Amity Journal of Entrepreneurship
1(1), (71-85)

Technological Understanding and Usage vis-à-vis Knowledge of Government Schemes – A Study of Women Entrepreneurs of Selected Cities of Gujarat

S O Junare

Shri Jairambhai Patel Institute of Business Management & Computer Application (SJPI), Gujarat, India

Ranjana Singh

CSRSM- SSS, Central University of Gujarat, Gandhinagar, India

(Received: 27/03/2016; Accepted: 03/05/2016)

Abstract

India is determined to transform into a digitalized nation which has become clear after its 'Digital India' initiative. Studies have, time and again, claimed that there lies a direct link between technological advancements and entrepreneurial innovations. Lately, women entrepreneurs (WE/s) have been considered chief economic agents of the nations worldwide. Analytical framework suggests that women entrepreneurs are essential for the economic growth of the nation. In the backdrop of numerous economic failures, it is now an economic demand that the possibilities of development of entrepreneurial opportunities for the 48.4 % (women) of current population should be explored extensively radical economic development of India. This consideration has made policy makers and the business ventures to utilize the skills lying with these game changers, i.e., WE/s of the society. Also, the researchers are further studying unexplored facets of WE/s and making new and interesting revelations. In this research paper, authors are trying to probe uncultivated facet of WE/s and trying to gather answer for the research question 'whether there lies a relationship between technological aspects (technological skill, knowledge of modern technology and usage of technology) of WE/s with that of their knowledge of government support schemes'. This is an empirical study being conducted on the WE/s of selected cities of Gujarat (India). Along with this, authors, will also try to explore the entrepreneurial avenues, vis-à-vis, technological skill, knowledge of modern technology and usage of technology among the WE/s of the state.

Keywords: Digital India, Government Schemes, Gov-Tech Approach, Technological Inclination and Women Entrepreneurs

JEL Classification: L26

Paper Classification: Research Paper

Introduction

Entrepreneurship generally focuses upon the why, when and how of creation, recognition and utilization of opportunities. So, Entrepreneurship can widely be quoted as 'discovery and exploitation of opportunities' (Shane & Venkataraman, 2000). Discovery and exploitation of opportunities is possible in the realm of entrepreneurial alertness. The work of Gaglio and Katz (2001) support this in their cognitive model where they hypothesize, that those who have entrepreneurial alertness, have better skills of identifying change in the market, industry and socio-political environment. Most of the empirical research portrays the importance of information, knowledge, network and cognitive issues in the identification and exploitation of entrepreneurial opportunities (Urwyler, 2006).

Now-a-days, communication and information dissemination have taken a big leap from postal and telegraph era to print and broadcasting media to the era of digital communication. Only way to communicate with the citizens of the largest democracy of the world is connecting with everyone on a digital platform (Deloitte, 2015).

'Digital India' initiative by the Government of India, which intents to transform India into a digitally empowered society and knowledge economy, is welcomed by the economic and technological practitioners around the world. The initiative is based on three key visions (DEITY, 2015): (i) digital infrastructure as a utility to every citizen; (ii) Governance and services on demand; and (iii) digital empowerment of citizens.

The dream project of 'Digital India' can prove to be instrumental in changing the lives of not only common people, but also, in changing the lives of main economic agents 'Entrepreneurs' of the country (Deloitte, 2015). The 'Digital Business Model' helps the 'Entrepreneurs' in a lot of ways (e.g. reaching to the wider audience, making services more affordable, eye-catching and feasible for the consumers). This digital business model is proving to be phenomenal in the current growth of entrepreneurs, specifically, when Indian population is greatly inclined towards e-commerce services provided by recent entrepreneurial ventures, like BigBasket (providing grocery at home), Portea Medical (providing home healthcare), SuperProfs (providing online education) etc., delivering high quality services at low-cost.

As technology has been found given enormous importance after the 'Digital India' initiative, this research work has been conducted with a view to identify the technological inclination of women entrepreneurs (hereinafter written as WE/s) of Gujarat, which is supposed to be India's first state to have State Wide Area Network (GSWAN) and India's only state to have crossed 1 Billion e-Transactions (DST, 2015). Gujarat, as stated, is the one of the most digitally advanced states of India, and has shown regular concern towards the entrepreneurial empowerment of all types of business owners. This is achieved by attracting maximum number of foreign investments to the state (DST, 2015), by organizing industry specific exhibitions on regular occasions; and by dedicating industrial parks to specific set of business owners like GIDC. Recently, in Women Industrial Park, Sanand, Gujarat Industrial Development Corporation (A Government of Gujarat Undertaking) has planned to dedicate an area of around 18.3 Hectare to Women Park at GIDC Sanand Industrial Estate, Ahmedabad (GIDC, 2015). Having the variety of schemes in place, the researchers aim to find out whether usage of innovative technologies (specifically ICT) makes it easier to spread the information of Government support schemes among the WE/s of the state (Gujarat). Researchers have chosen WE/s for study as it has been believed that more number of men over women gets adapted well to the technology which enables them to bring technical changes or launching innovative economic activities in their business ventures (ILO, 2008). Researchers are trying to understand the scenario of WE/s of Gujarat State in this regard.

In this paper, the technological understanding and usage of technology basically means proficiency in ICT knowledge and usage which includes computer usage, ease of accessing internet (especially in exchanging emails, knowledge of online shopping portals and hence having an understanding of taking business online) and smart phone usage. As per the United Nations guide on 'Empowering Women Entrepreneurs through Information and Communication Technologies, ICT contributes towards enhanced opportunities, enhanced knowledge of business support services, open avenues to promote their businesses, allows access to effective marketing channels, helps in generating improvised networks with customers, business partners and other stakeholders in the society (UN, 2014). Researchers are ardent to understand that there does not lie a relationship between WE/s understanding and usage of technology (ICT to be specific) and their knowledge on various business support services (referred earlier in the above paragraph) provided by Government, like knowledge of Government schemes.

Objectives

1. To probe the types of business activities in which women entrepreneurs are active in Ahmedabad and Vadodara.
2. To explore the technological intelligence of women entrepreneurs by identifying:-
   i. entrepreneurial avenues vis-à-vis knowledge of technological skills.
   ii. entrepreneurial avenues vis-à-vis knowledge of modern technology.
   iii. entrepreneurial avenues vis-à-vis whether women use technology in their day to day business activities
3. To investigate the relationship between the following among WE/s of MSME sector of selected cities of Gujarat:-
   i. knowledge of technological skills vis-à-vis knowledge of Government support schemes.
   ii. knowledge of modern technology vis-à-vis knowledge of Government support schemes.
   iii. WE/s do not use technology vis-à-vis poor knowledge of Government support schemes

Review of Literature

Literature review of this paper is categorized into three parts. The firstly part will present the available literature which highlights the importance of women entrepreneurs and their contribution in the growth of economy of Gujarat. The second part will highlight leading literature in the field of technology (specifically ICT) which will help us understand the crucial role played by this factor to develop entrepreneurship skills. The third and final part of the literature review presents the possibilities of relationship between technological understanding and its usage and effect on the knowledge of Government's business support services/schemes for entrepreneurial section of the economy.

Government of India defines women owned enterprise as 'An enterprise owned and controlled by a woman, having a minimum financial interest of 51 per cent of the capital and giving at least 51 per cent of employment generated by enterprise to women employees'. Besides this technical definition Kamal Singh, as cited by Sharma (2013) in her study 'Women Entrepreneur in India,' defines a women entrepreneur as 'confident, innovative and creative women capable of achieving self economic independence individually or in collaboration, generates employment opportunities for others through initiating, establishing and running the enterprise simultaneously, keeping pace with her personal, family and social life'. Role of women entrepreneurs not only in India, but throughout the world, has been regularly discussed. In one such study, Center for Women's

Business Research in 2009, measures the impact of 8 million women enterprises in U.S, where these enterprises were observed having economic contribution of $3 trillion annually and were able to create million jobs (16% of total job creation) in US market (Ascher, 2012). As per the annual report of NABARD, 2011, India has also witnessed continuous growth in the number of women-owned enterprises, wherein, it has been recorded as a growth of 8.16 per cent in the state of Gujarat (Pandian, Jeyaprakash, Pathak & Singh, 2012). Since 1980, women in India have been recognized as imperative human capital which needs targeted programs for their entrepreneurial skill development (Devi, 2013).

Hayek (1937) had first articulated the importance of information for better coordination and for better decision making in a perfect economy, which will lead to equilibrium. Leading theoreticians in the milieu of innovation, have studied innovation in a variety of context (e.g., in relation to technology, commerce, social systems, economic development, and policy construction) (Kariv, 2011). Drucker (1986) enlists seven sources of innovative opportunity that should be regularly explored by the entrepreneurs when starting an entrepreneurial business, which also includes three sources of opportunity which has been found suitable for this research paper, like, (i) innovation based on the 'missing link' between the need and what is done to respond to that need; (ii) changes and shifts in industry or market structure are opportunities for an innovative product, service or business approach and; (iii) advances in knowledge can create new products and new markets.

ICT encompasses the integration of real time communication services (such as instant messaging, presence information, video conferencing, data sharing, amongst many others) telecommunications, computers as well as necessary enterprise software, middleware, storage and audio visual systems, which enables users to access, store, transmit and manipulate information (Motilewa, Onakoya & Oke, 2015). Both traditional and modern technologies enable women entrepreneurs to start and grow their business ventures, comparatively, easier than before despite of existence of various social, financial and educational constraints (UNCTAD, 2014).

Policy makers have been observed showing great interest towards entrepreneurship and aspects of the consequences of successful entrepreneurship, namely innovation and technological change (Link, 2007). This interest has been generated in the backdrop of rapid advancements in ICT, which are connected to the surfacing of 'post industrial society' (Bell, 1973) or knowledge economy.

In a study conducted, on 'Enabling Entrepreneurship for Women's Economic Empowerment in Asia and Pacific' (jointly by United Nations Economic and Social Commission and Goldman Sachs 10,000 Women initiative), it was aimed to nurture women's entrepreneurship in Asia and the Pacific by strengthening the current knowledge base and capacities of policy makers. The result highlighted that all women respondents in India are likely to use ICT for the business operations (UNESCAP, 2013). Government frames various laws which affect WE/s, ICT can be helpful in updating them about these laws and regulations (UNCTAD, 2014).

Research Gap

Gujarat is making efforts to become technologically efficient and it claims to be the first state to have state wide area network (GSWAN). It also claims to be proactive with respect to the growth and development of women entrepreneurs. The gap lies in the awareness of Government schemes among the WE/s (Palaniappan, Ramanigopal & Mani, 2012). The present study analyzes if there exists any relationship between the technology skill/understanding and usage vis-à-vis knowledge of Government schemes among the WE/s.

Contribution of the Study

This paper solely intends to highlight a situation prevailing in part of the total population and doesn't claim to reveal the exact relation occurring between these two factors in the total population of WE/s of Gujarat State. This forms a base for future studies where the relationship and hence the effect of various factors may be studied to understand the phenomenon of 'Lack of knowledge of Government schemes' among the WE/s of our economy.

Research Methodology

Sample

This survey has been performed in Ahmadabad and Vadodara in the State of Gujarat, which is located on the western coast of India and has accomplished the peculiarity to be one of the most economically and industrially advanced states. The sample size is 50 which consist of WE/s of the state as respondents. This is not an industry specific study but study in general about the technological intelligence vis-à-vis government policy/scheme intelligence among the WE/s of the state.

Research Design

The study uses interview schedule to collect responses to have a better understanding of WE/s and their problems by face to face interaction. According to the 4th Census Report of MSMEs by Government of India, a total of 23629 MSME units are owned by WE/s in Gujarat. Ahmedabad has 1208 and Vadodara has 3111 MSME enterprises which are run by WE/s (MSME, 2009). 50 WE/s (25 each from Ahmedabad and Vadodara) have been interviewed by way of interview schedule which is attached as Appendix A. This study was completed during 18th December, 2015 to 26th January, 2016.

Statistical Tools Used

To analyze the data, the study uses SPSS 21 package. Uni-variate analysis has been carried out to identify the various entrepreneurial avenues in which women entrepreneurs are most active in Ahmedabad and Vadodara. Bi-variate analysis with the help of cross-tabulation analysis was also used for the analysis.

Analysis

Entrepreneurial Avenues

Entrepreneurs, in general, recognize a wide variety of entrepreneurial avenues to achieve growth, self fulfillment and self accomplishment. These avenues generally range from self-employment, franchising, technopreneurs, multiple businesses (the entrepreneurs who have been observed involving in more than one business, one after the other, over the years are called serial entrepreneurs) so on and so forth (Kariv, 2011).

WE/s of the state have been observed involving in following entrepreneurial avenues (arranged in descending order of current existence of WE/s in respective avenues).

Table 1: Entrepreneurial Avenues chosen by WE/s in Gujarat

Entrepreneurial Avenues	Frequency	%
Manufacturing of Customized Clothing	11	22.0
Retail Business	8	16.0
Engineering	5	10.0
Handicraft Based Business	5	10.0
Multiple Business Activities	4	8.0
Consultancy Services	3	6.0
Event Management	3	6.0
Beauty and Skincare Industry	2	4.0
Food Industry – Manufacturing	2	4.0
Travel & Tour Services	2	4.0
Organizing Training Sessions	2	4.0
Food Industry – Processing	1	2.0
Healthcare Industry	1	2.0
Import & Export	1	2.0
Total	50	100.0

Table 1, indicates inclination of WE/s to be majorly towards manufacturing of customized clothing with 22 % of women observed were involved in this business activity. Whereas lowest number of WE/s are involved in food processing industry, healthcare industry and import and export industry, each being carried out, by least i.e. 2 % of WE/s from the given sample size. Rest of the WE/s have been found involved in business activities as found in Table 1.

Relationship between the Entrepreneurial Avenues vis-à-vis Technological Knowledge & Usage among Women Entrepreneurs. In this section of the study the researcher has highlighted entrepreneurial avenue vis-à-vis: - (i) level of technological skill; (ii) knowledge of modern technology; and (iii) women do not use technology.

United Nations Secretary-General established 'UN System Task Team in September 2011' for post-2015 agenda for development ensuring equitable and inclusive globalization. There, science, technology and innovation (STI) has been identified as chief drivers for development. It was identified that innovation driven growth is not a tool only for developed countries, but many developing countries have also been seen attaining momentous monetary growth with the STI competence (UN, 2012). This spotlights the importance of technology for the eventual growth of business ventures. When the sample was questioned about various aspects related to technological soundness of the WE/s, following results were obtained:-

Entrepreneurial Avenue vis-à-vis Technological Skill. According to this survey there lies a substantial gap in the technological skills of WE/s. The following Table 2 reveals the observations made by the study in this regard. Table 2 depicts that a total of 64% of WE/s believe that they lack technological skills whereas 36 % of WE/s believe that they do not lack technological skills.

Table 2: Tabulated representation of Entrepreneurial Avenues vis-à-vis technological skills

			Technological Inclination - Lack of Technological Skill	
			Yes	No
Entrepreneurial Avenue	Engineering	Count	5	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Manufacturing of Customized Clothing	Count	7	4
		% within Entrepreneurial Avenue	63.6%	36.4%
	Beauty and Skincare Industry	Count	2	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Consultancy Services	Count	2	1
		% within Entrepreneurial Avenue	66.7%	33.3%
	Food Industry – Manufacturing	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Retail Business	Count	3	5
		% within Entrepreneurial Avenue	37.5%	62.5%
	Travel & Tour Services	Count	2	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Handicraft Based Business	Count	2	3
		% within Entrepreneurial Avenue	40.0%	60.0%
	Food Industry – Processing	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Organizing Training Sessions	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Multiple Business Activities	Count	2	2
		% within Entrepreneurial Avenue	50.0%	50.0%
	Event Management	Count	2	1
		% within Entrepreneurial Avenue	66.7%	33.3%
	Healthcare Industry	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Import & Export	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
Total		Count	32	18
		% within Entrepreneurial Avenue	64.0%	36.0%

Entrepreneurial Avenue vis-à-vis knowledge of modern management. The Table 3 represents a contradicting view of WE/s from the of view Technological Skill vis-à-vis Entrepreneurial Avenues. On the present question which seeks their Knowledge on Modern Technology vis-à-vis Entrepreneurial Avenues, 56% of WE/s believe that they have sound knowledge on modern technology. However, in the previous research question, 64% of WE/s agreed that they lacked technological skills, whereas on 36% of WE/s agrees to have sound technological skills.

Table 3: Tabulated Representation of Entrepreneurial Avenues vis-à-vis Knowledge of Modern Technology

			Poor knowledge of modern technology	
			Yes	No
Entrepreneurial Avenue	Engineering	Count	3	2
		% within Entrepreneurial Avenue	60.0%	40.0%
	Manufacturing of Customized Clothing	Count	5	6
		% within Entrepreneurial Avenue	45.5%	54.5%
	Beauty and Skincare Industry	Count	2	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Consultancy Services	Count	2	1
		% within Entrepreneurial Avenue	66.7%	33.3%
	Food Industry – Manufacturing	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Retail Business	Count	2	6
		% within Entrepreneurial Avenue	25.0%	75.0%
	Travel & Tour Services	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Handicraft Based Business	Count	2	3
		% within Entrepreneurial Avenue	40.0%	60.0%
	Food Industry – Processing	Count	0	1
		% within Entrepreneurial Avenue	0.0%	100.0%
	Organizing Training Sessions	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Multiple Business Activities	Count	1	3
		% within Entrepreneurial Avenue	25.0%	75.0%
	Event Management	Count	1	2
		% within Entrepreneurial Avenue	33.3%	66.7%
	Healthcare Industry	Count	0	1
		% within Entrepreneurial Avenue	0.0%	100.0%
	Import & Export	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
Total		Count	22	28
		% within Entrepreneurial Avenue	44.0%	56.0%

Entrepreneurial Avenues vis-à-vis women do not use technology. In this part of the study, 78 % of WE/s disapprove to the fact that women do not use technology. The entrepreneurial avenues and proportion of WE/s in respective avenues who disapprove this statement are: (i) Engineering, Consultancy Services, Multiple business units, Handicrafts, Beauty & Skincare Industry, Corporate Trainers and Food Processing – 100 %; (ii) Manufacturing of Customized Clothing – 81 %; (iii) Event Management Businesses – 66.7 %; and Retail Business – 62.5 %

Table 4: Tabulated Representation of Entrepreneurial Avenues vis-à-vis Women Do Not Use Technology

Entrepreneurial Avenue * Women do not use technology Crosstabulation				
			Women do not use technology	
			Yes	No
Entrepreneurial Avenue	Engineering	Count	0	5
		% within Entrepreneurial Avenue	0.0%	100.0%
	Manufacturing of Customized Clothing	Count	2	9
		% within Entrepreneurial Avenue	18.2%	81.8%
	Beauty and Skincare Industry	Count	0	2
		% within Entrepreneurial Avenue	0.0%	100.0%
	Consultancy Services	Count	0	3
		% within Entrepreneurial Avenue	0.0%	100.0%
	Food Industry – Manufacturing	Count	1	1
		% within Entrepreneurial Avenue	50.0%	50.0%
	Retail Business	Count	3	5
		% within Entrepreneurial Avenue	37.5%	62.5%
	Travel & Tour Services	Count	2	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Handicraft Based Business	Count	0	5
		% within Entrepreneurial Avenue	0.0%	100.0%
	Food Industry – Processing	Count	0	1
		% within Entrepreneurial Avenue	0.0%	100.0%
	Organizing Training Sessions	Count	0	2
		% within Entrepreneurial Avenue	0.0%	100.0%
	Multiple Business Activities	Count	0	4
		% within Entrepreneurial Avenue	0.0%	100.0%
	Event Management	Count	1	2
		% within Entrepreneurial Avenue	33.3%	66.7%
	Healthcare Industry	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
	Import & Export	Count	1	0
		% within Entrepreneurial Avenue	100.0%	0.0%
Total		Count	11	39
		% within Entrepreneurial Avenue	22.0%	78.0%

Table 4, lucidly represents that other entrepreneurial avenues i.e. business units in travel and tour services, healthcare industry and import and export businesses collectively favor the statement that women do not use technology and forms very small portion of the sample size i.e. 22 % of the respondents.

Relationship between Technological Knowledge and Usage vis-à-vis the Knowledge of Government Support Schemes among Women Entrepreneurs. In this section of the study

the researcher has highlighted technological knowledge and usage vis-à-vis knowledge of Government support schemes.

Poor Knowledge of technological skills vis-à-vis poor knowledge of government support schemes. In general, 54 % of WE/s who participated in the survey reveal that they have poor knowledge of Government schemes as against 46 %, who believe that they have a sound knowledge of Government support schemes.

Table 5: Tabulated representation of Lack of technological skill vis-à-vis poor knowledge of Government support schemes

Technological Inclination - Lack of Technological Skill * Poor knowledge Government support schemes Cross tabulation					
			Poor knowledge government support schemes		Total
			Yes	No	
Technological Inclination - Lack of Technological Skill	Yes	Count	22	10	32
		% within Technological Inclination - Lack of Technological Skill	68.8%	31.3%	100.0%
	No	Count	5	13	18
		% within Technological Inclination - Lack of Technological Skill	27.8%	72.2%	100.0%
Total		Count	27	23	50
		% within Technological Inclination - Lack of Technological Skill	54.0%	46.0%	100.0%

Table 5 depicts that 68.8 % of those respondents who believe that they lack technological skills also believe to have poor knowledge of Government support schemes. Another important point to note is 72.2% of those respondents who perceive their technological skill to be quite up to the mark, suggest that they do not have poor knowledge of Government schemes.

Poor Knowledge of modern technology vis-à-vis poor knowledge of government support schemes. Table 6 shows that 77.3% of the respondents who believe to have poor knowledge of modern technology, expressed that they have a poor knowledge of Government schemes. In contrast, 64.3% WE/s, who believe to have a good knowledge of modern technology do not lack knowledge of Government support schemes.

Table 6: Tabulated representation of Poor knowledge of modern technology vis-à-vis poor knowledge of Government support schemes

Poor Knowledge of Modern Technology * Poor Knowledge of Government Support Schemes Cross Tabulation					
			Poor knowledge government support schemes		Total
			Yes	No	
Poor knowledge of modern technology	Yes	Count	17	5	22
		% within Poor knowledge of modern technology	77.3%	22.7%	100.0%
	No	Count	10	18	28
		% within Poor knowledge of modern technology	35.7%	64.3%	100.0%
Total		Count	27	23	50
		% within Poor knowledge of modern technology	54.0%	46.0%	100.0%

WE/s do not use technology vis-à-vis poor knowledge of government support schemes. 72.2% of the respondents, who do not use technology, accept that they have a poor knowledge of Government support schemes. 51.3 % of the respondents who accept that they use technology (for personal as well as for their businesses) have also accepted that they do not have poor knowledge of Government support schemes i.e., they are believed to possess sound knowledge of Government schemes.

Table 7: Tabulated representation of women do not use technology vis-à-vis poor knowledge of Government support schemes

Don't Use Technology * Poor Knowledge Government Support Schemes Cross Tabulation					
			Poor knowledge government support schemes		Total
			Yes	No	
Don't use technology	Yes	Count	8	3	11
		% within Don't use technology	72.7%	27.3%	100.0%
	No	Count	19	20	39
		% within Don't use technology	48.7%	51.3%	100.0%
Total		Count	27	23	50
		% within Don't use technology	54.0%	46.0%	100.0%

Findings

Entrepreneurial avenues

In Ahmedabad and Vadodara, most WE/s tend to start a business of manufacturing customized clothing (22%) followed by a business of retail outlet (16%). Hence there is a great scope for new WE/s to establish new business units in areas like, Travel & Tour Services, Organizing Training Sessions, Food Processing Industry, Processing, Healthcare Industry and Import & Export.

Technological understanding among WE/s of different entrepreneurial avenues

WE/s of retail and handicraft businesses majorly disapprove the idea of lack of technological skills among WE/s.56 % of WE/s believe that WE/s have sound knowledge of modern technology. The study revealed that merely 22 % of respondents consider that WE/s do not use technology, while greater part i.e. 78 % of WE/s believe that women proactively use technology in their businesses.

Technological understanding and usage vis-à-vis knowledge of government schemes

68.8% WE/s whose technological skills were poor had a poor knowledge of government schemes. However, 72.2% WE/s had sound technological skills and therefore, had a sound knowledge of Government support schemes. Similarly, 77.3% of the respondents who had poor knowledge about modern technology had a poor knowledge of Government support schemes, whereas, 64.3% of WE/s who had thorough knowledge of modern technology also had sound knowledge of Government support schemes. 72.2% of the respondents who do not use technology had poor knowledge of Government support schemes. 51.3% of the respondents, who use technology, had proper understanding and knowledge of Government support schemes.

Discussion

Several studies also bring out the importance of ICT for women empowerment. A working paper by Center for Innovation and Science Policy (CRISP), Hyderabad suggests that ICT has a major role in the empowerment of women worldwide by enhancing the access to information, providing new opportunities, creating new class of women entrepreneurs and improving their access to government (Sulaiman, Kalaivani, Mittal & Ramasundaram, 2011). The author also wants to suggest that enhanced usage of technology, more specifically ICT facilities, will allow the easier access of Government schemes among women entrepreneurs. Government Systems Information Plan (GSIP) provided the development framework, strategies, and solutions for the realization of e-governance in Philippines. It set deadline for putting in place the necessary infrastructure ensuring that every Filipino shall have access to government information (PLC & Womens Hub, 2003). Since ICT enabled government infrastructure provides access of government information much easier, it is suggested that increased knowledge and use of technology (ICT) will make Government schemes more accessible to WE/s. Access to ICT enables to cope up with many development related issues like poverty alleviation, healthcare and public administration, education, literacy and most importantly the problem of governance (which is an extremely important ethical issue for WE/s related schemes and projects) (Nath, 2014). Dzidonu (2010) found that deployment and exploitation of ICTs to facilitate Government service delivery has a great potential for enhanced Government responsiveness towards citizens, which will eventually give rise to a transformed citizen-centered government. This will not only improve productivity within government machinery and institutions but will have a heightened impact on the development process of the nation. The author also suggests that with the deployment and exploitation of ICTs, Government functioning in relation to effective development of WE/s and development of WE owned units will increase.

Conclusion

The study shows various contradicting viewpoints in the same set of respondents. WE/s are lack in technological skills but they are updated with the prevailing modern technologies in the industry. It can be concluded if technological companies, which supply technological goods to businesses which are run by WE/s, regularly provide skill development to WE/s in relation to the updated equipments, which in turn leads to greater success.

WE/s neither hesitate, nor avoid buying and using innovative technological equipments for the benefit of their businesses. WE/s of Gujarat are highly motivated because of the cultural background and because of immense support they receive from family as well as from the highly proactive Government. Since they belong to the pioneering part of entrepreneurial history, the WE/s has/have shown tremendous growth in utilization of technological innovations to continuously achieve economic growth and self fulfillment. The knowledge of Government support schemes is directly proportional to the level of technological knowledge, skills and usage.

In the realm of e-commerce, growing base of ICT and in pursuit of digitization by way of 'Digital India', it is not easy to accomplish the scripted aims with low level of technological skills which the economic agents carry. Hence it is expected and appealed to the Government agencies to have collaboration with ICT consultants (may be independent consultants or those who are associated with various ICT companies) for the following: (i) first, train their own trainers who will further give training to the WE/s in various EDPs; and (ii) to give these ICT consultants the responsibility of upgrading ICT facilities of designated group of WE/s who seek such assistance.

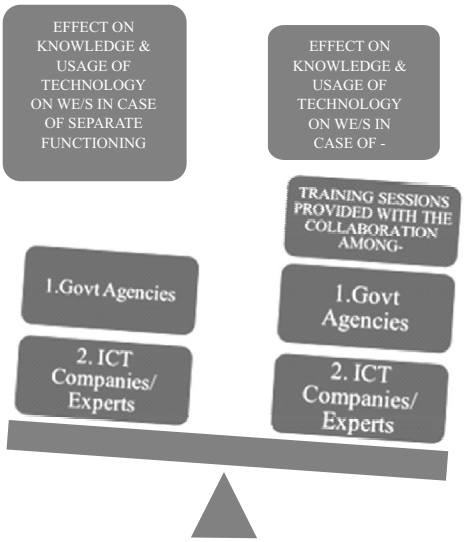

Figure 1. Government-Technology Approach

Figure suggests an approach the Government may adopt for the development of WE/s in making them ICT savvy. Government agencies may adopt Gov-Tech Approach in which Government in collaboration with ICT companies may make efforts to train the WE/s to make them technology savvy. Government may deploy these ICT consultants with the responsibility of technology up-gradation, which is suitable to the type of businesses WE/s own. These upgraded technologies should be enabled with such embedded systems which automatically update the WE/s about various Government schemes and regulations recently brought in place. This approach will be more effective in reaching the target audience (WE/s) and transforming them into tech empowered economic agents.

Limitation of the Study

1. Sample size doesn't represent the whole population. But as the author wants to highlight the possible prevailing situation in small part of the population hence there are possibilities that other members also face such ICT deficient infrastructural problems which further lead to lack of access to government schemes related information among WE/s.
2. The study suffers with the limitation of lack of sufficient literature available which clearly defines a relation that *'Knowledge & Usage of Technology (ICT) is directly proportional to the better access to government schemes'*.

Scope of Future Research

The current study gives rise to possible relation between the mentioned factors. The current study can be extended where the researchers may have both state wide, region wide or nationwide study to identify the exact relationship between increased technological usage (specifically ICT) and its effect of the knowledge base of government support schemes. Also the author beliefs that this will give rise to the study of various other factors which effects the awareness and access of government schemes among the WE/s.

References

Ascher, J. (2012). Female entrepreneurship – an appropriate response to gender discrimination. *Journal of Entrepreneurship, Management and Innovation*, *8*(4), 97-114.

Bell, D. (1973). Daniel bell's concept of post industrial society: theory, myth and ideology. Retrieved from http://www.mmisi.org/pr/09_01/ferkiss.pdf.

DEITY, GOI (2014). *Digital India- GoI Initiative – Ministry of Information Technology*. Retrieved from http://deity.gov.in/sites/upload_files/dit/files/Digital%20India.pdf.

Deloitte (2015). *Digital India – unleashing prosperity*. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-tele-tech-2015-noexp.pdf.

Devi, P. (2013). Facilitating factors for women entrepreneurship in India. *International Journal of Science and Research*, *4*(5), 53-56.

Drucker, P. F. (1985). *Innovation and entrepreneurship: Practice and Principles*. New York: Harper & Row.

DST, GOG. (2015). *Science and technology in Gujarat – a relentless pursuit towards excellence.* Coffee Table Book. Retrieved from https://dst.gujarat.gov.in/Images/pdf/ctb-main.pdf

Dzidonu, C. (2010). An Analysis of The Role of ICTs to Achieving the MDGs. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan039075.pdf file:///C:/Users/cg/Downloads/The%20Psychological%20Baiss%20of%20Opportunity%20Identification%20%20Entrepreneurial%20Alertness.pdf

Gaglio, C., & Katz, J. (2001). The psychological basis of opportunity identification: entrepreneurial alertness. *Journal of Small Business Economic, 16*(2), 95-111.

GIDC, GOG (2015). Brief about Women Industrial Parks. Retrieved from http://gidc.gov.in/pdf/Brief-about-Women-Industrial-Park.pdf

Gujarat – Facts and Figures. Retrieved from http://www.india.diplo.de/contentblob/3839178/Daten/3966987/Economics_India_Figures_Gujarat_VDMA_Report_DD.pdf

Hayek, F. A. W. (1937). Economics and knowledge. *Economica*, *4*(13), 33-54.

ILO (2008). Skills and entrepreneurship: bridging technology and gender divide. Retrieved from http://www.gender.ilo.org.ua/eng/Gender%20equality/Publications/Skills_and_entrepreneurship.pdf

Kariv, D. (2011). *Entrepreneurship - an international introduction.* England: Routledge.

Link, A. N. (2007). *Entrepreneurship, innovation and technological change.* (Technical report 07-0716). The Centre for Applied Economics, School of Business, University of Kansas. Retrieved from https://business.ku.edu/sites/businessdev.drupal.ku.edu/files/images/general/Research/TR%2007-0716--Innovation%20(Link).pdf

Motilewa, B. D., Onakoya, O. A., & Oke, A. O. (2015). ICT and Gender Specific Challenges Faced by Female Entrepreneurs in Nigeria. *International Journal of Business and Social Science*, *6*(3), 97-105.

MSME, GOG (2009). *Report on MSME census (2006-07).* Retrieved from http://ic.gujarat.gov.in/wp-content/uploads/2011/03/goi-4th-census1.pdf

Nath, P. (2014). ICT for economic and social transformation. (CSSP Electronic Working Paper Series Paper No. 4) Centre for Studies in Science Policy School of Social Sciences, Jawaharlal Nehru University. Retrieved from http://www.jnu.ac.in/SSS/CSSP/CSSP-EWPS-4.pdf

Palaniappan, G., Ramanigopal, C. S., & Mani, A. (2012). A study on problem and prospects of women entrepreneurs with special reference to Erode district. *International Journal of Physical and Social Sciences, 2*(3), 219-230.

Pandian, V. A., Jeyaprakash, M., Pathak, H., & Singh, S. (2012). Growth and performance of women entrepreneurship in India. *International Journal of Physical and Social Sciences*, *2*(6), 262-275.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1). 217-226.

Sharma, Y. 2013. Women entrepreneur in India. *IOSR Journal of Business and Management*, *15*(3), 9-14.

Sulaiman, R., Kalaivani, N. J., Mittal, N., & Ramasundaram, P. (2011). *ICTs and empowerment of Indian rural women what can we learn from on-going initiatives?* (CRISP Working Paper. 2011-001). Retrieved from http://www.crispindia.org/docs/4%20crisp%20working%20paper-icts%20and%20empowerment%20of%20women.pdf

UN (2012). *Science, technology and innovation for sustainable development in the global partnership for development beyond 2015*. Retrieved from http://www.un.org/en/development/desa/policy/untaskteam_undf/thinkpieces/28_thinkpiece_science.pdf

UN (2014). *United Nations conference* on trade and development. Retrieved from http://unctad.org/en/PublicationsLibrary/dtlstict2013d2_en.pdf

UNCTAD (2014). *Empowering Women Entrepreneurs through Information and Communication Technologies – A Practical Guide.* Retrieved from http://unctad.org/en/PublicationsLibrary/dtlstict2013d2_en.pdf

UNESCAP (2013). *Enabling entrepreneurship for women's economic empowerment in Asia and the Pacific*. Flagship publications and book series. Retrieved 2016 from http://www.unescap.org/sites/default/files/Enabling%20women's%20entrepreneurship.pdf

Urwyler, M (2006). *Opportunity identification and exploitation: a case study of three Swiss-based software companies.* (Dissertation for Doctor of Business Administration, University of St. Gallen, Switzerland). Retrieved from http://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/3183/$FILE/dis3183.pdf.

Authors' Profile

S O Junare is the Registrar of Raksha Shakti University (Government of Gujarat), India and has a rich academic experience of 26 years. In this span he has held various vital positions like Dean – Faculty of Management, Gujarat Technological University (Ongoing), Director - National Institute of Co-operative Management, Vice President- Gujarat Chapter (Since 2012) for Association of Indian Management Schools and Member of Advisory Board – Gujarat Knowledge Consortium (Govt. of Gujarat). He has guided 10 PhD scholars and 8 scholars are pursuing PhD under his guidance. His research interests are cooperative society, securitization and reconstruction of financial assets, study of MSMEs and self-help groups. Along with having numerous publications, he also has many research projects majorly funded by Government of Gujarat to his credit.

Ranjana Singh, Assistant Professor, Central University of Gujarat, India is a budding academician with an experience of five years. She is also a research scholar at Gujarat Technological University. She has been associated with institutes of repute like IIM-Ahmedabad and Gujarat National Law University, Gandhinagar. Her areas of research interest are study of MSMEs, entrepreneurship, gender studies and base of pyramid entrepreneurship.