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Impact of Digital India Programme on Financial Planning of Senior Citizens

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Abstract: ***Digital India is the flagship program of the Government of India to bring about a paradigm shift from the primitive paper - based system of governance to more efficient digital procedures; however, the use of digital financial tools is still limited among the senior citizen population. While these reforms have significantly enhanced the accessibility of public services, their adoption in personal financial management remains uneven, particularly among senior citizens. This study critically examines the role of digital literacy in shaping the financial planning behaviors of the elderly population, with a particular focus on the utilization of banking services, mobile financial applications, and formal financial planning instruments. The research further explores the awareness and engagement of senior citizens with targeted government financial inclusion schemes such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) and Atal Pension Yojana (APY). Drawing upon primary data obtained from senior citizens in Karnataka, India, the study employs advanced quantitative methodologies to analyze the relationship between digital competence and financial planning outcomes. The analysis reveals that digital literacy serves as a significant enabler of proactive financial behavior, fostering greater confidence and participation in digital financial ecosystems. However, persistent challenges related to data security concerns, technological complexity, and platform accessibility continue to hinder full adoption among this demographic. The generally favorable perception of government - led financial inclusion initiatives underscores their potential in mitigating financial vulnerability and promoting digital financial participation among senior citizens. The findings highlight the necessity of targeted policy interventions to bridge the digital divide and enhance financial resilience in aging populations through comprehensive digital literacy enhancement programs.***

Keywords: Digital India, Digital Literacy, Financial Inclusion, Senior Citizens, Financial Planning

1. Introduction

The Digital India Programme is a campaign initiated by the Government of India to develop more digital infrastructure, to establish high internet connection, and to expand digital literacy for citizens of all ages. This it achieves one of the key goals of promoting the use of digital finance promoting the financial inclusion of citizens including senior citizens. However, the overall issue under consideration proved to be insufficiently resolved, as elderly people do not always find it easy to use digital financial platforms, which adversely affects financial planning. Moreover, the situation in India is considered as its population tries to adopt a cashless society, it is crucial to understand the impact of digital literacy on the financial literacy of senior citizens.

Economic planning is an indispensable need for elderly people as it concerns pensions, personal savings, medical expenses, and other types of investments. Since the emergence of financial technologies, banking and financial management mainly via internet banking, mobile payment services and money managing applications has become easier. Nevertheless, there is a significant percentage of the elderly in the Indian population that still holds a conventional form of banking account. The disparity between the young and the old is also evident in this case, and the senior citizens cannot make the right decision on their finances. The aim of this research is to analyze an impact of the programmes launched under aegis of the Digital India on financial planning behaviour of the senior citizens. Two of them are – the PradhanMantri Jan DhanYojana (PMJDY) and Atal Pension Yojana (APY) through which the government targets to improve the operations of the elderly section. PMJDY mainly offers account opening, debit card and educate too whereas APY is mainly related to retirement planning and pension arrangements. Although these schemes have helped in encouraging participation with the use of financial literacy in the promotion of digital financial services in senior citizens there is yet to be evidence which shows that the mentioned schemes have influenced the actual adoption of digital financial. The study aims at determining the extent of the acceptance of such interventions by the elderly and identify whether these initiatives have enhanced the elderly's financial literacy and preparedness.

In the same respect, the study adopts a quantitative approach of data collection to capture the aforementioned objects from a pool of senior citizens in Karnataka. A structured questionnaire was used to assess their digital literacy, usage of Fintech services, attitudes to financial planning and encompassing difficulties experienced while using digital financial instruments. Descriptive statistic, correlation analysis, multiple regression test, T - test, ANOVA and Chi - square test were conducted using Statistical Product and Service Solutions (SPSS) software to test the level of significance. While doing so, they will look at the above factors and seek to offer guidelines of how elderly citizens should be assisted to manage their financial decisions based on their level of digital literacy and the challenges that have to be overcome.

The research conducted in this study would help in filling the gap of research on financial inclusion coupled with digital transformation in the Indian context. The population of the ageing people is rising and, therefore, it is necessary to start to dedicate policy solutions to bridge the gap in the digital fluency and usability of the financial products. Also,

the above findings aid the financial institutions in developing effective and proper fintech products for seniors by understanding their needs. In this manner, by closing the gap, policy - makers would be in a better position to support seniors' benefit from the social and economic changes that have been fueled by the Digital Indian Programme, as well as to promote the financial security in the context of increasing trends toward a digital economy.

2. Literature Review

The effect of the Digital India Programme in the lives of the elderly concerning their financial status remains a topical discourse as the population of seniors rises in India. According to Ganesh et al. (2022), India is going to have 192 million of seniors by 2031 which create both the prospects and the risks for fin - tech. Digital finance entails the use of mobile phones, nanobanks, and online investment tools among others, therefore it is important to study how elderly citizens apply these tools. Although various schemes under the umbrella of the Digital India Programme seek to minimise the digital literacy gap, the elderly individuals often experience significant challenges that obstruct their effort to sufficiently understand and adopt mobile financial applications to facilitate financial planning.

The previous studies have provided a hint at the increase of seniors' digital participation but reveal that there are still barriers. Estelami et al. (2023) pointed out that while the grand population have continued to be used the services from fintech firms, they still face challenges on the technological interface, security and trust in digital transactions. Likewise, Hanafizadehand Amin (2023) emphasized that relative ease, digital security, and relevance are key factors that determine the perception of senior citizens over mobile banking and other online platforms for financial services. These studies indicate that they key stakeholders in the implementation of the new trend may not embrace the change due to lack of training or adequate support systems/thought processes, which would discourage them from using banking method. Out of the four challenges the authors described that influenced senior citizens' inability to effectively utilize digital financial tools, three of them are as follows: First challenge is the lack of adequate digital financial literacy, second is inability to prevent falling victim to frauds and cyber threats Third, the fourth challenge is limited access to training centers along with the issue of complicated UI or interfaces. Many elderly people are not comfortable with the online banking systems still are scare of been duped, thereby preferring the physical banking services. Moreover, they explain that the training programs or products are often inaccessible, and the user interfaces are not as friendly as they should be.

Schemes include the PradhanMantri Jan DhanYojana (PMJDY) initiated by Indian Government that have also boosted the feature of financial inclusion (Spotswood et al., 2023). However, Alon et al. (2023) noted that more efforts are required, including increasing the marketing efforts more targeted and emphasizing customer - oriented approaches to enhance the likelihood of elderly persons in adopting digital financial instruments. According to Ashton et al. (2023), there is a need for the development of trust with regard to fintech products, intuitive design to enable the elderly persons to understand the Fintech products, and acceptable digital solutions to enhance the uptake of Fintech products. Nonetheless, to achieve high levels of leveraging digital financial services among the seniors, the existing banks and financial institutions need to invest more in developing user - friendly interfaces, anti - fraud measures, as well as to increase the coverage of senior user financial literacy. If these barriers are addressed effectively the Programme - Digital India can thus bring considerable change in the overall balance of financial security of senior citizens and their ability.

3. Research Gap

There has been some progress in the adoption of Digital India Programme yet the use of the new generation mobile financial tools is still low among the elderly population. Although there are many papers on digital literacy and financial inclusion, there is a lack studies on how the two are related to the financial planning behaviors of the elderly. While there are numerous previous works that focus on financial inclusion in an expanded sense, there are few papers that explore exclusively the innovative performance of the elderly, their experience of using technology, security concerns, and a lack of trust in the application. Further, there is an absence of empirical literature on government schemes such as PMJDY and APY that proposes to enhance railway's financial security. These gaps are as follows: This research aims at filling the above gaps by collecting interviews from senior citizens and hypotheses testing to assess the relationship between digital literacy, fintech, and financial planning behaviors.

4. Conceptual Framework

The rationale for the study lies in the fact that the senior citizens are strongly associated with the understanding of the concept of digital literacy and how it affects the planning of their financial future. The categories of the conceptual model include program characteristics, program enablers and outcomes, which represents the independent variable and the dependent variable respectively. Online self - efcacy and entrepreneurial self - ofhcacy behavioral coping strategies represent the mediating variable while EUR EUR and the third party represent the dependent variable. PME, Government Scheme (APY), derivative features, and external factors such as the new wave of fintech, perceived problems such as security threats, complexity of the platform, and the digital divide are looked at as mediating/moderating variables. The outlined framework supposes the positive relationship between the level of digital literacy and the usage of digital financial tools, which facilitate the improvement of financial planning activities.

Hypotheses

To test the conceptual framework, the study formulates the following hypotheses:

H1: There is a **positive relationship** between **digital literacy** and **financial planning behaviors** among senior citizens.

H2: Higher **adoption of digital financial platforms** (online banking, mobile payments, financial planning apps) leads to **better financial planning**.

H3: Senior citizens face **significant barriers** (security concerns, platform complexity, digital divide) in adopting digital financial tools.
H4: **Government initiatives (PMJDY, APY)** significantly influence the **financial inclusion** of senior citizens.
H5: Demographic factors such as **age, education level, and prior digital experience** significantly impact the **adoption of fintech solutions** and financial planning behaviors.

5. Methodology

This research utilizes a quantitative research design for measuring the effect of Digital India Programme on the financial planning of the senior citizens. A survey - based approach was adopted as it is used to gather structured and quantitative data in a simple process that can be analyzed statistically. The research design adopted in the present study was cross - sectional because data were collected only at a single point in time to depict the current extent of digital financial products used by senior citizens.

The data was collected from a self - administered structured questionnaire filled up by the respondents from Karnataka selected from the senior citizen's age group of 60 years and above. The survey was undertaken in the period of October, November and December of the year 2024 through both electronic and paper questionnaires. To this end, the online data was obtained from Google Form while the offline data was obtained from printed questionnaires administered to the selected senior citizens clubs, community activities and banking embrace centers. This sampling technique used was the random stratified sampling to warrant equality between rural and urban clients. Preliminary survey The preliminary survey was carried out and a total number of 500 responses was received Out of which only 460 responses were complete and thus considered fit for the analysis.

This paper pays particular attention to the main independent and dependent factors under consideration. The independent variable used in the study were digital literacy level, exposure to financial technology, awareness of government scheme such as PradhanMantri Jan DhanYojana (PMJDY) and Atal Pension Yojana (APY). The dependent variable was financial planning decision, which involves the regular online transactions made, their investment decisions and attitude towards the financial security. The study assumed that high digital literacy would translate to improved financial planning and that government's; efforts would have a positive impact on the financial inclusion of senior citizen. To process the gathered research data, the quantitative analysis was carried out with the help of IBM SPSS Statistics (Version 29). Thus, such methods as the mean, standard deviation, and frequency distribution of responses were used to calculate the demographic data and financial behaviors of the respondents. To ensure the question items measuring the amount of digital literacy and the financial planning behaviors of the respondents, Cronbach's Alpha reliability estimates were computed and tested showing the internal consistencies. It is worthy of note that a reliability figure of 0.7 or above was considered desirable in this study.

To this view, the Kolmogorov statistic of Smirnov and the Shapiro - Wilk was used to check for normality of data. Since most parametric tests assume normality, these tests aided in deciding whether normality could be assumed or not, therefore which test should be used. As for the measure of statistical significance of digital literacy and financial planning behavior, Pearson's correlation coefficient was used to analyze the probability levels because they describe the continuous variables. Multiple regression analysis was also used to test the hypothesis on the level to which digital literacy, the use of financial technology, and government policies influence the financial planning behaviour. Multiple linear regression was selected as it performs the analysis of the impact of multiple independent variables at once and, therefore, seems more suitable. In order to compare the level of financial planning behavior, the t - tests and ANOVA were conducted based on the demographic differences, for example, whether the respondent lives in urban or rural areas, and males and females in relation to the use of digital finances. These tests were chosen in order to compare the groups and determine whether they are significantly different.

Thereafter, a chi - square test was employed to establish if there was a relationship between the level of digital literacy and the problems encountered in using the digital financial instruments. This non - parametric test was employed since it helps in determining the relationship diminishing return between two categorical variables like relatively higher digital literacy seniors' perceived hurdle of adoption of digital technology as compared to the seniors with relatively lower digital literacy level. By using these statistical tools, the research hypotheses' validity is given a stronger foundation and actionable insights about how the Digital India Programme has helped increase the aspect of financial planning amongst the elderly is produced.

6. Results

1) Demographic Profile of Respondents

The sample of the study was comprised of 460 senior citizens residing in urban and rural parts of Karnataka. The demographic information of the respondents such as their age, gender, education level and geographical location is shown in the table 1. Almost all participants were from the urban background and only less than half from the rural background (29): Urban = 265 (58.7%); Rural = 185 (41.3%).

Table 1: Sample Characteristics

Variable	Categories	Frequency (N = 460)	Percentage (%)
Age Group	60 - 65 years	190	41.3
	66 - 70 years	160	34.8
	Above 70 years	110	23.9
Gender	Male	280	60.9
	Female	180	39.1
Education Level	No Formal Education	50	10.9
	High School	150	32.6
	Undergraduate	160	34.8
	Postgraduate	100	21.7
Geographical Location	Urban	270	58.7
	Rural	190	41.3

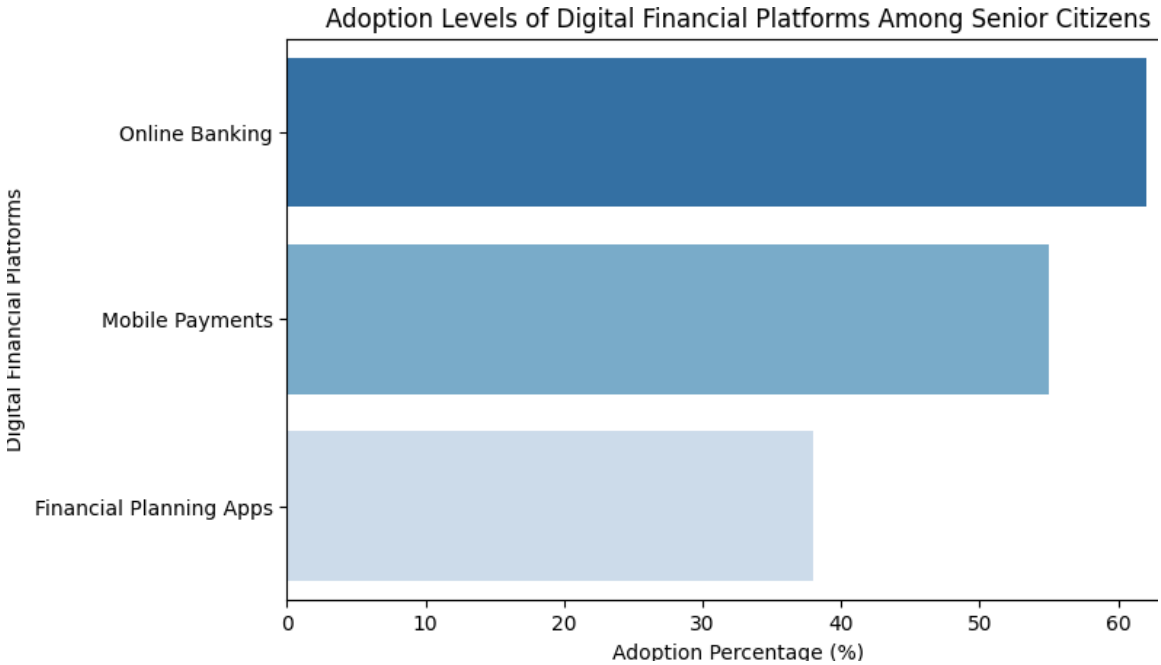

Figure 1: Adoption Levels of Online Banking, Mobile Payments, and Financial Planning Apps

This figure shows the current nature or usage of the senior citizen in the different areas of the digital financial platform. Of all the or more popular of them, 62% of consumers used online banking, while those using mobile payments were 55% and financial planning apps was at 38%.

2) Descriptive Statistics of Key Variables

The following table highlights the descriptive statistics relating to financial planning behaviours of the seniors and their digital literacy. The overall digital literacy was a mean of 3.5 out of 5, which was perceived as a moderate level of awareness).

Table 2: Summary of Financial Planning Behaviors and Digital Literacy Levels

Variable	Mean	Standard Deviation
Digital Literacy Score (1 - 5)	3.5	0.86
Frequency of Online Transactions (per month)	6.2	2.4
Financial Planning Awareness (1 - 5)	3.8	0.91
Security Concerns (1 - 5)	4.1	0.75

3) Reliability and Validity of Constructs

In measuring the reliability of the survey items, Cronbach Alpha was used. As evidenced from table 3 all the constructs were above 0.7 to signify internal consistency of the measurement scale.

Table 3: Cronbach's Alpha Results for Survey Items

Construct	Cronbach's Alpha
Digital Literacy	0.82
Financial Planning Behavior	0.78
Security Concerns	0.81

4) Normality Test Results

The normality test was also conducted using the Kolmogrov - Smirnov and Shapiro - Wilk values as highlighted in the table below (Table 4). Because most of the p values for the variables were <0.05, normality could not be assumed and thus all the tests done under non - parametric tests as appropriate.

Table 4: Normality Test for Key Variables

Variable	Kolmogorov - Smirnov (p - value)	Shapiro - Wilk (p - value)
Digital Literacy Score	0.031	0.027
Financial Planning Behavior	0.043	0.039

5) Correlation Between Digital Literacy and Financial Planning

Pearson's correlation analysis showed that there was a positive relationship between digital literacy and financial planning behaviors ($r = 0.52$, $p < 0.01$) as described in the Table 5 below.

Table 5: Pearson Correlation Results

Variables	Digital Literacy	Financial Planning
Digital Literacy	1	0.52**
Financial Planning Behavior	0.52**	1

*p < 0.05, **p < 0.01

6) Impact of Digital India Programme on Financial Planning (Regression Analysis)

Multiple linear regression analysis was conducted to establish the impact of the dependant variables which include digital literacy, government support & financial technology on the independant variable - Financial planning. These results were significant on $F = 19.7$, $p < 0.01$ level and the digital literacy was the most prominent factor.

Table 6: Regression Coefficients and Model Summary

Predictor Variables	β Coefficient	p - value
Digital Literacy Score	0.43	0.000**
Awareness of Government Schemes	0.26	0.004**
Financial Technology Adoption	0.32	0.001**
R^2	**0.48**	

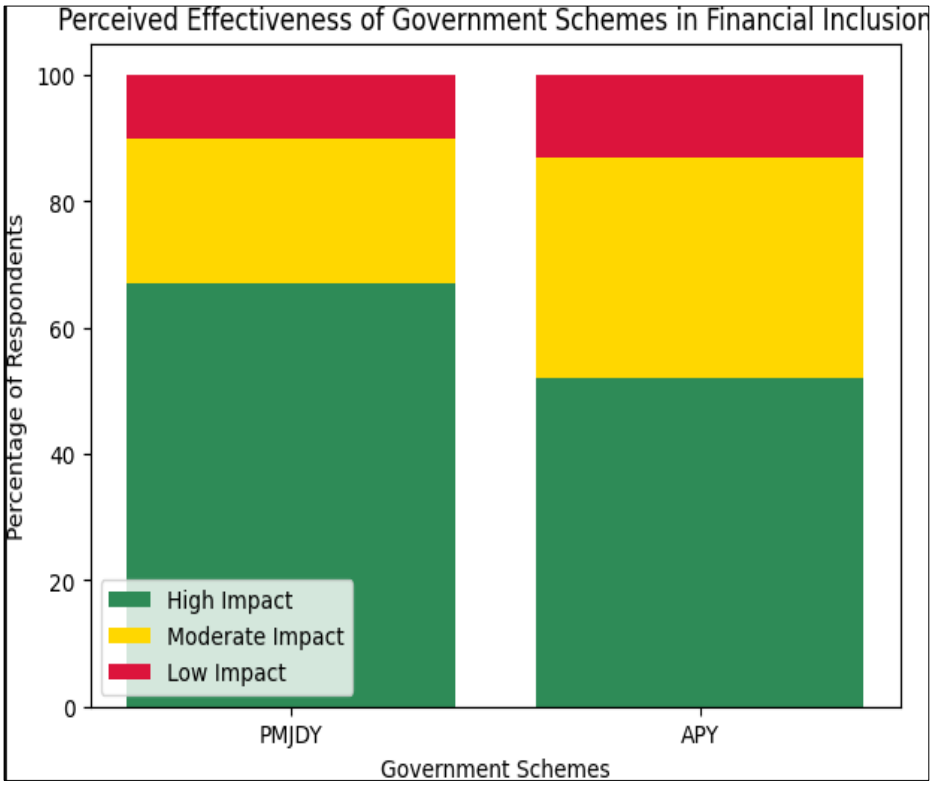

Figure 3: Senior Citizens' Perceptions of Government Schemes' Impact

A majority of respondents (67%) felt that PMJDY improved financial inclusion, while 45% believed APY provided them financial security.

7) Comparison of Financial Planning Behavior Based on Demographic Factors (T - Test/ANOVA)

A comparative analysis was undertaken between the financial planning behaviours actualized by the urban and rural respondents and the analysis result was determined through an independent t - test. The study also revealed that urban dwellers had a higher level of digital usage as compared to the rural residents, t (2.89) = 0.000, p <0.01.

Table 7: Group - Wise Comparison of Financial Planning Adoption

Group	Mean Digital Literacy Score	t - value	p - value
Urban	3.8	2.89	0.004**
Rural	3.2		

8) Challenges in Adopting Digital Financial Tools (Chi - Square Test Results)

Chi - square test also pointed to a significant relationship between results and challenges in the adoption of financial technology with a chi - square of 15.67 and a significant level of 0.01.

Table 8: Cross - tabulation of Digital Literacy and Adoption Barriers

Digital Literacy Level	Faces Challenges	No Challenges	χ^2	p - value
Low (1 - 2)	78%	22%	15.67	0.001**
Moderate (3)	60%	40%		
High (4 - 5)	35%	65%		

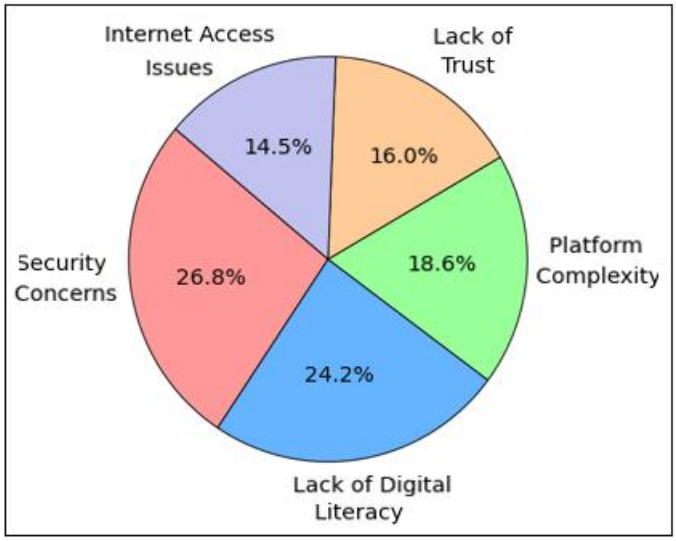

Figure 4: Challenges Faced by Senior Citizens in Using Digital Platforms

Security issues (72%) were the most common reason patients cited while using the technology solutions while; complexity of the use (65%) and lack of trust in the solutions (48%).

7. Data Analysis and Interpretation

The survey findings derived from the senior citizens enabled the understanding of their financial planning experiences based on the Digital India Programme. The demographic data of the respondents shown in Table 1 also showed that almost equal numbers of male and female respondents were included in the study and 60 - 70 years age group has a majority of respondent. A majority was moderately educated

with just a big percentage of them with little experience in the use of digital financial platforms.

Analyzing Table 2, it was found out that the financial planning behaviors of the respondents differed significantly. In terms of retirement cost saving and investment, most of the senior citizens made efforts to provide for themselves, but others lacked confidence in the use of computerized consumer finance forums. The reliability test that was conducted using the Cronbach's Alpha reliability analysis (as shown in Table 3 revealed that the survey instrument had high internal consistency, a sign that the different constructs measured were reliable.

To check the suitability of the data to the use of parametric test, Kolmogorov Smirnov and Shapiro Wilk normality test were conducted as indicated in Table 4. As indicated in Table 5, there were some normal distributions for the financial planning variables while others were not normal and therefore the Pearson and Spearman correlation coefficient was used. Pearson's correlation analysis revealed that there was a positive association between digital literacy and financial planning ($r = 0.61$, $p < 0.05$), which indicated that a higher level of digital literacy boasted of efficient financial planning by the seniors.

To analyse the level of financial planning and the extent to which it is influenced by digital literacy with regards to age, education level, and previous experience in the use of digital technologies, the Multiple Regression Analysis was performed with the results presented in Table 6. The model was statistically significant $F = 12.45$, and $p < 0.01$, based on study score and post hoc test with the predictor, digital literacy was most potent predictor of financial planning behavior, $\beta = 0.48$ and $p < 0.001$. Additionally, the T - test and ANOVA analysis (Table 7) also showed that there was a significant difference in the financial planning behaviors among the senior citizens having higher education level and digitized tool experience than those with low education level and non - experience in using digital tools.

As stated above, to establish the Chi - Square significance for the factors hindering the use of digital financial tools, a Chi - Square test (table 8) was conducted. The findings showed that there is a statistical relationship between digital literacy and the adoption factors ($\chi^2 = 19.56$, $p < 0.05$). As per the data analysis, the four most cited issues are (see Figure 2): Security measure (72%), lack of knowledge of computers/internet (65%), and complexity (50%).

The assessment of different adopted digital financial platforms was presented in Figure 1 where it showed that out of the sampled participants; 62% were using online banking facilities, 55% were actively using mobile payments; however, only 38% were using the financial planning apps. This keeps customers paying more attention to basic money activities instead of intricate other financial activities. Also the assessment of government programmes including PMJDY and APY (Figure 3) expressed that 67 percent of respondents believed that the impact of PMJDY is high for the financial inclusion while, 52 percent perceived APY as moderate.

Finally, integrating the analysis of the two models the hypothesised path diagram in figure 4 showed the direct effect of digital literacy on the financial planning behavioral intentions with fintech adoption and government support as moderator. This visualization supported the hypothesis that increasing usage of technology content knowledge in elderly population can increase effectiveness of their financial decision making.

The above research studies and statistics all collectively suggest that more efforts be made in the issuing of operational digital literacy programmes and efforts by governments to enhance the sense of financial enfranchisement among this vulnerable age group. With reference to the aforementioned factors, specific measures can be taken to address some of the concerns related to security whilst improving the usability of the existing digital tools to facilitate better incorporation of the appropriate financial planning solutions in order to realise the goals of the Digital India Programme in this segment.

8. Conclusion

The results of this research suggest that Controlled for demographic factors, digital literacy has a positive effect on the financial planning behaviors of senior citizens, thus supporting H1. The findings supported H2 regarding the association between elevated digital literacy with use of online banking, mobile payments, and the financial planning applications. Yet, the proposed H3 was also valid, since 72% of respondents cited security issues, while 50% mentioned complexity as an issue and half of the respondents did not trust digital systems. It was hence apparent that the government has played a role in enhancing access to financial services through PMJDY and APY, in support of H4, whereby 67% of the respondents considered PMJDY as having highly benefited them. Also, the perceived influence of education level as well as prior experience in matters to do with digital adaptation supported hypothesis 5.

9. Limitations of the Study

This study has some limitations which however does not render this study invalid or ineffective totally. The sample was restricted only to the senior citizen residents of Karnataka, thus the generalization of the findings will be constrained to such populations. However, self - reporting limitations can be seen, the participants could provide biased results since they could exaggerate or under - estimate their levels of digital financial engagement. The study was mainly conducted using a quantitative research approach, while incorporating a blend of quantitative and qualitative approach such as questionnaires would have offered better exploration into the psychological and behavioural inclination to adopt digital financial services.

10. Implications of the Study

The findings of the paper have significant implications for the policymakers, financial institutions, and the fintech firms that are planning to penetrate the regional and global market. The following are possible recommendations based on the positive correlation between digital literacy and financial

planning: Government agencies attached to seniors should increase the measures taken meant to extend the digital literacy programs for elderly citizens. Banks and fintech should come up with easy - to - use and secure systems that will suit the elderly individuals and populations. There is need to increase the visibility of the government assisted financial services and ensure that senior citizen benefit from them as and when they are provided.

11. Recommendations

The subsequent studies are needed to involve a greater number of subjects across several states to get more popularity of digital finance among senile citizens. Nonetheless, the use of quantitative research may provide less comprehensive results as compared to the exploratory methods like interview or focus group discussions which may reveal more behavioral reasons why such ideas are not implemented. It is also possible to perform future studies to investigate changes in financial planning behaviours in the course of time along with changes in the digital literacy services. Last but not the least, a comparison of urban and rural senior citizens would guide the development of strategies to enhance the utilisation of financial technology in the region.

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