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IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AMONG EXPORTER: A CRITICAL REVIEW OF LITERATURE

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ABSTRACT

The study finds that there is clear gap in the research of ICT usage in the firm. More number of literature exists in global level. there is only minimum number of research exists in ICT usage in Indian companies especially very least number in Coimbatore concerns also the area covered for study are mostly the contribution to economy, entrepreneurial traits , challenges faced etc. the Coimbatore based concerns are mostly MSMEs were it is in growing stage in technology. Just updation of technology doesn't show an impact on business performance unless it is utilized right manner at accurate time. Hence the following grey area were identified as a gap in the study as the level of awareness on ICT device, the factors demanding the ICT usage, Purpose of using ICT, level of ICT usage and level of satisfaction derived by the usage of ICT devices are analysed.

KEYWORDS

ICT, export.

INTRODUCTION

ICT is an integration of innovation in technology and infrastructure. The 21st century has marked itself with ICT as one of the major motivating forces for growth of business in the world. According to French (1996), Information technology (IT) is defined as any technology which supports activities involving the creation, storage, manipulation and communication of information; together with their related methods, management and application. ICT is an essential component for operating in global environment.

Based on the definition of Techtargent search engine - ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning.

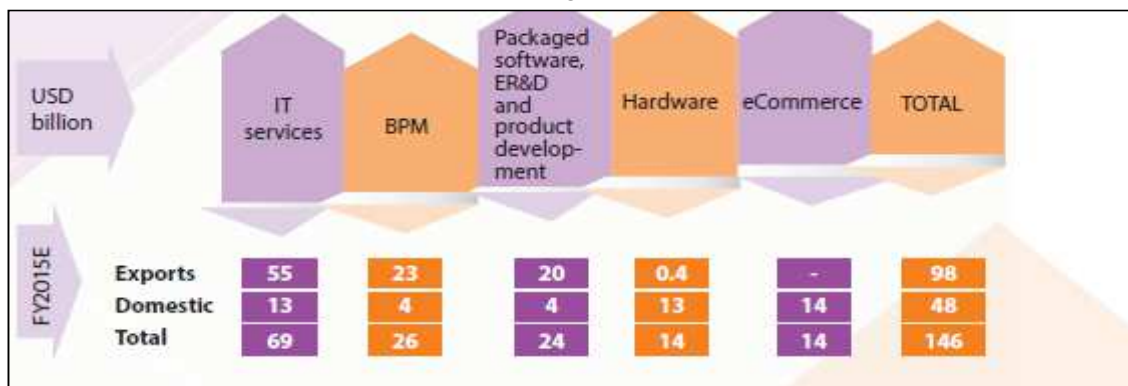
According to Kalakota, technology is the basic need, cause and driver for business strategy. ICT became the unique feature of business; the use of resources in information communication technology in a business supports the business to improve its efficiency and product value chain.

All Indian Organization's India are steadily modernizing their products, processes and business models and strategy to provide improved value chain in the trades. The most dependent areas of education sector, health sector, advertisement sector, tourism and hospitality sector have moved into the most increasingly an innovative driven force, investing and benefitting via technology utilisation.

According to the European Commission, the significance of ICTs lies in creating an environment in accessing the information and communication than understanding the need of technology it need for access. Most developed nations enjoy the economic growth since the know what they have and have not areas to utilize need of current demand by promoting the ICT.

TRENDS OF INDIAN IT-BUSINESS PROCESS MANAGEMENT (DOMESTIC+EXPORT) REVENUES

FIG. 1



Source: NASSCOM: The IT-BPM Sector in India: Strategic Review 2015

According to NASSCOM report, India is continuing its leading position with a market share of 55 percent with a 10 percent growth in global sourcing of services when IT-BPM have spent USD 2.3 trillion, growing at 4.6 per cent over 2013. In FY2015, the Indian IT-BPM industry is estimated to account for revenues of USD 146 billion, growing by 13 per cent over last year. Industry exports are over USD 98 billion growing at 12.3 per cent, while the domestic segment, which has benefited from the inclusion of ecommerce and mobile app industry, is estimated to touch USD 48 billion. The Indian industry has played a major contributor for both diverse private sector employer, with a direct workforce nearing 3.5 million, and effecting over 10 million indirect jobs with a relative share in India's GDP

swelled to 9.5 per cent, it offsets more than 70 per cent of India's oil import bill, attracts a major share of PE/VC investments into the country, has effected balanced regional growth and empowered diverse sections of the society, and is the face of the Indian MNC story.

PURPOSE OF THE STUDY

The purpose of the study is to understand the impact of Information and Communication Technology among exporter by conducting the review of related literature. While there is enormous number of articles that has been reviewed in the literature reveals the issue based on size of the organization, the barriers and problems faced by the exporters experienced for improving the ICT integration, show that it is essential to develop a better understanding of the problem while improving the firms from domestic to international level expansion. The study is further aimed at focusing the main factors that affect the impact of ICT among exporters in Coimbatore region. The question is frequently asked as to know what factors and variables determine the impact of Information and Communication Technology in exporter. An attempt has been made to know the variables that determine the impact of ICT among exporter by representation on global facts, research and experience.

REVIEW OF LITERATURE

The reasons for low levels of ICT take-up by businesses is subject to much comment in the body of literature. These can be summarised as comprising the following issues: barriers, barriers on supply side, barriers on demand side, challenges faced in usage of ICT, evidence of the use of ICT in business, Internet adoption and use, Impact of ICT usage, drivers of ICT adoption faced by both supplier and consumer perspective.

BARRIERS TO ICT ADOPTION IN RURAL AREAS

According to Taylor, Paul (2015)¹, businesses are supported with adopting ICTs to support their competitiveness, productivity and profitability which classifies some of the key internal and external factors that influence SMEs' ICT adoption with limited resources and maximum utilization. Emma Odaba (2014)² identified the factors that many challenges are faced in doing business in Kenya from a Finnish investors perspective. The possible challenges were corruption, insecurity, counterfeit & substandard of goods, high cost of energy and poor infrastructure trying for success in business with the issue of insecurity.

Laaria Mingaine (2013)³ claim that Implementation of ICT in schools in Kenya has faced many challenges that hamper efficient implementation including cost of infrastructure, electricity, teachers' skills and leadership. The result of study indicated that limited supply of qualified teachers and high cost of infrastructure were impediments to implementation of ICT. (Domenico Consoli, 2012)⁴ expressed that nowadays for good business performances it is important to align organizational and productive processes with ICT tools, adequate conditions that favor the best ICT implementation.

Mohammad Farooq Hussain (2011)⁵, This study is done to see the impact of innovation, technology and economic growth on the entrepreneurial activities. Correlation and Regression model has been used for this purpose. The results showed that these variables are highly correlated with the dependent factor "Entrepreneurship". Entrepreneurship refers to taking out new and unique combinations (Schumpeter, 1934)⁶. (Knights, 1921)⁷ viewed that entrepreneurship is the skill and capacity to anticipate the successful forthcoming with the characteristics of economic growth, it has an impact on society development with a drastic changes in individual standard of living. (Block and Macmillan, 1985)⁸ focused on the role and function of entrepreneur and their development in local areas was highly studied.

Large organizations have enough resources to adopt ICT while on the other hand SMEs have limited financial and human resources to adopt ICT. (Duan et al 2002)⁹ identified lack of ICT skills and knowledge in SMEs as one of the major challenges faced by all European countries, particularly in the UK, Poland and Portugal, in their study. (Houghton and Winklhofer 2004)¹⁰ have reported a slow response of SMEs relating to adoption of ICT. (Shiels et al 2003)¹¹ found that characteristics of the firm and industry sector are contributory factors to the adoption and exploitation of ICTs by SMEs. (Kapurubandara et al 2006)¹² have categorized internal and external barriers that impede adoption of ICT by SMEs in a developing country. The internal barriers include owner manager characteristics, firm characteristics, cost and return on investment, and external barriers include: infrastructure, social, cultural, political, legal and regulatory.

¹ Taylor, Paul (May 2015), "The Importance of Information and Communication Technologies (ICTs): An Integration of the Extant Literature on ICT Adoption in Small and Medium Enterprises", *International Journal of Economics, Commerce and Management*, Vol 3, Issue 5. Available at SSRN: <http://ssrn.com/abstract=2604205>

² Emma odaba (2014), "The challenges of doing business in Kenya from a Finnish perspective", bachelor's thesis | abstract *Turku university of applied sciences International business* | Business administration/49+9 pages instructor Ajaya Joshi

³ Laaria Mingaine (2013), "Challenges in the Implementation of ICT in Public Secondary Schools in Kenya", *International J. Soc. Sci. & Education* Vol.4 Issue 1, ISSN: 2223-4934 E and 2227-393X Print

⁴ Domenico Consoli (2012), "Literature Analysis on Determinant Factors and the Impact of ICT in SMEs", *Procedia - Social and Behavioral Sciences*, Volume 62, Pages 93-97

⁵ Mohammad Farooq Hussain (July 2011), "Impact of Innovation, Technology and Economic Growth on Entrepreneurship", *American International Journal of Contemporary Research* Vol. 1 No.1.

⁶ Schumpeter, J.A (1934), "The Theory of Economic Development", Cambridge, MA: Harvard University Press.

⁷ Knight, F (1921), "Risk, uncertainty and profit, New York": Houghton Mifflin Company.

⁸ Block and Macmillan (1985), "Milestones for Successful Venture Planning", *Harvard business*

⁹ Duan, Y., Mullins, R., Hamblin, D., Stanek, S., Sroka, H., Mavhado, V., Araujo, J. (2002) "Addressing ICTs Skill Challenges in SMEs: Insights from three country investigations", *Journal of European Industrial Training*, Vol. 26, No. 9, pp. 430-441.

¹⁰ Houghton, K.A. and Winklhofer, H. (2004) "The Effect of Website and E-commerce Adoption on the Relationship between SMEs and Their Export Intermediaries", *International Small Business Journal*, Vol. 22, No. 4, pp. 369-388.

¹¹ Shiels, H., McIvor, R., and O'Reilly, D. (2003) "Understanding the Implications of ICT adoption: Insights from SMEs", *Logistics Information Management*, Vol.16, No. 5, pp. 312-326.

¹² Kapurubandara, M., and Lawson, R. (2006), "Barriers Adopting ICT and E-commerce with SMEs in Developing Countries: An Exploratory Study in Sri Lanka", *COLLECTeR '06*, 9 December, 2006, Adelaide, [online], http://www.collector.org/archives/2006_December/07.pdf [13 March 2008]

There are a number of studies that discuss adoption of Internet and e-business in SMEs in developed countries (Lucchetti and Sterlacchini 2004)¹³, (Love et al 2004)¹⁴, (Schubert and Leimstoll 2006¹⁵ and 2007a¹⁶, b¹⁷), (Koellinger 2006)¹⁸, (Stroeken 2001)¹⁹, (Morikawa 2004)²⁰, (Caldeira and Ward 2002)²¹, (Gregor et al 2004)²², and (Doczi 2002)²³.

Governments around the globe recognize the importance of adoption of ICT by SMEs and they have created special groups to study various aspects of ICT adoption in SMEs. Despite the importance of ICT and emphasis by various governments to encourage SMEs to adopt ICT, it has been reported that SMEs have been slow in adopting ICT for various reasons (Houghton and Winklhofer 2004)²⁴, (Smallbone et al 2001)²⁵, (Dawn et al 2002)²⁶, it is important to find out reasons for the slow adoption of ICT in Oman.

SUPPLY-SIDE ISSUES

Availability of ICT expertise is identified as a supply-side barrier to rural ICT business adoption. Lawson et al. (2003)²⁷, when they note that in general, "SMEs may have difficulties first in meeting the initial costs and then the ongoing expense of maintaining [ICT use]". Matlay and Addis (2003)²⁸ also note that SMEs are most likely to access expertise only when subsidized. This may comprise a greater problem in rural areas as a result of fewer competing specialists, thus allowing for even higher prices. There are obviously questions generated by supply-side issues that require to be addressed at policy-level. Within the literature, regulation of access to the internet is commonly suggested, based on the idea that without it, "access is likely to be impeded, or at best, confused". Similarly, the literature tends to suggest a role for policy in terms of raising awareness and skills in ICT, and particularly in rural areas (Grant, 2003)²⁹.

DEMAND-SIDE ISSUES

Lack of information about, and perceived benefit of ICT amongst SMEs is a well-documented demand-side issue. For example, in terms of internet use, "SMEs may not understand the ways in which such an information infrastructure could enable them to operate their businesses more efficiently or cost-effectively".

Similarly, low levels of appropriate ICT skills have been identified as a significant barrier to ICT adoption amongst SMEs, and particularly in rural areas (Thomas et al., 2002)³⁰, p. 35) claims that low levels of ICT awareness and skills in rural areas are connected, in part, to the demographic make-up of many rural areas, where populations tend to have "lower levels of income and educational attainment and higher proportions of the elderly and disabled. All of these factors are known to influence computer access and use".

Alternatively, since many rural business' trade is, in the main, local, they have a "lower propensity for ICT awareness" and that this lack of awareness results in failure "to take-up formal training associated with opportunities to develop new ICT-related business skills and expertise" (Huggins and Izushi, 2002)³¹ however, note conversely that "there is evidence that small firms recognise the need to upgrade their skills and competence in the field of computing and the use of ICT", and exemplify this by citing a study of rural English businesses (Centre for Rural Economy, 2000)³² in which it was found that "IT was the most frequently reported support need". Adding credibility to this, similar results were obtained from a study of one rural region in Scotland.

CHALLENGES FACED IN USAGE OF ICT

Makau Joseph Kyalo (2014)³³ Like other public institutions, Nairobi water and sewerage company (NWSC) has not fully adopted e procurement and there for continue to miss the benefits. This study established the challenges facing adoption of e procurement in public sector in Kenya. The public procurement regulations, employee's competence, managerial commitment in information communication technology (ICT) are challenges on adoption of e procurement in public sector. (Tan, et al., 2010)³⁴ Existing literature reveals that SMEs face numerous challenges to the adoption and use of ICTs. Challenges of ICT adoption are common among SMEs in both the developed and developing countries, but developing countries are largely faced with more challenges. In the literature, the most frequently cited challenges are poor telecommunications infrastructure, lack of skilled or limited ICT personnel, ineffective integration ICT into business processes, high costs of ICT equipment, and government regulations for e-commerce.

¹³ Lucchetti, R. and Sterlacchini, A. (2004) "The Adoption of UCT among SMEs: Evidence from an Italian Survey", *Small Business Economics* Vol. 23, No. 2, pp.151-168.

¹⁴ Love, E.D., Irani, Z., Edwards, D.J. (2004), "Industry-centric Benchmarking of Information Technology Benefits, Costs and Risks for Small-to-Medium Sized Enterprises in Construction", *Automation in Construction*, Vol. 13, No. 4, pp. 507-524.

¹⁵ Schubert, P., and Leimstoll, U. (2006) "The Importance of ICT: An Empirical Study in Swiss SMEs" in *19th Bled Conference eValues*, Bled, Slovenia, June 5-7.

¹⁶ Schubert, P., and Leimstoll, U. (2007)a "Importance and Use of Information Technology in Small and Medium-Sized Companies", *Electronic Markets*, Vol. 17, No. 1, pp. 38-55.

¹⁷ Schubert, P., Fisher, J., and Leimstoll, U. (2007)b "ICT and Innovation in Small Companies" *15th European Conference on Information Systems*, St. Gallen, Switzerland, 1226-1239, 7-9 June.

¹⁸ Koellinger, P. (2006) "Impact of ICT on Corporate Performance, Productivity and Employment Dynamics", Special Report No 01/2006, European Commission Enterprise & Industry Directorate General, Berlin.

¹⁹ Stroeken, J.H.M. (2001) "The Adoption of IT by SMES: The Dutch Case", *Journal of Enterprising Culture*, Vol. 9, No. 1, pp. 129-152.

²⁰ Morikawa, M. (2004) "Information Technology and the Performance of Japanese SMEs", *Small Business Economics* Vol. 23, No. 3, pp.171-177.

²¹ Caldeira, M.M., and Ward, J.M. (2002) "Understanding the Successful Adoption and Use of IS/IT in SMEs: An Explanation from Portuguese Manufacturing Industries", *Information Systems Journal*, Vol. 12, No. 2, pp 121-152.

²² Gregor, S., Fernandez, W., Holtham, D, Martin, S, Vitale, M, & Pratt, G. (2004) "Achieving Value from ICT: Key Management Strategies", Department of Communications, Information Technology and the Arts, ICT Research Study, Canberra.

²³ Doczi, M. (2002) "Information and Communication Technologies and Social and Economic Inclusion", Information technology Policy Group, Ministry of Economic Development, Manatu, Ohanga, NZ, March.

²⁴ Houghton, K.A. and Winklhofer, H. (2004) "The Effect of Website and E-commerce Adoption on the Relationship between SMEs and Their Export Intermediaries", *International Small Business Journal*, Vol. 22, No. 4, pp. 369-388.

²⁵ Smallbone, D., North, D., Vickers, I., and Roper, S. (2001) "Innovation and the Use of Technology in Manufacturing Plants and SMEs: An Inter-Regional Comparison", *Proceedings 24th ISBA National Small Firms Conference: Exploring the Frontiers of Small Business* (Hinckley, Leicestershire: ISBA), pp. 289-308.

²⁶ Dawn, J., Podonik, P., and Dhaliwal, J. (2002) "Supporting the E-business Readiness of Small and Medium-Sized Enterprises: Approaches and Metrics", *Internet Research* Vol. 12, No. 2, pp139-195.

²⁷ Lawson, R., Alcock, C., Cooper, J. and Burgess, L. (2003), "Factors affecting adoption of electronic commerce technologies by SMEs: an Australian study", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 265-76.

²⁸ Matlay, H. and Addis, M. (2003), "Adoption of ICT and e-commerce in small businesses: an HEI-based consultancy perspective", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 321-65.

²⁹ Grant, J. (2003), "Growing rural female entrepreneurs: are they starved of ICT skills?", *paper presented at the ICSB World Conference*, Belfast.

³⁰ Thomas, B., Sparkes, A., Brooksbank, D. and Williams, R. (2002), "Social aspects of the impact of information and communication technologies on agri-food SMEs in Wales", *Outlook on Agriculture*, Vol. 31 No. 1, pp. 35-41.

³¹ Huggins, R. and Izushi, H. (2002), "The digital divide and ICT learning in rural communities: examples of good practice service delivery", *Local Economy*, Vol. 17 No. 2, pp. 111-22.

³² Centre for Rural Economy (2000), *Rural Microbusiness in NE England: Final Survey Results*, University of Newcastle upon Tyne.

³³ Makau, J. K. (2014), "Challenges facing adoption of electronic procurement in public sector in Kenya: A case of Nairobi Water and Sewerage Company", *International Journal of Social Sciences and Entrepreneurship*, 1 (11), 267-286.

³⁴ Tan, K.S., Chong, S. C., and Eze, U. C. (2010), "Internet-based ICT adoption among SMEs, Demographic versus benefits, barriers, and adoption intention", *Journal of Enterprise Information Management*, Volume 23, Number 1, Pages. 27-55.

June Lennie(2002)³⁵This paper presents selected findings from the evaluation of a feminist action research project that aimed to enhance Queensland rural women's access to interactive communication technologies (ICTs). Project activities aimed to be empowering and inclusive. However, the analysis also indicated various disempowering effects of participating in the project. Case studies of two participants illustrate these contradictory effects. These results suggest that enhancing rural women's technological empowerment is urgently required, given that use of ICTs is becoming increasingly important to their leadership and participation in community development.

EVIDENCE OF THE USE OF ICT IN BUSINESSES

F. Sudweeks(2010)³⁶ This paper discusses women's empowerment in terms of perceptual change in rural villages in Bangladesh after ICT intervention has been introduced by Non-Government Organizations (NGOs). The change in women's perception after using ICT was compared with changes in women who did not use ICT. The results indicate that ICT intervention changed women's perception in a positive direction in one village but it did not change in the other village. **Chifarai M Dube(2010)**³⁷This dissertation focuses on the benefits and challenges of women entrepreneurs in Zimbabwe seeking to take advantage of ICT in their businesses. Adopting several gender-sensitive methodologies, but in particular, the Grounded, Women's Law and Human Rights Approaches, the writer gathers, analyses and presents her research and identified the gap in terms of various international/regional/local policies and human rights instruments and the reality of the actual ICT services that the State and co-operating stakeholders make accessible was identified.

(Laura Galloway and Robbie Mochrie,2005)³⁸ evidenced that information and communication technologies (ICTs) are drivers of economic growth. The rural economy in most countries is regarded as that which requires intervention in order to foster sustainability and development, and there have been many empirical studies of both the value and the use of ICTs in rural areas. These are, however, highly disparate, often being industry-, country- and, indeed, type-of-technology-specific. Aims to draw together the highly eclectic literature on the use of ICTs in rural small to medium-sized enterprises (SMEs) in order to provide an overview of generic issues, relevant to policy. **Mitchell and Clark (1999)**³⁹ The current tendency, however, is for studies of ICT use by SMEs to focus on internet-based and other networked technologies, and a focus on these tends to lead to an emphasis on e-commerce. **Smallbone et al. (2002)**⁴⁰ makes little reference to stand-alone ICTs, that the three most commonly used ICT applications in SMEs are "typically, word-processing, financial management and producing accounts".

Huggins and Izushi (2002)⁴¹ argue that there are many spillover effects between personal and business use of ICT. A very typical example would be of the micro-business whose owner purchases a PC that is used initially by children within the family, and only subsequently for such business purposes as record keeping. **Buhalis and Main (1998)**⁴² note that "the internet is gaining commercial viability and is particularly suited to small business, where it enables [them] to keep doors open 24 hours a day, at minimal cost to customers all over the world". With access to increasing markets throughout the world, businesses, including those in rural areas, have a unique opportunity to expand either business-to-business, or business-to-consumer, operations from the traditional and local, to the global.

Internet adoption and use

Nurwahida Fuad (2011)⁴³ the purpose of this study is to investigate the relationship between need of achievement and entrepreneurial success among women entrepreneurs in Malaysia who involved in ICT-related business. The finding obtained from this study indicated that there was a significant (2 tailed significant) positive correlation between variables need for achievement and entrepreneurial success. In addition, the results indicated that variable need for achievement contributes high influence to women entrepreneurial success in ICT-related business. **(Tan, et al., 2010)**⁴⁴, Existing literature reveals that SMEs face numerous challenges to the adoption and use of ICTs. Challenges of ICT adoption are common among SMEs in both the developed and developing countries, but developing countries are largely faced with more challenges. In the literature, the most frequently cited challenges are poor telecommunications infrastructure, lack of skilled or limited ICT personnel, ineffective integration ICT into business processes, high costs of ICT equipment, and government regulations for e-commerce

N.P. Singh and A. Sahay (2006)⁴⁵ In this article authors have discussed role of internet for women entrepreneurs treating it as surrogate factor of ICT network availability in a country. In addition, advantages of ICT to women entrepreneurs as well as being an ICT entrepreneur are also discussed. Further, article presents some programs which are based on ICT for women entrepreneurs along with the framework for different actors such as academic institutions, entrepreneurs, government and other organizations. In contrast to PC based ICTs, usage of the internet and the world wide web (WWW) have been studied intensely. With improved trust and use as a transaction medium, increasingly "the internet is uniquely poised to promote and deliver services, both to individual and business customers" **(Zinkhan, 2002)**⁴⁶. This is evidenced by published figures pertaining to internet access and use for business. For example, **Sparkes and Thomas (2001)**⁴⁷ by stating that "internet users in the home rose by 76 per cent to six million in the UK during 1998, with the use at the office up 54 per cent to 5.3 million in the same period"; and who estimate that "the proportion of those who purchase on-line rose from 41 per cent in 1999 to 61 per cent in 2000". Similarly, in the USA, "approximately 50 million Americans are currently on-line", and **Granic (2001)**⁴⁸ by stating that "more than half of those . . . also shop there". The potential

³⁵ June Lennie(2002), "Rural women's empowerment in a communication technology project: some contradictory effects", *Paper published in Rural Society*, Vol 12, No 3, 2002, pp.224-245.

³⁶ F. Sudweeks, H. Hrachovec and C. Ess (eds)(2010), "Proceedings Cultural Attitudes Towards Communication and Technology", *Murdoch University, Australia*, 217-230.

³⁷ Chifarai M Dube(2010), "Women entrepreneurs and information Communication technology ('ICT'): an analysis of The efficacy of the use of modern technology in Conducting business transactions in Zimbabwe", A Dissertation submitted in partial fulfilment of the Masters Degree in Women's Law, Southern and Eastern African Regional Centre for Women's Law, University of Zimbabwe.

³⁸ Laura Galloway and Robbie Mochrie(2005), "The use of ICT in rural firms: a policy-orientated literature review", *Q Emerald Group Publishing Limited*, ISSN 1463-6697, VOL. 7 NO. 3 2005, pp. 33-46.

³⁹ Mitchell, S. and Clark, D. (1999), "Business adoption of information and communications technologies in the two-tier rural economy: some evidence from the South Midlands", *Journal of Rural Studies*, Vol. 15, pp. 447-55.

⁴⁰ Smallbone, D. and North, D. (1999), "Innovation and new technology in rural small and medium-sized enterprises: some policy issues", *Environment and Planning C: Government and Policy*, Vol. 17, pp. 549-66.

⁴¹ Huggins, R. and Izushi, H. (2002), "The digital divide and ICT learning in rural communities: examples of good practice service delivery", *Local Economy*, Vol. 17 No. 2, pp. 111-22.

⁴² Buhalis, D. and Main, H. (1998), "Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors", *International Journal of Contemporary Hospitality Management*, Vol. 10 No. 5, pp. 198-202.

⁴³ Nurwahida Fuad, Abdul Manaf Bohari(2011), "Malay Women Entrepreneurs in the Small and Medium Sized ICT-Related Business: A Study on Need for Achievement", *International Journal of Business and Social Science* Vol. 2 No. 13 .

⁴⁴ Tan, K.S., Chong, S. C., and Eze, U. C. (2010), Internet-based ICT adoption among SMEs, Demographic versus benefits, barriers, and adoption intention, *Journal of Enterprise Information Management, Volume 23, Number 1*, Pages. 27-55.

⁴⁵ Singh, N. P. and Sahay, A. (2006)," ICT for women Entrepreneurs", *Edited book, Entrepreneurship: Education, Research and Practice*, pp 151-159.

⁴⁶ Zinkhan, G.M. (2002), "Promoting services via the internet: new opportunities and challenges", *Journal of Services Marketing*, Vol. 16 No. 5, pp. 412-23.

⁴⁷ Sparkes, A. and Thomas, B. (2001), "The use of the internet as a critical success factor for the marketing of Welsh agri-food SMEs in the twenty-first century", *British Food Journal*, Vol. 103 No. 5, pp. 331-47.

⁴⁸ Granic, M. (2001), "Opportunities and challenges of interactive market research", paper presented at the *4th AMA School for Advanced Marketing Research*, Futures, LLC, Athens.

benefits to business are thus obvious, and indeed, **Cardinali (2001)**⁴⁹ observes, “e-commerce is growing at a meteoric rate of greater than 150 per cent per year”, and **Baourakis et al. (2002)**⁵⁰ note “the internet is now considered as an established channel for commercial transactions”.

The facilitation of networking via internet technology is also subject to much comment in the literature. Notwithstanding ICT use, networking activity, as a “social communication process which encourages the sharing of knowledge” (**Swan et al., 1999**)⁵¹, has been shown by several commentators to have a positive influence on business growth (**Chell and Baines, 2000**)⁵²; (**Lechner and Dowling, 2003**)⁵³, assert that, for small firms particularly, limited resources result in the need to access external resources through “inter-firm networks” in order to grow. Specifically, businesses can be motivated to networking activity for a variety of reasons, such as to generate innovation (**Swan et al., 1999**)⁵⁴, or to improve marketing. This latter function could be advantageous, particularly in rural areas, in terms of collaborative activity (such as communal branding), co-operation and complementation.

“International dependencies are numerous and strong” (**Mitchell and Clark, 1999**)⁵⁵, the internet is an obvious and easy means of managing network relationships. Evidence exists, however, which questions the applicability of internet technologies to the creation of networks for business purposes. It is contended that while the internet can provide channels for network communication, it is only effective “where it is used alongside relevant people management and organisational practices”. Essentially, internet networking cannot replace face The role of ICT in networking has been subject to some debate, however. For firms in which to face interactivity because trust, rapport, and tacit knowledge are essential to effective networking practice (**Swan et al., 1999**)⁵⁶. That being the case, however, there is increasing discussion of the use of the internet for specific types of networking use. For example, **Reynolds (2000)**⁵⁷ notes that online networks have been shown to be effective for collaborative purchasing by larger firms. Additionally, **Tse and Soufani (2003)**⁵⁸ refer to “strategic networks consisting of different players in the market [becoming] an essential form of organisation”. This could have important implications for rural firms in that “the unique characteristics of the virtual market enable firms, to identify and incorporate valuable complementary products and services offered by different companies into their bundle of offerings in a novel way”. This “product bundling” is not a new idea. Conventional specialist “bundling” (e.g. by mail order), but notes that, with the increased proliferation of the internet, it has become a more efficient way of marketing products and services because “they are rendered more visible . . . by making use of electronic channels”.

Traders in specialist industries have a unique opportunity, therefore, to access remote markets via the internet. In rural areas it has been shown that the locality itself can be marketed (**McKain, 2003**)⁵⁹, so by extension, businesses within a locality can group strategically on-line to exploit this potential. Empirical evidence bears this out. For example, **Sparkes and Thomas (2001)**⁶⁰, and **Baourakis et al. (2002)**⁶¹, have identified collective presentation of niche products, from Wales and Crete respectively, on the internet; and **Galloway et al. (2004)**⁶², have identified similar collective activity amongst rural businesses in Scotland, using the rural locality as the common brand, from which to proffer products and services of a specialist and complementary nature.

Deakins et al. (2003)⁶³ refer to these locality or industry-based collective internet representations as “internet forums” and have found that while they tend to be highly disparate in terms of organisation and structure, there seems to be a relationship between membership and business growth. They describe internet forums as “an online facility that provides local businesses with an internet portal and additional services, using the locale, or an industry peculiar to the locale, as the unique selling point or common brand”. They go on to argue that potential customers of included businesses comprise those with an interest in the “brand”, namely the locality (or perceptions of it). Again, this blurring of what is being sold is not new. **Reynolds (2000)**⁶⁴ notes that successful internet operators have consistently exploited perceptions of the distinctions between goods and services offered. To illustrate his point, uses the example of Amazon.com, which acts as a service provider of reviews, suggestion services, etc., to compliment, support and enhance its core function of selling books.

⁴⁹ Cardinali, R. (2001), “Taxing the internet: leveling the playing field or milking the cash cow?”, *European Business Review*, Vol. 13 No. 6, pp. 346-52.

⁵⁰ Baourakis, G., Kourgiantakis, M. and Migdalas, A. (2002), “The impact of e-commerce on agro-food marketing: the case of agricultural co-operatives, firms and consumers in Crete”, *British Food Journal*, Vol. 104 No. 8, pp. 580-90.

⁵¹ Swan, J., Newell, S., Scarbrough, H. and Hislop, D. (1999), “Knowledge management and innovation: networks and networking”, *Journal of Knowledge Management*, Vol. 3 No. 4, pp. 262-75.

⁵² Chell, E. and Baines, S. (2000), “Networking, entrepreneurship and microbusiness behaviour”, *Entrepreneurship and Regional Development*, No. 12, pp. 195-215.

⁵³ Lechner, C. and Dowling, M. (2003), “Firm networks: external relationships as sources for the growth and competitiveness of entrepreneurial firms”, *Entrepreneurship and Regional Development*, No. 15, pp. 1-16.

⁵⁴ Swan, J., Newell, S., Scarbrough, H. and Hislop, D. (1999), “Knowledge management and innovation: networks and networking”, *Journal of Knowledge Management*, Vol. 3 No. 4, pp. 262-75.

⁵⁵ Mitchell, S. and Clark, D. (1999), “Business adoption of information and communications technologies in the two-tier rural economy: some evidence from the South Midlands”, *Journal of Rural Studies*, Vol. 15, pp. 447-55.

⁵⁶ Swan, J., Newell, S., Scarbrough, H. and Hislop, D. (1999), “Knowledge management and innovation: networks and networking”, *Journal of Knowledge Management*, Vol. 3 No. 4, pp. 262-75.

⁵⁷ Reynolds, J. (2000), “E-commerce: a critical review”, *International Journal of Retail & Distribution Management*, Vol. 28 No. 10, pp. 417-44.

⁵⁸ Tse, T. and Soufani, K. (2003), “Business strategies for small firms in the new economy”, *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 306-20.

⁵⁹ McKain, R. (2003), “Social constructions of environmental quality and opportunities for enterprise in rural Scotland”, unpublished PhD thesis, *University of Highlands and Islands*, Inverness.

⁶⁰ Sparkes, A. and Thomas, B. (2001), “The use of the internet as a critical success factor for the marketing of Welsh agri-food SMEs in the twenty-first century”, *British Food Journal*, Vol. 103 No. 5, pp. 331-47

⁶¹ Baourakis, G., Kourgiantakis, M. and Migdalas, A. (2002), “The impact of e-commerce on agro-food marketing: the case of agricultural co-operatives, firms and consumers in Crete”, *British Food Journal*, Vol. 104 No. 8, pp. 580-90.

⁶² Galloway, L., Mochrie, R. and Deakins, D. (2004), “ICT-enabled collectivity as a positive rural business strategy”, *International Journal of Entrepreneurial Behaviour & Research*, Vol. 10 No. 4, pp. 247-59.

⁶³ Deakins, D., Galloway, L. and Mochrie, R. (2003), The Use and Effect of ICT on Scotland’s Rural Business Community, *Research Report for Scottish Economists’ Network*.

⁶⁴ Reynolds, J. (2000), “E-commerce: a critical review”, *International Journal of Retail & Distribution Management*, Vol. 28 No. 10, pp. 417-44.

THE RURAL PARADOX

There is considerable evidence that ICT business use can prompt development at both the firm and economic levels (Colecchia, 2002)⁶⁵; (CEBR, 2003)⁶⁶; (BCC, 2004)⁶⁷. However, it is now well documented (e.g. Fillis et al., 2003)⁶⁸; (Jones et al., 2003)⁶⁹ that SMEs tend to lag behind larger firms "both in terms of awareness and implementation" of ICT use (Hawkins and Prencipe, 2000)⁷⁰. The lag in, specifically internet use, is even more marked.

Ramsay et al. (2003)⁷¹ cite statistics from the European Observatory for SMEs which show that "SMEs are not using . . . the internet . . . for commercial transactions" to any great extent, and Anderson and Lee (2003)⁷² note that internet use for business amongst SMEs is, in itself, highly variable as "progressive SMEs engage in e-commerce, but many [others] are stuck at the web presence point". For businesses in rural areas, studies have found that ICT use is even less prevalent (Keeble et al., 1992)⁷³; (Buhalis and Main, 1998)⁷⁴; (Smallbone et al., 2002)⁷⁵. These findings are paradoxical given the "potential [of ICT and the internet] for overcoming the disadvantages of rural and peripheral locations with respect to markets and suppliers".

IMPACT OF ICT USAGE

Nirvikar Singh (2014)⁷⁶, Information technology (IT) is an example of a general purpose technology that has the potential to play an important role in economic growth, as well as other dimensions of economic and social development. This paper reviews several interrelated aspects of the role of information technology in the evolution of India's economy. It considers the unexpected success of India's software export sector and the spillovers of this success into various IT enabled services, attempts to make IT and its benefits available to India's rural masses, e-commerce for the country's growing middle class, the use and impacts of IT in India's manufacturing sector, and various forms of e-governance, including internal systems as well as citizen interfaces.

Vikas Sindhi et. al (2011)⁷⁷ Information and Communication Technology (ICT) has emerged as an effective facilitator in the development of any society and is a prime driving force in the growth of rural economies. The Rural Market of India is showing an impressive growth largely due to changing lifestyle patterns, better communication network and rapidly changing demand structure of consumers of rural area. With the changing patterns of Rural Market, the role of ICT has increased from providing only the Networks to set-up the basis of updated technological programs in the rural area. Thus, technological advancement is necessary for every nook and corner of India.

Rafi Ashrafi and Muhammed Murtaza (2008)⁷⁸ depicts the main driving forces for ICT investment are to provide better and faster customer service and to stay ahead of the competition by providing training facilities in ICT for SMEs, measures to provide ICT products and services at an affordable cost, and availability of free professional advice and consulting at reasonable cost to SMEs at Oman. L. A. Ogunsola (2005)⁷⁹, The main goal of this paper is to examine the ICT (Information and Communication Technology) revolution and the concept of globalization as they effect developing countries. Globalization as one of the reasons for possible widening of the gap between the poor and the rich nations was examined and the emerging concept of "digital slavery" was carefully evaluated. The wide gap in availability and use of ICTs across the world and the influences ICTs exert on globalization at the expense of developing countries were carefully examined and suggestions and necessary policies were offered for developing countries to leap-frog the industrialization stage and transform their economies into high value-added information economies that can compete with the advanced countries on the global market. This is why it is important for Africa, in general, and Nigeria, in particular, to be aware of the implications, prepare to avoid the most telling consequences and prepare to meet its challenges. As Faye (2000)⁸⁰ has pointed out, ICTs are offering even less developed countries a window of opportunities to leapfrog the industrialization stage and transform their economics in to high value-added information economies that can compete with the advanced economics on the global market. Technological innovation has contributed to globalization by supplying infrastructure for trans-world connections. According to Ajayi (2000)⁸¹, the revolution taking place in information and communication technologies have been the central and driving force for the globalization process. Both developed and less-developed countries cannot afford to miss out on the opportunities these technologies are creating. Kofi Annan (1999)⁸² has put it, "the Internet holds the greatest promise humanity has known for long- distance learning and universal access to quality education. It offers the best chance yet for developing countries to take their rightful place in the global economy. And so our mission must be to ensure access as widely as possible. If we do not, the gulf between the haves and the have-nots will be the gulf between the technology-rich and the technology-poor".

1755 – 1850: Classical Theorists

"The history of entrepreneurship study is multidisciplinary, multinational and rather lengthy and abstruse. The scope of the literature, the number of authors and the multidisciplinary nature of entrepreneurship complicate any comprehensive literature review". Entrepreneurship in practice has been around as long as

⁶⁵ Colecchia, A. (2002), "ICT investment and economic growth in the 1990s: is the United States a unique case?", *Review of Economic Dynamics*, Vol. 5, pp. 408-42.

⁶⁶ CEBR (2003), *The Economic Impact of a Competitive Market for Broadband*, *Broadband Industry Group*, London.

⁶⁷ BCC (2004), *Business Broadband: A BCC Survey*, Cisco Systems/Oracle, San Jose, CA

⁶⁸ Fillis, I., Johansson, U. and Wagner, B. (2003), "A conceptualisation of the opportunities and barriers to e-business development in the smaller firm", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 336-44.

⁶⁹ Jones, C., Hecker, R. and Holland, P. (2003), "Small firm internet adoption: opportunities forgone, a journey not begun", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 287-97.

⁷⁰ Hawkins, R. and Prencipe, A. (2000), *Business to Business E-commerce in the UK: A Synthesis of Sector Reports*, commissioned by the Department of Trade and Industry, London

⁷¹ Ramsay, E., Ibbotson, P., Bell, J. and Gray, B. (2003), "E-opportunities of service sector SMEs: an Irish cross-border study", *Journal of Small Business and Enterprise Development*, Vol. 10 No. 3, pp. 250-64.

⁷² Anderson, M. and Lee, G. (2003), "Clicks and mortar: the e-commerce experience for Scottish SMEs", paper presented at the 26th ISBA Small Firms Policy and Research Conference: SMEs in the Knowledge Economy, Guildford.

⁷³ Keeble, D., Tyler, P., Broom, G. and Lewis, J. (1992), "Business Success in the Countryside: The Performance of Rural Enterprise", HMSO, London.

⁷⁴ Buhalis, D. and Main, H. (1998), "Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors", *International Journal of Contemporary Hospitality Management*, Vol. 10 No. 5, pp. 198-202.

⁷⁵ Smallbone, D., North, D., Baldock, R. and Ekanem, I. (2002), *Encouraging and Supporting Enterprises in Rural Areas*, Small Business Service/DTI, London

⁷⁶ Nirvikar Singh(2014,DEC), *Information Technology and its Role in India's Economic Development: A Review*, UCSC: Preliminary Draft: This is a revised version(2012) of a paper presented at a conference celebrating 25 years of the IGIDR.

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humans have existed (Falcone & Osborne, 2005)⁸³. The United States economic development and current economic power are due to the entrepreneurial nature of the U.S. society (Penn State University, 1997)⁸⁴. Richard Cantillon, a French economist, first used the term entrepreneur in 1755 (Cassidy & Minoglou, 2005)⁸⁵; Casson & Godley, 2005)⁸⁶. Cantillon defined entrepreneurs as resource allocation decision makers.

Entrepreneurs are faced with market uncertainty, take risks when purchasing products or raw material at a certain price, then attempt to sell the same product or one modified in the marketplace at any price they can obtain, but optimally higher than the original transaction price (Hebert & Link, 1982⁸⁷; Baumol, 1995⁸⁸). French theorist, Nicolas Baudeau, agreed with many of Cantillon's theories (as cited in Hebert & Link, 1982), but added a concept suggesting entrepreneurs could and would innovate in order to minimize their perceived risks and increase profits. Baudeau suggested entrepreneurs possessed abilities to improve their own situations, and were not merely skillful in reacting or predicting when market changes occur. Baudeau broadened Cantillon's concept of entrepreneurship, and brought to light the potential benefits of the entrepreneur's own abilities (Hebert & Link, 1982).

DRIVERS OF ICT ADOPTION

A study by Akomea-Bonsu and Sampong (2012)⁸⁹ on the impact of ICTs on SMEs in the Kumasi Metropolis in Ghana, found that most of the SMEs in Kumasi reported a positive performance and other benefits of ICT adoption.

A literature survey by (Barba-Sanchez, et al(2007)⁹⁰ Their study however did not include any reference to ICT adoption in any African country.

CONCLUSION

There is clear gap in the research of ICT usage in the firm. More number of literature exists in global level. there is only minimum number of research exists in ICT usage in Indian companies especially very least number in Coimbatore concerns also the area covered for study are mostly the contribution to economy, entrepreneurial traits, challenges faced etc. the Coimbatore based concerns are mostly MSMEs were it is in growing stage in technology. Just updation of technology doesn't show an impact on business performance unless it is utilized right manner at accurate time. Hence the following grey area were identified as a gap in the study as the level of awareness on ICT device, the factors demanding the ICT usage, Purpose of using ICT, level of ICT usage and level of satisfaction derived by the usage of ICT devices are analysed.

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