The success factors for ERP implementations

- A mini literature review

Deepthy Prasad

Masters programme in Computer and Systems Science(SCSSO)

Stockholm University, Sweden

Abstract:

This literature review reports the results of a comparative study of influence of the different success factors of ERP systems. In this literature review, 3 different papers related to the topic *critical factors for a successful enterprise resource planning implementation* are reviewed. Through this review, 14 critical success factors were identified for successful ERP implementation. The degree of criticality of each of these factors were assessed according to the importance given to them in each literature. The 4 most critical factors identified were *top management support, project champion, Change Management Culture and Program and Business Plan and Vision*. The reasons behind selecting 4 out 11 factors are also discussed in this review report.

Key variables: Critical Success Factors - CSF, Enterprise Resource Planning Systems - ERP systems, Project Phase Model - PPM, Small and Medium sized Enterprises - SMEs, Chief Information Officers - CIOs

Introduction:

Nowadays, the demand for Enterprise Resource Planning (ERP) systems in an organisation has increased because of several reasons such as to achieve low cost production, revenue growth, market globalization and the current changes in the economy. A well implemented ERP system can always help to achieve business growth. There are so many ERP systems with different technologies and philosophies available on the market. But selecting a 'right' system is a challenging task. So here comes the importance of critical success factors (CSFs) which can determine the influence of an ERP system implementation in the enterprise.

Three literature papers discussing the successful factors of an ERP system implementation are selected to complete this literature review. A paper by *Graeme Shanks* included the study of 2 different project models in an enterprise in order to compare 2 different implementations in the same organization. One model was successful and the other was a failure in the study. The comparison of these 2 models is then used to determine the critical success factors of the ERP system. The paper by *T.C Loh and S.C.L Koh* focuses on the critical success factors of ERP in small and medium sized enterprises. They found that identifying and managing the critical factors in each phase of the ERP implementation project lead to a successful implementation of the same. There is another paper by *Fiona Fui-Hoon Nah and Kathryn M. Zuckweiler* which reports the results of a survey of Chief Information Officers (CIOs) from Fortune 1000 companies on their perceptions of the critical success factors in Enterprise Resource Planning (ERP) implementation. The 5 most critical factors in ERP implementation identified by the survey are top management support, project champion, ERP teamwork and composition, project management, and change management program and culture. The importance of each of these factors are also discussed in the same paper.

Comparative Study:

As mentioned in the introduction section the literature Report by *Graeme Shanks* considers 2 different case studies to find the importance of critical factors of an ERP system. Two case studies of ERP implementation within the same organization, one unsuccessful and a later successful one, are reported and analysed in order to determine which critical success factors (CSFs) are necessary within each phase of the project phase model(PPM). In the failure case only one CSF – management support – was considered necessary in all phases of the PPM whereas in the success case seven CSFs were considered in all phases of the PPM which includes management support, a champion, commitment to change, vanilla ERP, empowered decision makers, the best people full-time, deliverable dates and the definition of scope and goals. In summary, this paper reveals the importance of these critical factors in the implementation of an ERP system at each phase of PPM. But not providing a good list of critical factors.

The literature 2 aims to examine the critical elements that constitute a successful ERP implementation in SMEs. The objective is to identify the constituents within the critical elements. The results of a comprehensive literature review and interviews with eight SMEs in the UK serve as the basic input into the formation of the critical elements in this report. Finally it arrives at ten most important

critical factors according to the analysis of the input data. The research report also suggests that a successful ERP implementation often requires the identification and management of the critical elements and their constituents at each phase of implementation.

The literature 3 considered for this review is a paper by *Fiona Fui-Hoon Nah and Kathryn M. Zuckweiler* which reports the results of a survey of Chief Information Officers (CIOs) from Fortune 1000 companies on their perceptions of the critical success factors in Enterprise Resource Planning (ERP) implementation. The 11 critical success factors were considered and the degree of criticality of each of these factors were assessed in a survey administered to the CIOs. The 5 most critical factors identified by the CIOs were top management support, project champion, ERP teamwork and composition, project management, and change management program and culture. The 11 factors considered for the initial study is created from a comparative study of different literatures available on the topic '*critical factors for ERP implementation*'. The importance of each of these 5 factors are also described in the literature report.

According to analysis of 3 different literatures, a ranking table is created with critical factors in ERP implementation. The 5 factors from literature 3 are given more importance while ranking the CSFs as they are chosen from the best 11 factors. Then the second priority given to the results of literature 1 as it summarises the result of a comprehensive literature review and interviews with eight Small and Medium sized Enterprises (SMEs) in the UK. The results of literature 1 are given the least importance as they were not well defined factors and difficult to relate to others. Also it is the result of only 2 case studies conducted for the same organisation. It may not be applicable or not suitable for another organisation. But the report provides the importance of the critical elements at each phase of implementation.

Conclusion:

Overall, 14 critical factors influencing the success of ERP system implementation were identified from 3 literature reports. Below table shows the results of the review which includes the CSFs identified, their ranks and each factor's occurrence in the reviewed papers.

Rank	CSF	Literature 1	Literature 2	Literature 3
1	Top Management support	✓	✓	✓

2	Project Champion	✓	✓	✓
3	Change Management Culture and Program	✓	✓	✓
4	Business Plan and Vision	✓	✓	✓
5	ERP Teamwork and Composition		✓	✓
6	Project Management		✓	✓
7	Effective Communication		✓	✓
8	Business Process Reengineering (BPR)		✓	✓
9	Software Development, Testing and Troubleshooting		✓	✓
10	Monitoring and Evaluation of Performance		✓	✓
11	Appropriate Business and IT Legacy Systems			✓
12	Vanilla ERP	✓		
13	Project team leader ship / Empowered decision makers	✓		
14	Best people full-time	✓		

As per this ranking the top 4 critical factors which are best among the critical factors in literature 1, literature 2 and literature 3 are *Top Management support, Project Champion, Change Management Culture and Program and Business Plan and Vision*.

References:

- https://journals.sagepub.com/doi/pdf/10.1177/026839620001500405 (*literature 1*)
- https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.455.3383&rep=rep1&type=pdf (*literature 2*)
- https://web.archive.org/web/20140513211428id_/http://cba.unl.edu:80/research/articles/550/download.pdf (*literature 3*)
- https://drive.google.com/file/d/0B95tYlhL8Srlb1h5T3NybzE3M3c/view?resourcekey=0-LS0rtAYiPyXb493o-yZOUw