



INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION AND MANAGEMENT

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	OPTIMIZATION OF THE ENROLMENT SYSTEM OF UNIVERSITY/COLLEGE X USING SIMULATION MODEL <i>MA. TEODORA E. GUTIERREZ</i>	1
2.	JOB QUALITY INDICATORS INTEGRATION WITH JCM DIMENSIONS <i>RABIA MUSHTAQ & DR. RAHAT HUSSAIN BOKHARI</i>	5
3.	GAP ANALYSIS OF SERVICE QUALITY AMONG BANKS <i>DR. IQBAL & NYMPHA RITA JOSEPH</i>	9
4.	A STUDY ON THE ORGANISATIONAL CLIMATE WITH SPECIAL REFERENCE TO THE EMPLOYEES OF SALALAH COLLEGE OF TECHNOLOGY <i>DR. M. KRISHNA MURTHY, S. IBRAHIM KHAN & S. VARALAKSHMI</i>	16
5.	BACKGROUND OF IMF & IMPACT OF FINANCIAL CRISIS IN ARGENTINA <i>SHAHZAD GHAFOR & UZAIR FAROOQ KHAN</i>	22
6.	EFFICIENCY-PROFITABILITY RELATIONSHIP IN PUBLIC, PRIVATE AND FOREIGN SECTOR BANKS OPERATING IN INDIA <i>DR. VIDYA SEKHRI & MR. AMIT VARSHNEY</i>	32
7.	CONSUMER BEHAVIOUR AND PREFERENCES TOWARDS MOBILE PHONE AND IT'S ACCESSORIES – A BEHAVIORAL STUDY <i>T. RAJASEKAR & DR. MALABIKA DEO</i>	42
8.	EFFECTIVENESS OF CARGO HANDLING IN VISAKHAPATNAM PORT TRUST – A CASE STUDY <i>DR. D. M. SHEEBA RANI & DR. K. HARI HARA RAJU</i>	48
9.	A STUDY ON SUPPORT OF ERP SYSTEMS FOR MARKETING IN COIMBATORE BASED INDUSTRIES <i>S. MOHANAVEL & DR. SUDHARANI RAVINDRAN</i>	55
10.	CUSTOMER SWITCHING IN MOBILE INDUSTRY - AN ANALYSIS OF PRE-PAID MOBILE CUSTOMERS IN AP CIRCLE OF INDIA <i>DR. V. MALLIKARJUNA, DR. G. KRISHNA MOHAN & DR. D. PRADEEP KUMAR</i>	63
11.	LOCATION INTELLIGENCE, THE MERGING OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) AND BUSINESS INTELLIGENCE (BI) <i>DR. VINOD N. SAMBRANI & DR. M. S. SUBHAS</i>	67
12.	MANAGEMENT OF NON-CONVENTIONAL ENERGY: THE MISSION OF NEDCAP <i>M. MADHAVI & N. RAMANUJA</i>	70
13.	RISK MANAGEMENT STRATEGIES AND PRACTICES USING MARKOWITZ THEORY AT KARVY STOCK-BROKING LIMITED <i>RAAVI RADHIKA, K. BHAVANA RAJ & DR. SINDHU</i>	75
14.	EMPLOYEES' EMPOWERMENT THROUGH TRAINING SYSTEM IN BANKING SECTOR: AN EMPIRICAL ANALYSIS (WITH SPECIAL REFERENCE TO SELECTED BANKS IN RURAL ODISHA) <i>DR. IPSEETA SATPATHY, D. LITT., DR. B.C.M.PATNAIK & CHINMAYA KUMAR DAS</i>	82
15.	PERFORMANCE OF SUSTAINABLE LOGISTIC PRACTICES OF SMES IN DELHI <i>SANJEEV KUMAR, SOMNATH CHATTOPADHYAYA & VINAY SHARMA</i>	85
16.	ENHANCING TEACHING IN RURAL INDIA BY TECHNOLOGY INTERVENTION <i>DR. SANGEETA SHARMA & POONAM VYAS</i>	90
17.	RETURN MIGRATION TRENDS OF SOFTWARE PROFESSIONALS AND ITS IMPACT ON SOCIO-ECONOMIC DEVELOPMENT OF INDIA <i>DEEPTI GUPTA & DR. RENU TYAGI</i>	92
18.	RECRUITMENT PROCESS OUTSOURCING: KEY CHALLENGES AND OPPORTUNITIES FOR INDIAN TALENT <i>TADAMARLA.ANUPAMA & INUMULA.KRISHNA MURTHY</i>	97
19.	INDUCTION AND ITS IMPACT ON WORK PERFORMANCE AND EMOTIONAL INTELLIGENCE <i>RASHMI SHAHU</i>	101
20.	A STUDY OF FACTORS INFLUENCING PURCHASE DECISION FOR CELL PHONES <i>DR. ARTI GAUR, MS. SUMAN GHALAWAT & MS. MEENAKSHI AZAD</i>	106
21.	STATISTICAL ANALYSIS OF ASSESSING AWARENESS OF COMPUTER TECHNOLOGY AMONG ECONOMICS RESEARCH STUDENTS <i>D. AMUTHA</i>	112
22.	CONSUMER PERCEPTION TOWARDS mCRM INITIATIVES OF INDIAN RETAILERS <i>SWATI SINGH & SANJEEV KR. SINGH</i>	115
23.	A COMPARATIVE STUDY OF CUSTOMER PERCEPTION AND EXPECTATION: PUBLIC SECTOR BANKS AND PRIVATE BANKS <i>NAVEEN ARORA</i>	120
24.	EXPLAINING CONSUMER ACCEPTANCE OF INTERNET BANKING SERVICES IN INDIA <i>MANORANJAN DASH, DR. MADHUSMITA DASH & DR. SURJYA KUMAR MISRA</i>	126
25.	IMPACT OF INFORMATIONAL FLOW ON STOCK RETURNS: EMPIRICAL EVIDENCE FROM NATIONAL STOCK EXCHANGE <i>A. SHANKER PRAKASH</i>	130
	REQUEST FOR FEEDBACK	134

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A STUDY ON SUPPORT OF ERP SYSTEMS FOR MARKETING IN COIMBATORE BASED INDUSTRIES

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ABSTRACT

Indian enterprises face changes in business models due to emergence of IT based practices. They implement ERP system in alignment with organisational transformation and process reengineering activities. Supporting markets with the help of necessary infrastructure and integration at the process level is an essential feature of ERP systems. The marketing module of an ERP system would enable organizations to maximize the efficiencies of marketing resources and empower marketers to acquire and develop long-term customer relationships. This study provides a comprehensive view on support of ERP systems for marketing in Coimbatore based industries. The researchers identified sixteen variables to assess the support of ERP systems for marketing. The objectives of the study are to identify the variables to be strengthened for marketing support and to suggest the industries ways to improve the weak areas. A sample of 38 medium to large scale ERP implementing industries from Coimbatore are taken for the study. Disproportionate stratified sampling is applied and five point Likert scale questionnaire is used in the study. The findings based on responses include the weighted average scores and the eigen values of variables. The results reveal that the Coimbatore based industries have adequate capability and maturity in general for marketing support. In specific, nine variables are remarkable and seven variables need attention to achieve the marketing support. The acquired results would help managers to facilitate its adoption and to prioritize its practices for marketing support. Suggestions to improve those aspects were also drafted. It would cause to ensure the successful implementation of ERP as well as to attain full support for marketing in organization.

KEYWORDS

Business Intelligence, ERP, IT Architecture, Marketing Support, Organizational Transformation

INTRODUCTION

Globalization, centralization and regulatory compliance are the key drivers for continued ERP investment among large corporations. While sales of traditional ERP applications were very healthy in 2006, many vendors saw substantial revenue growth from the acquisition of other software companies (CAGR Report 2011).⁸

In SMB segment, companies are buying new ERP systems in response to new customer requirements and the desire to participate in the global market. As ERP vendors buy and build the necessary industry functionality, their available market rapidly expands.⁸

We are now seeing many ERP vendors competing effectively in all segments. The Fortune 2000 have largely selected and deployed their ERP backbones. With the focus on standardizing IT architectures across the entire company, centralized ERP systems, extended to the entire corporation are replacing many of the midmarket plant applications.⁸

We predict an 11% CAGR for the ERP market through 2011. We don't anticipate any drastic changes to the dynamics of this market over the next five years. We also anticipate that several ERP vendors will increase revenue from manufacturing operations (AMR Research 2007).

ERP systems have been implemented to support the most critical business processes in global corporations. Market revenue of most of the industrial enterprise applications is generated by application software license sales, with ERP software leading at 35% market share. ERP is expected to strengthen its hold on the market and will likely to increase its market share to 46% by 2010. Much of ERP market growth is driven by an increasingly global business focus.

Indian enterprises also face changes in business models due to globalization, deregulation of the Indian economy and emergence of IT based business practices. They implement ERP system in alignment with organisational transformation and process reengineering activities. ERP systems promise benefits from increased efficiency to transformation of profitability.

The Indian ERP market is more than Rs. 1000 crores and growing at the healthy 30% annual growth. IDC (India) report (2000) says adoption of ERP in India is 0.9%, 6.5% and 35.6% in small, medium and large scale industries respectively. The key players in the ERP market like SAP, Oracle E Business Suite, SSA Global and Ramco Marshall are present in India. According to IDC estimates, the ERP market has been witnessing a CAGR of 70% over the last 5-6 years.⁶

TABLE 1: INDIAN ERP MARKET

Year	ERP Market
1995-96	Rs.12 Crores
1996-97	Rs.27 Crores
1997-98	Rs.62 Crores
1998-99	Rs.134 Crores
1999-00	Rs.250 Crores
2000-01	Rs.460 Crores
2005-06	Rs.508 Crores
2010-11	Rs.1000 Crores

IDC Estimates

FIGURE 1: INDIAN ERP MARKET

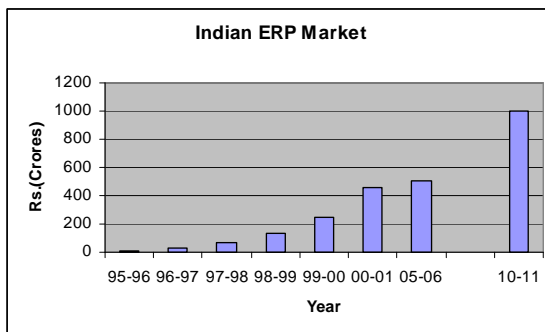
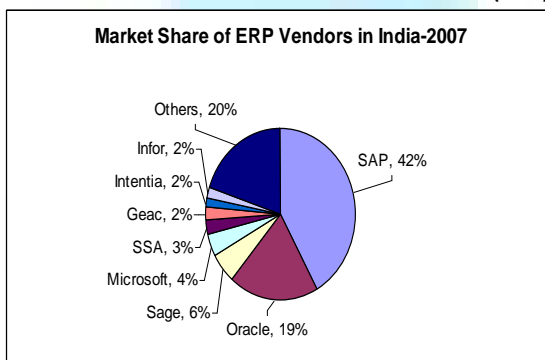


TABLE 2: MARKET SHARE OF ERP VENDORS IN INDIA (2007)

No.	ERP Vendor	Market Share
1	SAP	42%
2	Oracle	19%
3	Sage	6%
4	Microsoft	4%
5	SSA	3%
6	Geac	2%
7	Intentia	2%
8	Infor	2%
9	Others	20%
	Total	100%

AMR Research, 2007

FIGURE 2: MARKET SHARE OF ERP VENDORS IN INDIA (2007)



ERP systems can help to assure competitiveness, responsiveness to customer needs, productivity and flexibility in doing business practices. The success of ERP implementation depends upon effective management, organizational change and the use of advanced technology.⁴

Improved business performance, business growth support, integrated real-time decision support, usage of legacy systems and taking advantage of the untapped midmarket are the reasons for growth of ERP market.¹ Vendors have revamped their ERP solutions to suit the needs of micro-verticals. This is paying dividends as SMBs go for these products in a big way.

SUPPORT OF ERP SYSTEMS FOR MARKETING

ERP systems can provide a competitive advantage in the competitive market place. To transform marketing strategy into marketing programmes, marketing managers must take basic decisions on marketing expenditures, marketing mix and marketing allocation. Marketing personnel guide the company’s strategies and tactics. Marketers can analyse, plan, execute and measure all marketing activities.⁷

The marketing module of an ERP package would enable organizations to maximize the efficiencies of marketing resources and empower marketers to acquire & develop long-term customer relationships. With the tools and features of the marketing module, one can gain a flexible application to power marketing success.¹

The marketing module supports critical marketing process like marketing resource management, segment and list management, campaign management, e mail marketing, trade promotion management, lead management, marketing analytics, web based marketing surveys and self service portal. It will evaluate marketing efforts to determine strategies for the sales force.¹

ERP systems provide integrated marketing support systems, including lead files, contact files, order entry files and sales history files. It also provides the benefits of standard codes, a common database, standard documents, an audit trail and data integration.⁴

- Oracle E Business Suite provides marketing components setup, market campaign execution, marketing calendar and metrics.
- mySAP Marketplace provides the software to support virtual markets, allowing multiple organizations to buy, sell and conduct collaborative trading opportunities.

SCOPE

At present, manufacturing & distribution industries lead the list of ERP customers. These industries have gone for a variety of ERP packages on different platforms. All these industries have benefited substantially in improving their competitive abilities.

The changes in the packages and processes continue throughout the lifetime of an ERP system. As it evolves in parallel with the organization, the company captures the benefits from the ERP system and plans further for technology implementation and business improvement. Success in ERP management takes on a special urgency because the costs and risk of this massive technology investment challenge their potential pay-offs.

In order to gain a sustained competitive advantage, an analysis of markets at micro level is essential. The companies should apply the same approaches to support their different markets. So the strategic process needs to be based on a clear understanding of the markets and the differences within a market. This study provides a comprehensive view on support of ERP systems for marketing.

LIMITATIONS

1. Self-selection bias limits to conclude the results of the study. It must be handled prudently while applying in other industries.
2. Additional research must be carried out to validate conclusions and to add to the understanding about support of ERP systems for marketing in other industries.
3. The number of ERP experts and their responses was small since not many SMEs have formally implemented it.
4. There are other supporting factors of ERP systems for marketing, which were excluded because of difficulty in developing universally-applicable questionnaires suitable to organizations.

OBJECTIVES

- To provide a comprehensive view of support of ERP systems for marketing.
- To identify the variables those have adequate capability and maturity for marketing support.
- To identify the variables to be strengthened to achieve the marketing support.
- To suggest the industries ways to improve the weak areas towards marketing support.

RESEARCH DESIGN

Primary Data : Coimbatore based medium and large scale industries
 Secondary Data : Industrial Directory and websites
 Sample Frame : ERP implementing industries in Coimbatore
 Sampling Technique : Disproportionate Stratified Sampling
 Sample Size : 38
 Research Tool : Five Point Likert Scale Questionnaire

COIMBATORE

The study was conducted in Coimbatore, which is the second largest city of Tamil Nadu and one of the fastest growing cities in India. There are more than 25,000 small, medium, large scale industries and textile mills. Cotton textiles, electric motors, pumps, automobile spares, iron steel and aluminium castings form major exports from Coimbatore.

It is one of the most industrialized cities in India, known as the textile capital of South India or the Manchester of the South. The result has been a strong economy and a reputation as one of the greatest industrial cities in South India.

Coimbatore based industries have ERP implementations of international packages like SAP, Oracle etc., national packages like e fusion, e chain etc. and home grown / in-house packages. There are a few ERP solution providers in Coimbatore also like Kalsoft.

DATA ANALYSIS & INTERPRETATION

PROFILE OF INDUSTRIES

TABLE 3: RESPONDENTS' AREA OF BUSINESS

Area of Business	Frequency
Manufacturing	18
Automotive	6
software/IT	5
Textiles	4
Electronics	3
Electrical	2
Total	38

Primary Data

FIG. 3: RESPONDENTS' AREA OF BUSINESS

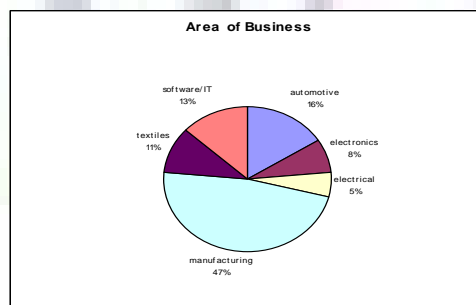


TABLE 4: RESPONDENTS' NATURE OF THE COMPANY

Nature of the Company	Frequency
independent company	28
part of bigger company	10
Total	38

Primary Data

FIG. 4: RESPONDENTS' NATURE OF THE COMPANY

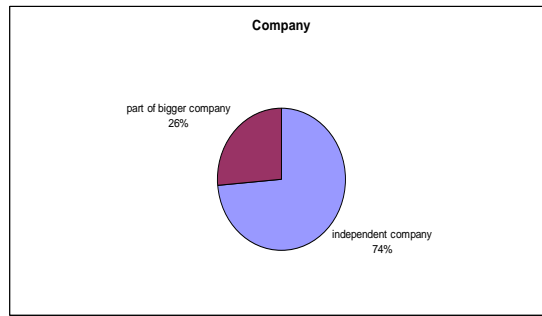


TABLE 5: RESPONDENTS' OFFICES ABROAD

Offices Abroad	Frequency
No	23
Yes	15
Total	38

Primary Data

FIG 5: RESPONDENTS' OFFICES ABROAD

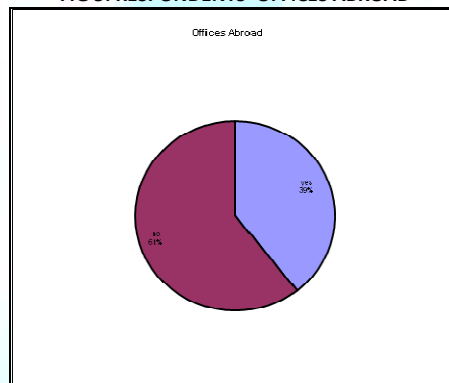
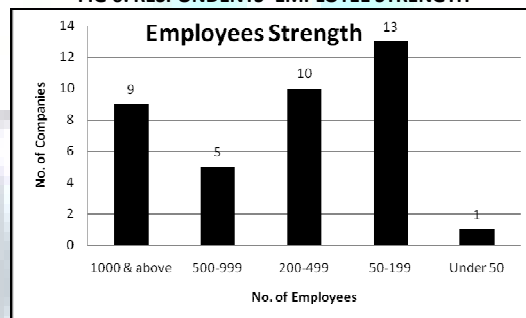


TABLE 6: RESPONDENTS' EMPLOYEE STRENGTH

Employee Strength	Frequency
1000 & above	9
500-999	5
200-499	10
50-199	13
Under 50	1
Total	38

Primary Data

FIG 6: RESPONDENTS' EMPLOYEE STRENGTH



ERP IMPLEMENTATION AND USAGE

TABLE 7: ERP IMPLEMENTATION

ERP System	Frequency
Implemented	30
Not Implemented	8
Total	38

Primary Data

FIGURE 7: ERP IMPLEMENTATION

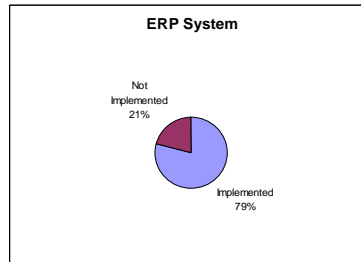


TABLE 8: ERP PACKAGES IMPLEMENTED

ERP Package	No. of Implementations
SAP	9
Home Grown	7
Oracle	6
E Chain	2
Kalsofte	2
Baan	1
E Fusion	1
IB Spin	1
MS Dynamics	1
Total	30

Primary Data

FIGURE 8: ERP PACKAGES IMPLEMENTED

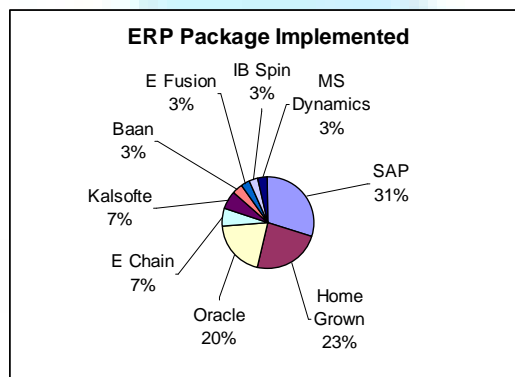


TABLE 9: ERP MODULES IMPLEMENTED (MULTIPLE RESPONSE)

ERP Modules Implemented	Frequency
Financials	28
Production & Materials	27
Sales & Marketing	25
Operation & Logistics	22
HR	15
Others	9
R&D	6
Total	132

Primary Data

FIGURE9: ERP MODULES IMPLEMENTED

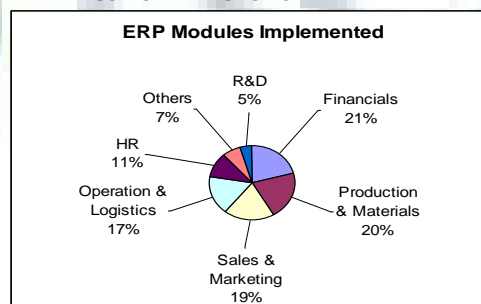


TABLE 10: DURATION OF ERP SYSTEM USAGE

Duration of ERP System Usage	Frequency
< 1 year	4
1-3 years	10
3-5 years	8
>5 years	8
Total	30

Primary Data

FIGURE 10: DURATION OF ERP SYSTEM USAGE

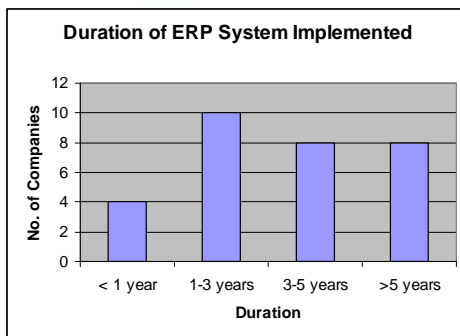
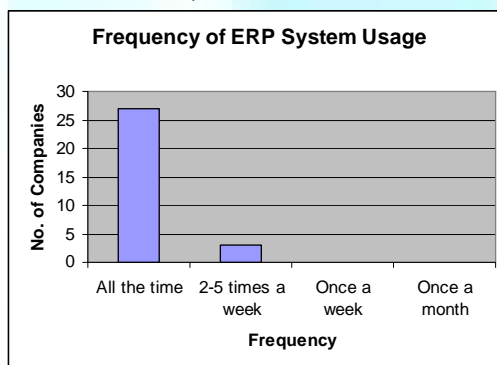


TABLE 11: FREQUENCY OF ERP SYSTEMS USAGE

Frequency of ERP System Usage	Frequency
All the time	27
2-5 times a week	3
Once a week	0
Once a month	0
Total	30

Primary Data

FIGURE 11: FREQUENCY OF ERP SYSTEMS USAGE



SUPPORT OF ERP SYSTEM FOR MARKETING

The researchers identified the following sixteen variables to assess the support of ERP systems for marketing.

1. Intelligence generation
2. Response design & implementation
3. Risk aversion
4. Inter departmental turbulence
5. Marketing research
6. Pricing strategies
7. Promotion strategies
8. Habits of customers in each segment
9. Annual marketing plan
10. External market environment
11. Intermediaries
12. Marketing decision making
13. Retaining the competitive advantages
14. Forecasting
15. New product development
16. Market planning process

After identifying the effective variables, the research was administered by a 5 point scale questionnaire. The questionnaire was designed with a series of statements to which, respondents may enter from 1(lowest) to 5(highest) with varying degrees.

25 out of 30 companies have implemented marketing module. Assessment relies on the judgment of the respondents in these 25 companies in the context of their department or work group. The respondents need to ensure that their responses are consistent with their assumptions. The gathered data were processed and analysed using SPSS. The findings based on responses include the weighted average scores and the eigen values of variables.

WEIGHTED AVERAGE METHOD

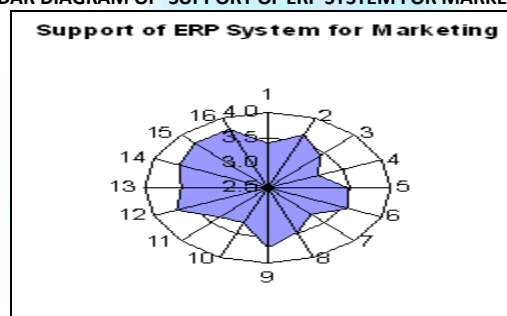
Higher the average score, more likely the support for marketing is. Based on Ruikar et al. (2006), an average score less than 2.5 is weak, indicating that the aspects need urgent attention to achieve the marketing support; an average score greater than or equal to 2.5 and less than 3.5 is me-dium, indicating that those aspects need attention to achieve the marketing support; and an average score greater than or equal to 3.5 is high, indicating that the industries have adequate capability and maturity in these aspects for marketing support. The variables have the weighted average as follows.

TABLE 12: WEIGHTED AVERAGE OF 'SUPPORT OF ERP SYSTEM FOR MARKETING' VARIABLES

No.	'Support of ERP System for Marketing' Variables	Wt. Average
1	Intelligence generation	3.4
2	Response design & implementation	3.6
3	Risk aversion	3.4
4	Inter departmental turbulence	3.2
5	Marketing research	3.5
6	Pricing strategies	3.6
7	Promotion strategies	3.2
8	Habits of customers in each segment	3.4
9	Annual marketing plan	3.7
10	External market environment	3.3
11	Intermediaries	3.3
12	Marketing decision making	3.7
13	Retaining the competitive advantages	3.6
14	Forecasting	3.7
15	New product development	3.7
16	Market planning process	3.7
	Average	3.5

Average scores obtained are plotted on a radar diagram as illustrated in Fig.12 that summarize the overall support and its related variables. This figure highlights specific points that need attention to achieve the marketing support.

FIGURE 12: RADAR DIAGRAM OF 'SUPPORT OF ERP SYSTEM FOR MARKETING' VARIABLES



INTERPRETATION

The above table shows that the overall support of ERP systems for marketing is 70% (3.5/5.0*100), which indicates that the Coimbatore based industries have adequate capability and maturity in general for marketing support.

In specific, the variables with average score ≥ 3.5, response design & implementation, marketing research, pricing strategies, market planning process, new product development, forecasting, marketing decision making, annual marketing plan and retaining the competitive advantages are remarkable in the industries to achieve the marketing support from ERP packages.

But, the variables with average score < 3.5, internal (intelligence generation, inter departmental turbulence, promotion strategies) and external (risk aversion, habits of customers, external market environment, intermediaries) need attention to achieve the marketing support from ERP packages.

FACTOR ANALYSIS

The sixteen variables were subjected to exploratory factor analysis using principal components analysis.

TABLE.13. EIGEN VALUES OF 'SUPPORT OF ERP SYSTEMS FOR MARKETING' VARIABLES (IN DESCENDING ORDER)

No.	'Support of ERP System for Marketing' Variables	Eigen Values
1	Annual marketing plan	9.945
2	Marketing decision making	1.275
3	Forecasting	0.800
4	New product development	0.715
5	Market planning process	0.594
6	Response design & implementation	0.455
7	Pricing strategies	0.398
8	Retaining the competitive advantages	0.367
9	Marketing research	0.324
10	Intelligence generation	0.274
11	Risk aversion	0.270
12	Habits of customers in each segment	0.223
13	External market environment	0.129
14	Intermediaries	0.105
15	Inter departmental turbulence	0.086
16	Promotion strategies	0.041

Extraction Method: Principal Component Analysis

INTERPRETATION

Eigen values of the variables illustrated in Table 13 depict the same findings as found in the weighted average analysis.

SUGGESTIONS

To formulate an ERP solution, a company must first clearly understand and agree about the markets in which it wishes to be today and in the future. The industries must identify, recruit and link various marketing synergies with the management consultants to help recommend the ERP solution efficiently to the target corporate. Dedicated ERP department with well structured hierarchy is suggested to shoulder the responsibilities to support the marketing activities.

Researchers suggest to maintain the same rapport or to improve further on the aspects with average score ≥ 3.5 . The researchers recommend the following suggestions for improving the weak areas towards support of ERP systems for marketing.

Internally, some SMBs are savvy-technology users and want business intelligence (BI) tools so that they can react faster to the competition and to changing market conditions. Inter department turbulence can be reduced by information sharing amongst all departments of the company, assistance from consultants, experience sharing, opportunity to visit the places where ERP is successful and involvement at all levels will support the learning process. Promotional strategies need to be revised and effectively implemented.

Externally, risk aversion tools and techniques must be adopted. Marketing executives should collect the needs, preferences and buying habits of customers and external marketing environment more seriously. SCM practices can be tapped to improve logistics with intermediaries.

CONCLUSION

This study is done to evaluate the support of ERP systems for marketing in Coimbatore based industries especially in the SME sector. This assessment survey profile offers a valuable source of information to firms and ERP implementers, which are still lagging far behind when comes to ERP practices in Coimbatore. With regards to the sample population on which the research was conducted, researchers not only demonstrated consistent reliability, but also provided insight into ERP support for marketing.

Present research has identified 16 variables that ERP systems support marketing activities within the context. The acquired results would help managers to facilitate its adoption and to prioritize its practices for marketing support. It would cause to ensure the successful implementation of ERP as well as to attain full support for marketing in organization.

The companies should work on developing comprehensive and integrated maturity model to help practitioners implement ERP. To that end, there is a growing commitment by scholars towards empirical and conceptual research especially in ERP. The practical implications of the study are great; now practitioners have a tool they can use to assess overall ERP support for marketing.

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Hoping an appropriate consideration.

With sincere regards

Thanking you profoundly

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