

Readiness towards Digitalization Post-Demonetisation among Elderly Adults in India

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After one and a half years of demonetization, digitalization promises to make India a digitally empowered society. The perceptions and attitude of Indians towards this new wave of digital method plays a vital role. The present study aims at exploring the factors which determine the readiness towards digitalization post demonetization among elderly adults in India. The study also aims at exploring the differences in perception between two genders towards readiness to digitalization and their quality of life after digitalization. Participants include fifteen adults (male = 7, female = 8) above the age of 55 years, residing in the metropolitan city of eastern India, Kolkata. Data was collected using a semi-structured interviewing technique and was analyzed using content analysis with Dedoose software. Using the content analysis thirteen categories evolved which talks about readiness towards digitalization post demonetization among the elderly adults. Analyzing the results it was found there is a positive attitude among the participants towards digitalization, driven by some key factors like perceived usefulness, ease of use, comfort and economical. The negative factors like security issues and fear of fraud also prevail in both the genders. Results also revealed that elderly men are more inclined towards the positives of digitalization as well as an improved quality of life were the elderly female participants were found to be hesitant and indifferent towards digitalization.

Keywords: Qualitative Enquiry, Digitalization, Post-demonetization, Elderly adults, Readiness, Quality of life.

Demonetization was a bold step by the Honorable Prime Minister of India, Narendra Modi, on 8th November 2016 as the clock struck 08:15 PM (Singh, Sawhney & Kahlon, 2017). Demonetization means changing old currency to new currency or denying a currency of its status as legal tender (Rao & Mukherji, 2016). This move had a 'knee-jerk' reaction on the level of economic activity (Bhattacharya, 2017). The main objective of making the legal tender of Rs.500 and Rs.1000 as void was to undermine the black money, corruption and terrorism (Sharma, 2017).

Within a week of demonetization, this objective changed from defeating black money and terrorism to digitalization (Kumar & Chaubey, 2017). After one year of demonetization, the government encouraged the adoption of digital payments to lessen economy's dependence on cash, which requires a big behavioral and social transformation (Bhadauria & Prakash, 2017). Cashless means using digital methods

for making payments instead of carrying physical currencies in the wallet and is fast becoming the standard practice (Ejiofor & Rasaki, 2012).

Digitalization has brought a paradigm shift in people's life (Roy, 2017). Thus, Digital India has become a visionary initiative of the Government to convert India into a digitally empowered country (Prasad & Meghwal, 2017). "Faceless", "Paperless" and "Cashless" is one of the roles of Digital India (Bhadauria & Prakash, 2017).

One of the main advantages of making the country digitized is to scrutinize the activities performed by the citizens of the country, promote digital learning and make India a well-informed economy (Prasad & Meghwal, 2017) and a knowledge-based economy (Monisha, Bhudiraja & Kaur, 2017).

Also, the Indian government aimed at shifting from cash to cashless economy so that people make e-payments in matters of property tax, professional tax, utilities like water, power &

gas, fee and licensing charges, online bookings of traveling tickets, issuing or renewal of birth and death certificates, registration of shops, education membership and many more (Singh, 2017). The motive of going cashless requires usage of digital services like plastic cards (debit and credit cards), m-wallets, internet banking, cloud technology, automation of knowledge work, aadhar enabled payment system (AEPS), unified payment interface (UPI), digital library, e-commerce, e-books (Kumar & Chaubey, 2017). But the question arises how far this move of digitalization post-demonetization have impacted the life and work of the citizens of India.

Factors like age (Kuoppamäki, Taipale, Wilska, 2017), gender (Hohlfeld, Ritzhaupt & Barron, 2013) and education (Singh, 2017) play an important role in analyzing the attitude and behavior of the individuals when adopting any technology or adapting to digitalization. Study by Peacock and Kunemund (2007) indicated that age continues to have a differentiating effect on the use of the Internet and digital technology among the older people. Those who are towards digitalization are less lonely, less depressed, more confident, and are more optimistic towards computers than the non-users (Liang, 2011).

Studies indicated that younger and adult youth being tech-savvy but the elderly adults and senior citizens struggling with digital technology (Hong, Lui, Hahn, Moon & Kim, 2013). Study by Porter and Donthu (2006) found the perceived access barriers as one of the factors which explain a consumer's attitude towards technology and the challenges faced by them when using technology. The digital technology or adaption to digitalization seems to help the society but is it helpful for every individual is the question.

Most of the works of literature focus on the adoption of mobile payment and e-wallets, online shopping, internet banking, technology adoption and attitude towards usage of Internet services among the young, adults and elderly (Betts, Hill & Gardner, 2017). Few studies were found to be conducted on elderly population towards digitalization. Also, there are not many kinds of literature found which focuses on readiness factors that influence an elderly, above 55 years,

towards digitalization in 2018 within India and in one the emerging City of Eastern India, Kolkata. The approach of an elderly towards digitalization in Kolkata is an important research gap.

Hence, the present study tries to explore the readiness towards digitalization post-demonetization of the elderly who are above the age of 55. Through qualitative inquiry, researchers explored on the readiness of elderly people towards digitalization post-demonetization. The researchers are trying to understand the views, opinions and attitude of the elderly towards digitalization. Since demonetization has affected every citizen of the country, starting from young to old age (Smith & Olmstead, 2018), this paper tried to understand the impact of digitalization post-demonetization on the old age, how willfully is the ageing group participating in digitalization or how ready are they to adopt these new digital technologies. This exploratory study conducted through a semi-structured interview technique will benefit us to know the challenges faced by the ageing group when adopting such digital facilities and the difference in the attitude of the male and female towards digital revolution.

Aim

To explore the factors which determine the readiness towards digitalization post demonetization of elderly aged 55 years old and above.

Objectives

- To explore the factors which determine the readiness of the elderly adults towards digitalization post- demonetization.
- To study and compare elderly male and elderly female participants' readiness towards digitalization and quality of life after digitalization.

Method

Research design

This study used qualitative analysis and is exploratory in nature. A face-to-face interview through an open-ended questionnaire was conducted. The purposive sampling method was used to collect data and analyze the results.

Participants

Participants for the study include elderly adults who are above 55 years and reside in Kolkata, India. Participants were selected using purposive sampling technique. A total of 15 individuals were interviewed of whom eight are women and seven are men.

Measure

A semi-structured interview was conducted for the adults aged 55 and above. The researcher asks the informants a series of open-ended questions, which prompts discussion, and there is no fix variety of response to each question (Newton, 2010). It provides valuable information from the samples that are interviewed as they share their experiences. Also, the purpose is to allow the informants to freely express their outlook and thoughts on their own terms.

Procedure

The collection of data for the study follows a semi-structured interview. An open-ended questionnaire was prepared for the sample and an in-depth interview was conducted. Taking their prior appointments, the individuals were approached. Their informed consents were taken and they could withdraw at any point in time in the course of the interview. Then the individuals were well-versed about the norms of the study, its purpose and the assurance

for keeping the data confidential and how the study is used for research purpose. A face-to-face interview was conducted for 35-40 minutes and the answers to the questions were written properly.

Analysis of data

The data was collected by way of semi-structured interviewing technique to explore the factors, which influence readiness towards digitalization post demonetization among elderly adults and was analyzed with the help of dedoose software. Thirteen categories were evolved from content analysis which includes Perception on demonetization, Awareness of digitalization, Perception on digitalization, Participation in digitalization, Participation in digitalization pre and post demonetization, Accessibility, Positive factors affecting readiness, Negative factors affecting readiness, Positive effect on quality of life, Negative effect on quality of life, Influence to participate in digitalization, Relationship between age & technological adaptability and Cashless Society.

Results and Discussion

Results and discussion were done in two phases. Phase-I of the study discussed thirteen categories evolved and phase-II of the study talks about gender wise comparison on the prominent categories evolved.

Categories	Mean	Sum	Variance
Perception on demonetization	3.7	11	1.3
Awareness on Digitalization	5	65	4.3
Perception on Digitalization	5.3	122	4.5
Participation in Digitalization	5	129	5.9
Digitalization- Pre and Post Demonetization	3.9	58	14.6
Accessability	5.4	92	5.6
Positive factors affecting Readiness	6.4	276	1.9
Negative factors affecting Readiness	7.3	213	2.2
Positive effect on Quality of Life	6.5	124	3
Negative effect on Quality of Life	6.3	50	7.1
Influence to participate in digitalization	4.9	59	6.8
Age and Technological adaptability	4.1	41	5.7
Cashless society	4.1	61	6.2

Fig. 1 Categories and description of data on readiness towards digitalization post-demonetization among elderly adults

Phase-I

When the content analysis was done using dedoose software thirteen categories evolved which discussed the factors that determine readiness towards digitalization post demonetization among elderly adults. All the categories evolved and the excerpts associated with each category were rated on a ten-point scale using the dedoose software. Later a qualitative chart was plotted using code weight statistics. Categories evolved, mean scores, sum and variance are presented in figure (1).

Detailed descriptions of the data collected using semi-structured interviewing technique are discussed under thirteen headings. They are given below.

1. Perception on demonetization

The perception of demonetization talks about the views and thoughts of the participants on demonetization. When interviewing the elderly adults it was found that all participants are aware of the demonetization, which was held on November 8, 2016. From figure (1) it is found that mean score for this category is 3.7 in a scale of 0-10 and sum is found to be 11, which can be interpreted as that few respondents have talked about their perception on demonetization. This is shown by the blue boxes in the figure (1). Analyzing the contents and results plotted using figure it was found opinions given by participants do not differ much, which can be seen from the value of variance that is 1.33.

According to a male participant aged 64 "I had to face a lot of problems during that time. All my important works got delayed and I had to heavily depend on others". According to the opinion of a female participant aged 61 "Demonetization happened to curb black money and corruption".

Thus, it is found from the responses that all the participants are aware of demonetization as many have given their opinions on that. Some faced hardships after the deficit in currency circulation while some perceived that from demonetization there were long-run gains despite the short run pains.

2. Awareness of digitalization

This category explains whether the participants were aware of what digitalization is, by the term and its implication on India. Digitalization means using digital services or technology has brought a paradigm shift in people's life (Roy, 2017). Among fifteen participants thirteen participants responded to their awareness on digitalization. The mean value is 5 in a scale of 0 to 10, which means that all the participants have neutral cognizance. The sum for this category is given as 65, which shows respondents have frequently talked about their awareness on digitalization. The blue boxes in the figure (1) show the low sum for this category. These differences between respondents on their awareness to digitalization caused a variance of 4.3.

A female respondent aged 60, does not know the term but is aware of this new wave of technologies leading to Digitalization. When the respondent was asked whether she is aware of digitalization she spoke: "No, What is digitalization?"

This shows the sample, some are aware of digitalization and use it in their daily life while some who are not that educated are still knowing about the digital methods.

3. Perception on digitalization

Another category evolved from content analysis of data collected using semi-structured interview talks about participant's perception of digitalization. Here scholars tried to explore the reasoning of the elderly when they think about digitalization, how far digitalization is the aim demonetization and whether it is needed and effective in the Indian context. It is a perception through their personal lenses that helped scholars to know about how respondents have evolved over time with this new wave of digital services. The mean is given by 5.3 which shows the respondent have shared their perception slightly above the neutral value of 5. From the figure (1), we see 122 times the respondents have shared their viewpoint on digital services. This is shown by the green box in the figure (1) signifying moderate sum for this category. Also, a variance of 4.5 can be seen from the results that are caused by the varied opinions among the

participants on digitalization. Each participant's outlook towards digitalization varies.

A female aged 62 spoke, "The Govt. of India has tried to promote digitalization (online payments, using less cash). Smart development of the country is needed. People are using technologies to improve their life. With this the govt. should not lose his focus from driving out black money and corruption".

Thus, it is inferred the respondents have diverse knowledge about digitalization and its effectiveness for the individual and the society.

4. Participation in digitalization

Participation in digitalization explains different means in which elderly participate in digitalization. The items identified from the discussion include participation in digitalization through online banking, mobile wallets, online booking, and online form submission. The participation is varied among the participants were the mean (5) is neutral on a scale of 0-10. From the figure, we see 129 times the participants have talked about their participation in digitalization. This is shown by the green boxes in the figure (1), which shows moderate sum for this category. The variance is 5.87 which shows there are participants who are against digital services and never used any digital media at all whereas there are participants who use various digital services in their daily life like e-wallets, utility apps, banking services, smart watch.

A female interviewee aged 62, when questioned about her participation in digitalization, spoke- "I use digital services (getting fees in my account directly than cash in hand) or Paytm. Sometimes I use apps for online shopping when I am busy". Another respondent aged 70 and a housewife spoke she does not use digital services in her daily life.

From analyzing results it is clear participants varied in use of digital services. Some respondents use because it is comfortable and user-friendly, while others are disinclined to use it.

5. Participation in digitalization pre and post demonetization

This category attempts to illustrate whether the participants have been using digital services

before demonetization or post demonetization. The case of no participation till date is also considered. From figure (1) it is found that mean or average is 3.9 and is well below the neutral value of 5 on a scale of 0-10. The blue boxes display the sum which shows 58 times the respondents have talked about their participation in digitalization, pre-demonetization or post demonetization. It is interesting to note a variance of 14.5 exists. It can be inferred that there are a few participants who started using digital services before demonetization, whereas there a handful of participants who have started adapting themselves only in the recent years. There are few participants who are not participating in digitalization move.

A male participant aged 55 spoke, "I started participating before 5 years". Another interviewee aged 61 and retired shared he has been using digital services after demonetization. Results indicated that elderly people differed in use of digital support. When there are people who use technological assistance much before demonetization, there are also people who do not use digital support even now.

Thus, it is perceived everyone should be educated about the new digital changes, which will help for the smooth functioning of all activities.

6. Accessibility

Accessibility is another category-evolved from the discussion with the participants. This category describes the different places and the devices used by the participants to access the digital media.

The neutrality in this category holds true with a mean of 5.41. The areas of accessibility are mainly home (Wi-Fi connection) and mobile phones. The sum is given by the green box in figure (1) which shows the participants have talked about accessibility 92 times. This shows a moderate sum value. Also, there are female participants who have no access to connectivity at home or in mobile phones. This can be seen from a moderate variance of 5.63.

This explains the scatterings in accessibility among participants, where some use digital services only at workplaces, few both at home

and workplace and some who have no access to the Internet at all.

7. Positive factors affecting readiness towards digitalization

This category talks about positive factors affecting readiness towards digitalization. The components identified include self-efficacy, perceived usefulness, perceived ease of use, perceived financial benefits, the comfort of use, cognition, encouragement towards others which have a positive effect on the readiness of the elderly towards digitalization.

This is a crucial finding where the mean is well above the neutral value of 5 at 6.4. Among 15 participants, almost everyone has a positive review about digitalization, their readiness towards it and hence the sum of the positive factors happens to be the maximum at 276. This is shown by the red box in figure (1) that shows the respondents have largely talked on this category than any other category. The variance in this category is 1.91 which shows most of the participants strongly spoke about their encouragement, their willingness to take help from others and learn the technologies, the comfort, convenience of use and their perpetuity for similar usage in the future, except for a few.

Thus, it can be inferred many participants are willing to learn and accept digitalization after the positive factors associated with it. They tend to adapt themselves and encourage others to adapt to the new wave of digitalization.

8. Negative factors affecting readiness towards digitalization

While discussing with the elderly a new category evolved which talks about negative factors that affect readiness towards digitalization. This includes privacy and security issues, fear of fraud means, dependability on others, insufficient cognition and indecision towards digital services that negatively affect the readiness of the elderly towards digitalization.

Mean score of 7.3 indicated that all participants mentioned many things which restrict them from using digital services. This shows the respondents have spoken about negative factors as well and this can be analyzed through the sum of 213 in the red box. The

scatter between these two trends is a moderate of 2.33 variance. This indicates it is an important issue at hand to look into.

The participant's main concern was the privacy & security issues when using digital media. The negative factors like fear of fraud or losing money were found common among the participants which have discouraged the respondents to use digital services. There is another trend of unwillingness and impassive towards digitalization, which has negatively impacted the readiness. This unwillingness was seen in one of the respondent's answers where she spoke, "I don't make efforts to learn them. I don't understand it".

This shows before adopting any digital technologies, it is necessary to build the required digital infrastructure which will solve privacy & security issues so that people are not hesitant to use digital services.

9. Positive factors affecting quality of life

Quality of life is a subjective concept. This explains whether the respondent's activity has improved or depressed after using e-services in their daily life. The focus of this study is mainly on the socialization, contentment and perceived happiness of the participants when using digital services.

Positive factors affecting the quality of life explains whether the quality of life has improved due to digitalization. As per the participant's attributes like socializing, less lonely and less depressed contribute to a positive quality of life. Though participants have mixed opinions on the positive impacts of digitalization on their quality of life, the mean value is 6.4. This means majority agree on the improved quality of life. There have been roughly 124 times the participants mentioned about the positivity in using digital services shown by the green box in figure (1) that shows participants have spoken on the quality of life moderately. The spread is nearly about 3, a moderate variance due to the fact that most people believed that digitalization has made them more social while only a few people thought it is a good way to combat depression and loneliness.

Thus, it is necessary to educate people who are unable to use digital services in their daily life. This will help them to improve their societal relations also serve as a means to combat loneliness and depression.

10. Negative factors affecting quality of life

This category explains how digitalization has affected their quality of life in a negative way. Moving away from socialization, feeling of loneliness, depression and irritation on using digital services, are the attributes implying the negative quality of life.

The negative impact, which the participants opened up about, was the seclusion caused to them by their family members who are into digital media. The other negativity is the isolation of the youth, making them unsocial. The average for the same is around is 6.3, which shows the mixed responses from the respondents. The blue boxes display the sum, which shows that in total, 50 times the participants spoke about the negatives of digital services. These two streams of opinions have led to a variance of 7.07 because the respondents in common also think that digitalization has brought a negative effect on their daily life activity.

Thus, it is necessary for the people to learn the usefulness of digital technologies than getting aloof from the society.

11. Influence to participate in digitalization

This category explains whether any influences from the society or the government are making the elderly participants to adapt to the digital media and practice it. It is difficult to analyze the usage of digital methods out of social or government influence as it all depends on the attitude of the person who adopts it (Malhotra & Galletta, 2002).

Among the participants, on an average, there has been 4.9 influences on a scale of 0-10 from the society or the government to adapt to the new technologies and digitalization. This infers neither society nor government is creating any influence on the respondents to participate in digitalization in most cases. This can also be seen from the sum in the blue box in figure (1), 59 which implies the respondents have not spoken much on their domination due

to society or government. Although in the case of a male participant, there has been a strong social influence that has made him practice digital services in professional fields. Therefore, a strong variance of 6.8 is observed.

This shows when adopting digital technologies, people are not always influenced by the society nor government. They use it because they find it convenient to use in their daily life. This depends on the attitude of the people who adapt to digital technologies and their perception of using these services.

12. Relationship between age and technological adaptability

Another important category evolved from the discussion is the relationship between age and technological adaptability. This category describes the opinions of the seniors when adapting to digitalization with an increasing age, whether there is a positive or negative relationship between age and technological adaptability. There has been an attempt to establish a relation either positive or negative relationship between age and technological adaptability. In the respondent's opinion gathered it was found they do not support any uniform view in this line.

The mean of weights on a scale of 0-10 is 4.1. Also, it is seen not many comments were made by the respondent on this category, shown by the sum of 41. The blue box displays the lower sum that shows the respondents have expressed less in this category. There has been a high variance of 5.7. Thus, it is concluded there are mixed opinions and no positive or negative relationship is drawn out from the responses of the participants.

The respondents were asked their viewpoint on their adaptation to technology with an increasing age. A male respondent aged 58 said, "Now I use more technology and digital services than before".

Thus, it is seen that age does not affect people's adaptation to technology. No uniform view was seen in this category. It was seen most of the elderly viewed technology in a positive sense whereas some elderly's were against it.

13. Cashless society

The aim of digitalization is to promote a cashless economy. This category talks about the views and opinions of the participants ongoing cashless and to get an understanding of their perception of such a move in India. There has been disproportion opinion in this light.

Many participants argued that India is not ready to be cashless with its current state of infrastructure and problems of illiteracy, unemployment and poverty at hand. In the meantime, a few are completely supportive of going cashless.

The mean of the weights is low at 4.1 and 61 give the sum, shown by the blue boxes in figure (1). This shows some have spoken about cashless society but some have not shared their views on this. For some women, insufficient interest in such a move and the attitude of holding cash nearer to them are observed. This leads to a variance of 6.20.

This shows some people are supportive of cashless society after using digital services; some are still against it since they find it inconvenient and uncomfortable to use. Hence,

they do not support cashless society.

To summarize, it is witnessed among all the categories identified the respondents have talked more optimistic about their readiness towards digitalization. Also, we see the quality of life of the respondents has improved than depressed. This means more people have commented about the positive factor that has improved their quality of life than negative factors. This shows somewhat the respondents are ready to adopt this new age of the digital world.

Phase-II

Phase-II of the present study focuses on exploring the differences in perception between two genders towards the two prominent categories evolved. They are readiness to digitalization and their quality of life after adapting to digitalization. The focus was to explore positive and negative factors affecting readiness and quality of life within our participants.

From figure 1, it is seen the sum of excerpts is the maximum for these four categories. Hence, a gender-wise comparison has been done for those categories between 8 females and 7 male participants. This meets the objective of

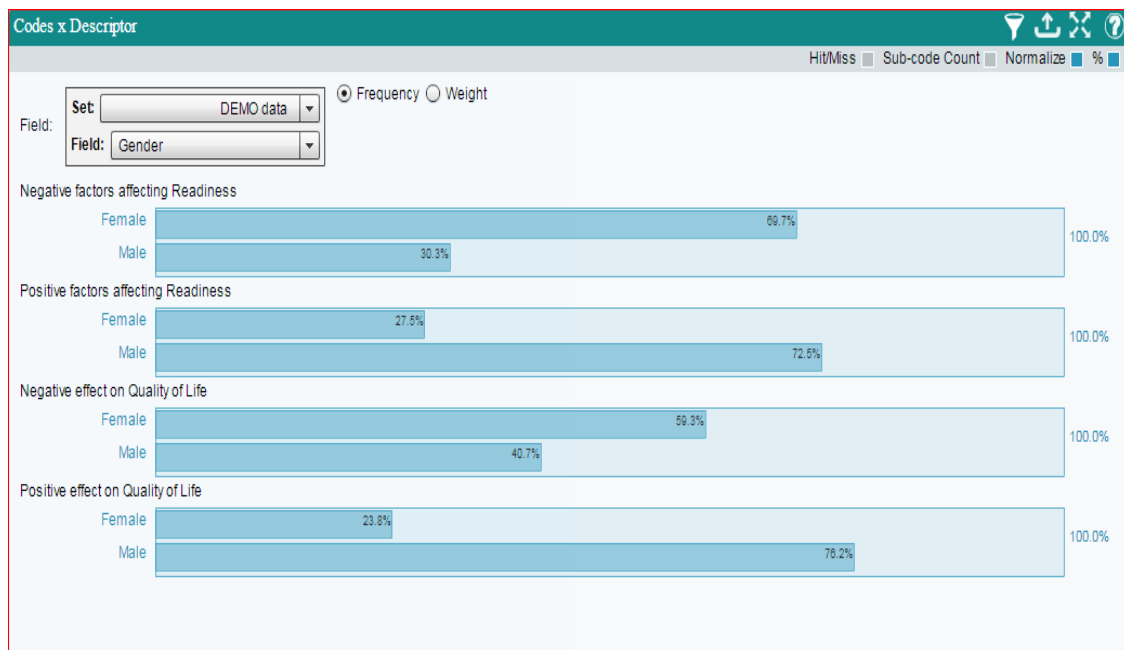


Fig. 2 Gender wise comparisons on readiness and quality of life among elderly adults

the study. The relationship between gender and digitalization can be approached from various backgrounds like cognition (Hirnstine & Hausmann, 2010), motivation (Pinnow, 2010) and socialization (Hannover, 2010). Pictorial representations of gender wise comparison done for four prominent categories evolved are given in figure (2).

Figure (2) presents the bar chart plotted between male and female against four categories evolved from content analysis. Categories discussed include negative and positive factors affecting readiness and negative and positive factors affecting the quality of life. The clustered bar figure has been taken from the Descriptive Charts through Codes x Descriptor chart using the Dedoose software. Figure (2) clearly shows that female respondents (69.7%) are more negative towards using digital services than male respondents (30.3%). This means females are unwilling to learn to use the technologies from others, does not recommend others to learn and adapt to digitalization, finds it uncomfortable to use digital services, believes it is not the need of the hour to cope up with the new wave and criticized the inconvenience of use of such mediums. Women, in turn, have more inclination towards the negative factors like privacy issues, fear of fraud than men. The larger percentage of women being reluctant is due to the major negative factor to adapt to digital services because they think it to be complicated and not suitable for them.

Among men, no such factor is found. According to them, technology has improved their life more, finds it more comfortable to use after learning these technologies from others and believes it is the need of the hour to get by with these new digital services. It is only a mere 27.5% female participants who are affected by such positive readiness than men (72.5%).

Similarly, from the opinions of the participants, factors have been identified as positive and negative on how they affect the quality of life. By quality of life, more socialization, feeling of contentment while using digital services, less lonely and less depressed has been meant. In the figure the comparison of the perception of male vs. female on positive or negative effects

towards the quality of life while participating in digitalization is visible. The difference in male and female towards readiness in both positive and negative factors holds true in the case of their perception of the quality of life as well.

In the negative factor, 59.3 percent female participants strongly think that digital media is making others unsocial. They are irked with the rise in the usage of digital services because they feel unsociable and thinks that actual first-hand works are getting affected. These count into the negative factors affecting the quality of life where men constitute 40.7 per cent.

In the positive factors, male has responded strongly than female participants. 76.2 percent of men have become more socialized and feel less lonely and happier while using digital services. This holds true for only 23.8 percent of female. Few women are for digital services among all the women interviewed. They use these digital methods professionally as well as for their personal concern because they find it convenient, comfortable and time-saving.

Conclusion

Content analysis of data computed using dedoose software helped identify thirteen main categories which talk about readiness towards digitalization post demonetization among elderly adults. Analyzing the results of figure (3) it is clear that both elderly men and women are ready to accept digitalization. The findings of the study also indicated some negatives towards using digital services exist till due date to the perceived risks regarding privacy and security among the participants. Another area of concern which comes out from the discussion is the fear of seclusion among the housewives who



Fig. 3 Packed code cloud chart depicting categories evolved

themselves do not indulge in the digital services. In this context, the present study implied that Indian government or authority in charge should be more effective in terms of security while building the blocks of knowledge-based society and governances. The study also implied that people should focus on human connections along with socialization over the server. This would improve the quality of life soundly and uniformly.

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