

Impact of ICT on SME's – An analysis with specific reference to Mumbai.

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Abstract: *Information and communication technology (ICT) has a great impact in all aspects of life and usage of these tools is drastically changing the rules of business, resulting in structural transformation of enterprises. Modern businesses are just not possible without the help of information technology, which is having a significant impact on the operations of all businesses irrespective of its size and nature. This paper attempts to study and learn about the usage and impact of Information and Communication Technologies (ICT) on Small and Medium Sized Enterprises (SMEs) with specific reference to SME's located in Mumbai. The study investigates ICT infrastructure, software used, perceptions about business benefits of ICT. The study also provides an insight on the barriers for the adoption of ICT. A majority of surveyed SMEs have reported a positive performance and other benefits by utilizing ICT in their businesses. Lack of internal capabilities, high cost of ICT and lack of information about suitable ICT solutions and implementation were some of the major barriers in adopting ICT. There is a need for more focus and concentrated efforts on increasing awareness among SMEs on the benefits of ICT adoption. The results of the study recognize the need for more training facilities in ICT for SMEs, measures to provide ICT products and services at an affordable cost, and availability of professional advice at reasonable cost to SMEs.*

“India will be a global player in the Digital economy and it will be competitive with any other country in the world” – Sundar Pichai Google.

Keywords: *Digital economy, Information and Communication Technologies (ICT), SME*

Introduction:

In simple words the term ICT signifies information, Communications and Technology that pertain to the new science of collecting, storing, processing and transmitting information. More precisely ICTs can be viewed as all forms of technologies and products for a wide range of software, hardware, telecommunications and information management techniques, applications and devices used to create, produce, analyse, process, package, distribute, retrieve, store and transmit or receive information electronically in a digital form. The integration of information and communications technology (ICT) in business has drastically changed the way one conducts its business. Specifically, the use of ICT in business has enhanced productivity, encouraged

greater customer participation, and enabled customization, besides reducing costs. The fact that the dispersal of information and communication technologies (ICTs) is a prevailing reality in many parts of world, particularly for developing countries it offers remarkable opportunities for overcoming perennial problems of poverty and employment.

The importance of small and medium enterprises (SMEs) is well understood by national economies. World over half to two-thirds of all businesses are SMEs and in many regions this proportion is much higher. SMEs are capable of creating jobs with least amount of capital and in dispersed locations which makes SMEs attractive to policy makers. For small and medium sized enterprises, ICT can be exploited to create a list of contacts and to make use of available information to start and sustain new business ventures.

Literature review:

The rapid development of information and communication technologies (ICT) changes the existing business structures and ways of communication. It is a well-accepted fact that the adoption and use of ICT is a fundamental requirement for competitiveness and economic growth for all companies, organizations and even countries that are able to exploit them. (Vehovar & Lesjak, 2007; Higon, 2011; Ollo-Lopez & Aramendia-Muneta, 2012; Steinfield, LaRose & Chew, 2012).

Moreover, ICT and its impact in the economic, social and personal development had become an important object for scientific researches during recent decades. According to Ollo-Lopez and Aramendia-Muneta (2012), numerous studies have focused on analyzing how adoption of ICT affects companies. In the industrialized countries almost 30 per cent of all budgets of research and development (in both, private and public sectors) are allocated to research and development of ICT.

SME's individually contribute 35% of Asia performance. Similarly in US around 50%, in South Africa approx. 60%, in New Zealand more than 75% of employment is provided by SME's. Their importance is well perceived by developed as well as developing countries in terms of their contribution to GDP and per capital income. The contribution of individual SMEs are small but collectively they have emerged as a dominant player in the national economies. This sector plays a significant role in the development and employment to skilled as well unskilled people and also for women's.

Existing research suggests that small and medium sized enterprises form a dynamic and important part of the economy in most countries (Wolf, 2001; Matthews, 2007). Moreover, according to Alam and Noor (2009) SMEs account for more than half of all business and over half of all employment in the developed countries

(including Australia and United Kingdom). In Europe SMEs represent around 99 per cent of the total number of companies (Lopez-Nicolas & Soto-Acosta, 2010). Therefore, the limited amount of research concerning ICT adoption and effects on SMEs has been indication of the fact that SMEs started to use ICTs relatively recently. Alam and Noor (2009) also notes that the majority of the empirical research is based on large companies and usually SMEs are characterized as lacking of knowledge about the possible actual advantages of ICT. Author also agree on some researches opinions that the use of ICT can improve business competitiveness with internet providing opportunities for SMEs to compete equally with large enterprises.

Objectives and specific area of research:

The past decade has witnessed humongous growth in the Indian information technology (IT) sector - a sector that is now considered an important engine of growth in the Indian economy.

The SME sector is growing at a very rapid pace of around 19% in 2015-16 and proving to be beneficial to the Indian economy. In light of above the study focuses on following objectives with specific reference to SME's located in Mumbai:

1. To study the type of technology adopted by SMEs in Mumbai.
2. To study the impact of ICT usage on SME's performance.
3. To understand the challenges and barriers of ICT usage for SME's.
4. To suggest the possible measures to overcome challenges and barriers for usage of ICT for SME's

Thus, the objective of this study is twofold; first it tries to investigate the awareness, type of technology adopted and impact of ICT on SMEs located in Mumbai in terms of improving their competitiveness and business performance. Secondly, this research also tries to focus on the challenges and barriers for ICT usage by SMEs and an attempt is made to suggest possible measures to overcome these challenges and barriers in order to improve their innovativeness, competitiveness and performance.

Research Methodology:

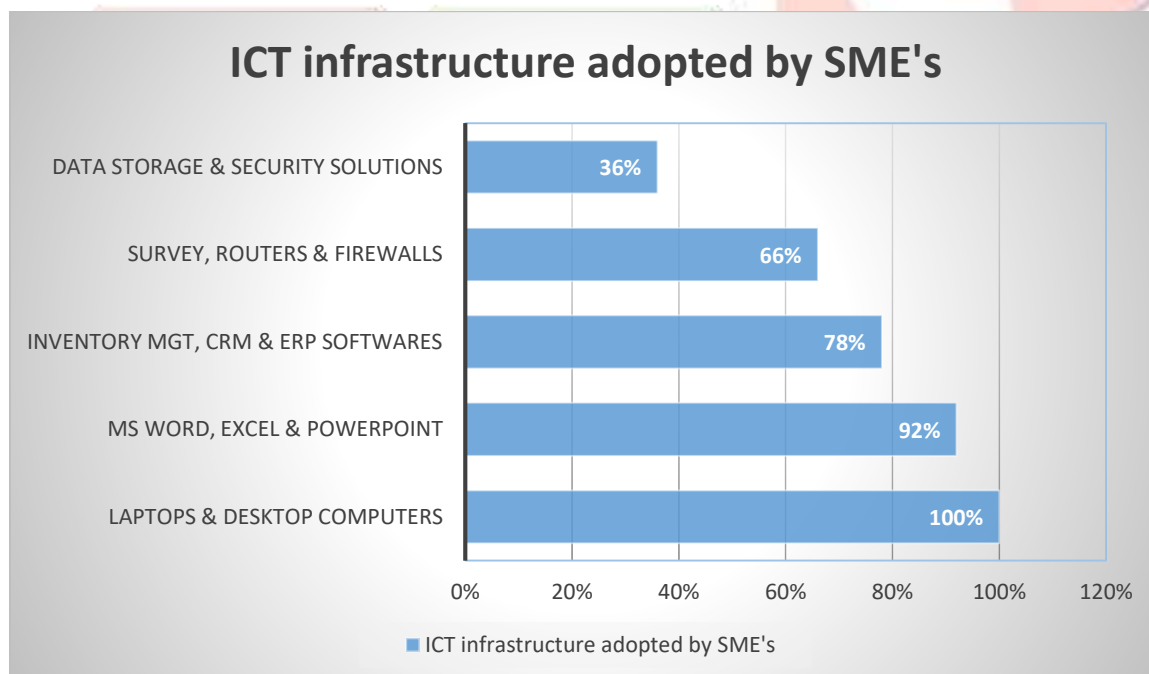
Data was collected using a structured questionnaire administered through telephone interviews, google based forms and few personal visits. The survey concentrated upon western suburbs of small and medium sized firms comprising repairs and maintenance, manufacturing and financial services as the nature of business. The typical respondent was either the owner-manager or the designated person responsible for ICT. Most of our respondents (80%) are firms that have successfully traded for five years or more.

The study is also based on extensive secondary data collected from various books, National & international Journals, government reports, publications from various websites which focused on adoption of ICT by SME's.

Findings and inferences:

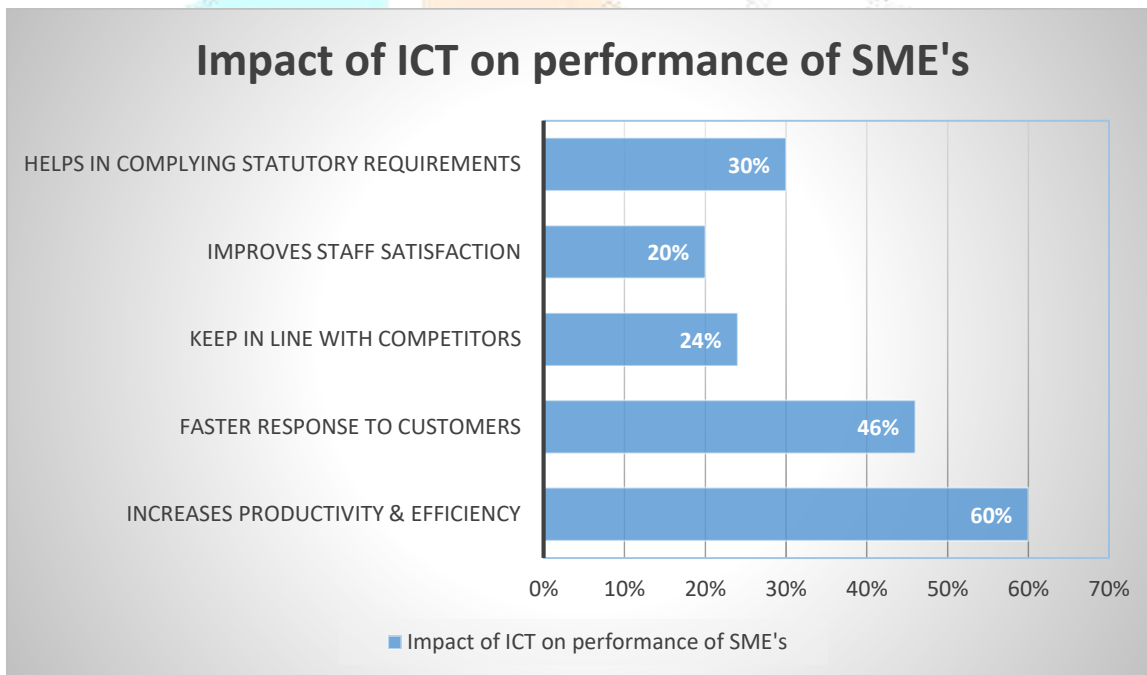
Type of technology adopted by SME's:

Chart 1 shows type technology used by SME's that of desktop, laptop or handheld computers are used by 100% of the surveyed SMEs. The reason is that our sample is based on only those SMEs who have adopted some form of ICT in their business (e.g. computers). During our survey we noticed that a large number of Micro Businesses (we estimate 80% or more) do not use any form of ICT. The reason seems to be the older generation of Owner/Manager who are not used to ICT and/or are low educated labour force (with no or little knowledge of ICT). Business productivity software such as Microsoft Word, Excel and PowerPoint were used by 92% of the surveyed firms. About 78% of the firms use enterprise software such as CRM, Inventory Management, E-Commerce or ERP. Wired computer network solutions such as servers, routers and firewall were utilized in 66% of the SMEs. Data storage and security solutions (such as file servers, storage area network or web-based storage) were used by 36% of the surveyed firms.



Impact of ICT on the performance of SME’s:

Here we report on the actual benefits accrued to SME’s due to usage of ICT by our respondents. High levels of satisfaction over value for money (96%) is reported by respondents whereas very low proportion of SMEs reporting no business benefits arising from ICT adoption (less than 4%). As our next figure shows (Figure 2), the most popular benefit experienced as a result of ICT adoption is greater productivity. Close to 60% of all replies highlighted increased productivity and efficiency as a benefit. The second most experienced benefit is improved quality of service or product and then related to this, a faster response time to customers. Similarly, 30% of respondents feel that it helps in complying statutory requirements whereas 24% respondents feel that ICT adoption keeps them in line with competitors. Given the tight resource constraints that SME generally work under, ICT does not appear as a popular vehicle to reduce staff numbers but nevertheless 20% feels that it improves their staff satisfaction.

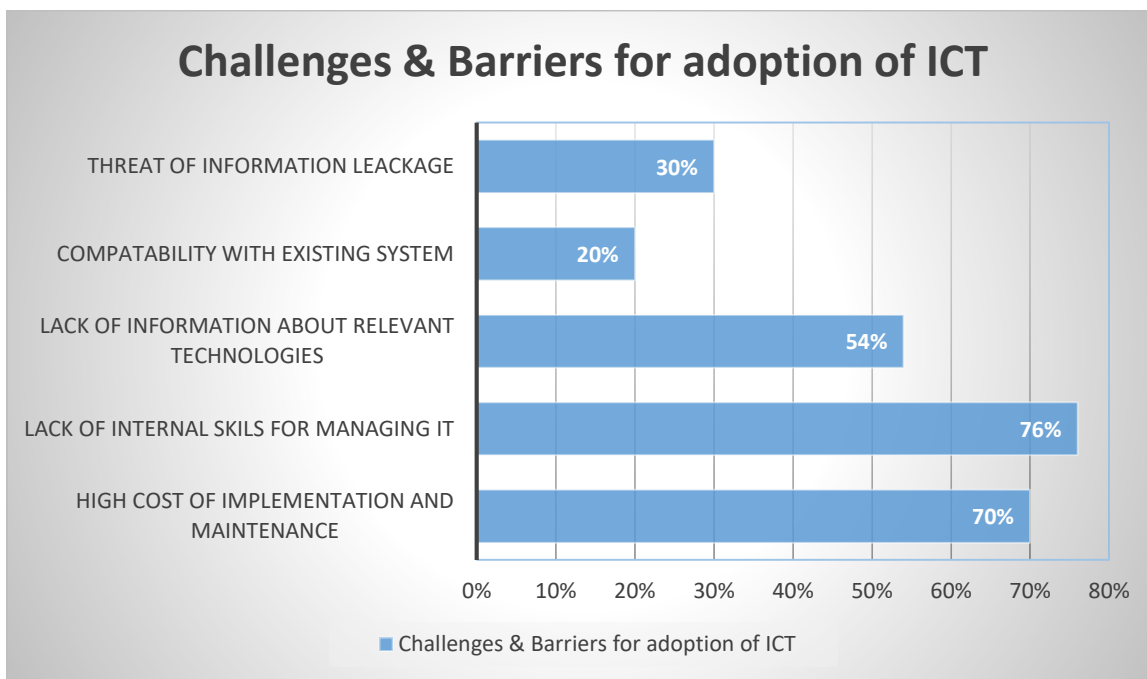


Challenges and barriers of ICT usage for SME’s.

While some of the SMEs in Mumbai are clearly aware of ICT and its benefits, there exist certain restrictions and barriers to ICT investment. Figure 3 shows that 76% of the firms feel that a lack of necessary internal skills is a major barrier. There has been a recent increase in setting up of technological cell for the support of SME’s from by the central government to overcome this problem. About 70% feel that the monetary costs of implementation and maintenance of ICT solutions are too high. Past studies also identified cost as the single most factor threatening future investment in ICT. Almost 54% of the decision-makers within the surveyed

firms feel that there is not enough information available at their disposal about relevant and effective technologies.

This shows that there is a need for awareness campaign and concessional consulting advice as regards ICT for SMEs. Of the respondents, 20% feel that ICT may not be compatible with their existing system of operation. 30% of the respondents feel that ICT is not secure and it may lead to leakage of their confidential information. A few of the firms also complained about lack of infrastructure in certain areas in the city. One business specifically complained about the unavailability of internet access in some of the areas.



Possible measures to overcome challenges & barriers

1. There is a need of spreading awareness and to invest in educating, training the SMEs about the tangible benefits that technology can bring to their business.
2. SMEs require typical business and industry- specific core processes and therefore it is important that the solutions available for them are tailor-made as per their specific requirements.
3. For SMEs to adopt any ICT solution for their business growth, it is imperative that benefits of these solutions must exceed the cost associated with its implementation and maintenance. The concentrated efforts must be made to provide financial assistance to SME's at concessional rates for implementation of ICT.
4. Statutory technology cells set up by government must do periodical review of various clusters of SME's technologies and systems used. The necessary steps must be taken to keep SME's updated about the changes taking place in technologies used.

Conclusion

The ICT usage within SMEs in Mumbai is moderate in common technologies, but limited in the area of advance and sophisticated technologies such as wireless, data storage and network security solutions. It was noticed that SMEs are taking a comprehensive approach to their ICT investment focusing on both strategic and operational aspects of their business. The results of study show that SMEs are making reasonable investment in ICT and the main driving forces for ICT investment was to provide better and faster customer service, to stay ahead of competition and following owners strategy. The competitive strategy for the majority of SMEs was to provide high quality products and services to their customers and to establish long term relationships with customers. Nearly half of the respondents have realized business benefits of ICT adoption such as better customer relationships, increase in revenue and in reducing costs.

With regard to barriers to ICT investment, three fourths of the firms feel that a lack of necessary internal skills is a major barrier. More than half of the respondents feel that the costs of implementation and maintenance are too high. Lack of availability of relevant information and advice on suitable and effective technologies is also one of the major barriers. This emphasizes the need for more training facilities in ICT for SMEs, measures to provide ICT products and services at an affordable cost, and availability of professional advice and consulting at reasonable cost to SMEs. There is a need for more focus and concerted efforts on increasing awareness among SMEs on the benefits of ICT adoption in order for SMEs to be more productive and competitive. Also, there is a need for providing affordable ICT products, services, solutions and relevant professional advice for SMEs. There is a need for government and professional trade organizations (such as Chamber of Commerce and Industry) to address the gaps and issues identified.

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