

Vol III Issue IX March 2014

Impact Factor : 2.2052(UIF)

ISSN No :2231-5063

International Multidisciplinary Research Journal

Golden Research Thoughts

Chief Editor
Dr.Tukaram Narayan Shinde

Publisher
Mrs.Laxmi Ashok Yakkaldevi

Associate Editor
Dr.Rajani Dalvi

Honorary
Mr.Ashok Yakkaldevi

IMPACT FACTOR : 2.2052(UIF)

Welcome to GRT

RNI MAHMUL/2011/38595

ISSN No.2231-5063

Golden Research Thoughts Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial board. Readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

International Advisory Board

Flávio de São Pedro Filho Federal University of Rondonia, Brazil	Mohammad Hailat Dept. of Mathematical Sciences, University of South Carolina Aiken	Hasan Baktir English Language and Literature Department, Kayseri
Kamani Perera Regional Center For Strategic Studies, Sri Lanka	Abdullah Sabbagh Engineering Studies, Sydney	Ghayoor Abbas Chotana Dept of Chemistry, Lahore University of Management Sciences[PK]
Janaki Sinnasamy Librarian, University of Malaya	Catalina Neculai University of Coventry, UK	Anna Maria Constantinovici AL. I. Cuza University, Romania
Romona Mihaila Spiru Haret University, Romania	Ecaterina Patrascu Spiru Haret University, Bucharest	Horia Patrascu Spiru Haret University, Bucharest,Romania
Delia Serbescu Spiru Haret University, Bucharest, Romania	Loredana Bosca Spiru Haret University, Romania	Ilie Pinteau, Spiru Haret University, Romania
Anurag Misra DBS College, Kanpur	Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Xiaohua Yang PhD, USA
Titus PopPhD, Partium Christian University, Oradea,Romania	George - Calin SERITAN Faculty of Philosophy and Socio-Political Sciences AL. I. Cuza University, IasiMore

Editorial Board

Pratap Vyamktrao Naikwade ASP College Devrukh,Ratnagiri,MS India	Iresh Swami Ex - VC. Solapur University, Solapur	Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur
R. R. Patil Head Geology Department Solapur University,Solapur	N.S. Dhaygude Ex. Prin. Dayanand College, Solapur	R. R. Yaliker Director Managment Institute, Solapur
Rama Bhosale Prin. and Jt. Director Higher Education, Panvel	Narendra Kadu Jt. Director Higher Education, Pune	Umesh Rajderkar Head Humanities & Social Science YCMOU,Nashik
Salve R. N. Department of Sociology, Shivaji University,Kolhapur	K. M. Bhandarkar Praful Patel College of Education, Gondia	S. R. Pandya Head Education Dept. Mumbai University, Mumbai
Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai	Sonal Singh Vikram University, Ujjain	Alka Darshan Shrivastava Shaskiya Snatkottar Mahavidyalaya, Dhar
Chakane Sanjay Dnyaneshwar Arts, Science & Commerce College, Indapur, Pune	G. P. Patankar S. D. M. Degree College, Honavar, Karnataka	Rahul Shriram Sudke Devi Ahilya Vishwavidyalaya, Indore
Awadhesh Kumar Shirotriya Secretary,Play India Play,Meerut(U.P.)	Maj. S. Bakhtiar Choudhary Director,Hyderabad AP India.	S.KANNAN Annamalai University,TN
	S.Parvathi Devi Ph.D.-University of Allahabad	Satish Kumar Kalhotra Maulana Azad National Urdu University
	Sonal Singh, Vikram University, Ujjain	

**Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.aygrt.isrj.net**



GRT ICT AND PERFORMANCE OF SMES – A STUDY OF AUTO - COMPONENT MANUFACTURING SMES IN PUNE

Nutan Dherange , Manik Kadam and K.Ramesha

ASM's Institute of Business Management and Research, Chinchwad Pune .
Allana Institute Of Management, Pune .
National Institute Of Bank Management Kondhwa, Pune.

Abstract:-SME development programs have become a priority in many economies worldwide and have seen an increasing proportion of developing countries emphasizing on SME policies for economic growth. ICT has brought revolutionary changes in the social and economic life of the SME world.

Despite recent reports on the success of information-rich economies, many developing countries like India are still not catching up with the trend. Therefore, it draws curiosity as to how exactly ICT can give impact on the performance of the auto-component manufacturing SMEs in Pune Cluster.

This paper emphasizes the implementation and impact of ICT in SMEs of auto-component manufacturing units of Pune region. Sensitization of SMEs for adopting to new changes in ICT enabled services is also addressed in this study.

Keywords: Information and Communications Technology (ICT), Small and Medium sized Enterprises (SME), Management Information Systems (MIS), Enterprise Resource Planning (ERP), and Customer Relationship Management Systems (CRM).

INTRODUCTION:

1.PROBLEM STATEMENT

Technological advancement and market competition has seen Indian SMEs grow over the years. But to continue on this growth path in a globalised economic scenario, these SMEs need to adopt ICT(Information & Communication Technologies).

The growth of IT spent in Indian SME sector has been highest amongst the BRIC countries. It grew at 24% in 2008. According to the report of AMI, 45% of Indian SMEs have crossed the first wave of building basic infrastructure which included investment in portable PCs or Notebooks, although only 2% companies are in the phase of IT adoption which included ERP applications, intranet and managed security solutions.

SMEs form a dynamic and vital part of the pune economy. A continued development of competent and resilient SME is pre requirement for the balanced economic development. To expand globally, SMEs can tap the growing E-Commerce. Through the technology, they can search the potential partners and suppliers without investing much in travel and other techniques to tap the existing & potential usage of IT in Pune SMEs, we have undertaken the survey study.

2.OBJECTIVE OF THE STUDY :

The broad objective of this investigation is to examine ICT in its entirety in these select SMEs. We have followed a two-pronged approach to elicit information/data from the sample SMEs, viz., a questionnaire, drafted after visiting a couple of SMEs and interactions with management/key persons using a 'Discussion Framework' (Annexure 2) prepared for this purpose, which supplanted/supplemented information obtained from questionnaire. The purpose of discussion framework was to ensure that the discussions remain focused and questions/topics and inter-connected so that based on judgmental analysis, inferences are drawn by the researcher/s. It may be specially mentioned that after obtaining information through questionnaire, the discussions were held with the management/key officials within the discussion framework.

3.SIGNIFICANCE OF THE STUDY

Use of ICT brings significant changes to business, customers, suppliers, government and the economy! SMEs comprise an important segment of the economy and contribute plentifully to the employment. Ironically, it is very critical for the SME sector as their information requirements are acute, mainly because costs of gathering and processing information involve economies of scale. The availability of data and information and an easy access to technology resources for business and networking can lower their search costs and in turn result in improved competitiveness. It could also contribute to increasing the relative market share and competitiveness.

Enterprise Resource Planning (ERP) is a software application which has gained much of an attention. SMEs can make good use of it to optimize the entire supply chain. ERP provides solutions across functions which includes human resources, finance, production planning and control, materials management etc. Although, SMEs generally seem to be going for in-house software solutions as they can't afford expensive solutions as ERP. Those who can afford them still find their implementation costly and as a result they may have to suffer on the account of production planning errors, inventory handling, and management reporting and so on. SMEs can also facilitate potential growth of online B2B marketplaces in India. They are using E-marketplaces like IndianMART.com and Tradeindia.com for trading. We can clearly say that SMEs & ICT interests are aligned with each other.

SMEs have an advantage over large organizations as far as adoption of ICT is concerned as they are smaller in size which makes them quick in decision making. Unlike larger organizations they are less weighted down by bureaucracies and they are quite agile and responsive to any technological change that takes place in the market.

4.THEORETICAL SCOPE AND LIMITATIONS

It is felt at this stage, that the proposed study may have the following limitations. The research only covers the implementation of specific types of ICT, namely computer/internet technology. In this thesis, the term ICT is interchangeably used with computer or internet. It will also study ICT implementation of SMEs in a Pimpri Chinchwad in Pune, Maharashtra, India.

This study will then measure the SMEs performance with broad concept. Hudson, Smart & Bourne (2001) presented several SME performance variables. This study will use their elaboration of SME performance variables to measure the influence of intensified ICT access in an auto component SMEs.

5.METHODOLOGY

The proposed research is exploratory in nature. Apart from secondary sources of information such as Government sources and industrial associations, the study relies more on primary source of information. Towards this, it is proposed to conduct a survey of SMEs engaged in manufacturing of auto components in Pimpri-Chinchwad industrial area. The sample enterprises numbering 5 SMEs covering those which have implemented ICT and those not in more or less equal proportions have randomly selected and collected data by using a pilot- tested structured questionnaire. In addition to quantitative data, we have also collected qualitative data of SMEs by discussions with promoters/management and in particular those in charge of information technology to obtain insights into application of ICT in SMEs. It is also planned to visit industry associations such as MCCIA, ACMA, cluster Association, and so on.

6.ICT AND SMES

Despite the potential benefits of ICT and e-commerce, there is debate about whether and how their adoption improves firm performance. While many studies provide evidence of the positive effects of ICT adoption on firm performance, others have shown no relation between computer use and firm performance⁴. Use of and investment in ICT requires complementary investments in skills, organization and resultant change entails risks and costs as well as bringing potential benefits. On the whole, commercial considerations and potential returns drive firms to adopt new strategies and change existing one.

While the advantages of ICT to SMEs are many and obvious, SMEs are slower than large firms to adopt new ICTs as is the case with all technologies (OECD 2004). There seems to be several barriers to adopt new ICTs such as e-business and e-commerce strategies by SMEs.

Some of these constraints may include investment and maintenance costs, availability of ICT competencies within the firm, availability network infrastructure and support services and more importantly at least in Indian context, the lack of understanding of ICT and its benefits by the management. The objectives of this research is to investigate the impact of ICT on growing SMEs in Pune with particular attention on how ICT improves their business performance in the face of this rapidly changing and globalised world.

7.ANALYSIS OF DATA AND KEY FINDINGS

The data is analyzed qualitatively and quantitatively with help of in-depth interview technique. This method helps us

to understand SMEs performance using variables like : Quality, Time, Flexibility, Finance, Customer Satisfaction, Human Resource. These variables are cross verified with ICT Performance variables like : ICT Infrastructure, ICT Application, ICT Human Resource, ICT policies.

In Table 1. We have provided basic information of sample units. This study briefly describes impact of ICT on selected auto component SMEs(ASK engg, Solitaire Engg, Bharat Engg, Vishwas Auto Engg, Patson Auto Engg). These industries came in to existence in between 1995 and 2005. Out of five, three companies are running under partnership and rest two units are proprietorship. Patson auto export his small portion of its total production. Ask Engg has started exporting their production in 2011.

Table 1

Company Name	Computerization Year	No of PCs	Internet	Investment in ICT	ICT Employees(%)#
ASK	2003	6	yes	1,00,000	5
Solitaire	2004	2	yes	50,000	10
Bharat	2003	8	yes	1,45,000	6
Vishwas	2005	12	yes	1,20,000	3
Patson	1995	10	yes	1,50,000	5

#1:ASK; #2:Solitaire; #3:Bharat #4:Vishwas #5:Patson

7.1 Use of ICT Sample SMEs:

From the interview findings, it can be known that all of the respondents already have internet connection and their personal email Id. Variation exists in modes of facilities in their company like email Id, company website, MIS, SCM/ERP/CRM, KM, e-Marketing, word/Excel, Training, IT employees, Privacy and Security Policy that they have. It is displayed in Table 2

Table 2

ICT Variables	Respondents				
	1	2	3	4	5
Internet Connection	v	v	v	v	v
Personal Email	v	v	v	v	v
Company Email	-	-	v	v	-
Company Website	-	-	v	v	-
MIS	-	-	-	-	-
SCM/ERP/CRM	-	-	-	-	-
KB/KMS	-	-	-	-	-
e-Marketing	-	-	v	v	-
Word/Excel	v	v	v	v	v
IT Training	-	-	-	v	-
IT Employee	-	-	-	-	-
Privacy Policy	-	-	-	-	-
Security Policy	-	-	-	-	-
	v : Available; - : Not available				

7.1.1 Quality :

This variable is about the traits of the commodities produced by the SMEs. Table 3 shows four indicators related with Quality, namely product performance, delivery reliability, waste, and innovation. Product performance specifically relates to the extent of how acceptable the product is to the consumer. In the respondents' case, it can be measured in terms of material quality and product design. Respondent #2, #3 and #4 claimed improvement in this manner.

Table 3

Quality (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Product performance is improved	-	2	1	2	-
There is an improvement of the quality of the product after implementation of internet.	-	1	-	3	1
Product Delivery is reliable after implementation of internet.	3	1	1-	-	-
Product is producing more waste by production process.	-	-	-	3	2

7.1.2 Time :

This variable deals with the time consumed from the beginning of the production process until the clients receive the products. Thus, it consists of process time, delivery speed, productivity and labour efficiency as shown in table 4. In terms of process time, Respondent #2, #3 and #1 expressed some improvement. This situation is somewhat assisted by the existence of ICT.

Table 4

Time (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
There is an improvement in the time length of production process	1	2	1	1	-
There is an improvement in the delivery speed of your commodities to your customer	-	3	2	-	-
There an improvement in labour efficiency	-	2	1	2	-
Internet gives influence toward improvement in time	-	3	1	1	-

7.1.3 Flexibility:

Flexibility is about the ability to deal with events of change. The change can give impact on the production characteristics or volume. In this study the aspects taken into account are product innovation, new product introduction and volume flexibility.

Product innovation is about adjusting the features of the existing products due to alteration of the market. This may happen due to changes in trends and fashion. In this case, an entrepreneur is demanded to stay updated on the latest trends. This can be discovered from the interview with Respondent #2, #3 and #5. See table 5.

Table 5

Flexibility (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Internet gives influence toward improvement in flexibility	-	3	1	1	-
You able to easily change the volume of your products	-	2	1	1	1
You have introduced new products due to changes in the market	1-	2	-	2	-
You have implemented innovation/internet on your commodities due to changes in trend/fashion	1	3	-	1	-

7.1.4 Finance :

This variable deals with financial condition of the firm. There are several aspects taken into account, namely cash flow, cost reduction, sales, and efficiency shown in table 6. In terms of cash flow, this study tries to assess the amount of income of the SMEs as the result of ICT implementation. From the interview findings, it can be observed that Respondent #2, #3 and #4 claimed an increase in monthly income.

Table 6

Finance (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
There is increase of income , especially after the implementation of internet in your daily business practices	-	2	-	2	1
You are able to reduce the cost of production .	-	-	1	3	1
There is increase in the amount of sales	-	3	-	2	-
The efficiency also increases.	-	3	1	2	-
There is increase in the market share due to internet usages	1	3	-	1	-

7.1.5 Customer Satisfaction:

This variable is about the degree of approval of the customers towards the firm's service. It covers the aspects of integration with customers, delivery reliability and customer's service provided by the firm. As per table 7, in terms of integration with customers, Respondent #1, #2, #3, #4 and #5 stated that they could communicate with their customers better.

Table 7

Customer Satisfaction (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
You build relationships with your customers	3	2	-	-	-
Internet affect delivery reliability of product	4	1	-	-	-
To provide service to your customers is now more effective	4	1	-	-	-

7.1.6. Human Resource:

This variable is about the condition of the employees of the firm. It covers the number of workforce employed, employee skills, employee relationships, labour efficiency, quality of work life, labour's productivity along with staff literacy, ICT skills, innovation skills, IT experts, IT leaders, ICT training, R&D activities...

Almost all the respondent believes that employees who are handling their work on internet got a better/quality life as before. As per Table 8 their relationship with management gets improved. There is improvement in their skill. All respondent believe that internet gives influence toward improvement in human resource.

Table 8

Human Resource (before and after ICT)					
Performance Indicators	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Your firm able to achieve the production targets that you have set	-	3	1	1	-
The internet gives influence toward improvement in human resource	-	1	2	1	1
Employee Owner/manager relationship get improved	2	3	-	-	-
Employee skills improves as per time	3	2	-	-	-
Quality of your work life get improved	2	2		1	

8.CONCLUSIONS AND RECOMMENDATIONS

Our descriptive and regression analysis of the data on SMEs indicate that ICT has a positive impact on total factor productivity. Although no significant relationship between investment in ICT and productivity could be found this means only that ICT investment is not more productive than other investment in the short run. From our descriptive analysis and findings

from other studies we assume a positive effect of ICT once a certain threshold is passed. A factor which limits the above analysis is that there may be a substantial time lag between ICT investments and their effects. Thus it is possible that lack of an ICT effect may simply reflect the time lag before investments in these technologies begin to payoff.

However, as our empirical results and other considerations show the use of ICTs is at best one factor among others that improves firm performance. Therefore ICTs should not be regarded in isolation as this as well as other research shows that access to credit, managerial and other skills, infrastructure, rule of law etc. are at least as important as information and ICT.

These should include not only general improvement of infrastructure but especially the improvement of access to and quality of the communication network for SMEs. There should be training courses where enterprise goals such as improved marketing or accounting should be in the centre and use of Internet or computers should be introduced as one tool to reach that goal.

To increase access to useful information ICT intermediaries could also play a key role, as they are able to add value to the information they provide. This role could be played by non for profit organisations such as business organisations, SME associations etc. as they are aware of the information needs of small enterprises and can at the same time help to form and increase networks that will increase access to information about best practices of operation, market prices at different locations, sources of supply of inputs etc.

The study of the five SMEs has revealed and confirmed some of the issues with regard to the use of ICT as a performance improvement tool. All the owners who were interviewed have some basic ICT tools in their businesses and agree that technology plays an important part in their businesses. They also acknowledge that they have limited knowledge about ICT and the knowledge economy, which affects the ICT decision-making within the business. This study has revealed the weakness within SMEs of a lack of strategic direction with regard to ICT. ICT is often implemented for survival or compliance purposes and not strategically, which could result in a performance improvement advantage for the SME.

By employing an ICT specialist or getting an ICT consultant to help the SME owner formulate an ICT plan and strategy, decision-making in the business will improve and lead to ICT being used strategically as a competitive tool. This should see the SME becoming part of the knowledge economy.

The suggested ways in which SMEs can use ICT to improve performance are:

- 1) Set up an ICT strategy for the business: This means a strategy of how technology will be used to help the business achieve its objectives and optimize its business processes. This would include choosing the type of ICT infrastructure, Application, Human Resource and policy that will best achieve business goals and maximize benefits.
- 2) Align the business strategy with the ICT strategy: This means ICT strategy should align and support SME Strategy to improve the SME performance.
- 3) Improve and Implement ICT Policy: To make ICT adoption process successful there is a need to improvise the ICT policy and SME needs financial support to implement these policies.

Annexure 1

There are number of SMEs in and around pune mainly across the auto and auto component and engineering sector. But as far as the IT adoption is concerned, it is still a thorn issue among these SMEs. They can not lie low and turn blind to the technology developments (advancements) that are taking place at a rapid rate. Keeping all this in mind, my study proposes to explore the extent of IT penetration among Pune SMEs.

I. IMPORTANCE OF ICT IN SME

IT adoption is not only beneficial to SMEs, the relationship also works the other way around. The next stage of expansion in the Indian IT industry (both for manufacturers and service providers) is increasingly dependent on SMEs embracing its wares. Enterprise Resource Planning (ERP) is a software application which has gained much of an attention. SMEs can make good use of it to optimize the entire supply chain. ERP provides solution across functions which include human resource, finance, production planning and control, materials management etc. Although, SMEs generally seem to be going for in-house software solutions as they can't afford expensive solutions as ERP. Those who can afford they still find their implementation costly and as a result they may have to suffer on the account of production planning errors, inventory handling, and management reporting and so on. SMEs can also facilitate potential growth of online B2B marketplaces in India. They are using E-marketplaces like IndiaMART.com and Tradeindia.com for trading. We can clearly say that SMEs & IT interests are aligned with each other.

II. ICTs can benefit SMEs include the following:

- Improve inventory management systems
- Decrease wastage in production processes
- Improve communication between different departments within the firm

Improve accounting and budgeting practices
Reduce communication costs and geographic barriers with global suppliers and clients
Expand client base through e-marketing (e.g. websites, portals and mailing lists)
Link to local and global supply chains and outsourcing opportunities
Share and learn new business practices
Facilitate capacity building of owners and employees through e-learning platforms
Simplify government services such as business registration and filing taxes introduce new methods of payment through e-commerce

Annexure 2

Discussion Framework

1. Introduction – explain the purpose of survey
2. Preliminary enquiry about telephone, fax, computers, internet and software
3. Collection of information using questionnaire – minimum interference by investigator
4. Discussion with management/key official – at least one partner/owner and one staff
5. Explain the concept of ICT – avoid using technical terms to the possible extent
6. Enquire about investment in ICT during the last 2-3 years – compare the figures given in Questionnaire
7. Elicit information regarding usage of computers and internet – give hints such as accounts, payroll, business planning, inventory management etc
8. Assess the ICT knowledge of owner/key officials – discuss in general about Microsoft Software, ERP, DSS, trade portals such as indiamart.com
9. Ask why SME has invested in ICT, especially computer and internet – if no response, give hints
10. Explain the general benefits of ICT to manufacturing firms
11. Ask about the benefits of ICT to SMEs and specific benefits enjoyed by the firm concerned – ask specific questions such as whether ICT is being used for inventory management; ask inventory management has improved as a result of ICT (take cues from questionnaire)
12. Ask whether ICT (such as mobile phone with internet, office computer with internet, laptop with internet etc) has benefited the person being interviewed – find out whether ICT benefits people in key positions managing SMEs
13. Ask whether management (owner/key officials as managers of SME) has benefited on account of adoption of ICT and how
14. Ask whether employees, both in the office as well as those working in the manufacturing unit are benefited and how
15. Ask whether owner/key officials recommend ICT to their suppliers/customers and why
16. Discuss the future ICT plan including specific investments covering hardware and software – minimum interference by investigator
17. Ask about difficulties if any in adopting ICT – give hints such as non-availability of qualified staff or higher cost in hiring qualified manpower, security related aspects, failure of systems, etc
18. Solicit suggestions/opinions about training, free software, role of business association, role of Government departments in promoting ICT amongst SMEs
19. Thank the owner/partner and staff

9. REFERENCES:

1. FICCI(2012): Survey on 'Usage of Information & Communication Technology (ICT) tools by Indian SMEs and its impact on their business'
2. Ford Derek, Templeton Peter (2010), "Business support for manufacturing SMEs".
3. Gaol P.(2011): ' Impact of Information and Communication Technology on Improving Small and Medium Enterprises Performance in an Urban Kampung: Case Study of Kampong Cyber RT 36 Neighbourhood of Patehan, Yogyakarta'
4. Government of India (2011): Annual Report 2010-11, Ministry of Micro, Small & Medium Enterprises, New Delhi.
5. Harindranath G, Holloway Royal : "ICT in small firms : Factors Affecting the Adoption and Use of ICT in southeast England SMEs"
6. Holloway R., Dyerson R.(2007): 'Ict In Small Firms: Factors Affecting The Adoption And Use Of Ict In Southeast England Smes'
7. Hudson, M.; Smart, A. & Bourne, M. 2001, 'Theory and practice in SME performance measurement systems', International Journal of Operations & Production Management, vol. 21 no. 8, pp. 1096-1115.
8. <http://www.apdip.net/apdipenote/4.pdf>
9. IAMA (2008): Survey on ICT adoption among MSMEs in India.
10. Jaiswal M, "Improving Business Performance: Role of ICT in SMEs"
11. Matambalya F., Wolf S(Dec 2001): 'The Role of ICT for the Performance of SMEs in East Africa' No-42.
12. MCCA (2011): A join study of MCCA and persistent and MITCOM.

- 13.OECD (2004), “ICT, E-BUSINESS AND SMEs”, OECD, Paris.
- 14.Patel Dinsha, Ramaswamy Venguswamy(2009) “ SME world : Focus on emerging enterprises “, The Financial Express Journal.
- 15.Pavic, S., Koh, S.C.L. Simpson., M. and Padmore, J. (2007) “Could e-business create a competitive advantage in UK SMEs?” Benchmarking: An International Journal, Vol.14, No.3 pp.320-351, cited in Harindranath G et al.(2007): ICT in Small Firms: Factors Affecting the Adoption and Use of ICT in Southeast England SMEs, a. Source: <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1134&context=ecis2008>, Accessed on June 25, 2014.
- 16.Roy Soumya, Biswas Shantanu (2007), “Collaborative ICT for Indian Business Clusters”, Poster Paper. Pp 1115-1116.
- 17.Rao Guk(2010): “ Bulletin”, ni-msme, Vol 9, Issue 2, pp 1-6.
- 18.Schubert P., Leimstoll U(2006): 'The Importance of ICT: An Empirical Study in Swiss SMEs'.
- 19.Singhal Salil(2010), SME Business Journal, Vol-7, No-2.
- 20.Singhal Salil(2010), SME Business Journal, Vol-7, No-3.
- 21.United Nations (2011): Measuring the Impacts of Information and Communication Technology for Development, UNCTAD - Current Studies on Science, Technology and Innovation.
- 22.World Bank (2006): Information and Communications for Development, World Bank, Washington DC.
- 23.ZEF(2001):Role of ICT for the Performance of SMEs in East Africa, Discussion Paper on Development Policy,Source:http://www.zef.de/fileadmin/webfiles/downloads/zef_dp/Zef-dp42.pdf, Accessed on June 26, 2011.

Nutan Dherange

ASM's Institute of Business Management and Research, Chinchwad Pune .

Publish Research Article International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Book Review for publication, you will be pleased to know that our journals are

Associated and Indexed, India

- * International Scientific Journal Consortium
- * OPEN J-GATE

Associated and Indexed, USA

- EBSCO
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database
- Directory Of Research Journal Indexing

Golden Research Thoughts
258/34 Raviwar Peth Solapur-413005, Maharashtra
Contact-9595359435
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com
Website : www.aygrt.isrj.net