XIBA Business Review
7 (2) 2024, 05-17

Exploring the Impact of Financial Inclusion on Socio-Demographic Factors with Digital Banking Adoption

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Abstract. *This research investigates the dynamics of financial inclusion with socio-demographic factors within the Delhi National Capital Region (NCR), focusing on online banking among residents. Employing a descriptive research design, the study analyzes the impact of demographic variables—gender, age, education, employment, and frequency of online banking—on various aspects of financial inclusion. A sample of 248 participants was drawn using convenience sampling, reflecting a diverse cross-section of the population. The findings reveal nuanced insights into the interplay between demographic factors and financial inclusion. While gender disparities persist, with women facing greater barriers to financial access, age emerges as a key determinant, highlighting distinct preferences among different age cohorts, particularly digital natives. Employment status significantly influences access to financial services, underscoring the importance of addressing the needs of marginalized workers. Additionally, education plays a pivotal role in shaping financial literacy and capability, emphasizing the need for targeted educational interventions. Furthermore, the frequency of using online banking services serves as a crucial indicator of digital financial inclusion. Disparities in digital literacy and technological access underscore the importance of addressing infrastructural gaps to ensure equitable access to online banking. Overall, this study underscores the multifaceted nature of financial inclusion and provides valuable insights for policymakers, financial institutions, and stakeholders seeking to design inclusive strategies that cater to the diverse needs of populations within the Delhi NCR region. By understanding the complex interplay of demographic factors, stakeholders can develop targeted interventions to promote equitable access to financial services and enhance financial resilience among underserved communities.*

Keywords *Financial Inclusion, Investment Portfolio, Financial Objectives, Financial Habits, Financial Decisions, Financial Behavior*

INTRODUCTION

The term "financial inclusion" describes initiatives aimed at ensuring that financial services and products are available and reasonably priced for all people and enterprises, irrespective of their size or personal net worth. The goal of financial inclusion is to take down the obstacles that prevent individuals from engaging with the financial industry and utilising its services to better their lives. Another name for it is inclusive finance. Financial inclusion, as stated on the World Bank's website, "facilitates day-to-day living, and helps families and businesses plan for everything from long-term goals to unexpected emergencies." In addition, it states, "As accountholders, people are more likely to use other financial services, such as savings, credit, and insurance, start and expand businesses, invest in education or health, manage risk, and weather financial shocks, which can improve the overall quality of their lives."

Financial inclusion has been identified as an enabler for 7 of the 17 Sustainable Development Goals. The G20 committed to advance financial inclusion worldwide and reaffirmed its commitment to implement the G20 High-Level Principles for Digital Financial Inclusion. The World Bank Group considers financial inclusion a key enabler to reduce extreme poverty and boost shared prosperity.

As for the financial sector, it's always thinking of new ways to provide the world's people with goods and services, and it frequently makes money doing it too. For instance, the growing usage of financial technology, or fintech, has created new avenues for people and organisations to get the services they want at affordable prices and offered creative solutions to the issue of financial services being inaccessible.

In recent years, financial inclusion has emerged as a critical concept in both economic development and social equity. Defined as the availability and accessibility of financial services to all members of society, regardless of their socio-economic status, financial inclusion has become a cornerstone of inclusive growth strategies worldwide. This research paper delves into the multifaceted relationship between financial inclusion and various socio-demographic factors, particularly gender, age, employment status, education, and the frequency of using online banking services. By examining these dimensions, we aim to uncover the intricate dynamics that shape individuals' access to and utilization of financial services, thereby shedding light on the broader implications for economic empowerment and social welfare.

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Financial inclusion encompasses a broad range of financial services and activities aimed at ensuring that individuals and communities have access to affordable and appropriate financial products and services. This includes not only basic banking services but also access to more advanced financial tools and resources. In the context of online banking and investment activities, financial inclusion extends to access to online banking: Providing individuals with the ability to access and manage their finances online, including checking balances, transferring funds, paying bills, and conducting other banking transactions digitally. This enables people to conveniently and securely manage their money from anywhere with an internet connection, increasing financial access and convenience. Secondly, Online banking platforms often offer features for monitoring investment portfolios, including tracking the performance of stocks, bonds, mutual funds, and other investments. This allows individuals to stay informed about the value and performance of their investments in real-time, empowering them to make informed financial decisions.

The Indian government has taken several steps to promote financial inclusion in the country, including launching the Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme, which aims to provide every household in India with a bank account and access to other financial services. The government has also promoted the use of technology, such as mobile banking and digital transactions, to reach remote and underserved populations. These initiatives aim to improve the economic well-being and financial stability of individuals and to bring the unbanked into the formal financial system.

LITERATURE REVIEW

Gender equality plays a crucial role in financial inclusion, as evidenced by various studies. Research indicates that gender equality positively impacts financial stability and inclusion in developing countries, with a significant effect observed in African nations (Tripathi & Rajeev, 2023). Studies focusing on regions in India emphasize the strong correlation between financial inclusion and women's empowerment, highlighting the importance of initiatives promoting financial literacy and access to banking services for women (Ozili, 2024; Sharma, 2016). Furthermore, the connection between financial inclusion and women's entrepreneurship is evident, with findings showing a positive impact on the efficiency of women-owned enterprises, emphasizing the need for increased access to finance for women to engage in entrepreneurship (Rani & Sundaram, 2023). Overall, these studies underscore the critical link between gender equality, financial inclusion, and women's empowerment for achieving inclusive growth and sustainable development. Gender plays a significant role in online investment activities and trust in online banking platforms. Studies show that gender does not moderate the effect of perceived trust and risk on the intention to use online investment platforms (Zamzami, 2021) Additionally, factors influencing trust in e-banking differ based on gender, with task characteristics being crucial for both men and women, while risk perception and social influences play varying roles (Mahmoud, 2019). Furthermore, research indicates that men and women have similar levels of risk propensity and investment performance, debunking the notion of gender differences in risky investment behavior (Berggren & Romualdo, 2010). Understanding gender-based behavioral differences in investment decisions is essential, as women's portfolios may exhibit more stability compared to men's, influenced more by time than gendered fields of interest (Bayyurt et al., 2013). Therefore, gender considerations are vital when engaging in online investment activities and monitoring investment portfolios.

Research on gender disparities in financial inclusion highlights the persistent barriers faced by women in accessing and utilizing financial services. According to Hendriks (2019), women are disproportionately excluded from formal banking channels, with factors such as limited access to education, cultural norms, and discriminatory practices contributing to this disparity. Similarly, Cabeza-García et al. (2019) underscores the importance of addressing gender inequalities in financial access, arguing that women's empowerment and economic participation are intrinsically linked to financial inclusion. Moreover, study by Hendriks (2019) emphasize the transformative potential of financial inclusion in enhancing women's agency and decision-making power within households and communities.

Thus, the following hypotheses were formulated: Gender has significant impact on Financial Inclusion:

H1a- Gender has a significant effect on building a proper investment portfolio.

H1b- Gender has a significant effect on tracking progress towards financial objectives.

H1c- Gender has a significant effect on transaction alerts to gain insights into financial habits.

H2d- Gender has a significant effect on access to make more informed financial decisions.

H1e- Gender has a significant effect on financial behavior in the future.

Financial inclusion plays a crucial role in the well-being of individuals, especially in older age. Studies have shown that financial inclusion is associated with functional impairment during older age, with gender and social networks potentially modifying this relationship (Rajola et al., 2014).

Age-related differences in financial inclusion have been explored extensively in the literature, with younger populations often exhibiting higher levels of engagement

with digital financial technologies. Koenig-Lewis et al. (2010) note a significant generational divide in banking behavior, with younger individuals more likely to adopt online banking and mobile payment solutions. Conversely, older adults may face challenges in adapting to digital channels due to technological barriers and preferences for traditional banking methods (Son Yu, 2012). These findings underscore the importance of designing inclusive financial products and services that cater to the diverse needs and preferences of different age cohorts.

Age has a big influence on one's financial situation. According to research, younger people define financial well-being as being able to sustain their current lifestyle, achieve their desired lifestyle, and be financially independent, whereas elderly people are more concerned with elements of their present and future lives (Riitsalu et al., 2024, Sorgente & Lanz, 2017; Soumaré et al., 2016).

Hence, it was hypothesized that: Age has significant impact on Financial Inclusion:

H2a- Age has a significant effect on building a proper investment portfolio.

H2b- Age has a significant effect on tracking progress towards financial objectives.

H2c- Age has a significant effect on transaction alerts to gain insights into financial habits.

H2d- Age has a significant effect on access to make more informed financial decisions.

H2e- Age has a significant effect on financial behavior in the future.

Education plays a crucial role in promoting financial inclusion, as evidenced by various studies (Grohmann et al., 2021; Bire et al., 2019, Kodongo, 2018). Higher education levels are associated with increased financial inclusion, including account ownership, mobile banking, and borrowing from financial institutions. Compulsory upper-secondary education has been shown to positively impact financial inclusion across different socioeconomic groups, emphasizing the importance of education in enhancing financial access (Shi & Qamruzzaman, 2022). Additionally, financial literacy, which is closely linked to education, significantly influences financial inclusion by empowering individuals to make informed financial decisions and utilize available services effectively (Cohen & Nelson, 2011). Therefore, integrating financial education into formal education systems and promoting tailored interventions that combine financial literacy programs with social interactions are essential strategies to enhance financial inclusion and bridge the gap in access to financial services. However, in a study by Education as a demographic variable did not show a significant effect on financial inclusion among university lecturers in Palembang, as per the study findings (Soejono & Mendari, 2022).

Educational attainment is closely linked to individuals' financial literacy and capability, influencing their ability to access and utilize financial services effectively. Studies by Lusardi and Tufano (2009) emphasize the positive correlation between education and financial literacy, with higher levels of education associated with greater confidence in managing personal finances. However, disparities in educational attainment contribute to inequalities in financial inclusion, particularly among marginalized communities (Carpena et al., 2011). Enhancing financial literacy and education is therefore critical for expanding access to financial services and empowering individuals to make informed financial decisions:

Thus, the following hypotheses were formulated: Education has significant impact on financial inclusion:

H3a- Education has a significant effect on building a proper investment portfolio.

H3b- Education has a significant effect on tracking progress towards financial objectives.

H3c- Education has a significant effect on transaction alerts to gain insights into financial habits.

H3d- Education has a significant effect on access to make more informed financial decisions.

H3e- Education has a significant effect on financial behavior in the future.

Full-time employees and financial inclusion are interconnected in various ways. Research indicates that financial inclusion positively impacts unemployment rates, which can benefit full-time employees (Clinebell & Clinebell, 2007; Sun & Scola, 2023). Additionally, studies show that financial inclusion plays a crucial role in poverty reduction, affecting factors such as GDP per capita and education levels, which can indirectly benefit full-time workers (Kar et al., 2017). Moreover, the financial inclusion program in India has shown differential impacts on self-employed individuals and service holders, emphasizing the importance of occupation-specific banking orientation, which could also apply to full-time employees (Tran & Lee, 2021). Overall, promoting financial inclusion not only aids in reducing unemployment and poverty but also enhances access to financial services, potentially benefiting full-time employees by providing them with more opportunities for financial growth and stability (Alshyab et al., 2021).

Employment status plays a crucial role in shaping individuals' access to financial services, with formal employment often facilitating greater financial inclusion. However, research by World Bank (2014) highlights the prevalence of financial exclusion among informal workers, who lack access to employer-sponsored banking services

and formal credit facilities. Moreover, unemployed individuals may face difficulties in accessing financial services, leading to heightened vulnerability and economic exclusion (Chen & Jin, 2017). Addressing the financial needs of diverse employment categories is essential for promoting inclusive economic growth and social development.

Thus, the following hypotheses were formulated: Employment has a significant effect on financial inclusion:

H4a- Employment has a significant effect on building a proper investment portfolio.

H4b- Employment has a significant effect on tracking progress towards financial objectives.

H4c- Employment has a significant effect on transaction alerts to gain insights into financial habits.

H4d- Employment has a significant effect on access to make more informed financial decisions.

H4e- Employment has a significant effect on financial behavior in the future.

The frequency of using online banking is closely linked to financial inclusion, as highlighted in various research papers. Financial technology (FinTech) services, such as mobile money and peer-to-peer lending, aim to promote economic inclusion for the un(der)banked, but require Internet access and digital literacy (Boshkov, 2019) Additionally, financial inclusion ensures access to financial services for vulnerable groups, with over 40% of the population utilizing such services (McHenry et al., 2017). Electronic banking, including mobile banking, plays a crucial role in expanding financial inclusion by providing branchless banking options and enhancing access to formal financial services for the underprivileged (Sharma & Pandey, 2022). Therefore, the frequency of online banking usage is a key factor in promoting financial inclusion globally.

The frequency of using online banking services serves as a key indicator of individuals' adoption of digital financial technologies. Research by McKinsey & Company (2020) highlights the growing significance of digital channels in banking, with online banking becoming the preferred mode of interaction for many consumers. However, disparities in digital literacy and internet access can hinder the adoption of online banking among certain demographic groups (Donner & Tellez, 2008). Bridging the digital divide and promoting inclusive design principles are essential for ensuring equitable access to digital financial services.

Hence, it was hypothesized that: Frequency of using online banking has a significant effect on financial inclusion:

H5a- The frequency of using online banking by respondents has a significant effect on building a proper investment portfolio.

H5b- The frequency of using online banking by respondents has a significant effect on tracking progress towards financial objectives.

H5c- The frequency of using online banking by respondents has a significant effect on transaction alerts to gain insights into financial habits.

H5d- The frequency of using online banking by respondents has a significant effect on access to make more informed financial decisions.

H5e- The frequency of using online banking by respondents has a significant effect on financial behavior in the future.

RESEARCH DESIGN

The research employs a descriptive research design. Descriptive research aims to describe the characteristics of a population or phenomenon. In this study, the focus is on examining various aspects related to financial inclusion on online banking among individuals residing in the Delhi NCR region.

The objective of this research is to analyze the significant effect of demographic variables gender, age, education, employment and frequency on various factors of financial inclusion like investment portfolio, financial objectives, financial habits, financial decision, financial behavior.

The population under study comprises individuals above 18 years of age residing in the Delhi National Capital Region (NCR). Sample Size: The sample size for this study is determined to be 248 participants. Convenience sampling was utilized to select participants from various locations within the Delhi NCR region. This method is chosen for its practicality and efficiency in accessing participants who meet the inclusion criteria. Primary and secondary method of data collection was used. For primary method a structured questionnaire was developed to collect relevant data pertaining to the research objectives. The questionnaire includes close-ended questions. Questionnaire was developed on the basis of objective of the research. The questions were divided into two category demographic characteristics of respondents second category questions were based on investment portfolio, financial objectives, financial habits, financial decision, financial behavior. For this Likert scale of 1-5 was used in framing questions. Secondary method was used to identify research gap for this books, research papers, journals and articles were referred. Google form was created to collect data and same was circulated to participants above 18 years of age. The collected data will be analyzed using descriptive statistics. Descriptive statistics involve the summarization and interpretation of data to describe the characteristics of the sample population. Measures such as mean, standard deviation, t-test and ANOVA was used to analyze quantitative data. The research adheres

to ethical guidelines and principles, ensuring participant confidentiality, anonymity, and voluntary participation. Any sensitive information collected will be handled with utmost confidentiality and will only be used for research purposes.

DATA ANALYSIS AND INTERPRETATION

Table 1: General Characteristic of Participants

	Category	Frequency	Percentage
Gender	Male	160	64.5
	Female	88	35.5
Age	18-25	169	68.1
	26-35	26	10.5
	36-45	28	11.3
	46-55	14	5.6
	56 and above	10	4
Education	High school or equivalent	46	18.5
	Bachelor's degree	152	61.3
	Master's degree or higher	50	20.2
Employment Status	Student	156	62.9
	Employed full-time	58	23.4
	Employed part-time	16	6.5
	Retired	8	3.2
	Unemployed	10	4

Interpreting demographic variables can provide valuable insights into the characteristics of a population. Let's break down the interpretation for each variable from Table 1.

There are 160 males in the sample, constituting 64.5% of the total population. Female: There are 88 females in the sample, constituting 35.5% of the total population. Interpretation: This suggests that the sample population is predominantly male, with nearly two-thirds being male and around one-third being female. This could imply a gender imbalance in the population being studied. Age: 18-25: There are 169 individuals in the 18-25 age group, making up 68.1% of the total population. 26-35: There are 26 individuals in the 26-35 age group, accounting for 10.5% of the total population. 36-45: There are 28 individuals in the 36-45 age group, comprising 11.3% of the total population. 46-55: There are 14 individuals in the 46-55 age group, representing 5.6% of the total population. 56 and above: There are 10 individuals aged 56 and above, making up 4% of the total population. The largest age group in the sample is 18-25, indicating that the majority of respondents fall within this age range. The proportion of individuals decreases as age increases, with older age groups having smaller representations in the sample. This could suggest a skew towards younger individuals in the population being studied. Education: High school or equivalent: There are 46 individuals with a high school education or equivalent, comprising 18.5% of the total population. Bachelor's degree: There are 52 individuals with a bachelor's degree, representing 61.3% of the total population. Master's degree or higher: There are 50 individuals with a master's degree or higher, accounting for 20.2% of the total population. Interpretation: The majority of individuals in the sample have a bachelor's degree, followed by those with a master's degree or higher. A smaller proportion have a high school education or equivalent. This distribution suggests that the sample is relatively well-educated, with a significant portion having attained at least a bachelor's degree. Employment Status: Student: There are 156 students in the sample, making up 62.9% of the total population. Employed full-time: There are 58 individuals employed full-time, accounting for 23.4% of the total population. Employed part-time: There are 16 individuals employed part-time, representing 6.5% of the total population. Retired: There are 8 retired individuals, comprising 3.2% of the total population. Unemployed: There are 10 unemployed individuals, making up 4% of the total population. The largest group in terms of employment status is comprised of students, indicating that a significant portion of the sample is still in education. Full-time employment is the next most common category, followed by part-time employment. There is also a small proportion of individuals who are retired or unemployed.

Table 2: T-Test using Gender and Factors Based on Financial Inclusion

	Gender	N	Mean	Std. Deviation	F	Sig
Investment Portfolio	Male	160	1.70	.751	.566	.453
	Female	88	2.09	.825		
Financial Objectives	Male	160	1.96	.816	.116	.734
	Female	88	1.95	.829		
Financial Habits	Male	160	1.81	.810	.075	.785
	Female	88	1.89	.836		
Financial Decision	Male	160	1.66	.882	7.808	.006
	Female	88	1.89	.964		
Financial Behaviour	Male	160	1.55	.823	5.119	.025
	Female	88	1.64	.912		

Interpretation of t-test results when gender is independent variable and dependent variables as Investment portfolio, Financial objectives, Financial habits, Financial decision, Financial behaviour. From Table 2 the investment portfolio mean of male is 1.70 and female is 2.09, value of F is .566, and sig is .453. Since the difference in means between males and females is not statistically significant, as indicated by a non-significant p-value (p = 0.453).

In financial objectives mean of male is 1.96 and female is 1.95, value of F is .116, and sig is .734. Again, the difference in means between males and females is not statistically significant (p = 0.734). Once more, there is no statistically significant difference between males and females in terms of financial habits (p = 0.785). In financial habits mean of male is 1.81 and female is 1.89, value of F is .075, and sig is .785. Once more, there is no statistically significant difference between males and females in terms of financial habits (p = 0.785). Hypothesis H1a, H2a, H3a are rejected as their p-value is greater than .05

In financial decision mean of male is 1.66 and female is 1.89, value of F is 7.808, and sig is .006. Here, the difference in means between males and females is statistically significant (p = 0.006). This suggests that there is a significant difference in financial decision-making between genders. In financial behaviour mean of male is 1.55 and female is 1.64, value of F is 5.119, and sig is .025. Similarly, the difference in means between males and females is statistically significant (p = 0.025), indicating a significant difference in financial behavior between genders. Hypothesis H2d & H1e are accepted as their p-value is less than .05.

While there are no significant differences between genders in terms of investment portfolio, financial objectives, and financial habits, there are significant differences in financial decision-making and financial behavior.

Table 3: ANOVA using Age and Factors Based on Financial Inclusion

		N	Mean	Std. Deviation	F	Sig
Investment portfolio	18-25	169	1.93	.842		
	26-35	26	1.54	.761		
	36-45	28	1.71	.600		
	46-55	14	1.71	.726	1.959	.101
	56 and above	10	1.60	.516		
	Total	247	1.84	.800		
Financial objectives	18-25	169	2.05	.830		
	26-35	26	1.77	.908		
	36-45	28	1.79	.686		
	46-55	14	1.71	.726	1.569	.183
	56 and above	10	1.80	.789		
	Total	247	1.96	.820		

		N	Mean	Std. Deviation	F	Sig
Financial habits	18-25	169	1.95	.872		
	26-35	26	1.46	.647		
	36-45	28	1.86	.651		
	46-55	14	1.43	.514	3.966	.004
	56 and above	10	1.40	.516		
	Total	247	1.84	.820		
Financial decision	18-25	169	1.81	.957		
	26-35	26	1.69	.928		
	36-45	28	1.50	.745		
	46-55	14	1.57	.756	.921	.452
	56 and above	10	1.60	.843		
	Total	247	1.74	.918		
Financial behaviour	18-25	169	1.72	.921		
	26-35	26	1.38	.752		
	36-45	28	1.14	.356	4.638	.001
	46-55	14	1.57	.756		
	56 and above	10	1.00	.000		
	Total	247	1.58	.856		

Interpretation of ANOVA results from Table 3 when age is independent variable and dependent variables as Investment portfolio, Financial objectives, Financial habits, Financial decision, Financial behaviour. In investment portfolio mean of 18-25 age group is 1.93, 26-35 age group mean value is 1.54, 36-45 age group mean value is 1.71, 46-55 age group mean value is 1.71, and above 56 and above is 1.60, value of F is 1.959, and sig is .101. The difference in means across age groups is not statistically significant, as indicated by a non-significant p-value (p = 0.101). This suggests that there is no significant difference in investment portfolio across different age groups. In financial objectives mean value of 18-25 age group is 2.05, 26-35 age group mean value is 1.77, 36-45 age group mean value is 1.79, 46-55 age group mean value is 1.71, and above 56 and above is 1.80, value of F is 1.569, and sig is .183. Similarly, the difference in means across age groups is not statistically significant (p = 0.183), indicating that there is no significant difference in financial objectives across different age groups. In financial habits mean value of 18-25 age group is 1.95, 26-35 age group mean value is 1.46, 36-45 age group mean value is 1.86, 46-55 age group mean value is 1.43, and above 56 and above is 1.40, value of F is 3.966, and sig is .004. In contrast, the difference in means across age groups is statistically significant (p = 0.004). This suggests that there is a significant difference in financial habits across different age groups. In financial decision mean value of 18-25 age group is 1.81, 26-35 age group mean value is 1.69, 36-45 age group mean value is 1.50, 46-55 age group mean value is 1.57, and above 56 and above is 1.60, value of F is .921, and sig is .452. The difference in means across age groups is not statistically significant (p = 0.452), indicating that there is no significant difference in financial decision-making across different age groups. In financial behaviour mean value of 18-25 age group is 1.72, 26-35 age group mean value is 1.38, 36-45 age group mean value is 1.14, 46-55 age group mean value is 1.57, and above 56 and above is 1.00, value of F is 4.638, and sig is .001. Here, the difference in means across age groups is statistically significant (p = 0.001), suggesting that there is a significant difference in financial behavior across different age groups. In summary, while there are no significant differences in investment portfolio and financial objectives across age groups, there are significant differences in financial habits and financial behavior. Financial decision-making does not appear to vary significantly across age groups.

Table 4: ANOVA using Education and Factors Based on Financial Inclusion

		N	Mean	Std. Deviation	F	Sig
Investment portfolio	High school or equivalent	46	1.83	.769		
	Bachelor's degree	152	1.88	.845		
	Master's degree or higher	50	1.72	.671	.776	.462
	Total	248	1.84	.799		
Financial_objectives	High school or equivalent	46	2.13	.806		
	Bachelor's degree	152	1.95	.828	1.559	.213
	Master's degree or higher	50	1.84	.792		
	Total	248	1.96	.819		
financial habits	High school or equivalent	46	1.96	.868	3.815	.023
	Bachelor's degree	152	1.89	.855		
	Master's degree or higher	50	1.56	.577		
	Total	248	1.84	.819		
Financial decision	High school or equivalent	46	1.83	.926		
	Bachelor's degree	152	1.75	.937		
	Master's degree or higher	50	1.64	.851	.507	.603
	Total	248	1.74	.917		
Financial behaviour	High school or equivalent	46	1.39	.714		
	Bachelor's degree	152	1.72	.929	5.801	.003
	Master's degree or higher	50	1.32	.621		
	Total	248	1.58	.855		

From Table 4 ANOVA results indicate when education is independent variable and dependent variables as Investment portfolio, Financial objectives, Financial habits, Financial decision, Financial behaviour. In investment portfolio mean value of High school or equivalent is 1.83, mean value of Bachelor's degree is 1.88, mean value of master's degree is 1.72, value of F is .776, and sig is .462. The difference in means across education levels is not statistically significant ($p = 0.462$). This suggests that there is no significant difference in investment portfolio across different education levels. In financial objectives mean value of High school or equivalent is 2.13, mean value of Bachelor's degree is 1.95, mean value of master's degree is 1.84, value of F is 1.559, and sig is .213. Similarly, the difference in means across education levels is not statistically significant ($p = 0.213$), indicating that there is no significant difference in financial objectives across different education levels. Similarly, in financial habits mean value of High school or equivalent is 1.96, mean value of Bachelor's degree is 1.89, mean value of master's degree is 1.56, value of F is 3.815, and sig is .023. In contrast, the difference in means across education levels is statistically significant ($p = 0.023$). This suggests that there is a significant difference in financial habits across different education levels. In financial decision mean value of High school or equivalent is 1.83, mean value of Bachelor's degree is 1.75, mean value of master's degree is 1.64, value of F is .507, and sig is .603. The difference in means across education levels is not statistically significant ($p = 0.603$), indicating that there is no significant difference in financial decision-making across different education levels. In financial behaviour mean value of High school or equivalent is 1.39, mean value of Bachelor's degree is 1.72, mean value of master's degree is 1.32, value of F is 5.801, and sig is .003. Here, the difference in means across education levels is statistically significant ($p = 0.003$), suggesting that there is a significant difference in financial behavior across different education levels. In summary, while there are no significant differences in investment portfolio and financial objectives across education levels, there are significant differences in financial habits and financial behavior. Financial decision-making does not appear to vary significantly across education levels.

Table 5: ANOVA using Employment and Factors Based on Financial Inclusion

		N	Mean	Std. Deviation	F	Sig
Investment portfolio	Student	156	1.94	.855		
	Employed full-time	58	1.66	.715		
	Employed part-time	16	1.75	.683		
	Retired	8	1.75	.463	1.658	.160
	Unemployed	10	1.60	.516		
	Total	248	1.84	.799		
Financial objectives	Student	156	2.09	.838		
	Employed full-time	58	1.83	.798		
	Employed part-time	16	1.63	.719		
	Retired	8	1.75	.463	3.462	.009
	Unemployed	10	1.40	.516		
	Total	248	1.96	.819		
Financial habits	Student	156	1.95	.878		
	Employed full-time	58	1.59	.622		
	Employed part-time	16	1.88	.957	2.379	.052
	Retired	8	1.75	.463		
	Unemployed	10	1.60	.516		
	Total	248	1.84	.819		
Financial decision	Student	156	1.79	.942		
	Employed full-time	58	1.62	.855		
	Employed part-time	16	1.75	1.000	.889	.471
	Retired	8	2.00	.756		
	Unemployed	10	1.40	.843		
	Total	248	1.74	.917		
Financial behaviour	Student	156	1.69	.899		
	Employed full-time	58	1.41	.726		
	Employed part-time	16	1.50	.894	2.339	.056
	Retired	8	1.00	.000		
	Unemployed	10	1.40	.843		
	Total	248	1.58	.855		

From Table 5 it can be interpreted that when employment is independent variable and dependent variables as Investment portfolio, Financial objectives, Financial habits, Financial decision, Financial behaviour. In investment portfolio mean value of student 1.94, mean value of employed full-time is 1.66, employed part-time is 1.75, mean value of retired and unemployed is 1.75 and 1.60 respectively, value of F is 1.658, and sig is .160. The difference in means across employment categories is not statistically significant ($p = 0.160$). This suggests that there is no significant difference in investment portfolio across different employment statuses. Likewise, in financial objective mean value of student 2.09, mean value of employed full-time is 1.83, employed part-time is 1.63, mean value of retired and unemployed is 1.75 and 1.40 respectively, value of F is 3.462, and sig is .009. In contrast, the difference in means across employment categories is statistically significant ($p = 0.009$). This indicates that there is a significant difference in financial objectives across different employment statuses. Similarly, in financial habits mean value of student 1.95, mean value of employed full-time is 1.59, employed part-time is 1.88, mean value of retired and unemployed is 1.75 and 1.60 respectively, value of F is 2.379, and sig is .052. The difference in means across employment categories is marginally significant ($p = 0.052$). This suggests that there may be some differences in financial habits across different employment statuses, although not statistically significant at conventional levels. Additionally, in financial decisions mean value of student 1.79, mean value of employed full-time is 1.62, employed part-time is 1.75, mean value of retired and unemployed is 2.00 and 1.40 respectively, value of F is .889, and sig is .471. The difference in means across employment categories is not

statistically significant (p = 0.471). This indicates that there is no significant difference in financial decision-making across different employment statuses. In financial behaviour mean value of student 1.69, mean value of employed full-time is 1.41, employed part-time is 1.50, mean value of retired and unemployed is 1.00 and 1.40 respectively, value of F is 2.339, and sig is .056. The difference in means across employment categories is marginally significant (p = 0.056). This suggests that there may be some differences in financial behavior across different employment statuses, although not statistically significant at conventional levels. In summary, while there are significant differences in financial objectives across employment statuses, there are no significant differences in investment portfolio, financial decision-making, and financial habits. However, there may be some trends or tendencies in financial habits and behavior across different employment statuses, though not statistically significant at conventional levels.

Table 6: ANOVA for Frequency of using Online Banking and Factors Based on Financial Inclusion

		N	Mean	Std. Deviation	F	Sig.
Investment portfolio	Rarely	38	2.32	.574		
	Daily	130	1.66	.773		
	Weekly	62	1.90	.824	7.335	.000
	Monthly	18	1.89	.900		
	Total	248	1.84	.799		
Financial_objectives	Rarely	38	2.26	.644		
	Daily	130	1.80	.811		
	Weekly	62	2.03	.868	4.336	.005
	Monthly	18	2.22	.808		
	Total	248	1.96	.819		
Financial habits	Rarely	38	2.26	.724		
	Daily	130	1.63	.818	7.495	.000
	Weekly	62	1.97	.789		
	Monthly	18	2.00	.686		
	Total	248	1.84	.819		
Financial decision	Rarely	38	2.05	.899		
	Daily	130	1.58	.879	3.407	.018
	Weekly	62	1.81	.938		
	Monthly	18	2.00	.970		
	Total	248	1.74	.917		
Financial behaviour	Rarely	38	2.11	.863		
	Daily	130	1.43	.787	6.726	.000
	Weekly	62	1.61	.875		
	Monthly	18	1.44	.856		
	Total	248	1.58	.855		

Interpretation of ANOVA from Table 6 results indicate that when frequency is independent variable and dependent variables as Investment portfolio, Financial objectives, Financial habits, Financial decision, Financial behaviour. In investment portfolio mean value of rarely is 2.32, mean value of daily is 1.66, weekly is 1.90, and monthly is 1.89, value of F is 7.335, and sig is .000. The difference in means across frequency categories is statistically significant (p = 0.000). This suggests that there is a significant difference in investment portfolio across different frequency of financial activities. In financial objectives mean value of rarely is 2.26, mean value of daily is 1.80, weekly is 2.03, and monthly

is 2.22, value of F is 4.336, and sig is .005. Similarly, the difference in means across frequency categories is statistically significant (p = 0.005). This indicates that there is a significant difference in financial objectives across different frequencies of financial activities. In financial habits mean value of rarely is 2.26, mean value of daily is 1.63, weekly is 1.97, and monthly is 2.00, value of F is 7.495, and sig is .000. Again, the difference in means across frequency categories is statistically significant (p = 0.000). This suggests that there is a significant difference in financial habits across different frequencies of financial activities.

In financial decision mean value of rarely is 2.05, mean value of daily is 1.58, weekly is 1.81, and monthly is 2.00, value of F is 3.407, and sig is .018. The difference in means across frequency categories is statistically significant (p = 0.018). This indicates that there is a significant difference in financial decision-making across different frequencies of financial activities.

In financial behaviour mean value of rarely is 2.11, mean value of daily is 1.43, weekly is 1.61, and monthly is 1.44, value of F is 6.726, and sig is .000. Once more, the difference in means across frequency categories is statistically significant (p = 0.000). This suggests that there is a significant difference in financial behavior across different frequencies of financial activities.

In summary, there are significant differences in investment portfolio, financial objectives, financial habits, financial decision-making, and financial behavior across different frequencies of financial activities.

FINDINGS

Gender remains a pivotal determinant of financial inclusion, with women often facing greater barriers to access and utilization of financial services compared to their male counterparts. Socio-cultural norms, limited mobility, and unequal access to education and employment opportunities are among the factors that contribute to this disparity. Consequently, exploring the differential impact of financial inclusion initiatives on men and women is crucial for designing targeted interventions that address gender inequality in access to financial resources and decision-making power. Age is another crucial factor influencing individuals' engagement with financial services. Younger populations, particularly digital natives, exhibit distinct preferences and behaviors in their financial interactions, often favoring digital channels over traditional banking methods. Understanding the unique needs and preferences of different age cohorts is essential for crafting inclusive financial products and services that cater to the diverse requirements of both older and younger demographics. Employment status plays a significant role in determining individuals' access to financial services, as those with stable employment are more likely to have access to formal banking channels and credit facilities. However, informal and precarious employment arrangements may limit individuals' ability to build savings, access credit, or make long-term financial investments. By examining the relationship between employment status and financial inclusion, we can identify strategies to extend financial services to vulnerable and marginalized workers, thereby promoting economic resilience and social inclusion. Education emerges as a critical determinant of financial literacy and capability, shaping individuals' understanding of financial products, services, and risks. Higher levels of education are often associated with greater financial literacy and confidence in managing personal finances. Therefore, efforts to enhance financial inclusion must include initiatives aimed at improving financial literacy and education among underserved communities, empowering individuals to make informed financial decisions and navigate complex financial landscapes effectively. Finally, the frequency of using online banking services represents a key indicator of individuals' adoption of digital financial technologies. As the world becomes increasingly interconnected and digitized, access to online banking services has become essential for conducting financial transactions, managing accounts, and accessing a wide range of financial products and services. However, disparities in digital literacy, internet access, and technological infrastructure can hinder the adoption of online banking among certain demographic groups, exacerbating existing inequalities in financial inclusion.

MANAGERIAL IMPLICATIONS

Financial institutions should develop products and services tailored to the specific needs and preferences of diverse socio-demographic groups. Understanding the unique challenges and opportunities faced by different segments of the population can help in designing more inclusive and effective financial solutions. To promote digital banking adoption, managers should prioritize investment in digital infrastructure, including robust internet connectivity and user-friendly interfaces. By ensuring accessibility and usability, financial institutions can encourage more individuals to embrace digital banking channels.

Implementing digital literacy programs is crucial to overcoming barriers to digital banking adoption, especially among underserved populations. Managers should collaborate with government agencies, NGOs, and community organizations to provide training and education on digital financial services, empowering individuals to make informed decisions and navigate online platforms confidently. Collaboration between financial institutions, technology firms, and government agencies is essential for advancing financial inclusion goals. Government should seek

opportunities for partnerships and collaborations to leverage each other's strengths and resources in expanding access to financial services and promoting digital banking adoption. As the landscape of financial inclusion and digital banking continues to evolve, managers must engage in continuous evaluation and adaptation of their strategies. Monitoring key performance indicators, soliciting feedback from customers, and staying abreast of emerging trends and technologies will enable managers to refine their approaches and stay responsive to the changing needs of their target audience.

CONCLUSION

In conclusion, the exploration of the impact of financial inclusion on socio-demographic factors and digital banking adoption underscores the critical role of individuals in driving inclusive growth and fostering technological innovation. By recognizing the diverse needs and preferences of different socio-demographic groups, financial institutions can design more inclusive and customer-centric solutions that cater to the unique circumstances of their target populations. Moreover, by investing in digital infrastructure, promoting digital literacy, and forging strategic partnerships, government can overcome barriers to digital banking adoption and empower individuals to participate more fully in the formal financial system. As government continue to navigate the dynamic landscape of financial inclusion and digital banking, a commitment to continuous evaluation, adaptation, and collaboration will be essential to achieving sustainable and equitable outcomes for all members of society.

REFERENCES

Alshyab, N., Sandri, S., & Daradkah, D. (2021). The effect of financial inclusion on unemployment reduction - Evidence from non-oil producing Arab countries. *International Journal of Business Performance Management*, *22*(2-3), 100-116.

Bayyurt, N., Karışık, V., & Coşkun, A. (2013). Gender differences in investment preferences. *European Journal of Economic & Political Studies*, *6*(1).

Berggren, J., & Romualdo, G. (2010). *Gender difference in financial decision making: A quantitative study of risk aversion and overconfidence between the genders.*

Bire, A. R., Sauw, H. M., & Maria, M. (2019). The effect of financial literacy towards financial inclusion through financial training. *International Journal of Social Sciences and Humanities*, *3*(1), 186-192.

Boshkov, T. (2019). Virtual banking and financial inclusion. *Research Journal of Finance and Accounting, 10*(13), 39-43.

Cabeza-García, L., Del Brio, E. B., & Oscanoa-Victorio, M. L. (2019, November). Female financial inclusion and its impacts on inclusive economic development. In *Women's Studies International Forum* (vol. 77, p. 102300). Pergamon.

Chen, Z., & Jin, M. (2017). Financial inclusion in China: Use of credit. *J Fam Econ Iss, 38,* 528-540. doi:https://doi.org/10.1007/s10834-017-9531-x

Clinebell, S. K., & Clinebell, J. M. (2007). Differences between part-time and full-time employees in the financial services industry. *Journal of Leadership & Organizational Studies*, *14*(2), 157-167.

Cohen, M., & Nelson, C. (2011). Financial literacy: A step for clients towards financial inclusion. *Global Microcredit Summit*, *14*(17), 1-34.

Donner, J., & Tellez, C. A. (2008). Mobile banking and economic development: Linking adoption, impact, and use. *Asian Journal of Communication*, *18*(4), 318-332.

Folasade, B., Femi, Lawal. (2017). Financial inclusion in the digital age, its role and impact on economic growth. doi:https://doi.org/10.21522/TIJAR.2014.04.02.ART018

Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does financial literacy improve financial inclusion? Cross country evidence. *World Development*, *111*, 84-96.

Hendriks, S. (2019). The role of financial inclusion in driving women's economic empowerment. *Development in Practice*, *29*(8), 1029-1038.

Kar, B., Bhuyan, M., Das, K. B., & Mohanty, J. (2017). Does banking behaviour differ by occupation? A contextual investigation. *SEDME (Small Enterprises Development, Management & Extension Journal)*, *44*(4), 39-52.

Kodongo, O. (2018). Financial regulations, financial literacy, and financial inclusion: Insights from Kenya. *Emerging Markets Finance and Trade*, *54*(12), 2851-2873.

Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International Journal of Bank Marketing*, *28*(5), 410-432. doi:https://doi.org/10.1108/02652321011064917

Mahmoud, M. A. (2019). Gender, e-banking, and customer retention. *Journal of Global Marketing*, *32*(4), 269-287.

McHenry, G., Goldberg, R. M., Lewis, M., Carlson, E., & Mehta, I. (2017). *Digital and economic inclusion: How Internet adoption impacts banking status.* Available at SSRN 2944394.

Nataliya, B. (2010). Would Lehman Sisters have done it differently? An empirical analysis of gender differences in investment behavior. Research Papers in Economics.

Osman, H. (2020). *Financial inclusion case study: Case of Turkey*. doi:https://doi.org/10.47103/BILTURK.772689

Ozili, P. K. (2024). Effect of gender equality on financial stability and financial inclusion. *Social Responsibility Journal*, *20*(2), 205-223. doi:https://doi.org/10.1108/SRJ-12-2022-0565

Rani, V. S., & Sundaram, N. (2023). Impact of financial inclusion on women entrepreneurs in India: An empirical study. *International Journal of Professional Business Review*, *8*(6), 24.

Gyasi, R. M., Frimpong, S., Amoako, G. K., & Adam, A. M. (2021). Financial inclusion and physical health functioning among aging adults in the sub-Saharan African context: Exploring social networks and gender roles. *PLOS ONE*. doi:https://doi.org/10.1371/JOURNAL.PONE.0252007

Sharma, D. (2016). Nexus between financial inclusion and economic growth: Evidence from the emerging Indian economy. *Journal of Financial Economic Policy*, *8*(1), 13-36.

Tran, H. T. T., & Le, H. T. T. (2021). The impact of financial inclusion on poverty reduction. *Asian Journal of Law and Economics*, *12*(1), 95-119.

Tripathi, S., & Rajeev, M. (2023). Gender-inclusive development through fintech: Studying gender-based digital financial inclusion in a cross-country setting. *Sustainability, 15*(13), 10253.

Sharma, C. A. K., & Pandey, R. K. (2022). The role of banks in ensuring financial inclusion. *The Management Accountant Journal*, *57*(12), 80-83.

Shi, Z., & Qamruzzaman, M. (2022). Re-visiting the role of education on poverty through the channel of financial inclusion: Evidence from lower-income and lower-middle-income Countries. *Front. Environ. Sci., 10,* 873652. doi:https://doi.org/10.3389/fenvs.2022.873652

Soejono, F., & Mendari, A. S. (2022). Financial literacy, individual characteristic and financial inclusion: A study on lecturers in Palembang. *International Journal of Multidisciplinary: Applied Business and Education Research*, *3*(2), 269-277. doi:https://doi.org/10.11594/ijmaber.03.02.12

Sun, Y., & Scola, N. (2023). Examining the impact of financial inclusion on unemployment in Africa (a panel data analysis). *AJRSP*, *5*(51), 23-50.

Rajola, F., Frigerio, C., & Parrichi, M. (2014). Financial well-being in active ageing. In *Active Ageing and Healthy Living* (pp. 69-77). IOS Press.

Yu, C. S. (2012). Factors affecting individuals to adopt mobile banking: Empirical evidence from the UTAUT model. *Journal of Electronic Commerce Research*, *13*(2), 104.

Riitsalu, L., Sulg, R., Lindal, H., Remmik, M., & Vain, K. (2024). From security to freedom—The meaning of financial well-being changes with age. *Journal of Family and Economic Issues*, *45*(1), 56-69.

Sorgente, A., & Lanz, M. (2017). Emerging adults' financial well-being: A scoping review. *Adolescent Research Review*, *2*, 255-292.

Soumaré, I., Tchana, F. T., & Kengne, T. M. (2016). Analysis of the determinants of financial inclusion in Central and West Africa. *Transnational Corporations Review*, *8*(4), 231-249.

World Bank. (2014). *Global financial development report 2014: Financial inclusion.* Washington, DC: World Bank. doi:10.1596/978-0-8213-9985-9

Zamzami, A. H. (2021). Investors' trust and risk perception using the investment platform: A gender perspective. *Dinasti International Journal of Education Management and Social Science*, *2*(5), 828-841.

https://www.mckinsey.com/industries/financial-services/our-insights/best-of-both-worlds-balancing-digital-and-physical-channels-in-retail-banking