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ICT Awareness and Skills for women empowerment and entrepreneurship among rural women: a Study on the state of Tamil Nadu

Srinivasaragavan S
Bharathidasan University

gayathri sakthivel
Bharathidasan University, gayathri15333@gmail.com

Prasanna kumari N
Bharathidasan University

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Dr. S. Srinivasaragavan
Professor & Head,
Department of Library & Information Science,
Bharathidasan University, Tiruchirappalli-620 024
Ms. S. Gayathri
Research Fellow,
ICSSR-IMPRESS,
Department of Library and Information,
Bharathidasan University, Tiruchirappalli -24.
Dr. N. Prasanna Kumari
Library Assistant
Central Library,
Bharathidasan University, Tiruchirappalli -24

Abstract:

United Nations Development Programme (UNDP- 1965) define Information and Communication Technologies [ICTs] are basically information-handling tools – a varied set of goods, applications and services that are used to create, store up, practice, issue and exchange information. The set include the old ICTs such as radio, television and telephone, and then new ICTs of computers, satellite and wireless technology and the Internet. These different tools are now able to work together, and combine to form our networked world. An enormous infrastructure of inter-connected telephone services standardized computing hardware, the internet, radio and television, which reaches into every corner of the globe". at the present time, both traditional and modern ICTs are accessed and used for Various information needs of the people. Self employability and employability through ICT for rural women can enable by developing skills in the ICT areas are Use of online Transactions, Use of consumer and professional websites and apps, Use of Office Management software and Desktop Publishing Tools, Use of Storage Devices Tools, Use of Website Creation Tools, Leadership and Motivational Skills and Entrepreneurial and Employability Skills were highlighted to the surveyed rural women, the level of awareness, skills used to employability and personality level have been assesses in this study

Keyword: ICT, Rural Women, Women Empowerment, Self Employability, Skill enlightening

Introduction:

The empowerment of women has been acknowledged as a vital element in national growth efforts. This is uniformly true in structure the information society in our country where broad technical and economic disparities survive between men and women. Information and communication technologies (ICT) have played a major role in the improvement of societies. The fast breakthroughs in new information and communication technologies (ICTs) are varying the way knowledge is developed, acquired and delivered. This project aimed at imparting women to learn how to handle the computers, process for the Microsoft Word, Power Point, Excel and various other applications. How they can individually search in Google whatever the information they need with the appropriate search techniques.

They will also get trained on various online services and applications such as How to apply for Ration Card, Passport, Visa process, Online payment for electricity Bills, Telephone bills, Mobile bill and recharge, Online banking services and also the various Insurance policies for Life, Vehicle and Home. They will be made aware and provided training on Various Government and Non Government Welfare Schemes for the small scale business. Especially they have to be trained on Export and Import of small scale business, how to start with and to understand the procedures of State and Central Government ministries and agencies to act as self enabled entrepreneurs.

Review of literature:

The development of mobile technology has brought the world to one's fingertips and has allowed women to update themselves about everyday national and global news. Education not only enables rural women in digitization but also helps them to empower themselves economically.It would be advantageous for rural women to learn to use the internet via smartphones, carry out financial transactions online, and become aware of global trends- **Dhanamalar, M., et.al ., (2020).**

The higher education institutions have a key role on the promotion of knowledge and on the innovation, Incorporating teaching of information and communications technology in universities within the curriculum, as a cross-training topic, is a difficult but necessary challenge for preparing students for success in labor market. In this paper, the importance of training in ICTs to get a job is raised. The results indicate that informal ICTs training favors employment and training in computer management. The conclusions point to the need to providing channels of self-training or informal personal training to fit the needs and temporal and spatial availability of each. **Picatoste, J., et.al., (2018).**

Objectives of the study:

1. To identify the extent of use of ICT and internet tools among the surveyed rural women.
2. To know the perception of rural women on acquiring entrepreneurial and employability skills using ICT.
3. To know the areas of ICT where training needs and the extent of ICT use and familiarization towards employability and entrepreneurship.
4. To develop methods and strategies of imparting ICT enabled employability skills among the respondents.
5. To develop web enabled information system or a portal to provide continuous and integrated training and information updates on employability and the entrepreneurship in the region as the outcome of the study.

Methodology

The research method chosen for the study is of discipline in nature which is also can be considered as an experimental design since the outcome of the study aimed that divisions and development we enabled information system on imparting ICT Skills which are required for employability and entrepreneurship, particularly among rural women. A normative survey using structured questionnaire has be derived after pilot study and pretested in non sampling area among few respondents. The data collection through questionnaire as a print schedule by

personal visits to the selected institutes by the researcher has been distributed to the rural women respondents.

To cope up with novel corona virus pandemic condition the structured questionnaire also designed digital format and distribute using Google forms.

Stratified Simple Random sampling method has been used to distribute the printed questionnaire and snow ball method used to collect the data in online survey. The local of the study is state of Tamil Nadu which is divided into 5 Zones East Zone, West Zone, North Zone, South Zone and Central zone

The rural women and around identified in higher education institution, colleges and universities in the five zones where data has been collected "Periyar University, Bharathidasan University constituent college, Perambalur, Pattabhiraman college, Mother Teresa Women's University, Tamil University, Tanjore, Government Arts College, Dharmapuri   Government Arts College, Ariyalur, Government Arts College, Thiruvallur, V.V.Vanniaperumal College for Women, Virudhunagar, Dharmapuram Adhinam Arts College, Mayiladuthurai, Avinashilingam University for Women, Coimbatore, Government Arts College, Cuddalore, Agricultural College and Research Institute, Thiruvannamalai, Sri Meenakshi Government College for Women, Madurai, Government Arts College, Nagapattinam, Government Arts College, Ooty. Government Arts College, Villupuram Government Arts College, kanchipuram, Thassim Beevi Abdul Kader College for Women, Ramanad Government Arts College, Thiruvarur"

The survey tool consist the variables on The data collected on the ICT aspects of use of Consumer and professional websites and applications, use of office management software and Desktop Publishing Tools, Use of Website Creation Tools, Use of Storage devices and leadership and motivation skills through ICT availing benefits and facilities through various government schemes from anywhere at any time also the digital application and use of desktop publishing Adobe page Maker, Corel Draw, Photoshop etc. the Applications were used for Designing and Printing of Invitation Card, Wedding card, Visiting card, Painting Pictures, Banners, notices, Poster and so on used to enable them to update knowledge on system enabled online information exchange and transactions.

Locale of the Study

Geographical jurisdiction of the study is the state of Tamil Nadu. Tamil nadu is divided into 5 Zones: East Zone, West Zone, North Zone, South Zone and Central zone. The rural women who have completed intermediary school education were chosen as respondents for the study. As the Gross Enrollment Ratio (GER) of Higher education is at higher level of fifty percentage in the state of Tamil Nadu rural College students were chosen in the identified strata as sample units.

Sampling and Data Collection

The present study has been carried out among women as the respondents. The women respondents include house wife, unemployed and women students. Tamilnadu is divided into 5 zones. In each region 4 Districts were selected; in each District, questionnaires were distributed randomly to women respondents. A total of 400 rural women respondents were

surveyed of which, 350 filled in and completed questionnaire were collected and used for analysis.

Data Analysis and Interpretation:

To access the skills on use of online transactions among rural women, the data has been collected and tabulated. It is revealed that the rural women preferred online transaction for mobile recharge, bill payments (44%) which are followed by electric bill payment (40%) and internet banking (32%) as they have been regularly using online transactions. The other preferred transactions were railway ticket booking (16%), bus ticket booking (14%). It is also quite interesting to note that around 9% of women respondents were regularly using online transactions for flight ticket reservations and 20 % of tax payment.

Table: 1 Use of online Transactions

S. No.	Items	Residential	Never		Occasionally		Regularly		Total
			N	%	N	%	N	%	
1	Internet Banking	Rural	74	21.14%	88	25.14%	54	15.43%	350
		Semi-Urban	27	7.71%	50	14.29%	57	16.29%	
2	Flight Ticket Reservation	Rural	140	40.00%	58	16.57%	18	5.14%	350
		Semi-Urban	88	25.14%	33	9.43%	13	3.71%	
3	Bus Ticket Booking	Rural	101	28.86%	90	25.71%	25	7.14%	350
		Semi-Urban	67	19.14%	45	12.86%	22	6.29%	
4	Railway Ticket Booking	Rural	94	26.86%	93	26.57%	29	8.29%	350
		Semi-Urban	54	15.43%	49	14.00%	31	8.86%	
5	Ration Card Application	Rural	101	28.86%	83	23.71%	31	8.86%	350
		Semi-Urban	74	21.14%	54	15.43%	5	1.43%	
6	Aadhar Card Application	Rural	78	22.29%	114	32.57%	24	6.86%	350
		Semi-Urban	58	16.57%	60	17.14%	16	4.57%	
7	Passport Application	Rural	143	40.86%	55	15.71%	18	5.14%	350
		Semi-Urban	82	23.43%	35	10.00%	17	4.86%	
8	Mobile Recharge, Bill Payments	Rural	47	13.43%	76	21.71%	93	26.57%	350
		Semi-Urban	21	6.00%	48	13.71%	65	18.57%	
9	Electric Bill Payment	Rural	56	16.00%	74	21.14%	86	24.57%	350
		Semi-Urban	29	8.29%	46	13.14%	59	16.86%	
10	Voters ID Application	Rural	136	38.86%	62	17.71%	18	5.14%	350
		Semi-Urban	76	21.71%	39	11.14%	19	5.43%	
11	MSME Application	Rural	107	30.57%	87	24.86%	22	6.29%	350
		Semi-Urban	73	20.86%	52	14.86%	9	2.57%	
12	Driving License	Rural	92	26.29%	98	28.00%	26	7.43%	350
		Semi-Urban	67	19.14%	56	16.00%	11	3.14%	
13	Tax Payment	Rural	121	34.57%	51	14.57%	44	12.57%	350
		Semi-Urban	61	17.43%	44	12.57%	29	8.29%	

As per the data shown in table no.2 the 28.9% of the rural women respondents under study reported that they use online shopping regularly while 52.0% of the respondents reported that they

use online shopping occasionally, and while 19.1% of the rural women respondents reported that they never use online shopping. It is quite interesting to note that 39.7% of the respondents regularly use Pandora Music and 27.1% use occasionally. It is vice-versa for google play books as 46% use occasionally and 18% use regularly. Remaining all other applications was not regularly used by majority of the women respondents. It is inferred that, the surveyed women respondents never used the consumer and professional websites and apps for Floriculture Making(84.9%), Apparel Designing(80.9%), Netflix(79.1%), Bouquet Making(78.3%), Horticulture Making(76.3%), Dubsmash (74.9%), Storytelling Apps(72.3%),, Beauty Parlours (72.0%), Android Apps(64.9%), and Fashion Designing(64.6%). There were much familiar with Google Play Music and online shopping. It is emphasis that system enabled online training and awareness to use consumer and professional websites and apps for this kind of ICT enabled home bone professional employability opportunities.

Table: 2 Use of consumer and professional websites and apps

| S. No.	Items	Never		Occasionally		Regularly		Total
		N	Percentage	N	Percentage	N	Percentage	
1	Online shopping	67	19.1%	182	52.0%	101	28.9%	350
2	Fashion Designing	226	64.6%	98	28.0%	26	7.4%	350
3	Horticulture Making	267	76.3%	60	17.1%	23	6.6%	350
4	Floriculture Making	297	84.9%	28	8.0%	25	7.1%	350
5	Bouquet Making	274	78.3%	58	16.6%	18	5.1%	350
6	Apparel Designing	283	80.9%	52	14.9%	15	4.3%	350
7	Beauty Parlors	252	72.0%	87	24.9%	11	3.1%	350
8	Android Apps	227	64.9%	83	23.7%	40	11.4%	350
9	Story telling Apps	253	72.3%	67	19.1%	30	8.6%	350
10	Netflix	277	79.1%	58	16.6%	15	4.3%	350
11	Dubsmash	262	74.9%	62	17.7%	26	7.4%	350
12	Pandora Music	116	33.1%	95	27.1%	139	39.7%	350
13	Google Play Books	126	36.0%	161	46.0%	63	18.0%	350
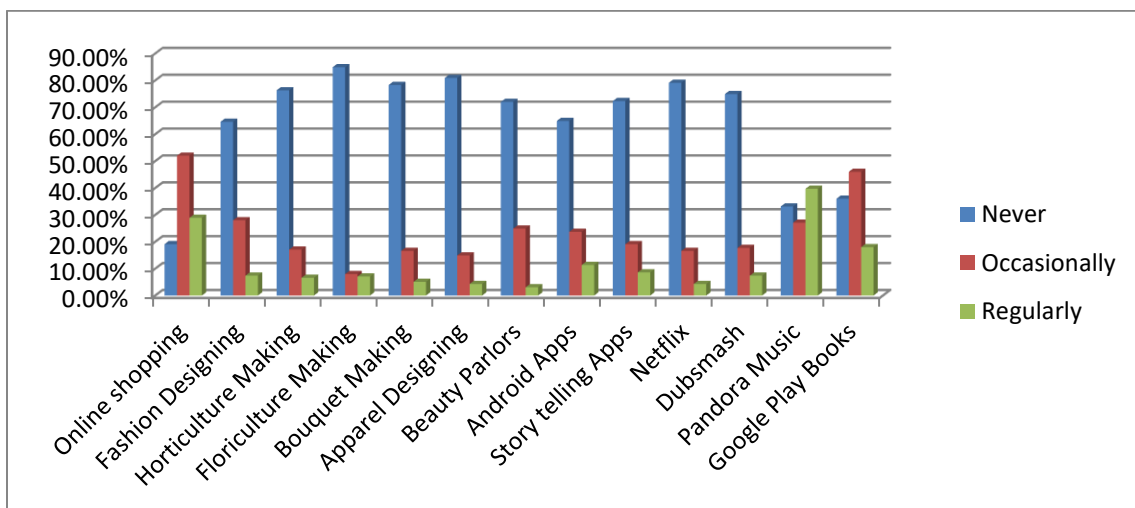
Figure 1: Use of consumer and professional websites and apps

In the surveyed women respondents were accessed on familiarity and use of popular office management and desktop publishing tools. The analysis revealed that MS office Word (54.57%), Excel(46%) and PowerPoint presentation(46.57%) were prominent OM Software tools among the survey rural women respondents. It is also inferred that the applications such as Coral Draw(70.57%), Flash(72.57%), preparation of Wedding Cards(69.71%), Invitations Cards(66.00%) preparation of banners, notice and posters(68.86%) using desktop publishing tools never by the majority of the rural women respondents. It emphases that as structured, self-paced online training and awareness module on Office Management Software and Desktop Publishing tools have to be made available in the surveyed environment to encourage self employability and employability enhancement.

Table: 3 Use of Office Management software and Desktop Publishing Tools

S. No.	Items	Never		Occasionally		Regularly		Total
		N	Percentage	N	Percentage	N	Percentage	
1	Ms Office word	52	14.86%	117	33.43%	191	54.57%	350
2	Excel	65	18.57%	124	35.43%	161	46.00%	350
3	Powerpoint	57	16.29%	130	37.14%	163	46.57%	350
4	Outlook	213	60.86%	83	23.71%	55	15.71%	350
5	Coral Draw	247	70.57%	81	23.14%	22	6.29%	350
6	Flash	254	72.57%	67	19.14%	29	8.29%	350
7	Invitation Card	231	66.00%	85	24.29%	34	9.71%	350
8	Wedding Card	244	69.71%	74	21.14%	32	9.14%	350
9	Visiting card	244	69.71%	72	20.57%	34	9.71%	350
10	Painting Picture	172	49.14%	123	35.14%	55	15.71%	350
11	Banners	241	68.86%	64	18.29%	44	12.57	350
12	Notice and Poster	242	69.14%	73	20.86%	35	10.00	350
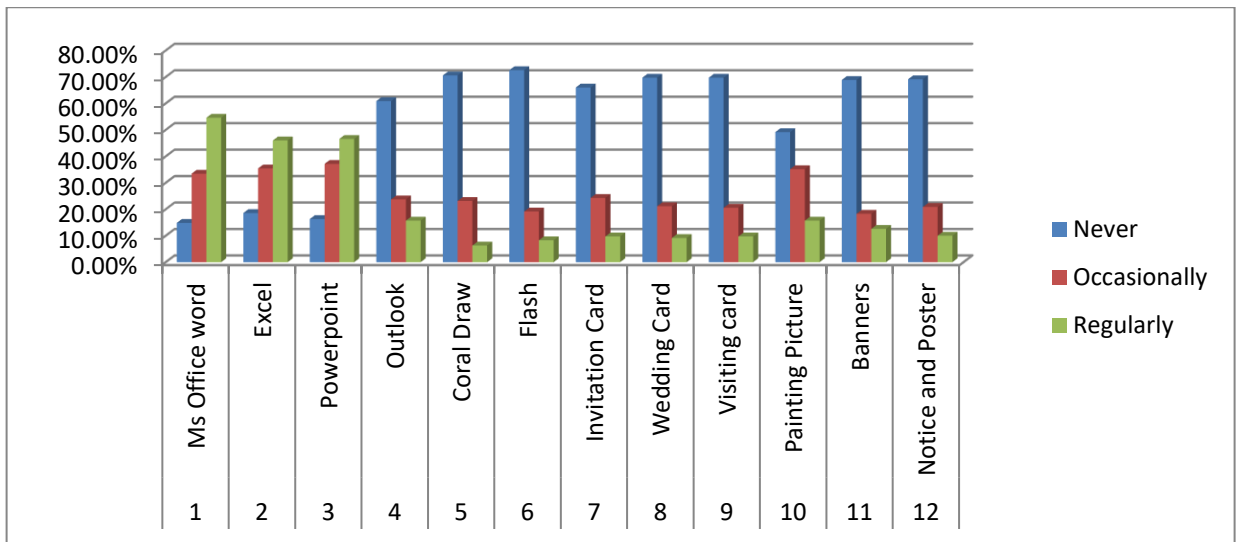
Figure 2: Use of Office Management software and Desktop Publishing Tool

Survey revealed that majority of the respondents never used popular websites creation tools but more than 90% of the respondents used the application webs regularly 54.7% and 35.14% occasionally to create website. It is inferred that 10-20% of the survey respondents were aware and use of some or other popular website creation tools to design the professional and personal websites. The study concludes that a formal training and awareness need to be made among rural women in the surveyed environment preferably through an exclusive publicly available online information system.

Table: 4 Use of Website Creation Tools

| S. No.	Items	Never		Occasionally		Regularly		Total
		N	Percentage	N	Percentage	N	Percentage	
1	Web Node	264	75.4%	69	19.7%	17	4.9%	350
2	Webs	234	10.57%	77	35.14%	39	54.29%	350
3	Weebly	266	76.0%	49	14.0%	35	10.0%	350
4	Wix	284	81.1%	41	11.7%	25	7.1%	350
5	Squarespace	309	88.3%	25	7.1%	16	4.6%	350
6	SITE 123	306	87.4%	26	7.4%	18	5.1%	350
7	Network Solutions	272	77.7%	51	14.6%	27	7.7%	350

Among the storage devices, majority of the surveyed respondents used pen drive (84%) Memory card (89%), phone memory (94%), Google drive (81%) either regularly or occasionally. Other popular both hard and cloud devices and tools need to make aware among the surveyed respondents as the data of information storage is become immense for employability and career prospectus.

Table: 5. Use of Storage Devices

S. No.	Items	Never		Occasionally		Regularly		Total
		N	Percentage	N	Percentage	N	Percentage	
1	Pen drive	59	16.9	119	34.0	172	49.1	350
2	Memory Card	39	11.1	122	34.9	189	54.0	350
3	Phone Memory	22	6.3	69	19.7	259	74.0	350
4	Hard disk	129	36.9	108	30.9	113	32.3	350
5	External HDDs	223	63.7	67	19.1	60	17.1	350
6	Floppy Disks	257	73.4	65	18.6	28	8.0	350
7	Google drive	31	8.9	115	32.9	204	58.3	350
8	Onedrive	201	57.4	107	30.6	42	12.0	350
9	Dropbox	233	66.6	86	24.6	31	8.9	350

10	Icedrive	302	86.3	30	8.6	18	5.1	350
11	IDrive	294	84.0	31	8.9	25	7.1	350
12	Sync	225	64.3	80	22.9	45	12.9	350
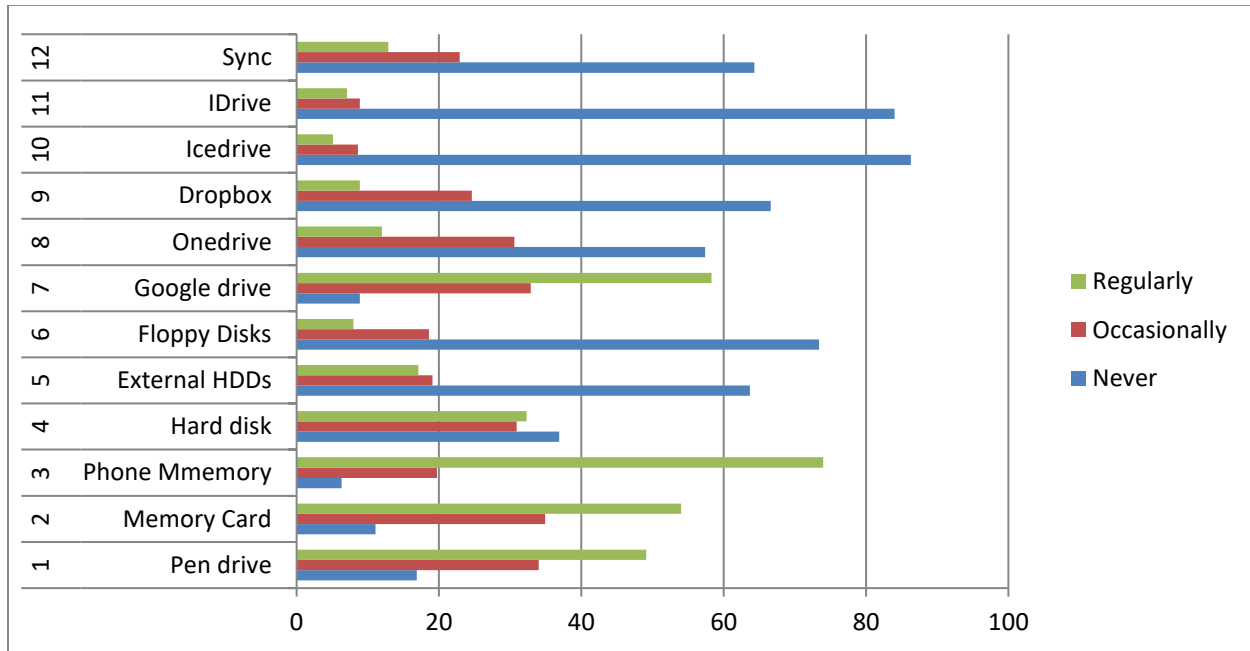
Figure 3: Use of Storage Devices

The five point linkert scale used to know the perception and opinion of rural women towards ICT awareness and skills for the women employability and entrepreneurship. The perception of the rural women on ICT to acquire leadership and motivation skills accepted the statement ICT helps to remove hesitation by enhancing communication skill by agree (53.1%), strongly agree (33.1%), ICT helps to connect with people and to share thoughts and experiences openly by agree (48.9%), strongly agree (32%), ICT facilitates to interact comfortably with the people of deferent gender by agree (48.9%), strongly agree (31.7%) and knowledge of Global culture and civilization by agree (48%), strongly agree (31.7%),

Table: 6. Acquiring Leadership and Motivational Skills through ICT

		Frequency	Percent	Valid Percent	Cumulative Percent
ICT helps to remove hesitation by enhancing my communication skill	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	8	2.3	2.3	3.4
	Undecided	36	10.3	10.3	13.7
	Agree	186	53.1	53.1	66.9
	Strongly Agree	116	33.1	33.1	100.0
	Total	**350**	**100.0**	**100.0**	
people and to share thou e	Strongly Disagree	8	2.3	2.3	2.3
	Disagree	6	1.7	1.7	4.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Undecided	53	15.1	15.1	19.1
	Agree	171	48.9	48.9	68.0
	Strongly Agree	112	32.0	32.0	100.0
	Total	**350**	**100.0**	**100.0**	
ICT facilitates to interact comfortably with the people of deferent gender	Strongly Disagree	8	2.3	2.3	2.3
	Disagree	12	3.4	3.4	5.7
	Undecided	48	13.7	13.7	19.4
	Agree	171	48.9	48.9	68.3
	Strongly Agree	111	31.7	31.7	100.0
	Total	**350**	**100.0**	**100.0**	
knowledge of Global culture and civilization	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	14	4.0	4.0	5.1
	Undecided	53	15.1	15.1	20.3
	Agree	168	48.0	48.0	68.3
	Strongly Agree	111	31.7	31.7	100.0
	Total	**350**	**100.0**	**100.0**	

The perception of the rural women on ICT to acquire Entrepreneurial and Employability Skills accepted the statement Makes aware of various services provided by banks by agree (52.3%), strongly agree (23.7%), make online payment of the bill Mobile, TV recharge etc by agree (50.6%), strongly agree (22.6%), Searching a job by agree (53.4%), strongly agree (23.7%), Various opportunities of earning money at home by agree (52.6%), strongly agree (22.6%), Help of ICT to sell any product by agree (48%), strongly agree (23.4%) and Make aware of government scheme for women up-liftment by agree (56.3%) and strongly agree (21.1%).

Table: 7 Acquiring Entrepreneurial and Employability Skills through ICT

		Frequency	Percent	Valid Percent	Cumulative Percent
Makes aware of various services provided by banks	Strongly Disagree	11	3.1	3.1	3.1
	Disagree	7	2.0	2.0	5.1
	Undecided	66	18.9	18.9	24.0
	Agree	183	52.3	52.3	76.3
	Strongly Agree	83	23.7	23.7	100.0
	Total	**350**	**100.0**	**100.0**	
make online payment of the bill Mobile, TV recharge etc	Strongly Disagree	7	2.0	2.0	2.0
	Disagree	15	4.3	4.3	6.3
	Undecided	72	20.6	20.6	26.9
	Agree	177	50.6	50.6	77.4
	Strongly Agree	79	22.6	22.6	100.0
	Total	**350**	**100.0**	**100.0**	
Searching a job	Strongly Disagree	2	.6	.6	.6
	Disagree	10	2.9	2.9	3.4
	Undecided	68	19.4	19.4	22.9
	Agree	187	53.4	53.4	76.3

	Strongly Agree	83	23.7	23.7	100.0
	Total	**350**	**100.0**	**100.0**	
Various opportunities of earning money at home	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	16	4.6	4.6	5.7
	Undecided	67	19.1	19.1	24.9
	Agree	184	52.6	52.6	77.4
	Strongly Agree	79	22.6	22.6	100.0
	Total	**350**	**100.0**	**100.0**	
Help of ICT to sell any product	Strongly Disagree	6	1.7	1.7	1.7
	Disagree	11	3.1	3.1	4.9
	Undecided	83	23.7	23.7	28.6
	Agree	168	48.0	48.0	76.6
	Strongly Agree	82	23.4	23.4	100.0
	Total	**350**	**100.0**	**100.0**	
Make aware of government scheme for women up-liftment	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	11	3.1	3.1	4.3
	Undecided	64	18.3	18.3	22.6
	Agree	197	56.3	56.3	78.9
	Strongly Agree	74	21.1	21.1	100.0
	Total	**350**	**100.0**	**100.0**	

Conclusion:

As the technology, particularly Information and Internet technology become cheaper and viable to communicate, access, share, connect and transact. People of different socio economic background habituated to enhance use of ICT for livehood, employability, business and day-to-day activities. In general, it seems the mobile usage and internet penetration has been increasing considerably and consumption of data also many fold in recent past but a large sect of people including educated and unemployed use the technology for entertainment and other trivial purposes. The study also confirmed that the survey respondents need to aware, familiarize and use the potential of ICT and Internet apps and tools that can be leverage for income generation, employment and career prospectus including personality development and knowledge updation. The study also aimed to faster the ways and means of ICT tools and technologies among the rural women for employability and rural entrepreneurship and thus attains some extent by making aware and familiarising ICT tools and applications on employability, business and entrepreneurship avenues by personally distributing the questionnaire and interaction. In the perception of rural women towards the make use of ICT to acquire leadership motivational entrepreneurial and employability skills is of encouraging.

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