Use of ICT in Indian MSMEs

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Abstract
The MSME sector is the backbone of the Indian Economy and one of the prime drivers of employment. The use of Information and Communication Technology (ICT) is one of the important measures, which can greatly help MSMEs in almost every facet of their business. ICT has speed up the pace of globalization and increased the complexity of business practices because firms not only need to be familiar with their local context but also with global developments. Thus, to compete in the knowledge economy, countries need a strong ICT-literate skills base that can innovate and adapt quickly to change. MSMEs should ensure in adopting the technologies that are best suited to their needs. Otherwise, they become obsolete and could not contribute to the economy and survive. No doubt, affordability may be the great concern, because of its inevitability and advantages, MSMEs can slowly adapt to ICT starting from simple to complex tools. The main aim of this conceptual paper is to highlight the importance of ICT and its inevitability of adoption in MSMEs for their continuing growth and contribution to the Economy. Awareness workshops and training programmers on the technological interventions to enhance the global competitiveness of Indian MSMEs will be a crucial tool to boost the use of ICT by MSMEs. It is also equally imperative for MSMEs to continuously upgrade their ICT systems which are reliant on the availability of low cost ICT solutions as well as reliable support services. The government and industry must work in together in order to facilitate the spread of the ICT revolution in the MSME sector.

Key words: Competitiveness, ICT, Knowledge Management, MSMEs

Introduction

The MSME sector is the backbone of the Indian Economy and one of the prime drivers of employment. Recognizing this, the government has been taking many initiatives and launching many schemes for the welfare of the MSMEs in India. However, they are facing many challenges. Apart from the traditional challenges like finance, marketing, transport etc, they are also increasingly exposed to international competition. Basic amendments in the existing policies, economic reforms, and awareness in the effective usage of policies are the needs of the hour to empower the MSMEs in their path to becoming globally competitive. Today, primarily, technology up gradation plays a crucial role in enhancing the competitiveness and in fostering the growth of MSMEs. The use of Information and Communication Technology (ICT) is one of the important measures, which can greatly help MSMEs in almost every facet of their business. Further, countries in the world are moving from an industrial economy to a knowledge economy in which economic growth is dependent on a country's ability to create, accumulate and disseminate knowledge. Computers and the Internet catalyzed the growth of the knowledge economy by enabling people to codify knowledge into a digital form easily transmitted to anywhere around the world. People who have access to this new wave of ICT are part of an information society connected to a

virtual network that constantly creates and disseminates new information. ICT has speed up the pace of globalization and increased the complexity of business practices because firms not only need to be familiar with their local context but also with global developments. Thus, to compete in the knowledge economy, countries need a strong ICT-literate skills base that can innovate and adapt quickly to change. More value is placed on the knowledge worker than ever before. Knowledge, change and globalization are the driving forces of the new economy.

Importance of ICT

ICT will play a crucial role in the industrial restructuring and interlinking of Indian firms across the entire value chain. ICT is the single most important prerequisite to facilitating the integration of global supply chains and enhancing a company's competitiveness. True, ICT has often had a disruptive impact on India's companies but today ICT provides anywhere, anytime access to enterprise information by creating an easy to deploy, scalable, cost-effective, common information infrastructure. ICT not only provides rapid and effective communication at all levels for individuals, business and government, but also serves as the infrastructure for commercial transactions. ICT provides tools for efficient and effective business (Bikky Khosla, 2008).

Today the top ten countries in terms of ICT spending are the United States, Japan, China, Germany, the United Kingdom, France, Italy, Brazil, Canada and Spain. China's spending is accelerating rapidly; it jumped to third place from fifth place in 2006, spending of US$ 327 billion to surpass Germany and the United Kingdom.

India being a global information technology hub, the current scenario of ICT adoption is not encouraging. India has witnessed the rapid technological growth of its information and communication technology-based sectors. Although in recent years this has led to widespread adoption of ICT products and services in many industry sectors, Indian industries still lags in global competitiveness. This is partly due to the slow incorporation of ICT in the day-to-day processes and management practices of a great many businesses. Indian industries have begun to adopt ICT tools and technologies to improve their operational efficiency and productivity. Though many firms understand the need and value of adopting ICTs, they are faced with a variety of difficulties to do so, and this has hampered the growth of ICT penetration in India. The slow growth of Indian ICT usage has, to some extent, limited the country's competitive growth.

Challenges in ICT adoption

The following are the key challenges to adoption of ICT:

Limited exposure to ICT: India's National Manufacturing Competitiveness Council recently stated that, despite the clear business case in favor of adopting integrated enterprise-wide ICT applications in the manufacturing sector, the use of ICT in most organizations is still limited to specific functions like inventory control, external communication, etc. A majority of the MSMEs are just beginning to adopt ICT. They are not aware of how ICT can enhance business performance, so they still use it mostly for office administration and accounting. Then too, smaller enterprises have not been able to adopt ICT on a greater scale due to the costs involved in such a radical change to their businesses. So many of India's industries are based in geographically isolated regions, so they have little exposure to the sweeping changes and benefits that ICT is bringing to other business and industries

Less IT spending: Many enterprises are unsure of the benefits of ICT and thus spend little to increase its presence in their operations. Smaller enterprises often do not have the resources to invest in ICT or to go global, nor do they appreciate the value of investing in ICT. These firms, quite often, do not view ICT as a tool to enhance productivity, competitiveness and growth; this discourages enterprises from investing in ICT and restricts its use to basic communications and data processing.

Lack of skill: Due to enterprises concern about spending on ITC, they distance themselves from IT training and education and lose the benefits it can bring in terms of increased performance in the market, increased earnings and greater operational and financial transparency. Despite the Internet's ability to make detailed and timely knowledge readily available to all, the acquisition of IT skill sets is still the basic challenge organizations face in adopting ICT.

System development: Effective ICT systems go a long way to helping enterprises, for example, to adapt to changes in multilateral trading systems, to reviewing internal business processes to increase competitiveness, to respond rapidly to changes in product demand and the like, etc. The use of ICT can make it possible - indeed, at times necessary - to develop strategic alliances including exchange and management of information based on a fast and accurate medium. Enterprises that do not use ICT in their operations lack the information, the vision and ability to respond rapidly to changing conditions in the market.

Benefits of ICT

Adoption of ICT can enhance the productivity and global competitiveness of Indian MSMEs. According to a Confederation of Indian Industry (CII) report, majority of the small businesses considered ICT as an optional tool that triggers decline in the productivity levels of small business in manufacturing units. However, government and industry-led interventions led MSMEs in other sectors develop strong appetite in deploying the technology to build competitiveness in the business environment. A recent CII ICT survey for MSMEs revealed that 83 per cent of MSME use ICT tools for finance and accounting, while 75 per cent of the respondents reported that their companies use ICT tools for HR and administration functions, and 68 per cent reported that their companies use ICT tools for marketing and sales. Sixty-four per cent of the SMEs reported that their companies use ICT tools for production purposes (Aparajita Choudhury, 2015).

ICT – a Critical Outlook

The knowledge economy has impacted MSMEs both positively and negatively. On the positive side, because the knowledge economy relies heavily on ICT, it has led to the rapid growth of ICT sectors. Many countries such as India, the Republic of Korea and Taiwan have created enabling environments to ensure that MSMEs are well positioned to capture these emerging business opportunities. India, for example, offered relief from import duties for IT hardware, tax deductions for income earned from software exports, and tax holidays, and developed infrastructure in Software Technology Parks. India's thriving ICT sector has in turn propelled the country's economic growth. MSMEs outside the ICT sector have also benefited by adopting ICT in their own operations, enabling them to communicate quickly, increase productivity, develop new business opportunities, and connect to global networks. Conversely, the reliance on ICT in the knowledge economy means that those MSMEs who have not yet adopted ICT will have trouble surviving. For example, 60 percent of Intel's material orders are now done electronically. With e-procurement becoming main stream in developed countries, MSMEs that do not have that capability will not be chosen as business partners. Additionally, MSMEs that have not adapted to the faster pace and increasing complexity of the way businesses are conducted will lose out to the increasing competition brought about by globalization.

How do MSMEs use ICT?

Usage of ICT for MSMEs range from basic technology such as radio and fixed lines to more advanced technology such as email, e-commerce and information processing systems. Using advanced ICT to improve business processes falls into the category of e-business. However, not all MSMEs need to use ICT to the same degree of complexity. The first ICT tool that most MSMEs adopt is having basic communications with a fixed line or mobile phone, whichever is more economical or most convenient for their business. This allows the MSMEs to communicate with its suppliers and customers without having to pay a personal visit. After acquiring basic communication capabilities, the next ICT upgrade is

usually a PC with basic software. Even without Internet connectivity, MSMEs can use PCs for basic word processing accounting and other business practices. With the Internet, MSMSs are able to use more advanced communications capabilities such as email, file sharing, creating websites and e-commerce. This may be sufficient for most MSMEs, especially those in service industries such as tourism. MSMEs in manufacturing may adopt more complex IT tools such as ERP software or inventory management software. MSMEs may adopt the tools progressively or jump immediately to advanced ICT capabilities.

Advanced ICT Products

An MSME can decide which type of ICT products to adopt based on the concrete benefits it can bring to its core business, the ICT capacity of its employees, and the financial resources available. Most people are familiar with basic ICT such as fixed phone lines, mobile phones, fax, computers, and basic document processing software – like Microsoft Office.

Advanced communication technology relies primarily on the ***Internet and the intranet***, which allow people within the firm to share files with each other over the same network. Having Internet connectivity enables firms to do faster research, set up websites, conduct e-commerce, and set up video conferences. One of the most revolutionizing developments in advanced communication technology is Voice over Internet Protocol (VoIP).VoIP includes all types of voice communication transmitted through the Internet, whether it is between computer and computer or in hybrid form between computer and regular phone. It competes directly with traditional fixed line and mobile phone operators. Users only pay for their dial-up, broadband, or wireless Internet connection.

Most complex of all is advanced IT. It is often very expensive, sophisticated and takes more time to implement by a firm. MSMEs can sign up for one or all available services. In order to reduce costs, some firms opt to outsource this component or use an application service provider (ASP) that provides functional software capabilities over the Internet.

Major Products of Advanced ICT

1. **Enterprise Resource Planning (ERP)**

ERP offers a single repository for information on all business functions – human resources, manufacturing, inventory, marketing, sales, accounting and tax. It allows all levels of a business to obtain real-time management information for their area of responsibility.

2. **Customer Relationship Management (CRM)**

CRM software integrates people and technology to maximize external relationships. Its functions include- sales contact management, activity history, order entry, customer service and support, field service, lead generation, data mining, etc.

3. **Supply Chain Management (SCM)**

SCM software helps streamline the procurement of raw materials and delivering of finished products. It helps to decrease error rates, delays, and to increase efficiency. E-procurement is often a part of SCM.

4. **Enterprise Application Integration (EAI)**

EAI integrates different types of ERP and other software systems through a common problem in order to synchronize the processing, storing, and transmitting of information.

5. **Rapid Prototyping and Manufacturing (RPM)**

RPM can reduce the new product design phase from 90 days to just three days. It is still an infant industry based upon newly invented technologies, but it is apparent that RPM will dramatically reduce the cost and time required to convert a new product design to a practical manufacturing process

6. **Knowledge Management (KM)**

KM systems help an enterprise to better organize and share the knowledge of its employees. They help the enterprise take better advantage of its human resources.

Government support towards ICT and Cloud Computing

The Scheme for "Promotion of Information and Communication Technology in MSME Sector" [ICT Scheme] is ongoing scheme from 11th five year plan, but it has been modified in view of emergence of the Cloud Computing Concept. The total budget under the scheme in the pilot phase was `105.00 crore including Government of India contribution of `47.70 crore. However the modified scheme under 12th plan is having the total budget of `82.33 crore including Government of India contribution of `65.08 crore.

The Government's scheme for MSMEs, ***National Manufacturing Competitiveness Programme,*** aims at improving MSME process, designs, technology and market access. It consists of the following ten components

1. Building awareness on Intellectual Property Rights for MSMEs;
2. Scheme for Providing Support for Entrepreneurial and Managerial Development of SMEs through incubators.
3. Enabling Manufacturing Sector to be Competitive through Quality Management Standards (QMS) and Quality Technology Tools (QTT);
4. Mini Tool Rooms under PPP mode;
5. Marketing Assistance/support to MSEs (Bar Code);
6. Lean Manufacturing Competitiveness Programme for MSMEs;
7. Promotion of Information & Communication Tools (ICT) in Indian MSME sector;
8. Design Clinics Scheme for MSMEs;
9. Marketing Assistance and Technology Up gradation Scheme for MSMEs; and
10. Technology and Quality Up gradation Support to MSMEs.

Scheme of Cloud Computing

This scheme is revolving around Cloud Computing which is emerging as a cost effective and viable alternative in comparison to in-house IT infrastructure installed by MSMEs. In cloud computing, MSMEs use the internet to access common as well as tailor-made IT infrastructure including software for managing their business processes.

The common benefits of Cloud Computing approach are:

1. Cloud computing is free from the burden of investment on hardware/software and infrastructural facilities.
2. It follows "pay as you use" model and the user does not have to invest upfront.
3. The initial cost to use specific services gets reduced substantially.
4. The Cloud Computing operations are readily scalable. The user can access various services depending upon the requirements.
5. The use of Cloud Computing facilitates device and location independent access.
6. Maintenance / updating of Software is not the responsibility of the users.
7. The usage can be metered to provide itemized billing thus providing enhanced customer satisfaction.

To encourage MSMEs to use Cloud Computing for ICT applications, it is proposed to provide subsidy for user charges for a period of 3 years. The benefits accrued through implementing for subsidy period in their enterprises will motivate MSMEs to continue to use the ICT application with their own expenses after this period (MSME Schemes, 2014).

Conclusion

From the above information, it is clear that ICT is inevitable for all MSMEs in India if they want to continue in the global competitive world. Indian MSMEs should avail the ICT/Cloud Computing technology. A focused approach is required with an aim to educate MSMEs about the benefits of adoption of these technologies. MSMEs should ensure in adopting the technologies that are best suited to their needs Otherwise, they become obsolete and could not contribute to the economy and survive. No doubt, affordability may be the great concern, because of its inevitability and advantages, MSMEs can slowly adopt to ICT starting from simple to complex tools.

Awareness workshops and training programmes on the technological interventions that have the calibre to enhance the global competitiveness of Indian MSMEs can be a crucial tool to boost the use of ICT by MSMEs. It is also equally important for MSMEs to continuously upgrade their ICT systems which are reliant on the availability of low cost ICT solutions as well as reliable support services. The Government and industry must work in together in order to facilitate the spread of the ICT revolution in the MSME sector.

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