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An Investigation of the Critical Features which Influence SMEs for not Adopting ERP in their Business Process

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Abstract: Undertaking Resource Planning Software or ERP endeavours to amalgamate all divisions and capacities over an organization onto a solitary PC framework that can serve each one of those distinctive offices' extraordinary needs. This incorporation can have tremendous advantages if organizations introduce the privilege software at the right time. Many companies in India have implemented ERP to capture its profits, but still ERP implementation is fewer in Small and Medium Scale Enterprises when compared with Large Enterprises. Therefore, there is a need for examining the features which are critical and which contribute to the disappointment of ERP selection at Indian SMEs. In this paper, an survey based technique was used to research "what are the possible elements for not implementing ERP" by the SME sector in India. A questionnaire was used to collect the data from individual observations and interviews with people in those SMEs which have not adopted ERP in their business process. Suitable statistical tools using SPSS software have been used to draw conclusion.

Keywords: ERP, Critical features, Manufacturing industries, SME, Adopting.

1. INTRODUCTION

Small and Medium Enterprises (SME) add nearly 8 percent of India's GDP, 45 percent of the manufacturing output and 40 percent of the exports. They provide the prime share of employment after agriculture. They are the nurseries for entrepreneurship and modernization. They are generally scattered over the nation and produce a differing scope of items to meet the prerequisites of the neighbourhood markets, the worldwide business sector and the national and global value chains. Now SMEs often have obsolete or congested technologies and need to empower themselves in new technology to accomplish or retain competitiveness in their markets. ERP software is one of the most vital devices a business can utilize. Today numerous small and medium size organizations need updates, increasingly or diverse programming applications, more cutting edge or lively innovation and regularly more complex business solutions. But still many of the SMEs in India have not yet installed ERP software in their business process. A business process is a collection of activities that takes one or more sorts

of information and makes a yield that is of quality to the consumer. ERP is installed from the perspective of the successful utilization of administration assets to improve the efficiency of an enterprise. In the beginning ERP were targeted at the manufacturing industry only, however, in recent years ERP adaptation is not only for the manufacturing industry, but also to diverse types of industry and the expansion of implementation and use has been progressing on a global level. Similarly as with the bigger undertakings, ERP execution is turning out to be fundamentally essential to SMEs in streamlining business forms, enhancing operational execution, and coordinating information.

2. LITERATURE REVIEW

Up to mid-1990s, SMEs in India had worked under a greatly secured financial administration portrayed by constrained rivalry and a much managed business environment. This business environment had brought about constrained spotlight on procedure efficiencies, centralized control structures, exceptionally formalized business settings and absence of expert business practices (Ranganathan and Kannabiran, 2004) [1]. Organizations have now understood the need to execute ERP programming to accomplish incorporation of business exercises. ERP frameworks can likewise be an instrument for changing practical associations into procedure arranged ones. At the point when appropriately incorporated, ERP supports process-oriented businesses effectively (Al-Mashari, 2003)[2]. The many-sided quality of ERP, high expenses and usage issues compel various business to rethink their new plans in connection to this venture framework (Kumar and Hillegersberg, 2000) [3]. ERP answers for SMEs are excessively mind boggling, excessively broad and not easy to understand. The provider market is confusing too. Andreas Dietze and Dirk Möbus of Roland Berger strategy consultants [4]; ERP has its roots in manufacturing as the name is an extension of MRP II (Davenport, 2000)[5]. An ERP framework is considered as, the cost of section for maintaining a business and for being associated with different organizations, which takes into consideration business-to-business electronic trade (Boykin, 2001)[6] Numerous multinationals confine their business to just those organizations that utilize the same ERP as themselves (Shehab et. al., 2004)[7]. As SMEs have MNCs as their clients, they have to consider ERP frameworks as a necessity to take into account more tightly the incorporation with their larger counterparts. These days, the ERP business is a standout amongst the most encouraging ones, which diverges from the obvious nonattendance of related academical research. In case of SMEs of India, the study uncovered that for guaranteeing fruitful ERP usage the six major factors such as the clarity in objectives behind the execution, ampleness of client preparing, competency of the venture usage group, acknowledgment of changes achieved by the execution and satisfactory merchant backing and outside advisor cooperation had a key part to play. (Parijat Upadhyay, 2008)[8] Similar studies conducted in china by creating interactive structural model have recognized four basic variables on the assets, department's participation; training and service of the supplier of ERP which impacts the arrangement of ERP usage generally straightforwardly. The four factors are critical factors which decide the ERP framework is fruitful or not (Ranzhe Jing et. al., 2007) [9]. SMEs are more gradually brought into focus by virtue of their colossal development potential and shift in greatness, age, division, and information base with creative limit (Koh & Simpson, 2007)[10] The company should painstakingly characterize what the need of such framework is and discover what are the vital business process, the framework will address (Bhatti, 2005)[11].

According to Gordon (2006)[12], three main factors that can be held responsible for failure of ERP system are:

- Poor arranging or poor administration
- Change in business goals during project
- Lack of business management support.

In spite of the fact that the ERP frameworks have been continuously created over at least a decade, the continual pace of change in companies and their surroundings has brought about complex technical organizational,

cultural and political issues that have made the procedure an exceptionally difficult errand (Huang et. al., 2003) [13]. According to Nah and Lau ten (2001)[14] success factors have been identified by analyzing ten selective articles which are: ERP teamwork and composition, Top administration encouragement, Business arrangement and vision, Effective communication, Project management, Appropriate business and legacy framework, Software improvement, Testing and investigating, Effective – basic leadership, Effective preparation.

3. METHODOLOGY

The fundamental goal of this empirical paper is to discover the reasons behind SMEs not adopting ERP in their business process. The method of survey was used to collect primary data from Small and Medium Scale Industries in South India. Data were gathered from the firms which have not yet implemented ERP software in their business processes. Sample sizes of 40 SMEs were selected by the method of simple random sampling. Data gathering tool in this study is a questionnaire that was prepared after examining relevant texts and related indexes. Only one survey questionnaire was sent to an organization. The respondents were manager, inventory manager, production manager and marketing executives. Since some of the SMEs did not return the questionnaire and some questionnaires were partially filled, we had to discard 10 questionnaires and finally the analysis was conducted for 30 companies only. To ensure that the inquiries that ought to be incorporated into the survey the past work of the researches were reviewed. Based on the factors the following hypothesis was constructed

Hypothesis

- H1: Most of the SMEs are aware about ERP software and its benefits
- H2: High Cost of the ERP software is the major barrier for not implementing it
- H3: SAP is the most preferred ERP in SME sector
- H4: Employee acceptance is not a barrier for adopting ERP in the organization
- H5: Most SMEs are currently using Excel and Tally for their ICT solutions.

4. ANALYSIS AND FINDINGS

- A. *Awareness of ERP Software and the Benefits Derived from it in SME Sector:* The following data shows that even though many SMEs have not yet implemented ERP in their business process, i.e. Out of the total 30 SMEs surveyed, 26 of them (86.7%) of them have awareness of the benefits of the ERP software. The following table is extracted from SPSS software. Thus the first hypothesis H1 is accepted.

Table 1
Statistic for Whether Aware of ERP and its Benefits

		<i>Whether aware of ERP and its benefits</i>	<i>Reason for not implementing ERP in your organization</i>
N	Valid	30	30
	Missing	0	0
Mean		1.13	1.90
Median		1.00	1.00
Mode		1	1
Std. Deviation		.346	1.269
Variance		.120	1.610

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	86.7	86.7	86.7
	No	4	13.3	13.3	100.0
Total		30	100.0	100.0	

B. *Reason for not implementing ERP in their organization:* We found through our analysis, Out of the total 30 SMEs 16 of them, i.e. 53.3% of them have opted that the high cost of the ERP software is the major critical factor for not adopting ERP in their business process. The other factors are lack of technically trained people (26.7%), and unwillingness of the top management (10%). Therefore H2 is also accepted.

The major reason for the SMEs to reject ERP vendors when they were approached is also the cost factor; other factors are that, ERP software is not customized as per their requirements and next factor is vendor reputation.

Table 2
Reason for Not Implementing ERP in their Organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not affordable	16	53.3	53.3	53.3
	Lack of trained people	8	26.7	26.7	80.0
	Difficulty in coordination	1	3.3	3.3	83.3
	Unwillingness of top management	3	10.0	10.0	93.3
	Others	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

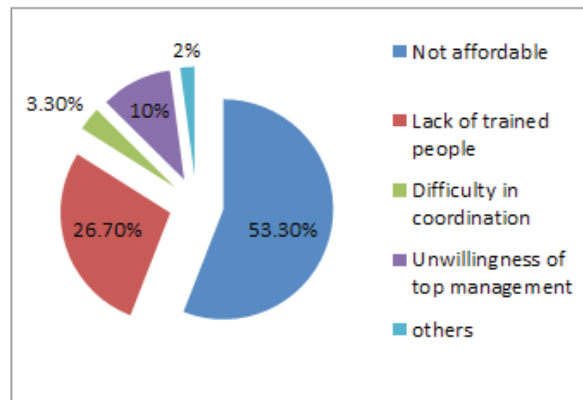


Figure 1: Reason for Not Implementing ERP in their Organization

Table 3
Reason for Rejecting ERP Vendors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Product price	17	56.7	56.7	56.7
	Vendor reputation	5	16.7	16.7	73.3
	Non customized	6	20.0	20.0	93.3
	Others	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

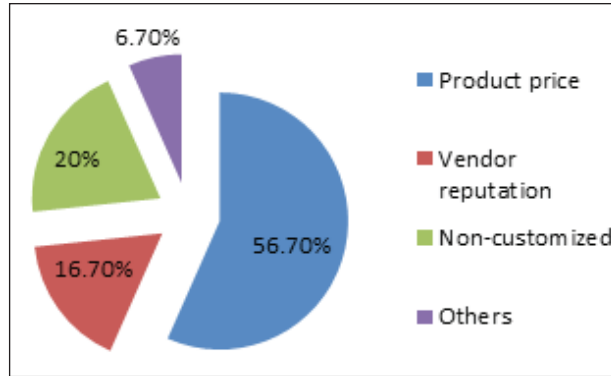


Figure 2: Reason for Rejecting ERP Vendors

C. *The most preferred ERP if planning to install in future:* Most of the SMEs. Majority (76.7%) is of the opinion that they prefer to install SAP in their business process. So by the analysis we can conclude that SAP is the most preferred software for ERP applications. The third hypothesis H3 is also accepted as true.

**Table 4
Vendors Preferred if Installing ERP**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sap	23	76.7	76.7	76.7
	people soft	2	6.7	6.7	83.3
	Oracle	1	3.3	3.3	86.7
	Others	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

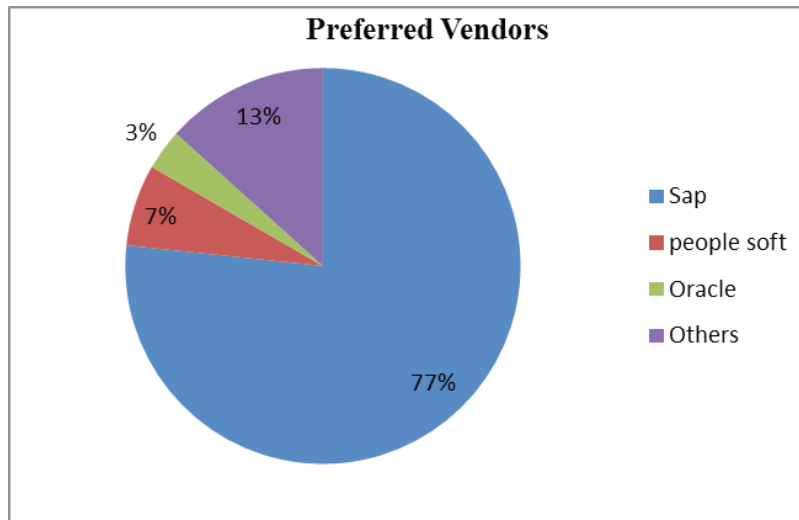


Figure 3: Vendors Preferred

D. *Employee Acceptance of the software:* Majority (63.3%) of the managers working in SMEs are of the opinion that there will be no hindrance from the side of the employees. They are of the opinion that the employees of the organization will accept the installation of ERP software. Therefore H4 is also accepted.

Table 5
Employees will Accept ERP

		<i>Currently used software in your organization</i>	<i>Employees will accept ERP</i>	<i>Reason for Rejecting ERP vendors</i>	<i>Vendors preferred if installing ERP</i>
N	Valid	30	30	30	30
	Missing	0	0	0	0
Mean		1.70	1.37	1.77	1.53
Median		2.00	1.00	1.00	1.00
Mode		1	1	1	1
Std. Deviation		.794	.490	1.006	1.074
Variance		.631	.240	1.013	1.154

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	Yes	19	63.3	63.3	63.3
	No	11	36.7	36.7	100.0
	Total	30	100.0	100.0	

- E. *Currently used software in the organization*: Majority of the SMEs are using Excel (46.7%) and Tally (40%) for their business process. Therefore H5 is also accepted.

Table 6
Currently Used Software in Your Organization

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	Excel	14	46.7	46.7	46.7
	Tally	12	40.0	40.0	86.7
	Manually	3	10.0	10.0	96.7
	Others	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

- F. *Factor analysis*:

Table 7
Correlation Matrix^a

		<i>reason for not implementing erp in your organization</i>	<i>reason_for_rejecting_erp_vendors</i>	<i>how_will_you_sustain_without_erp</i>
Correlation	reason for not implementing erp in your organization	1.000	.440	.251
	reason_for_rejecting_erp_vendors	.440	1.000	.052
	how_will_you_sustain_without_erp	.251	.052	1.000
Sig. (1-tailed)	reason for not implementing erp in your organization		.007	.090
	reason_for_rejecting_erp_vendors	.007		.392
	how_will_you_sustain_without_erp	.090	.392	

^aDeterminant = .752

Table 8
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.530	51.014	51.014	1.530	51.014	51.014
2	.955	31.840	82.854			
3	.514	17.146	100.000			

Extraction Method: Principal Component Analysis.

5. CONCLUSION

The major factors in SMEs of South India for not adopting ERP software in their business process are

- High cost of the ERP software
- Lack of trained people for operating it
- Lack of co-operation from the Top management
- The ERP software package is not customized as per the individual SMEs business process

ERP frameworks have set up a trained method for working and give a better ability to the functioning of the company. In India, SMEs are the foundation of the economy and are today confronted with worldwide rivalry. Along these lines it gets to be essential for SMEs to search for business method for reacting to the dynamic markets. ERP frameworks have turned into the most widely recognized IT system for most huge organizations. SMEs too are moving towards ERP frameworks. They have to embrace a proactive methodology towards ERP and consider it as a business arrangement rather than a simple IT arrangement. The conclusion of this research paper is that if the above critical features are taken care, then most of the SMEs will prefer to install ERP.

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