

## Significance Of Critical Success Factors Of ERP Implementations – Indian Context

R. Saravanan<sup>1</sup> and Dr. C. Sundar<sup>2</sup>

<sup>1</sup> *Research Scholar: R.SARAVANAN, SRM University, India.  
(Project Manager, CSC India)*

*e-Mail ID: [sara.raju@yahoo.com](mailto:sara.raju@yahoo.com)*

*Correspondence Address:*

*Door No.4/736; Plot No. 3017-B, Ram Nagar South.*

*Madipakkam, Chennai – 600091*

*Mobile: +91-9444300041*

<sup>2</sup> *Research Supervisor: Dr. C. SUNDAR,*

*e-Mail ID: [hod.mba@rmp.srmuniv.ac.in](mailto:hod.mba@rmp.srmuniv.ac.in)*

*Professor and HOD,*

*School of Management Studies,*

*Ramapuram Campus,*

*SRM University, Chennai, India*

### ABSTRACT

Critical Success Factors (CSF) of any Enterprise Resource Planning (ERP) Implementation is very vital for the Organisations who intend to implement ERP in their Organizations. Project Sponsors and Project Steering Committee members of the ERP Project need to be aware of ‘lessons learnt’ from the earlier case studies and experiences of other similar organisations. This will help them to take care of these factors right-from the ‘Vision Statement’ through the ‘Project Charter’ and to reflect in each in every stages of the project. Our primary objective through this paper is to bring our observations on significance of each of Critical Success Factor, their relationship with each other, the area of attention required for any Leadership members of the Organisations who plan to implement ERP. The analysis outcome is expected to help this team for the better strategic decisions and corresponding benefits.

**KEY WORDS:** ERP Implementation, Critical Success Factors, Critical Factors, Success of ERP, ERP

**JEL Classification:** M10, M15, M19

## **INTRODUCTION**

The organizations which plan to implement ERP are looking for reference Success stories and Failure stories of similar ERP implementations to learn lessons and to ensure following them in their projects. An implementation of such a complex system is a highly challenging venture and therefore needs special attention as businesses rely heavily on these systems and face huge issues if they are not working properly. (Otto Korhonen, 2013). Most multinational firms are using ERP and that more small and midsize companies have begun to adopt ERP. Despite ERP's promises to benefit companies and a substantial capital investment, not all ERP implementations have successful outcomes. ERP implementations commonly have delayed an estimated schedule and overrun an initial budget (Goeun Seo, 2013). Though several studies have been conducted towards Critical Success Factors of ERP Implementations, we still find a need to have focused studies in India.

This brings up the following Research Questions:

- What are the primary Critical Success Factors contributing to the Success ERP Implementations?
- What is the significance of each of the Critical Success Factor with respect to Indian Context?
- How these factors are related to each other?
- How the industry can make use of these inputs before they start any ERP implementations for their Organizations?

## **METHODOLOGY**

This analysis takes reference of previous researches to gather the list of Critical Success Factors (CSF) based on their relevance to the context of our study. We have done our literature study with more than twenty researches and each of these research experts had come out with number of CSF-s; each of the research indentified CSF-s from 5 to 20 approximately. We had carefully analyzed all of these factors and picked up frequently referred CSF-s among these researches.

## **CSF-S from EARLIER STUDIES**

Based on the literature studies, the following Critical Success factors were identified for our validations as these were the factors most commonly used by the referred researchers.

- Top Management Support
- Implementation Team
- Organizational Culture
- Motivation for ERP Implementation (Business or Technology Needs)
- Project Management
- Technology & Architecture choice
- Process Re-engineering

- Training
- Testing

The above factors are concluded to contribute for Project Success and hence the Project success and Organisational Efficiency become dependent factors.

**Dependent Factors:**

- Project Success
- Organizational Efficiency

The following factors are achieved as a result of all the above factors and hence included for our validations.

**Resulting Factors**

- Customer Benefits
- Financial Benefits

**Top Management Support:**

The organization should have a top management and steering committee of the ERP Implementation project that is highly committed to the implementation and is comprised of individuals with differentiated views of the implementation.

According to Otto Korhonen (2013) the earlier researchers define top management concerns in the ERP context with 4 dimensions which must be supported by top management.

- Change Management Dimension
- Process Dimension
- People Dimension
- Project Dimension

Top Management has to support the whole implementation process and the project needs to be authorized by top Management. According to Christopher P. Holland and Ben Light (1999), Top management support is required because implementing an ERP system demands creation of organization wide commitment. Top management support in ERP implementation has two main facets: (1) providing leadership; and (2) providing the necessary resources. To implement ERP system successfully, management should monitor the implementation progress and provide clear direction of the project. (T.R. Bhatti, 2005).

**Organizational Culture**

Organizational culture is a way things are done in the business, and shared perceptions, beliefs, symbols, rites and rituals, and myths may be “taken for granted”

in an organization. Thus, the existing culture in a company may have a bearing on the way people within it work, deal with others, and adopt and use technology. Many researchers have suggested that the core values in the corporate culture of adopting firms can cause mismatch problems during the ERP implementation process and adversely affect benefit realization from such systems. Essentially, organizational culture is related to how the overall success of an ERP system is perceived in adopting organizations. This is because employees who are used to doing things certain ways due to shared and enforced beliefs may have to accommodate the change that ERP imposes to enhance success with their software. (Princely Emili Ifinedo, 2006).

### **Motivation for ERP Implementation (Business Driven or Technology Driven)**

As per Oyana Velcu 2008, most frequent motivation for ERP implementations were for replacing legacy which means the motivation is mainly Technology Driven. Some of the companies' mainly had a business-led motivation, such as need for a common financial strategy and vision throughout the organization, or the need to have a common system with a newly acquired company.

**Intention to Use:** Several researchers (Ein-Dor and Segev 1978; Hamilton and Chervany 1981; Ives et al. 1980; Lucas 1975) have proposed "use" as a success measure of information systems in the IS research contexts. Having adopted from their concept, intention to use / use is considered the main indicator of the success of ERP system adoption in this research. Its direct antecedents are perceived usefulness, perceived ease of use, and subjective norm as described in the previous section. This research assumes that the amount of use can have a positive impact on the degree of user satisfaction as well as the reverse being true as proposed in DeLone and McLean's IS success model. (BooYoung Chung, Ph.D., 2007)

The vision/goals/justification should be clearly stated in the business plan, including a justification for the investment, and a clear statement of the project mission and goals that should be related to business needs. ((E.W.T. Ngai, C.C.H. Law\*, F.K.T. Wat 2007)

Clear goals and objectives are essential to guide an ongoing organizational effort for ERP implementation as it usually exceeds the time frame for a typical business project. (T.R. Bhatti, 2005). A clear business plan and vision should be behind the implementation strategy to know in which direction the project must be steered. In project management three often competing and interrelated goals that need to be met are mentioned: scope, time, and cost goals. There must be a clear business plan how the goals can be achieved. (Stephan A. Kronbichler & Herwig Ostermann and Roland Staudinger, 2009). In fact, Deloitte Consulting (2000) attributed the high failure rates of ERP projects to poorly defined goals and mission, and it has been suggested that there is a need to have strategic clarity before embarking on its adoption. (Princely Emili Ifinedo, 2006). The business plan should outline the anticipated strategic and tangible benefits, resources required, and risks and costs involved in the adoption of ERP. Business goals should be tracked. It is recommended

that the goals of the project be set before the support of top management is sought. (E.W.T. Ngai, C.C.H. Law, F.K.T. Wat, 2007)

**Project Management**

ERP systems implementation is a set of complex activities thus organizations should have an effective project management strategy to control the implementation process. (Khaled Al-Fawaz, Zahran Al-Salti, Tillal Eldabi, 2008). Project Management coordinates the use of skills and knowledge. Furthermore it monitors the progress and the achievement of objectives of the according ERP project. The formal project implementation plan defines milestones like project activities, personnel planning on activities and organizes the ERP project process. The implementation of an ERP system is a complex project which involves a possibility of occurrence of unexpected events. Therefore the management of risk is needed to minimize the impact of unplanned incidents by identifying potential risks before negative consequences occur. Project management consists of the following CSF: good project scope management, formalized project plan / schedule, definition of scope and goals, risk management, “alignment of people, process and technology” and agree on different project steps. (Stephan A. Kronbichler & Herwig Ostermann and Roland Staudinger, 2009).

**Architecture choices, technical implementation, technological infrastructure**

The selection of the adapted ERP software is difficult because there several ERP packages available on the market and every product have its own strengths and weaknesses, both from products site and ease of implementation. It is necessary to continuously measure the performance of the ERP implementation to assess the developments and the problems occurring. This CSF covers the following CSFs mentioned in the literature: Careful package selection, architecture choices, system analysis, selection and technical implementation, technological infrastructure, adequate ERP version, adequate software configuration, ERP software package selection / careful selection of the appropriate package, suitability of software and hardware, defining the architecture and monitoring and evaluation of performance. (Stephan A. Kronbichler & Herwig Ostermann and Roland Staudinger, 2009). Due to the lack of professional expertise and experience on developing ERP systems in-house, many companies prefer to buy off-the-shelf systems to shorten the ERP implementation cycle. ERP packages provide generic off-the-shelf business and software solutions to customers. More or less they can't fully meet the company's needs, especially when the business processes of the company are unique. Thus, to increase the chance of success, management must choose software that most closely fits its requirements. (Liang Zhang, Matthew K.O. Lee, Zhe Zhang<sup>1</sup>, Probir Banerjee (2002).

**Business Process Re-engineering**

Modern information technology or systems, such as ERP systems, allow or even force implementing organizations to rethink the way business is done, by for example automating processes or getting rid of the non-value adding activities. (Otto Korhonen, 2013). ERP systems are built on best practices for the specific industry, and to successfully install ERP, all the processes in a company have to conform to the ERP model. The higher the degree of customization, the lower will be the performance of ERP projects. This is one of the reasons why many consulting firms deliver standard systems which are called Vanilla ERP. (Stephan A. Kronbichler & Herwig Ostermann and Roland Staudinger, 2009). Hammer and Champy (2001) defined Business process re-engineering (BPR) as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed”. Organizations should be willing to change their businesses to fit the software in order to reduce the degree of customizations. Many organizations have made unnecessary, complex customizations to ERP software because the people making the changes do not fully understand the organization’s business practices. New business model and reengineering that drives technology choice is an enabling factor that can give to ERP success. (Khaled Al-Fawaz, Zahran Al-Salti, Tillal Eldabi, 2008). The cost and the possibility of error will be increased if more customization for the software was undertaken. (E.W.T. Ngai, C.C.H. Law, F.K.T. Wat, 2007)

**Training**

End user training has been recognized as a critical factor for ERP implementation. Due to the complexity of the integrated ERP system, end user training is essential for a robust understanding of how the system works and how to use it. Consequently, appropriate end user education and training will maximize ERP benefits and increase user satisfaction. (Goeun Seo, 2013). The complexity of ERP systems results in enormous learning curves and behavioral changes for users. ERP projects require significant amount of involvement and dedication to the project. If there is no training program this results in low acceptance and curbs the progress of the project. This means reskilling users in new technologies and training in the use of specific application modules. Key users of a company should not only be experts in the company’s processes but also be aware of the knowledge of information systems in the specific branch. Involving users can decrease their resistance to the potential ERP system, if users have feelings that they are the people who choose and make the decision. This CSF summarizes the CSFs user training, extensive education and training, education on new business processes, user involvement, scope of user training and adequate training program. (Stephan A. Kronbichler & Herwig Ostermann and Roland Staudinger, 2009). ERP systems are not simple to use even for experienced IT managers. It is identified that there are generally three trainee groups and respective strategies: users, steering committee members and project members. (Otto Korhonen, 2013).

For the benefit of the Industry, these top 12 Critical Success Factors are listed and discussed in detail. These can be considered before initiating any ERP Implementation project by the Organizations, critically validated and necessary attention provided to ensure these factors are in place in the ERP Implementation strategy. There are many possibilities that this CSF-s can be validated for the applicability of each Project, based on the Industry, Geography, Technology, Application, Business Processes, Organizations, and Data. Also the measurement of the Critical Success Factors are also to be mentioned and agreed with the stake holders of the ERP Implementation Project in advance, so that this can be measured during the course of the project and necessary action can be taken towards improvement.

### **Testing**

The ERP testing result was an indicator for revealing the readiness of the ERP system to “go live” (from the perspectives of examining IT infrastructure capacity, correct configuration of ERP system, people (including users and project team) were equipped with sufficient knowledge and skills, and data was of good quality). The workload of project team members and users had increased tremendously in order to fix the problems and cope with daily operations. (Ada Wong, Harry Scarbrough, 2003).

System testing has proven to be the key element of success for some companies and direct cause of failures for others. (Gargeya and Brady, 2005, referred by Houman Kalbasi 2007). Gargeya and Brady argue that "after months and years of development, it may be feasible to assume that both team members as well as executive management are tired of dealing with the project and just want to be completed. The result of this myopic thinking, however, is that testing is reduced or ignored, and red flags are disregarded. The organisations implementing ERP should work well with vendors and consultants to resolve software problems. Quick responses, patience, perseverance, problem solving and fire fighting capabilities are important (Rosario, 2000). Vigorous and sophisticated software testing eases implementation. (Rosario, 2000 referred by Houman Kalbasi 2007)

### **Data Collection:**

250 Sample Respondents were identified in the following industry in India and conducted survey with 50 respondents in each Industry group.

- Automotive Industry
- Manufacturing Industry
- Ancillary Industry
- Petro Chemical Industry
- ERP Professionals (who involved in providing ERP Solutions as a part of Implementation Partner )

The survey was conducted with 5 Companies in each Industry and 10 Users per company through personal interviews. We had one coordinator identified in each organisation and through this coordinator we were able to reach out 10 users in each organisation in a particular period from October 24 to December 2014.

A Questionnaire was prepared to capture the responses from the users of ERP, who have implemented during the period from the year 2000 till 2013 to measure the relevance of these factors in their perspective. Each of the factors was having 2 or 3 questions on 7 Point rating scale, 1 being 'Strongly Not Agree' and 7 being 'Strongly Agree'. If the respondent agrees that the particular Critical Success Factor mentioned the question is valid and relevant based on his/her experience in the ERP Implementation project then they were asked to rate higher. If they felt about a particular factor doesn't matters and not significant then they are asked to rate that with lower score.

## ANALYSIS

### CORRELATION MATRIX

Correlation is a measure of the association between two variables. That is, it indicates if the value of one variable changes reliably in response to changes in the value of the other variable. The correlation coefficient can range from -1.0 to +1.0. A correlation of -1.0 indicates that the value of one variable decreases as the value of the other variable increases.

The Correlation matrix is generated and subjected to analysis as below.

**Table 1 Correlation Matrix**

Correlation Matrix													
	TopManagementSupport	ImplementationTeam	OrganizationalCulture	MotivationForERPImplementation	ProjectManagement	TechnologyArchitectureChoice	BusinessProcessReengineering	Training	Testing	ProjectSuccess	OrganizationalEfficiency	CustomerBenefits	FinancialBenefits
TopManagementSupport	1.000	.377	.463	.204	.310	.351	.195	.346	.241	.357	.222	.439	.263
ImplementationTeam	.377	1.000	.527	.351	.577	.322	.483	.416	.405	.447	.460	.447	.413
OrganizationalCulture	.463	.527	1.000	.344	.472	.295	.317	.413	.320	.349	.400	.425	.392
MotivationForERPImplementation	.204	.351	.344	1.000	.499	.310	.383	.420	.556	.524	.286	.312	.273
ProjectManagement	.310	.577	.472	.499	1.000	.405	.457	.451	.622	.511	.431	.420	.421
TechnologyArchitectureChoice	.351	.322	.295	.310	.405	1.000	.301	.309	.320	.437	.301	.377	.181
BusinessProcessReengineering	.195	.483	.317	.383	.457	.301	1.000	.300	.369	.396	.448	.462	.288
Training	.346	.416	.413	.420	.451	.309	.300	1.000	.507	.527	.321	.433	.298
Testing	.241	.405	.320	.556	.622	.320	.369	.507	1.000	.455	.214	.400	.285
ProjectSuccess	.357	.447	.349	.524	.511	.437	.396	.527	.455	1.000	.392	.416	.339
OrganizationalEfficiency	.222	.460	.400	.286	.431	.301	.448	.321	.214	.392	1.000	.473	.389
CustomerBenefits	.439	.447	.425	.312	.420	.377	.462	.433	.400	.416	.473	1.000	.526
FinancialBenefits	.263	.413	.392	.273	.421	.181	.288	.298	.285	.339	.389	.526	1.000

## DISCUSSION POINTS

From the resulted Correlation matrix, the important observation is that the factors considered are mostly having positive relationship with each other.

- The Dependent Factors 'Project Success' is proven to have high positive relationship with all the Independent factors viz. Motivation (Need ) of ERP,



Project Management, Training & Testing are having high correlation with Project Success.

- Motivation or Need for ERP  $\leftrightarrow$  Project Success = 0.524
- Project Management  $\leftrightarrow$  Project Success = 0.511
- Training  $\leftrightarrow$  Project Success = 0.527
- The remaining factors viz. Top Management Support, Implementation Team, Organizational Culture, Technology & Architecture choice, Process Re-engineering & Testing - are also having a positive correlation with Project Success.
- Top Management Support  $\leftrightarrow$  Project Success = 0.357
- Implementation Team  $\leftrightarrow$  Project Success = 0.447
- Organizational Culture  $\leftrightarrow$  Project Success = 0.349
- Technology & Architecture choice  $\leftrightarrow$  Project Success = 0.437
- Process Re-engineering  $\leftrightarrow$  Project Success = 0.396
- Testing  $\leftrightarrow$  Project Success = 0.455

## ANOVA

The basic principle of ANOVA is to test for differences among the means of populations by examining the amount of variations within each of samples, relative to the amount of variations between samples (C.R. Kothari, 1985). The essence of ANOVA is that the total amount of variation in a set of data is broken down into two types, that amount which can be attributed to chance and the amount which can be attributed to specified causes.

Samples collected against all 13 factors from 5 Industries - Ancillary, Automotive, ERP Professional, Manufacturing and Petro Chemical was subjected to ANOVA test, to identify significance of variations between the industries. This can give a picture how ERP Implementation Success factors are represented in each industry and a sense for Organization's strategic decisions when they want to implement ERP. This also will give an idea to the specific industry what factor they need to focus to improve upon, not necessarily a common for all industries. The following table presents the results of ANOVA processed out of 250 responses across 5 industries.

## SUMMARY STATISTICS AND ONE WAY ANALYSIS OF VARIANCE (ANOVA)

**Table 2 ONE WAY ANALYSIS OF VARIANCE (ANOVA)**

	Industry										One way ANOVA	
	Ancillary		Automotive		ERP Professional		Manufacturing		Petro Chemical		F-Value	Sig.
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Top Management Support	5.887	.692	5.853	.844	5.780	.689	6.213	.445	6.173	.510	4.607	.001
Implementation Team	5.527	.899	6.093	.457	5.393	.746	5.907	.547	5.807	.610	8.983	.000
Organizational Culture	5.847	.622	5.947	.592	5.353	.863	6.160	.422	6.047	.486	12.807	.000
Motivation For ERP Implementation	5.900	.589	6.180	.414	5.590	.843	6.180	.492	6.310	.462	12.387	.000
Project Management	5.847	.548	6.100	.427	5.407	1.099	6.053	.506	5.940	.597	8.322	.000
Technology & Architecture Choice	6.000	.495	6.080	.566	6.100	.851	6.150	.420	6.160	.468	.612	.655
Process Re-Engineering	5.193	.904	5.893	.478	5.427	.865	5.747	.637	5.747	.718	7.469	.000
Training	5.833	.654	6.167	.448	5.560	.887	6.213	.461	6.027	.508	9.531	.000
Testing	5.807	.447	6.080	.396	5.547	.862	5.987	.375	5.940	.385	7.706	.000
Project Success	5.820	.622	6.220	.429	5.620	.873	6.000	.462	6.040	.484	7.332	.000
Organizational Efficiency	6.040	.470	6.107	.359	5.833	.671	6.100	.382	6.160	.448	3.534	.008
Customer Benefits	5.867	.555	6.040	.516	5.653	.663	6.093	.393	6.147	.477	7.243	.000
Financial Benefits	6.010	.468	6.110	.518	5.860	.647	6.190	.451	6.320	.503	5.611	.000

## DISCUSSION POINTS

- From the ANOVA results, it is evident that except one factor (Technology & Architecture Choice) other 12 Factors are having significant difference between industries. For example, Score for Top Management Support Ancillary Industry users are significantly different than the other Industries.
- Factor Technology & Architecture Choice has got the same score across all industries.

- This indicates that currently perceived significance of Critical Success Factors for Success of ERP Implementations differs between Industry to Industry which need to be further analyzed for the pattern.

## POST HOC TESTS

### Homogeneous Subsets – Tukey’s B Tests

#### Top Management Support

**Table 3 Tukey’s B Tests - Top Management Support**

Industry	Subset for alpha = 0.05		
	1	2	3
ERP Professional	5.7800		
Automotive	5.8533	5.8533	
Ancillary	5.8867	5.8867	5.8867
Petro Chemical		6.1733	6.1733
Manufacturing			6.2133

#### Implementation Team

**Table 4 Tukey’s B Tests - Implementation Team**

Industry	Subset for alpha = 0.05		
	1	2	3
ERP Professional	5.3933		
Ancillary	5.5267	5.5267	
Petro Chemical		5.8067	5.8067
Manufacturing			5.9067
Automotive			6.0933

#### Organizational Culture

**Table 5 Tukey’s B Tests - Organizational Culture**

Industry	Subset for alpha = 0.05	
	1	2
ERP Professional	5.3533	
Ancillary		5.8467
Automotive		5.9467
Petro Chemical		6.0467
Manufacturing		6.1600

### Motivation For ERP Implementation

**Table 6 Tukey's B Tests - Motivation For ERP Implementation**

Industry	Subset for alpha = 0.05		
	1	2	3
ERP Professional	5.5900		
Ancillary		5.9000	
Automotive		6.1800	6.1800
Manufacturing		6.1800	6.1800
Petro Chemical			6.3100

### Project Management

**Table 7 Tukey's B Tests - Project Management**

Industry	Subset for alpha = 0.05	
	1	2
ERP Professional	5.4067	
Ancillary		5.8467
Petro Chemical		5.9400
Manufacturing		6.0533
Automotive		6.1000

### Process Re-Engineering

**Table 8 Tukey's B Tests - Process Re-Engineering**

Industry	Subset for alpha = 0.05		
	1	2	3
Ancillary	5.1933		
ERP Professional	5.4267	5.4267	
Petro Chemical		5.7467	5.7467
Manufacturing		5.7467	5.7467
Automotive			5.8933

**Training****Table 9 Tukey's B Tests - Training**

Industry	Subset for alpha = 0.05		
	1	2	3
ERP Professional	5.5600		
Ancillary	5.8333	5.8333	
Petro Chemical		6.0267	6.0267
Automotive			6.1667
Manufacturing			6.2133

**Testing****Table 10 Tukey's B Tests - Testing**

Industry	Subset for alpha = 0.05	
	1	2
ERP Professional	5.5467	
Ancillary		5.8067
Petro Chemical		5.9400
Manufacturing		5.9867
Automotive		6.0800

**Project Success****Table 11 Tukey's B Tests - Project Success**

Industry	Subset for alpha = 0.05		
	1	2	3
ERP Professional	5.6200		
Ancillary	5.8200	5.8200	
Manufacturing		6.0000	6.0000
Petro Chemical		6.0400	6.0400
Automotive			6.2200

## Organizational Efficiency

**Table 12 Tukey's B Tests - Organizational Efficiency**

Industry	Subset for alpha = 0.05	
	1	2
ERP Professional	5.8333	
Ancillary	6.0400	6.0400
Manufacturing		6.1000
Automotive		6.1067
Petro Chemical		6.1600

## Customer Benefits

**Table 13 Tukey's B Tests - Customer Benefits**

Industry	Subset for alpha = 0.05	
	1	2
ERP Professional	5.6533	
Ancillary	5.8667	5.8667
Automotive		6.0400
Manufacturing		6.0933
Petro Chemical		6.1467

## Financial Benefits

**Table 14 Tukey's B Tests - Financial Benefits**

Industry	N	Subset for alpha = 0.05		
		1	2	3
ERP Professional	50	5.8600		
Ancillary	50	6.0100	6.0100	
Automotive	50	6.1100	6.1100	6.1100
Manufacturing	50		6.1900	6.1900
Petro Chemical	50			6.3200

### 1.1. DISCUSSION POINTS

- From Post Hoc Tests, it is observed that Top Management Support has got divided generally into three groups, "ERP Professional, Ancillary & Automotive" as one group and having nearby values, "Ancillary, Automotive & Manufacturing" as another group; "Automotive, Manufacturing and Petro Chemical" as a third group. This indicates how the factor "Top Management Support" is perceived significant for ERP Success in each industry group.

- Similarly other factors viz. Implementation Team, Motivation For ERP Implementation , Process Re-Engineering , Training , Project Success , Financial Benefits have also got segregated into three groups each, as mentioned in the respective tables above.
- Factors like Organizational Culture, Project Management, Testing, Organizational Efficiency, and Customer Benefits are formed each into two groups.
- ERP Professionals and Ancillary Industry were reflecting the same level of scores in some of the factors viz. Implementation Team, Process Re-Engineering , Project Success, Organizational Efficiency.
- For some of the factors viz. Organizational Culture, Project Management, Testing, ERP Professionals have represented their scores uniquely and all the other industries were falling into a single other group.

## **CONCLUSION**

From the analysis we have several observations which can give an insight to the ERP Implementing organisations. There are positive relationships between the independent Critical Success Factors and Project Success. There are positive relationships between Project Success, Organisational Efficiency, Customer Benefits and Financial Benefits. There are several positive relationships between the Critical Success Factors within themselves. Significance of these success factors is different for each of the various industry groups taken into study viz. Automotive Industry, Manufacturing Industry, Ancillary Industry, and Petro Chemical Industry & ERP Professionals. Manufacturing and Petro Chemical Industries are representing with highest Customer Benefits and Financial Benefits when compared to other industries and hence the other industries can take inputs to work upon their strategies to focus on the relevant Success Factors where they need improvements.

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