensure a plan is in place which will ensure it is realized [29]. The owner might also be required to take responsibility for those changes that might be needed during the ERP implementation [7]. The owner should work together with the project team throughout the implementation stages [22]. Next, how the benefit will be measured and quantified has to be determined. This might be a difficult task for some benefits, primarily for those which are intangible [7,19,29]. Intangible benefits in IT projects have received much attention in the literature due to the importance of their inclusion in the business case [19]. The new International Accounting Standard IAS 38 [14] define an intangible as an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes. IT projects deliver intangible benefits that cannot be quantified using mathematical equations like NPV, such as better information access, improved workflow, and increased customer satisfaction which are listed among the key attributes of ERP systems [19]. Several techniques have been proposed in the literature to quantify these intangible benefits [2,13,29]. It is also essential at this point to investigate the interdependencies between the benefits which might reinforce each other, and it is necessary to ensure that all achieved benefits are also recognized when the project is over [7].

d. Identify Organizational Changes enabling Benefits

To gain the benefits that have been identified, business changes need to be undertaken and planned for [7,29]. A list of required business changes that are needed to achieve the desired benefits and organizational situation has to be formed. To each business change from this list a value or size/effort indicator could be assigned, so that business change is measurable [7]. Gap analysis (step f) and critical success factors (step g) can be used to identify some of the changes. A point to raise here is that the business changes should focus on people and process changes not just technology.

e. Identify Costs and Risks

A business case must obviously include all the costs and an assessment of risks. The costs that are

directly linked to the ERP system are usually easily calculated (e.g. license and maintenance costs) however the costs associated with business changes and realizing benefits are often underestimated [7, 29]. Also the major risks should be described and how they will be managed.

f. Define "As Is" and "To Be" States and Do Gap Analysis

A typical approach being used to determine the business change needed is gap analysis; that is to compare the current organizational state "A Is" with the desired state "To Be"[7]. A number of gap analysis techniques have been described in the ERP literature [8,15].

g. Define Critical Success Factors

Before starting, any IT project, including an ERP implementation, a list of critical success factors should be formed. These measurements of success should relate directly back to the benefits identified before.

h. Develop Scenarios: Best, Worst

Usually when developing a business case it is built around a best case scenario: i.e. assuming that everything will go as planned and not taking any risks into account. To make the business case realistic both best-case scenario and worst-case scenarios should be presented and documented in the business case [18].

i. Document Linkage with other Organization Goals/Plans

Given the importance of the ERP investment and the business case to justify it must be aligned with the organization's strategic business goals and plans [10].

j. Identify the Risk of No Investment

Often overlooked, but just as critical in developing a business case, is the "Risk of No Investment" outcome. If the investment is not made, what could happen to the company's bottom line? Could the company lose customers? Or market share? Could some future costs be avoided if the investment is made today?[18] All these questions should be addressed in the business case.

k. Update the Business Case throughout the ERP Life Cycle

It is usually thought that the business case is just an initial step done in the pre-implementation stage to gain approval for the project. Recent studies however prove that the role of the business case exceeds the pre-implementation stage as it should be used to guide the project and should be updated throughout the ERP life cycle [4,7,29]. It should also be used to create a basis for review of

the realization of the proposed business benefits when the investment is completed [29].

l. Evaluate solution alternatives

The business case should guide the organization to decide whether it is more cost-effective to buy software licenses or rent an application from application service providers. For example SaaS (Software-as-a-Service)-based Enterprise Resource Planning (ERP) is an on-demand deployment of ERP software, where the user can access the software through license or lease as a Web-based service. It provides an alternative to implementation or maintaining ERP software. These types of alternatives should be analyzed and presented in the business case.

4. CONCLUSION

The role of business cases during ERP implementation is not clear and needs to be redefined. In this paper we presented a literature review on business cases in ERP and we tried to identify the research issues that need to be addressed in this area. Some important issues that we assume need to be addressed are: *What is the role of the business case in the ERP implementation. Is it a critical success factor? Is it just a step that has to be done? What is its impact on the life cycle of ERP implementations? What should be included in the business case to make it compelling?* Finally we presented some guidelines to developing a business case for ERP implementations.

5. FUTURE WORK

In the next stage of this research, we will send out survey questionnaires to companies to evaluate the degree of criticality and importance of the use of the business case in the ERP implementation. We are also interested in studying how the perceived importance of the business case may differ across implementation partners such as top executives, users, project team members, internal IT specialists, vendors, and consultants. The study will also investigate whether the guidelines proposed in this paper are usually used or not in the development of a business case and whether the business case is actually used as a basis for review of the realization of the proposed business benefits when the implementation is completed.

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