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IT PENETRATION IN MICRO, SMALL AND MEDIUM ENTERPRISES

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Abstract *Information technology (IT) has become a vital and integral part of every business plan. From multinational corporations who maintain mainframe systems and databases to small businesses, IT plays an important role. The principal objective of the present research is to know the Information Technology (IT) penetration in Micro, Small and Medium Enterprises (MSME) sector. The study is conducted as field survey of 62 discrete manufacturers of MSMEs around the industrial areas of Hyderabad. Survey is conducted with the help of questionnaire designed to understand the level of IT usage (concentrating on web technology) in their day-to-day operations. Data are analysed with the help of statistical tools and the results show that the MSME sector is resistant to Information Technology (IT) for their day-to-day operations. There is a wide scope for technological growth in MSME's which is suitable for the sector. The final part provides some future policy framework for the sustainability of the sector.*

Keywords: *MSME, Information Technology, Discrete Manufacturers, Web Technology, Sustainability*

INTRODUCTION

Indian SMEs are largely incremental innovators, prompted by their customers and involved in product and process innovations. But majority of these carried out innovations with internal efforts only, whereas the minority which obtained external support, had better technical strength, indulged in more frequent and both product & process innovations. Such SMEs achieved better innovation performance as well as better economic performance. Some of them internationalised themselves in the process.

Technology adoption is a catalyst not only for potential growth among India's micro, small and medium enterprises (MSMEs), but also for the growth of the Indian economy as a whole. In India, medium-sized and large businesses are adopting technology in major ways, even ahead of their counterparts in Western markets, particularly with respect to mobile technology. India's widespread adoption of mobile solutions create a major opportunity for other countries to learn from the India experience and find new ways to "leapfrog" traditional communication means and use the mobile channel to reach huge populations on key issues of social and economic importance.

Despite India's global technology "case study" and best practices, today small business in India is simply not realising the full potential technology can bring as a game-changer to the old ways of doing things in their businesses. Although technology adoption considerably increased during the implementation of the Government of India's 11th Five Year Plan with its focus on creating a technology infrastructure and rolling out technology-driven services, the use of technology in MSMEs remains limited. As a result, there is a clear and deeply-felt need to accelerate the pace of technology adoption in the small business community and disseminate technology across the bottom of the pyramid and specifically among India's MSMEs dramatically during the implementation phase of the 12th Five Year Plan.

Technological innovation has the potential to spur growth of individual enterprises at the micro level and give a new dimension to industry growth at the macro level. They offer a major explanation for why growth rates at the firm, regional or national level differ. Therefore, technological innovation is at the heart of economic change. Technological innovation is the ultimate source of productivity and growth. It is the only proven way for economies to consistently get ahead.

Review of Literature

The review of the articles and literature work related to the role of information and technology in the small and

medium enterprises, from various journals, magazines and newspapers. These articles give the insight view of the industry and also help us to understand the importance of the web technology in the SME.

Over 57 percent SMEs use their website as a sales channel and get direct business leads from their website. This fact was revealed by a study conducted by Google India to understand usage patterns and importance of online medium amongst the Indian SMEs. The company interviews 785 SMEs (owners or marketing heads) across India. "While the absolute number of SMEs with an online presence is very low compared to actual businesses in India, we're pleasantly surprised to see increasing understanding amongst Indian SMEs to use the web for business growth. In the last two years we have seen a significant increase in the number of businesses that have started to advertise online. But with over 35 million SMEs in the country, we have a long way to go," remarked Sridhar Seshadri (2010). He further added that, Google India is working on a number of programmes to educate more SMEs on how they can get online and use the Internet as a primary sales channel. Sohini Bagchi (2013). In order to compete in today's marketplace, organisations are expected to rapidly respond to new demands, drive relevant products and interact with customers and partners in real time. The bottom line is to increase sales and improve ROI. But what drives the sales is technology. With IT playing the role of an active catalyst in sales, experts believe the CIO's constant involvement in the selling process is becoming imperative. Robert Wollan (2013) Global MD- Sales & Customer Services practice, mentions in his book 'Selling Through Someone Else: How to Use Agile Sales Networks and Partners to Sell More' that emerging technologies such as cloud computing, big data an analytics are streamlining sales activities and are helping companies connect with the broader ecosystem including partners, customers, suppliers, vendors, and even competitors. In such a scenario, the CIO is expected to constantly support sales by offering access to the relevant information with respect to the broader selling network. Titan Eye Plus, the eyewear segment of Titan Industries improved the company's sales significantly with the help of advanced analytics solution. Suresh Dangi (2013), Chief of Technical Services, Titan Eye Plus explains that by using analytics in inventory management the company realised customer preference and segmentation much better. Rohit Jalan (2013), Business Development Executive of Linc Pen and Plastics believes cloud computing allows partners and customers to engage with them in more meaningful ways and in turn boosts the entire selling process. "Earlier, IT leaders had to develop software for a certain number of users. However, experts point out, collaboration plays a key role in the process. As Suresh Verma (2012), Manager System IT, Lite Bite Foods notes that without a coordinated effort from business and IT teams, sales can fail to respond appropriately to customers' needs or keep up with the pace of new market trends and developments. According to Gartner (2015), public cloud services sales will be worth Rs 24.54 billion this year, a 36 percent increase compared to 2012. Infrastructure as Service (IaaS) is the fastest-growing segment of the market with sales of 22.7 percent in 2012 to reach Rs 2.38 billion. Sales are expected to grow 39.6 percent in 2013. Curt Anderson (2012), Chief Financial Officer at Microsoft's Server and Tools Division, recently said the company's Azure cloud service had made $1 billion in the last one year. In the IaaS market the two big players are Microsoft and Amazon. Microsoft reduced the prices on Linux and Windows Server virtual machines and cloud services by 21-33 percent to compete with Amazon's Elastic Compute Cloud prices.

From the above articles and the literature work it can be concluded that there is a potential market and the scope for the developers of the web application. In the last decade it has been observed that the usage of the information technology by the Small and Medium Enterprises have increased exponentially, which has limited to desktop applications in most of the SMEs. Web applications intend to be costlier than desktop applications, which are now going to be helpful for optimal usage of the available resources which in turn helps in increasing the productivity along with helping in minimising the productivity cost, time period and maximising the profits.

Research Methodology

Research methodology is a way to find out the result of a given problem on a specific matter or problem that is also referred as research problem. In methodology, researcher uses different criteria for solving/searching the given research problem. If we think about the word "methodology", it is the way of searching or solving the research problem.

Objectives of the Study

1. To study the technology advancement in SMEs
2. To analyse usage of web application in manufacturing sector of SMEs.
3. To study the department wise utility of web application

Hypothesis of the Study

H 1: There is a potential market for web technology in SME sector.

Scope of the Study

The scope of the study "IT Penetration in Micro, Small and Medium Enterprises (MSME)" was confined to discreet manufacturer (SMEs) in and around Hyderabad and Secunderabad.

Sampling Design

A sample design is a definite plan for obtaining a sample from a given population. The sample was selected using convenient sampling method.

Unit of Observation

It included discrete micro, small and medium manufacturers around the industrial areas of Hyderabad, covering IDA Nacharam, IDA Kukatpally, Electronic complex ECIL, IDA Balanagar, IDA Cherlapally and IDA Uppal.

Sample Size

The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. For this research the researcher has chosen 62 discrete SMEs from industrial areas of Hyderabad.

Data Collection

It is a technique to gather the ideas, views & information from the people. It includes two methods which are as follows:-

Table 1: Statistical Analysis sheet of SPSS Web Applications

		Microsoft Excel Office -365	ERP	Custom developed software	Google Docs	Paper Records	Others
N	Valid	7	7	7	7	7	7
	Missing	0	0	0	0	0	0
Mean		.43	1.43	1.71	.43	93.14	2.57
Median		.00	2.00	2.00	.00	93.00	3.00
Std. Deviation		1.134	1.134	1.890	.787	2.193	1.512
Variance		1.286	1.286	3.571	.619	4.810	2.286

Source: Data Analysis of this research

Table 2: F -Test in Excel Sheet Format

	Excel	Enterprise Resource Planning (ERP)	Google Docs	ZoHo Office	Custom Developed Software	Paper Reports
Inventory	0	1	1	0	3	57
Accounts	2	2	1	0	1	56
HR	0	1	0	0	1	60
Sales	0	1	0	0	0	61
Production	0	1	0	0	0	61
Quality	0	1	0	0	0	61
Maintenance/ Plant Engineering	0	2	0	0	3	57
x bar	0.285714	1.142857	0.285714	0	1	57.57143
Variances	0.571429	0.142857	0.238095	0	1.333333	1.952381
N	7					
M	49					
C	7					
s^2 pooled	0.782313					
s^ bar	461.7891					
F statistic	4132.009		Alpha	0.05		
P value	0.999432					
F critical	0.999432	F static F critical value, therefore we reject null hypothesis				

Source: Data Analysis of this research

1. Primary Data:

It is collected directly by taking a face to face interview, through a questionnaire & personal experience.

2. Secondary Data:

A secondary data study is concerned with the analysis of already existing data that is related to the research topic in question. It is collected from various journals of the company, books, websites etc.

Data Analysis

Data collected have been analysed with the help of SPSS and the following table shows the mean values of the respective software's used in the organisations. F test has been conducted to find the web application in various departments in select organisations.

Interpretation: From the SPSS sheet shown in Table 1, we can easily make out by looking at the mean, median and standard deviation that there is high resistance for the web application by the SMEs.
Hence it is proved that F statics >F critical value, hence alternative hypothesis is accepted. Overall it can be concluded that there is a potential market for technology advancement in the Indian MSME sector.

Major Findings

- It was found that the MSMEs are very much resistance to technological advancement and are more comfortable with tradition methods of running business.
- It was found that the awareness about the benefits and usage of web application among the MSMEs are very low.
- It was also found that the web application is mainly used in the departments and areas where there is direct involvement of the clients or business partners.
- It was also found that the major departments in the organisations or small, medium enterprises are not using any web application.

Conclusion

It can be concluded without any second thought or doubt that the technological advancement in the Indian MSME sector is very low when compared to any other developing nation, as we have discussed earlier and are aware of the fact that MSME sector is the backbone to the economy of any developing nation.

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