STUDY OF FACTORS CAUSING IMPACT OF ICT ON SME'S

Prasanna Raravi *, Dr.Virupaxi Bagodi 2, Dr.R.G.Mench3

1Research scholar, Department of Industrial & Production Engineering, BVB College of Engineering & Technology, Hubli, Karnataka, India.

2Prof. & Head, Dept. of Mechanical Engineering, GEC, Haveri, Karnataka, India.

3Assoc. Prof, Dept. of Industrial & Production Engineering, BVB College of Engineering & Technology, Hubli, Karnataka, India.

ABSTRACT

The manufacturing industry is witnessing an increasing turbulent, dynamic and complex business scenario. The lowest entry barriers across countries, complex cost structures and relentless pursuit of customer satisfaction in response to rising expectations and adoption of Information and Communication Technology (ICT) tools and applications compared to other nations and this has resulted in loss of global competitive advantages. It plays a key role in all the thrust areas of any business cycle like finance, sales & marketing, supply chain management, market research, human resource management and customer feedback for continuous improvement. The need of the hour for SMEs today is to have access to ICT tools for facilitating the production processes, market access, supply chain integration and customer feedback which will help them gain better outreach and eventually result in reducing their business costs and thereby reap higher profit margins. Therefore, this study aims at understanding the awareness of ICT amongst SMEs and its impact in their business productivity. Report also contains the methodology applied and the findings of this study.

A survey of 50 SME’s was conducted across Hubli-dharwad (Karnataka-india) region to understand the usage of ICT tools by SMEs in their various business verticals and how do they feel the usage of ICT tools has impacted their business.

INTRODUCTION

SMEs are often seen as the seeds for a vital entrepreneurial economy, the majority of the workforce are employed by these SMEs. The role they play as a major source of innovation and growth has been emphasized in contemporary research (Bravnerhjelm, 2008). Research has also shown that firms that have been able to effectively utilize Information and Communication Technology (ICT) can provide small firms with a strategic advantage, which can positively influence their competitiveness. The adoption of ICT can provide SMEs with valuable information, increase knowledge, improved performance, improve relationships with customers and suppliers, increase efficiency, reduce cost of production among others.

Big businesses have taken the opportunity of ICT to gain the edge over their competitors unlike the small and medium enterprises. There is strong evidence that ICT is the driver for economic growth and government all over are driving SMEs to adopt ICT.

*Corresponding Author

www.ijmrr.com 3589
OBJECTIVE OF THE STUDY
To describe the contribution of ICT in SMEs growth and find whether the advent of the Internet has changed the ways of businesses in manufacturing sector.

LITERATURE REVIEW

ICT infrastructure
Information is rapidly becoming a service in its own right. Indeed, the revolution in information technology (IT) has propelled "information" to the position of the most critical factor in wealth creation (Braun and Holick, 2006; Arlt, 2006). Information technology (IT) has indeed changed the dynamics of running businesses. The proper application of information technology and the use of information systems may offer opportunities for SMEs to overcome some of the aforementioned barriers and to improve their survivability in a competitive environment. Prater and Ghosh (2006) found in their study that smaller firms should definitely harness IT capabilities to compete in the global market.

H-1: There is a positive relationship between increased availability of ICT infrastructure and increased organizational performance.

Government policies
The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 on June 16, 2006 which was notified on October 2, 2006. The ministry of MSME came into being from 1999. A credit liked capital subsidy scheme was launched. The exemption limit for relief from payment of central excise duty was raised. A market development assistance scheme for MSMEs was introduced. Consolations were held with stakeholders and the list of products reserved for production in the SME sector was gradually reduced each year.

H-2: There is a positive relationship between better government policies and increased organizational performance.

Enterprise Management
Technology plays a key role in providing cutting edge for development with acquisition and technology adaptation to suit the local conditions. Effective and efficient technology management practices are especially important for small and medium-sized enterprises (SMEs) during all life-stages of an enterprise due to the critical role of technology in entrepreneurial activities. The usage of ERP systems (Enterprise resource planning, ERP) is considered today as one of the ways of SMEs survival. ERP-system is a single standard information system that provides integrated support for all business processes of an enterprise. Due to the integration of business processes implemented by ERP, it becomes possible to eliminate the boundaries between functional departments, increase the access to information and its seamless movement between the various departments.

H-3: There is a positive relationship between EM with increased organizational performance.

Production Management
Manufacturing information systems today support the production/operation function of
companies. Production/operation functions include the activities concerned with planning and control of the processes used introducing goods and services. Computers are at the root of this process. Computer-based manufacturing information systems use several major techniques to support Computer- Integrated Manufacturing (CIM). Computer-Integrated Manufacturing is an overall process that stresses the goals of computer use for factory automation and must include the following : Simplify/reengineer production processes, product designs, and factory automation. Automate production processes and the business functions with computers and robots. Integrate all production and support process using computers and the telecommunications network.

**H-4:** There is a positive relation between increased production management and increased organizational performance

**Marketing & Feedback Management**

Using information Communication Technology (ICT), is crucial to most businesses, regardless of size. It is important to a company aiming to expand and to improve efficiency. The use of good ICT also improves customer services and customer demand. From database development, website design to market research, translation software, direct mail marketing and training, the application of ICT is critical for a economic success.

**H-5:** There is a positive relation between marketing & feedback management with organizational performance.

**COLLECTION OF DATA**

1. Self-administered questionnaire
2. Likert Five point scale
3. Distributed to managers and supervisors
4. Considered 100 responses from mfg. sector

Survey was carried out in the Hubli Industrial area, 30 small and medium enterprises were visited and were asked to give feedback. The survey questionnaire consisted of 24 questions. All of the questions were prepared under %point likerts scale consisting of 5 as strongly agree to 1 strongly disagree.

**ANALYSIS OF DATA**

SPS has been used to analyze the data

- Correlation-- values of one variable are related to another
Regression-- To check association of variables

Reliability Test

Armstrong and Foley (2003) suggested "the closer Cronbach's alpha is to 1.00, then, the more reliable the scale". Ferketich (1991) who recommended that corrected item-total correlations should range between 0.30 and 0.70 for a good scale. In conclusion, all reliability coefficients as shown in Table below is falling in acceptance range suggested by Ferketich (1991). Therefore, this indicates that the items used in the construct are reliable and consistent.

Pearson’s Correlation Analyses

According to Hair, Black, Anderson and Tatham (2006), the correlation coefficient between each pair of independent variables in the Pearson’s correlation should not exceed 0.90. This is because the data may be suspected to have serious co linearity problem if the correlation value exceeds 0.90 (Hair et al., 2006). In Table below, the highest correlation coefficient is 0.539, which is between the product appearance and Organizational performance and is still less than 0.90. Hence, it is assumed that there is no multicollinearity problem in this research.

<table>
<thead>
<tr>
<th></th>
<th>AI</th>
<th>GP</th>
<th>EM</th>
<th>PM</th>
<th>MF</th>
<th>OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>1</td>
<td>.328</td>
<td>.291</td>
<td>.416</td>
<td>-.110</td>
<td>.118</td>
</tr>
<tr>
<td>GP</td>
<td></td>
<td>1</td>
<td>.436</td>
<td>.000</td>
<td>.156</td>
<td>.090</td>
</tr>
<tr>
<td>EM</td>
<td></td>
<td></td>
<td>1</td>
<td>.054</td>
<td>.322</td>
<td>.396</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.199</td>
<td>.282</td>
</tr>
<tr>
<td>MF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.560</td>
</tr>
<tr>
<td>OP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Linear Regression Analysis

The Multiple Linear Regression Analysis reported that the coefficient of determination R square = 0.409 which indicates that 40.9 % of the variation in the dependent variable can be explained by all the independent variables in this research. Based on the summary of analysis of variance (ANOVA), it is found that F statistic is at 33.27%. The findings show that all the independent variables are related to the dependent variable and all the five independent variables do not meet the thumb rule (The value of p should be less than 0.05). The marketing and feedback management has the most influences on the Organizational performance at the coefficients of correlation (beta) of 0.473.
DISCUSSION OF RESULTS

From reliability test, all selected factors satisfy reliability criteria (i.e. points lie between 0.3-0.7) and hence survey is continued further. From co-relation analysis, all factors Pearson’s co-relation value is not exceeding 0.90. Hence all factors are further taken for regression.
analysis. From regression analysis, only marketing and feedback management factor satisfies thumb rule (i.e. the value should not exceed 0.05). Hence it has high influence on increase in organizational performance.

The other factors like availability of ICT infrastructure, government policies, enterprise management, production management does not influence increase in organizational performance.

CONCLUSION

Thus survey concludes that for the over-all growth of organizational performance marketing and feedback management plays a vital role. Some of the Indian SMEs’ problems may be alleviated or resolved by IT adoption and IS implementation such as by expanding their businesses beyond traditional marketplaces through the Internet and employing IT for improving business processes. However, these SMEs tend to hold a short-term view of their own sustainability. The lack of long-term planning and IT budgeting in these SMEs has resulted in a high level of resistance towards investing in IT that may not generate explicit financial gains or immediate realizable returns. The lack of technical resources and expertise in Indian SMEs has also limited the awareness of owner-managers of IT potential and of the benefits of implementing strategic and integrated systems enabled by IT. This can result in an inability to use IT as strategic leverage, and in low harnessing of IT potential from existing applications in these enterprises. Indian SMEs require relevant IT skills and initiatives to sustain their competitiveness in both domestic and global markets. With a set of problems facing them, ranging from financing difficulties to a lack of skilled professionals, the adoption of IT can be a daunting task for such firms. Government support in the areas of financial support, ongoing consultancy, education, and training is necessary to support these SMEs through the introduction, implementation and integration of IT, as well as bringing IT to a higher level of sophistication which will have a positive impact on their long-term sustainability.

REFERENCES