

RESEARCH ARTICLE

Digitization: A Prerequisite for Women Empowerment

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Abstract: Objective: Women's empowerment plays a crucial role in the overall development of any society positively impacting the daily lives of women. Digitization, which is the primary focus of digital literacy, is the most essential skill required for the empowerment of women. The primary objective of the present study is to evaluate the level of awareness, of rural and urban women on digitization. Besides, the researcher also checked their awareness level on Govt digitization schemes, usage of facilities of mobile phones; internet usage to know the present market price of various products and facilities of the financial market. **Methods:** A questionnaire was administered to the respondents to collect the data from villages and tehsils of Guna District, Madhya Pradesh, India. Multiple regression analysis was used to study the impact of independent variables (location, age, education, and working) on the dependent variables. **Results:** The findings revealed that among all variables, differences in education levels appear to exert a significant force on the awareness level of these respondents. Apart from that location and age also influenced the awareness of women on digitization. **Conclusion:** It is evident from the studies that more work is conducted in the western world and with western perspectives and frameworks on digital literacy and empowerment. Government has taken initiatives to promote Digital Literacy, but are they really helping in boosting Digital empowerment in the Indian context? More efforts are called for to provide importance and exposure to technology. More and more programs should be linked to technology are required and should be organized. Familiarity with computers and other technological devices will not only make women technologically literate but will likewise enable them to become economically stable.

Keywords: *Women empowerment, Digitization, Location, Age, Working, Education, Gender, Rural women, Urban women.*

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Introduction

Digitization has transformed human life, leading to expansive changes, affecting society, and bringing economic growth. But this improvement in human life is mostly confined to the males of the society [1]. Digital technologies are like a double-edged sword for women. Men's greater access to these technologies puts women at risk of being left even further behind economically and socially [2]. Women don't have equal opportunities in every field. Thus women's empowerment is a prerequisite for the economic growth and stability of every nation. Digitalization is instrumental to achieve this goal as it provides enormous

opportunities for women to take part in all decision-making processes. By making use of digital equipment they can overcome their physical boundaries, can have access to better economic & business opportunities, health & education facilities [3]. Thus High penetration of digitization in the lives of women directly benefits them. Although there is a growth in digital literacy, women still face a wide range of difficulties in accessing technology and utilizing the internet. Women often find themselves entrapped in a vicious circle, where the gender gap hinders the chances for future improvements.

In urban areas, this gap between male and female users of mobile phones is quite low as the percentage of literate women is much higher and their exposure to advertising and other areas is greater resulting in fewer social barriers when compared to rural areas [1]. The GSMA's Mobile Connectivity Index [5] which tracks countries' progress on key enablers of mobile internet access and use, shows a 26 % increase in the affordability of mobile internet in India between 2014 and 2017 — the largest rise in any country in this period. But mainly this rise in affordability of mobile internet is for males only [6]. Although the gender gap for internet usage has reduced, still women lag in its usage. [7] One of the main reasons for the lack of usage of technology is that a high percentage of women do not own mobile in India, despite their increasing affordability.

The GSMA's [5] research had found that women in India are 28% less likely than men to own a mobile phone. If we compare with other low- and middle-income countries 80% of women own mobile phones while in India it is only 59% of women have mobile phones. Owning a mobile phone particularly a smart phone by women is an important first step in a journey towards getting online, thereby closing the gap of the gender divide.

The other important factor is awareness: although usage of Face book, YouTube, and WhatsApp are very common, the majority of women in India are unaware of the internet and that it can be used on a mobile phone [8]. Thus awareness and understanding of the internet is the second crucial step towards accessing it, and although awareness of mobile internet is growing quickly, there is still a long way to go. Hence, an attempt has been made in this paper to assess the level of awareness, of rural and urban women on digitization. The researcher also attempted to find out their awareness level on Govt digitization schemes, usage of facilities of mobile phones; internet usage to know the present market price of various products and facilities of the financial market. Data from both urban areas and rural areas were collected.

Literature Review

The factors which hinder women from not using information technology services are

lack of awareness, exposure, access, and skills to use the technology. Socio-economic and cultural factors are also important contributors to this. The heavy burden of household responsibilities on women also works against the usage. Cummings C. and Tam O'Neil [9] in their study emphasized that the women should feel the perceived importance of empowerment in order to build their ability to get involved in the decision-making process and participate in the digitization processes [10]. Investigated the frequency with which individuals use information technology in their daily lives and the level of importance they place on these technologies. The results of the study emphasized that the gender gap, gaps between socioeconomic groups, and age are the important factors that contribute to this hindrance.

A study by LIRNEasia, - an information and communications technology policy think tank [11] has revealed that India has the highest gender gap in mobile phone ownership. Further, it revealed that 64% of Indians said they don't know about the internet, among these 68% were women and among women, 68% belonged to rural areas. Thus if we compare, urban women have reached a specific level of self-reliance wherein their dependence on others has reduced over the years. The new ways of economical activities have been introduced by mobile phone usage [12-14] due to its easiest and quick flow of information. For instance, quick access to educational, cultural, social, sports, and financial events all over the world at any time in any place [15] has been offered by it.

A study conducted by Islam M.K & Slack F [16] found that mobile phones provide easy access to health-related services and somehow have an indirect effect in ensuring security for girls. Another study by Singhal S [17] concludes that males have higher awareness and usage of e-banking whereas women although have awareness about e-banking but the level of using it is very low.

Geographic location plays a major part in determining who owns a home computer and who has home access to the Internet [18]. Watkins J, Kitner KR, Mehta D [19] concluded in his study that the main reason for differences in urban and rural mobile usage is because of low levels of income and digital literacy.

Apart from that certain social structures and cultural norms also act as a constraint. James J [20] Found that India being a developing nation has a large number of the population who is uneducated. So he laid out the possible solutions to educate, uneducated people for the internet which are lacking computer knowledge and internet connectivity. Further, he concluded that with his possible solution approximately 30% of people can take benefit from this idea.

Mallenius S, Rossi M, Tuunainen VK [21] described a pilot study for identifying factors that determine the adoption and usage of mobile devices and services by the elderly population. The results of the study indicate that elderly people are interested in using mobile phones and services, but these services need to deliver real value for them.

Materials & Method

Research Objectives

- To examine the differences in the level of awareness, of rural and urban women on knowledge and usage of facilities through mobile phones.

- To study the differences in the usage of the internet for knowing the present market price of various types of products, by urban and rural women.
- To evaluate the differences in the usage of the internet, of urban and rural women regarding knowledge and use of facilities of the financial market.
- To study the level of awareness, of rural and urban women users on various digitization measures initiated by the Government

Design and Procedure

The data for the present study was collected through a personal survey questionnaire administered to the women residing around a few villages and tehsils of the Guna district. A total of (n=800) women were contacted to fill the questionnaire but out of this 119 were not interested in the study. 680 women were administered questionnaire. These women were selected randomly. 370 respondents were from villages and 310 respondents were from tehsils of the Guna district. The ten most populated villages according to the 2011 census were taken for the survey. Likewise, two Tehsils having large population were selected for the same

Table 1: Descriptive statistics

Variables	N	Percentage
Location		
Villages	370	54
Tehsils	310	46
Age		
Below 25	210	31
25-40 yrs	240	35
40-55 yrs	100	15
Above 55	130	19
Working		
Non working & Students	100	15
Agricultural Worker	151	20
House Help	70	10
Tailor	73	11
Beautician	83	12
Office Jobs/Teachers/ Banking/Anganwadi workers	160	24
More than one profession	49	7
Education		
Uneducated/illiterate	135	20
Primary	106	16
Secondary	127	19

10th-12 class	172	25
Graduation	100	15
Post Graduation	40	6

Participants

Initially, 800 women were contacted for the survey, among them; 680 participated in the survey (Table-1). The sample consisted of 370 (54%) women respondents from villages and 310 (46%) respondents from tehsils. 31% of the respondents were below the age group of 25 years ; in the age group of 25- 40 years(35%); 15% were in the age group of 40-55 years and 19% in the age group of 55 and above; Approximately 15% respondents were non-working and students while 85% respondents were working. Among the working women 20% were agricultural worker; 10% were house help;11% were tailor ;12 % were beautician; 24% were anganwadi workers, office jobs, teachers, banking etc and 7 % were having more than one profession. 20% respondent were uneducated/illiterate; 16% had studied up to primary class; 19% up to secondary class; 25% has studied up to 10th /12th class; 15% were graduate and 6% were postgraduate

Measure

A survey was carried out to collect the data from females from various villages and tehsils of Guna district, Madhya Pradesh, India. For this purpose, the researcher developed a questionnaire consisting of two sections. Section A consisted of a name, location, age, education, and working. Section B consisted of 17 items (usage of facilities through a mobile phone, internet use for knowing the present market price of various products, knowledge of government schemes on digitization, etc). All the questions had multiple-choice options.

The questions like “What kind of facilities do you use through a mobile phone?” Several options were provided to the respondents such as SMS; whats app; video calling; photo click; banking; job searching; govt schemes; online shopping, etc. to know the knowledge and usage of these facilities. Another question was “Do you use the internet for facilities of the financial market?” the options given were Internet banking, Bill Payments, Demat account, etc.

Another question was put to the respondents to know their usage of the internet for knowing the present market price of various products such as milk products, agricultural products, handicrafts, readymade clothes, etc. Four independent variables were used in the study i.e. location, Age, Education, and working.

Results

For analysis, multiple regression analysis was conducted. Seven regression analysis models were carried out using SPSS (version 20) to determine the relationship between awareness level of rural and urban women regarding knowledge and usage of various facilities in mobile phones; use of the internet to know the present market price of various products; knowledge and usage of internet for facilities in the financial market; awareness of govt schemes on digitization and four independent variables location, education, Age and Working. All seven models show a statistically significant relationship with the dependent variables (Location, Age, Working, and Education).

Table 2: Summary of the multiple regression analysis

Model	Y= Dependent Variable	Predictors	Unstandardized β	t	p-value	F	R ²
1	Knowledge of Facilities used through Mobile	Location	-0.53	-1.26	0.21	101.23	0.37
		Age	-1.85	-6.17	0.00		
		Working	0.04	0.58	0.56		
		Education	2.51	14.82	0.00		
2	Usage of Facilities through Mobile	Location	-0.78	-1.70	0.09	98.28	0.37
		Age	-1.87	-5.77	0.00		

		Working	0.04	0.56	0.58		
		Education	2.70	14.78	0.00		
	Knowledge of Internet to know the present market price of various types of product	Location	-0.06	-2.09	0.04	19.21	0.10
3		Age	0.01	0.73	0.46		
		Working	-0.01	-1.96	0.05		
		Education	-0.08	-7.31	0.00		
	Usage of Internet to know the present Market price of various types of product	Location	0.45	2.01	0.05	20.62	0.11
		Age	-0.13	-0.80	0.42		
4		Working	0.06	1.94	0.05		
		Education	0.69	7.61	0.00		
	Knowledge of Facilities of Financial market	Location	2.07	8.54	0.00	48.01	0.22
		Age	-0.29	-1.70	0.09		
5		Working	-0.05	-1.29	0.20		
		Education	0.88	9.15	0.00		
	Usage of Facilities of Financial market	Location	1.99	5.70	0.00	22.52	0.12
		Age	0.26	1.04	0.30		
6		Working	-0.07	-1.37	0.17		
		Education	1.00	7.16	0.00		
	Awareness of Govt Schemes on Digitization	Location	0.50	3.89	0.00	18.70	0.10
		Age	0.10	1.11	0.27		
7		Working	0.01	0.42	0.68		
		Education	0.38	7.38	0.00		

Further, Regression models were divided into pairs to fulfill individual objectives. The R square values of Model 1 ($R^2=37.6, p<0.05$) and Model 2($R^2=36.9, p<0.05$), indicates that 37.6 % (model 1) and 36.9% (model 2) of the variance in knowledge and usage of the facilities used through mobile phones can be predicted from the variables location, age, working and education. The results show that for every unit increase in age ($\beta= -1.85$ (model 1), $\beta=-1.87$ (model2), there is a -1.85 unit decrease in the predicted dependent variable, holding all other variables constant. The aged person's knowledge and usage of the mobile phone are less as compared to younger ones.

Similarly, in education positive beta values ($\beta= 2.50, \beta=2.69$) indicates higher education respondents have more is the knowledge and usage of mobile phones. The R square values of Model 3($R^2=9.9, p<0.05$) and Model 4 ($R^2=10.6, p<0.05$) indicates that only 9.9%and 10.6% of the variance in knowledge and usage of the internet for knowing the present market price of various types of products can be attributed to dependent variables.

The results show that only education is significant to the knowledge and usage of the internet to know the present market price of various types of products. Education ($\beta= 0.68$) plays a crucial role in exploring the prices, demand, and supply of various products such as readymade clothes, agriculture-based products, milk products tailoring fees, etc. The value of R square for Model 5 ($R^2=22.1, p<0.05$) and Model 6($R^2=12, p<0.05$) indicates that 22% (model5) and 12 % (model 6) of the variance in knowledge and usage of internet for facilities of the financial market can be attributed to given four independent variables. The coefficient for location ($\beta=2.04, \beta=2.02$) is statistically significant as its p-value is less than 0.05. So the location of your residence does matter.

Residents staying in villages are less aware and use fewer facilities of the financial market as compare to the Tehsils respondents. Similarly, education ($\beta=0.88, \beta=1.0$) again is an important predictor in establishing the fact, that the more educated respondents are, the more knowledgeable

they are in using facilities of the financial market.

The last objective of the study was to check the awareness level, of rural and urban women users on various digitization measures initiated by the Government. Model 7 ($R^2=10, p<0.05$) results show that the location ($\beta=0.50$) and education ($\beta=0.37$) are statistically significant as their p-value is lower than 0.05. The results indicate that respondents who are staying in remotely located villages are less aware of various govt schemes on digitization.

Discussion

Digitization is the most important aspect in women empowerment as it leads to the availability of information and deriving knowledge from it. Customarily it has been observed that the majority of the time women are bereft of any information out of their area. The cause of this exclusion can be a low level of education or lacking the freedom to move freely.

Educated women explore more on the internet and are mindful of the various facilities whereas uneducated women especially in rural areas are not aware of internet facilities and their usage. They don't use facilities available even on mobile phones except for calling and receiving. If we compare age, younger women use more mobile phone facilities and their knowledge and cognizance regarding the same is more as compared to elderly women. Being inquisitive younger women explore more of the internet for diverse functions.

We cannot deny the fact that with the progress of information technology and digitization, the doors to information domains are getting opened day by day still remotely housed women have less exposure towards digitization in comparison to women residing in urban areas or nearby areas of the cities.

Another highlight of the study is that women who are exposed to outside people apart from their family members or are leaving the house to perform some or the other work like agricultural labors, Beauticians, Tailors, etc are more aware in comparison to those who are simply staying at home and has got no

outside exposure. Another reason can be affordability, women who are not affluent enough to afford such technology remain completely unaware and as a result, they don't recognize the perceived importance of it also.

Lastly findings in the study revealed that women, especially the rural ones, welcome the inclusion of digital efforts made by the government but it is limited to those schemes only where there are financial gains only like Jhan Dhan Yojna, National scholarship portal, etc. Other schemes launched by govt on digitization are not that popular in rural areas.

The present study will considerably help to identify policy intervention and formulation by government policy-makers, business organizations, civil society, and the international donor community to ensure that women are empowered and ultimately benefits from the information insurgency.

Conclusion

Digitization proves to be an enabler for women's empowerment, especially for rural women. Even though govt has launched many initiatives in this regard still penetration of these policies, especially in the rural areas is very less. Normally, the success of the initiative largely depends on adoption intention because just launching these policies will not act upon. More efforts are called for to provide importance and exposure to technology. More and more programs should be linked to technology are required and should be organized. Familiarity with computers and other technological devices will not only make women technologically literate but will likewise enable them to become economically stable.

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