

“A STUDY ON FINANCIAL LITERACY AND NUMERACY AMONG WORKING WOMEN OF SOUTH GUJARAT REGION”

A Thesis submitted to Gujarat Technological University

for the Award of

Doctor of Philosophy

in

Management

by

Desai Pranjal Niren

219999903041

Under supervision of

Dr. Mahammadrafique U. Meman

Supervisor



**GUJARAT TECHNOLOGICAL UNIVERSITY
AHMEDABAD**

AUGUST – 2026

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AUGUST – 2026

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ABSTRACT

This study focuses on understanding the level of financial literacy and financial numeracy among working women in the South Gujarat region. Financial literacy means the ability to understand and use financial knowledge for making correct money decisions, while financial numeracy refers to the ability to use basic mathematical skills in financial situations. In today's fast-changing financial environment, both these skills are very important, especially for women, as they play a key role in managing household finances and contributing to economic development.

The main objective of the study is to examine the financial knowledge, attitude, behaviour, and numeracy skills of working women in South Gujarat. The study also aims to identify how different demographic factors such as age, education, income, occupation, and family structure influence financial literacy and numeracy levels. A sample of 1020 respondents was selected from different districts including Surat, Bharuch, Navsari, Valsad, and Tapi to ensure proper representation of the region.

The study is based on both primary and secondary data. Primary data was collected through a structured questionnaire, which included questions related to financial awareness, financial attitude, financial behaviour, and numeracy concepts such as interest rate, inflation, risk diversification, and time value of money. The Lusardi model and OECD framework were used to measure financial literacy and numeracy levels. Statistical tools such as frequency analysis, factor analysis, and structural equation modelling were used to analyse the data.

The findings of the study show that most respondents are young, educated, and employed, with a majority belonging to semi-urban areas. It was observed that while many women have basic awareness of financial products like fixed deposits, insurance, and mutual funds, their knowledge about complex financial instruments such as government securities and stock markets is limited. This indicates that there is still a gap in advanced financial knowledge among working women.

In terms of financial attitude, many respondents showed a tendency towards spending rather than saving, although a significant number also displayed a positive attitude towards financial planning and risk-taking. Financial behaviour results indicate that most women actively manage their finances, but they generally invest a small portion of their income, showing a cautious approach towards investment.

The study also highlights that financial behaviour has the strongest impact on financial literacy compared to financial attitude and financial awareness. This means that practical financial habits such as saving, budgeting, and investing play a major role in improving financial literacy. Additionally, financial numeracy was found to vary significantly across different demographic groups, especially income levels, districts, and number of earning members in the family.

In conclusion, the study shows that while working women in South Gujarat have moderate financial literacy and numeracy levels, there is still scope for improvement. Enhancing financial education can help women make better financial decisions, improve their financial security, and contribute more effectively to economic growth. The findings of the study can be useful for policymakers, educators, and financial institutions in designing targeted financial literacy programs for women.

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List of Abbreviations

OECD – Organisation for Economic Co-operation and Development

INFE – International Network on Financial Education

RBI – Reserve Bank of India

SEBI – Securities and Exchange Board of India

IRDAI – Insurance Regulatory and Development Authority of India

PFRDA – Pension Fund Regulatory and Development Authority

NCFE – National Centre for Financial Education

NSFE – National Strategy for Financial Education

PMJDY – Pradhan Mantri Jan Dhan Yojana

DAY-NRLM – Deendayal Antyodaya Yojana – National Rural Livelihoods Mission

SHG – Self-Help Group

GLPC – Gujarat Livelihood Promotion Company

FLC – Financial Literacy Centre

CFL – Centre for Financial Literacy

EMI – Equated Monthly Instalment

CHAPTER 1

INTRODUCTION

1. INTRODUCTION:

“Women spend thousands in comparing everyday expenses, yet true empowerment begins when they compare their financial habits with their financial goals.”

OECD marked financial literacy “a combination of financial awareness, knowledge, skills, attitudes and behaviours necessary to make sound financial decisions and ultimately achieve individual financial well-being.”

General financial literacy means a skill to know financial affairs. It represents the skill and intelligence which help to make notified as well as efficient financial choices. It is closely related to personal finance management and includes understanding different areas such as savings, Investment etc.

1.1 Dimensions of Financial Literateness:

Financial Knowledge: Financial awareness and understanding about the financial concepts and procedures as well as the use of this understanding to solve financial problems. (<https://www.igi-No table of figures entries found.global.com/dictionary/financial-literacy/47374>)

Financial Attitude: Individual characteristics that take the form of tendencies towards a financial practice or action. It shows the inclination or likelihood of a person to undertake a behaviour. (<https://www.igi-global.com/dictionary/financial-literacy/58683>)

Financial Behaviour: Financial behaviour can be defined as any human behaviour that is relevant to money management. Common financial behaviours include cash, credit and saving behaviour. (OECD, 2017). can choose from a variety of financial products when deciding where to invest.

1.2 Meaning of Financial Literacy:

Financial literacy refers to the knowledge, skills, as well as understanding which enable an individual to make learned and operational decisions about personal finances. It includes understanding how to manage funds, plan, and handle financial risks. A financially literate person can understand notions such as saving, budgeting, rate of Interest, loans, investment options, insurance as well as retirement planning. Financial literacy helps individuals evaluate financial products, compare alternatives, and choose the most beneficial option based on their needs and goals. It is not only about knowing financial terms but having as ability to apply in decision making.

In simple language, financial literacy means having the competency to earn, spend, save, borrow, and invest money wisely, while knowing the importance of financial decisions. It plays an vital role in achieving financial security as well as independence.

1.3 Meaning of Financial numeracy:

Numeracy is the ability to know, interpret, and apply basic mathematical concepts in routine life. It involves skills such as Multiplication, Subtraction, Addition division, percentages, fractions, ratios, and basic calculations. Numeracy also includes the ability to interpret and understand numerical information such as charts, graphs, bills, interest calculations, and financial statements.

In the context of financial decisions, numeracy helps individuals calculate interest on loans, compare investment returns, understand EMI structures, evaluate savings growth, and interpret financial risks. Without basic numeracy skills, a person may find it difficult to use financial information accurately, even if they possess financial knowledge.

In simple words, numeracy means the ability to deal with digits confidently as well as correctly in everyday situations, especially those involving money.

1.4 Definitions of Financial Literacy:

Author & Year	Definitions	Reference
OECD (2020)	According to the OECD/INFE (2018), financial literacy includes being aware of financial matters, having the required knowledge and skills, and displaying responsible attitudes and behaviour that help individuals make better financial decisions and improve their financial well-being.	OECD. (2020). <i>OECD/INFE 2020 International Survey of Adult Financial Literacy</i> . OECD Publishing.
Lusardi & Mitchell (2014)	Mitchell (2014) explains financial literacy as the capacity to understand financial and economic information so that a person can make sensible choices regarding saving, investing, future planning, and retirement.	Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. <i>Journal of Economic Literature</i> , 52(1), 5–44.

Author & Year	Definitions	Reference
OECD/INFE (2018)	Financial literacy is a combination of awareness, knowledge, skills, attitude and behaviour that individuals need to make sound financial decisions and achieve financial well-being.	OECD INFE. (2018). <i>OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion</i> . OECD Publishing.
Klapper, Lusardi & van Oudheusden (2015/2020)	Klapper, Lusardi, and Van Oudheusden (2015) describe financial literacy as the understanding of basic financial ideas and the ability to apply this knowledge when handling daily financial activities	Klapper, L., Lusardi, A., & van Oudheusden, P. (2015). <i>Financial Literacy Around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey</i> . S&P Global. (Updated 2020 Global Dataset).
Potrich, Vieira & Mendes-Da-Silva (2018)	Potrich, Vieira and Mendes-da-Silva (2018) state that financial literacy involves recognising financial concepts and risks and using this understanding to make decisions that enhance personal financial welfare.	Potrich, A. C. G., Vieira, K. M., & Mendes-Da-Silva, W. (2018). Development of a financial literacy model for university students. <i>Management Research Review</i> , 41(3), 461–478.

1.5 Definition of Numeracy:

Author & Year	Definition	Reference
OECD (2019)	Numeracy refers to a person's capacity to locate, understand, interpret and communicate mathematical ideas. It also involves using this understanding to participate in and handle the mathematical requirements that arise in various real-life situations during adulthood.	OECD. (2019). <i>OECD Skills Outlook 2019: Thriving in a Digital World</i> . OECD Publishing.
Goos, Geiger & Forgasz (2019)	It refers to the capacity to use mathematics in everyday life, including interpreting information, making decisions, solving problems, and	Goos, M., Geiger, V., & Forgasz, H. (2019). Numeracy across the curriculum.

Author & Year	Definition	Reference
	functioning effectively within society.	<i>Australian Mathematics Teacher</i> , 75(4), 3–8.
Peters et al. (2020)	It is skills of interpreting, processing as well as using mathematical information to make informed choices, particularly in financial and health-related decisions.	Peters, E., et al. (2020). Numeracy and decision making. <i>Current Directions in Psychological Science</i> , 29(2), 186–193.
UNESCO Global Framework (2017)	It is the capability to identify, understand, explain, create, and transmit numerical information which helps to participate effectively in society.	UNESCO. (2017). <i>A Global Framework of Reference on Digital Literacy Skills</i> . UNESCO Publishing.
Smith, Cobb & Farran (2020)	Numeracy involves the foundational mathematical abilities needed for solving real-world problems, including estimation, comparison, and reasoning with numbers.	Smith, T., Cobb, P., & Farran, D. (2020). Early numeracy development. <i>Early Childhood Research Quarterly</i> , 50, 215–227.

1.6 Financial Literacy – Conceptual Framework

Financial literacy means a person's ability to learn basic money ideas and use that knowledge while making every day financial choices. It enables people to plan income, manage expenses, save regularly, handle credit responsibly and invest for the future. The OECD (2016) explains that financial literacy is made up of financial knowledge, attitude, and behaviour, and these three elements together help people make better financial decisions.

1. Financial Knowledge

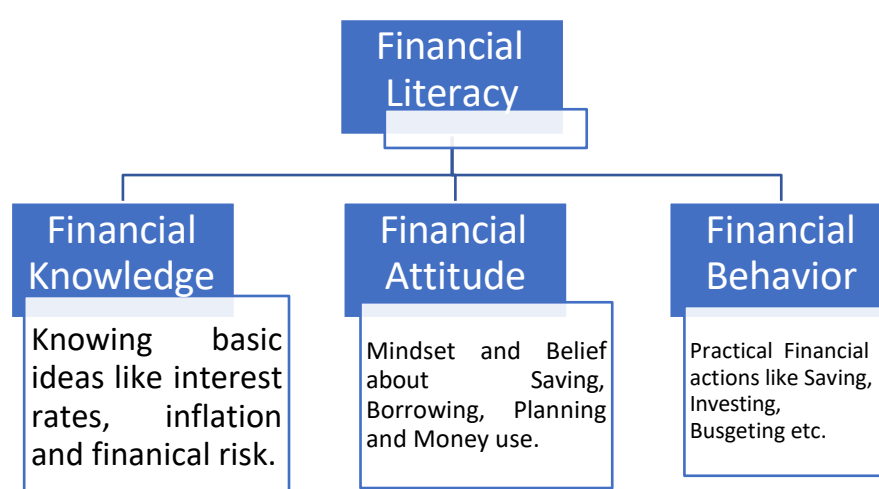
It refers to the knowledge of basic financial principles such as coupon rates, price rises, volatility in return, investment products, and credit terms. It forms the cognitive base required for sound financial decisions. Research reveals that individuals with higher financial knowledge are on top capable of choosing appropriate financial products and avoiding costly financial mistakes (Lusardi & Mitchell, 2014).

2. Financial Attitude

Financial attitude describes a person's mindset, beliefs and values regarding money and financial planning. It includes their willingness to save, preference for long-term planning and their views on borrowing. A good financial attitude helps people make sensible money decisions and plan (OECD, 2016). Those who think positively and responsibly about money are more likely to follow disciplined financial habits.

3. Financial Behaviour

Financial behaviour implies to the actual decision individuals take while managing money. This includes budgeting, saving, monitoring expenses, paying bills on time, and investing. Research suggests that financial behaviour is the most reliable sign of how well a person can manage money in real life (Atkinson & Messy, 2012). Good behaviour reflects the effective use of knowledge and attitude in daily financial life.



Source: Adapted from OECD (2016) and Atkinson & Messy (2012).

1.7 Lusardi Model for Calculating Financial Literacy Score

The Lusardi model, established by **Annamaria Lusardi & Olivia Mitchell**, is one of the widely applied methods to determine financial literacy. The model uses **three core questions** that evaluate essential financial concepts:

1. **Interest compounding**
2. **Inflation**
3. **Risk diversification**

Each correct answer earns **1 point**, giving a financial literacy score ranging from **0 to 3**. Higher scores indicate better financial knowledge. This simple yet powerful model is used by researchers, policymakers and international surveys because it effectively captures the minimum knowledge required for daily financial decisions (Lusardi & Mitchell, 2011; 2014).

In this study, financial numeracy is measured through a set of **five standardized questions** commonly used in international financial literacy assessments. Each question corresponds to a fundamental financial concept necessary for sound financial decision-making. Respondents receive **1 point for each correct answer and 0 for an incorrect or “Don’t Know” answer**, making the score an objective reflection of basic financial reasoning. These questions are adapted from globally validated financial literacy surveys such as the **Lusardi & Mitchell “Big Three”** and the **OECD/INFE Financial Literacy Toolkit**, ensuring reliability, construct validity, and international comparability.

In this study, financial numeracy is measured using **five standard questions**, each based on a key financial concept. These questions are commonly used in well-known international surveys such as the OECD/INFE Financial Literacy Survey and the Lusardi & Mitchell Financial Literacy Framework. Each correct answer is given **1 point**, while incorrect or “Don’t Know” answers receive **0 points**. This scoring method helps to create an objective and simple financial numeracy score for each respondent. The five questions reflect the following core concepts:

1. Interest Rate – Understanding Growth of Money (Question 1)

The first question checks whether a person understands how money grows in a savings account when interest is added each year. Knowledge of interest rates helps individuals estimate returns on savings and understand how their money increases over time. This is a basic but essential part of everyday financial decision-making, as many financial products—such as deposits, loans, and fixed-income schemes—depend directly on interest.

2. Risk and Diversification – Understanding Investment Safety (Question 2)

The second question tests awareness of investment risk. It compares the safety of buying a single company’s stock with investing in a mutual fund. A mutual fund spreads investments across many companies, reducing the chance of loss. A person who understands diversification knows that keeping all money in one company’s shares is much riskier. This concept helps individuals make safer investment choices and avoid unnecessary financial loss.

3. Time Value of Money – Value of Money Over Time (Question 3)

The third question examines understanding of the time value of money. This concept means that **money today is worth more than the same amount in the future**, because money today can earn interest or be invested. The question uses a simple inheritance example to check whether respondents can identify who is financially better off when two people receive the same amount of money at different times. This is a key idea in saving, investing, retirement planning, and long-term financial decisions.

4. Inflation – Changes in Purchasing Power (Question 4)

The fourth question measures knowledge of inflation. Inflation refers to the general rise in prices over time. The question asks whether a person can understand the idea of “real purchasing power”—that is, what someone can actually buy with their income. Even if income doubles, if prices also double, the person is not better off. Understanding inflation is important for managing savings, estimating future expenses, and planning for long-term financial security.

5. Interest Rate–Bond Price Relationship – Sensitivity of Bond Prices to Interest Changes (Question 5)

The fifth question is based on a fundamental concept in financial markets: when interest rates rise, bond prices usually **fall**, and when interest rates fall, bond prices usually **increase**. This is known as the **inverse relationship between interest rates and bond prices**. It is important for anyone to invest in fixed-income instruments such as government bonds, corporate bonds, pension plans, or long-term savings schemes. Understanding this relationship helps individuals judge risk and return more accurately, especially when interest rates change.

1.8 Importance of Financial literacy for Women:

Financial literacy is very important for improving women’s economic status and overall wellbeing, especially in today’s fast-changing financial world. For many women, having financial knowledge is the first step toward becoming financially independent. It helps them manage their earnings, make smart financial decisions, and take part confidently in economic activities without depending on others. When women understand concepts related to savings, investments, credit, and budgeting, they are able to take confident financial decisions as well as select appropriate financial products that match their needs and long-term goals. This independence not only enhances their individual autonomy but also contributes to their overall empowerment.

Financial literacy also significantly promotes women's economic empowerment. As more women enter the workforce or pursue entrepreneurial ventures, understanding financial concepts allows them to effectively participate in economic activities, access formal credit, manage business finances, and negotiate terms with confidence. With proper financial knowledge, women can take full advantage of economic opportunities, start new initiatives, and contribute meaningfully to the financial well-being of their families and communities.

In most households, women play a central role in managing daily expenses, planning children's education, and saving for future needs. Financially literate women are more capable of managing household budgets effectively, ensuring that resources are allocated efficiently and financial goals are met. This leads to improved household stability, better savings habits, and greater preparedness for future uncertainties. When women have a clear understanding of financial matters, households tend to make more responsible financial decisions, resulting in stronger financial resilience.

Women often face greater financial vulnerabilities compared to men due to various life circumstances such as career breaks, gender wage gaps, longer life expectancy, and limited access to financial resources. Financial literacy helps women protect themselves from these risks by enabling them to understand insurance, retirement planning, emergency savings, and the implications of borrowing. It also helps them avoid falling victim to financial fraud or exploitative financial practices. By being informed, women can better safeguard their financial interests and prepare for potential life events such as widowhood, divorce, or health emergencies.

Additionally, financial literacy increases women's participation in the formal financial system. Many women, especially in developing regions, depend on informal savings groups or personal networks due to limited awareness of formal financial institutions. When women gain financial knowledge, they become more confident in using bank accounts, digital payment platforms, insurance services, credit systems, and government financial schemes. Participation in formal finance leads to greater security, transparency, and opportunities for financial growth.

For women involved in micro-enterprises or small businesses, financial literacy is particularly important. It allows them to manage their business finances effectively, understand credit conditions, keep financial records, and evaluate risks and profits. These competencies support the evolution and development of women-led businesses and enhance their contribution to local economic development.

Improving women's financial literacy also plays a vital role in reducing gender inequality in financial matters. Traditionally, financial decisions were dominated by men in many societies. When women acquire financial knowledge, they gain equal status in financial decision-making, challenge gender norms, and participate more actively in household and community-level financial activities. This promotes gender balance and empowers women to have an equal voice.

In the digital age, financial literacy has become even more crucial for women. With the rise of digital payments, online banking, and digital investment platforms, women need digital financial skills to navigate financial transactions safely and effectively. Without this knowledge, they are more vulnerable to online fraud, misuse of accounts, and lack of access to digital financial benefits. Understanding digital finance helps women adapt to new technologies and participate equally in the digital economy.

Finally, financial literacy ensures long-term financial security for women. Since women generally live longer than men and may face interruptions in their careers due to family responsibilities, they require strong financial planning skills for retirement, healthcare expenses, and asset building. Financially educated women are more liable to invest wisely, save consistently, secure their future against economic uncertainties. This long-term financial readiness contributes to a better wealth and enhances their overall life.

1.9 Initiatives in India and Gujarat that encourage financial literacy among women:

1. Pradhan Mantri Jan Dhan Yojana (PMJDY), 2014 – Women-centred financial inclusion and literacy

Pradhan Mantri Jan Dhan Yojana, launched in 2014, is India's flagship financial inclusion programme that provides every adult—especially the poor—access to a basic bank account, RuPay card, overdraft, insurance and pension facilities. The scheme explicitly includes financial literacy as one of its pillars and uses bank mitras, camps and awareness drives to teach basic banking, saving and use of formal financial services. Over time, PMJDY has acquired a strong gender focus: recent government data show that about 55–56% of all Jan Dhan accounts are held by women, indicating that the scheme has been a major entry point for women into the formal financial system. Once women have their own accounts, it becomes easier to train them in budgeting, digital payments and responsible use of credit, so PMJDY indirectly supports women's financial literacy and economic empowerment, including in states like Gujarat.

2. National Strategy for Financial Education (NSFE) and NCFE, from 2013 – Systematic financial education with a focus on women’s groups

To coordinate financial education across regulators, the Government of India set up the National Centre for Financial Education (NCFE) in 2013, under the aegis of RBI, SEBI, IRDAI and PFRDA, to implement the National Strategy for Financial Education (NSFE). The NSFE 2020–25 explicitly emphasises financial literacy for vulnerable groups, including women and self-help groups. Under NCFE, several programmes target women directly. The Financial Education Programme for Adults (FEPA), launched in 2019, is designed for adult groups such as farmers, women’s groups, ASHA and Anganwadi workers, and aims to build basic skills in saving, borrowing, risk management and digital transactions. Though national in scope, these programmes are implemented through local partners in different states, so women in Gujarat can be beneficiaries of FEPA workshops and NCFE campaigns.

3. Reserve Bank of India (RBI) initiatives – Financial Literacy Week, FLCs and FAME booklet with a women’s focus

The Reserve Bank of India has created multiple channels to promote financial literacy across the country, many of which highlight women’s financial well-being. RBI runs Financial Literacy Centres (FLCs) and Centres for Financial Literacy (CFLs) that conduct outreach sessions on banking, credit, digital payments and consumer protection. It also publishes the FAME (Financial Awareness Messages) booklet with simple, product-neutral messages covering basic banking, digital finance, and consumer protection that are used in awareness campaigns and trainings. Since 2016, RBI has observed Financial Literacy Week annually; notably, the theme for Financial Literacy Week 2025 was “*Financial Literacy – Women’s Prosperity*”, focusing on women’s financial planning, saving and risk management, and availing credit for growth. Through these initiatives, banks and FLCs in Gujarat also run targeted programmes for women’s groups, SHGs and female customers.

4. Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM), from 2011/2016 – Women SHGs, credit and financial literacy

The National Rural Livelihoods Mission (NRLM) was launched in 2011 as a mission-mode programme to reduce rural poverty by organising the poor—especially women—into self-help groups (SHGs) and federations, linking them to banks and livelihood opportunities. It was later renamed Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) in 2016. The mission is jointly funded by the Centre and states and is explicitly designed to build

strong institutions of the poor, with women's SHGs at the core. Along with the provision of savings and credit, DAY-NRLM integrates financial literacy modules, capacity building on book-keeping, loan management, savings discipline and exposure to formal banking. In Gujarat, the programme is implemented through Gujarat Livelihood Promotion Company (GLPC), and recent data show large numbers of women SHGs receiving funds and credit under DAY-NRLM, creating a natural platform for financial literacy among rural women.

5. Mission Mangalam and Sakhi Mandal Yojana in Gujarat, from 2010 – State-level SHGs with built-in financial literacy

In Gujarat, Mission Mangalam is a major state initiative launched around 2010 as a revised, more intensive form of the Sakhi Mandal (women SHG) approach. The Government of Gujarat created Gujarat Livelihood Promotion Company (GLPC) in April 2010 as the executive arm of Mission Mangalam to organise poor households—especially women—into Sakhi Mandals (women self-help groups), link them with banks and support sustainable livelihoods. Sakhi Mandals are women's self-help groups based on thrift and credit principles; they provide micro-savings, internal lending and linkages to formal credit while also encouraging decision-making skills and participation in micro-enterprise. Financial literacy for women is explicitly stated as one of the objectives of Mission Mangalam, so training on saving, credit discipline, interest calculation, group book-keeping and bank procedures is routinely provided to SHG members across rural and urban Gujarat. For your thesis, this is especially relevant, because many working women in South Gujarat may be members of Sakhi Mandals or beneficiaries of Mission Mangalam.

6. Gujarat Women and Child Development programmes – Sakhi Mandals as a vehicle for financial literacy

The Women and Child Development Department of Gujarat further promotes women's financial inclusion through its support to Sakhi Mandals, treated as a key instrument for women's socio-economic empowerment. Official descriptions emphasise that Sakhi Mandals are women's SHGs based on thrift and credit, created to accelerate economic development and ensure the welfare of women by providing financial services at the grassroots level. Through regular meetings, savings collection, loan decisions and record-keeping, women gain not only access to finance but also informal financial education and numeracy practice. Financial literacy sessions, often conducted in collaboration with banks, GLPC or NGOs, cover topics like banking formalities, use of passbooks, interest rates, schemes for women entrepreneurs and government social security benefits. This state-level framework is particularly important in a region like South Gujarat where

SHGs and Sakhi Mandals are active among both rural and peri-urban women.

7. SEWA and SEWA Bank programmes in Gujarat – Long-running financial and digital literacy for poor women

The Self-Employed Women's Association (SEWA), founded in Gujarat, and its cooperative bank SEWA Bank (Ahmedabad) have been pioneers in women-centred financial literacy. SEWA Bank has developed structured financial literacy training and counselling programmes for low-income and self-employed women, with objectives such as helping poor women understand financial planning, integrate it into daily decision-making, and change mindsets towards future-oriented saving and risk management. A notable initiative is Project Samruddhi, a two-year collaboration between SEWA Bank and Women's World Banking that developed financial education modules to help Gujarati women use their savings accounts more effectively and save towards specific goals. More recently, SEWA has added digital financial literacy, training women in the use of mobile phones, digital wallets and online banking, and documenting significant improvements in women's ability to handle money independently. These NGO-led programmes are highly relevant because they operate directly in Gujarat and provide a strong example of how tailored financial literacy interventions can transform women's financial behaviour.

8. Self-help group and CSR-based initiatives in Gujarat – Financial literacy embedded in livelihood projects

In addition to government schemes, several CSR and NGO-supported projects in Gujarat work with women's self-help groups and Sakhi Mandals, combining livelihood promotion with financial literacy. For instance, documented CSR projects show how women's SHGs in Gujarat are trained to save regularly, maintain group accounts, and use internal lending, while being exposed to bank linkages and basic financial concepts. These initiatives may not always be branded as "financial literacy programmes," but they incorporate systematic training on saving, record-keeping, interest calculation and income management as part of enterprise development, thus improving women's functional financial literacy and numeracy.

1.10 Need for Research:

As India progresses towards women's empowerment, one of the major challenges the country faces is ensuring women's financial independence. True empowerment is possible when females are educated, financially aware, and capable of managing their own finances. To achieve financial independence,

women must be able to make decisions about managing their fixed earnings, plan their spending as well as savings, choose suitable investment options, understand risks, and allocate their funds wisely. In all these areas, financial literacy becomes extremely important.

Financial literacy also supports the country's economic development. According to the World Economic Forum's 2018 report, India was placed 139th out of 144 countries for women's participation in the economy, highlighting a very large gender gap of 66%. Financial literacy further contributes to family well-being. As per the WHO report (2018), the life expectancy of women in India is 70.3 year, which is greater than that of males, meaning women need long-term financial security. It also helps women handle unexpected events like medical emergencies, sudden loss of income, or natural and human-made disasters.

Personal financial management is an important topic for researchers, academicians, and policymakers. Money management affects everyone, regardless of whether they are rich or poor. Personal finance means applying financial knowledge to make smart money decisions for oneself or one's family. To manage finances effectively, a person must be financially literate. Studies by UNDP and PEIP (2010) suggest that financial literateness are closely connected to financial well-being.

People often make poor financial decisions because they do not properly understand economic concepts. This lack of understanding directs to negative outcomes such as low levels of wealth, high debt, and careless borrowing. A financially literate person has the essential knowledge and skills needed to evaluate financial options and make the best possible choices for their financial well-being.

Financial literacy has now become an important foundation for economies across the world. It is considered a key factor in strengthening the economic system. Therefore, developing and encouraging financial literateness is seen as a chief policy priority for various countries. Financial literacy is crucial because it supports individuals, strengthens national economic performance, and benefits the overall economy.

Financial literacy means having the ability to understand basic financial matters. It includes the knowledge and skills needed to make smart and informed money decisions. It mainly focuses on personal finance and involves knowing how to handle different areas like savings, insurance, assets, taxes, and retirement planning. In today's world, people have many investment options, so being

financially literate is even more important for choosing the right investments and making good financial decisions.

The importance of financial literacy is growing every day because it helps families manage their daily lives. It enables people to balance their household budget, plan for buying a home, arrange funds for their children's education, and secure their future. Every individual is responsible for handling their own finances on a daily basis, which makes financial knowledge essential.

Today, investors make their investment decisions more carefully as they try to use their money wisely. Instead of simply comparing interest rates of bank loans or savings plans, they now consider a wide range of financial options before choosing the best one. With so many investment choices available, several factors influence an individual's decisions such as responsibility, risk levels, savings goals, financial knowledge, and awareness of different investment opportunities. Without financial literacy, investors cannot make correct or confident decisions about saving or investing their money.

In India, various organizations are working to improve financial literacy. Several banks have launched special initiatives to spread financial knowledge and teach basic finance concepts to different groups, including school and graduate students, females, rural and metropolitan poor as well as citizens. For example, Allahabad Bank's financial literacy programs have benefited 41,211 rural youth, out of which 12,020 later became bank customers. Similarly, HDFC Bank has introduced financial literacy programs in 600 schools across Andhra Pradesh and Odisha to teach essential financial and social habits to students aged 8 to 14.

1.11 About South Gujarat Region:

Geographic Information:

South Gujarat is the southern belt of Gujarat state and generally includes the districts of Surat, Bharuch, Navsari, Valsad, Narmada, Tapi and Dang.

The region lies along the Arabian Sea coast (Gulf of Khambhat) and is traversed by important rivers such as the Tapi and Narmada, which create fertile alluvial plains supporting intensive agriculture and horticulture.

It also has hilly and forested terrain in the eastern tribal districts like Dang and parts of Tapi. South Gujarat is one of the most industrialised parts of the state: Surat is a nationally important hub for textile

manufacturing and diamond cutting and polishing, while Bharuch and Valsad host major chemical, petrochemical and manufacturing units, and Navsari and Valsad are well-known for fruit cultivation

Demographic overview:

Surat district has a population of about 6.08 million, of which 2.68 million are females, and a relatively low a sex ratio of 787 women for every 1,000 men. In contrast, more tribal and interior districts such as Tapi and Dang have sex ratios of around 1,007 females per 1,000 males, indicating a more balanced or even female-favouring demographic structure.

Female literacy rates also vary across the region. In 2011, female literacy was 80.37% in Surat district, 84.91% in Navsari, 72.06% in Valsad, 66.45% in Bharuch, 54.6% in Tapi, and 67.38% in the Dangs.

Overall, this suggests that women in the more urban/coastal districts (Surat, Navsari, Valsad, Bharuch) enjoy relatively higher literacy levels, whereas women in tribal and interior districts (Tapi, Dang) face lower educational attainment, despite sometimes having better sex ratios.

Educational background of Female in South Gujarat:

At the city level, educational indicators for women in South Gujarat's main urban centres are relatively high. For example, Surat city recorded an average literacy rate of 87.89% in 2011, with female literacy at 83.44%. Similarly, Navsari city had a literacy rate of 88.36%, with female literacy of 84.44%. These figures indicate that urban working women in South Gujarat generally have fairly strong basic educational backgrounds. However, at the district level, there is considerable variation: while Navsari, Valsad and Bharuch districts report overall literacy rates above 78–88%, female literacy in rural and tribal areas is notably lower—for instance, female literacy is 54.6% in Tapi and 67.38% in Dang, compared with over 80% in Surat and Navsari districts.

This gap between urban and tribal/rural parts of South Gujarat is important for your study, because it suggests that while many working women in cities may be educated at least up to secondary or higher secondary level, a sizeable segment of women in the region still has only basic schooling or limited literacy—factors that can affect financial literacy and numeracy.

Female Employment in South Gujarat:

According to the 2018–19 Periodic Labour Force Survey (PLFS), only about 16.9% of women aged 15 and above in Gujarat were part of the labour force, which is quite low compared to men, even

though Gujarat is one of the most industrialised states in the country.

At the city level, a study on Surat reports that only 10.1% of the workforce in Surat city is female, even though women constitute about 43% of the total population, highlighting a significant gender gap in urban employment. Economically, South Gujarat is strongly driven by textiles, diamond processing, chemicals, engineering, services and agriculture, and women are present in many of these sectors—as workers in textile and garment units, diamond cutting and polishing, retail and hospitality, education and healthcare, as well as in agriculture, dairy and self-help group-linked activities in rural and tribal areas.

However, the low measured female labour participation suggests that much of women's work may be informal, home-based or under-reported, with many women engaged in unpaid family labour, piece-rate work, or seasonal and part-time activities. This combination of relatively good basic education for many urban women, along with low formal labour-force participation and a high share of informal work, makes the working women of South Gujarat a particularly important group for examining levels of financial literacy and numeracy in your thesis.

1.12 Significance of study:

The present study holds significant importance as it addresses the persistent gender gap in financial literateness in South Gujarat region, where females consistently demonstrate junior levels of financial awareness and self-confidence compared to males (Lusardi & Mitchell, 2014). Understanding financial literacy and numeracy levels of working women in South Gujarat is particularly crucial because this region, despite being one of the most industrially advanced areas of Gujarat, continues to show low female labour participation and substantial gender disparities in formal employment (Government of India, 2011). The study directly contributes to India's financial inclusion goals by examining how well women in the area are making use of government programmes like the Pradhan Mantri Jan Dhan Yojana and the National Strategy for Financial Education 2020–2025. These initiatives specifically identify women as an important group to focus on (NCFE, 2020; Government of India, 2014). Understanding women's financial capability in this context helps assess whether financial inclusion translates into meaningful financial empowerment or remains limited to account opening without active usage.

This research is also significant because it explores the financial behaviour and practical challenges women face in managing income, savings, credit and digital transactions. Working women often encounter issues such as irregular earnings, dependence on family members for financial decisions, lack of knowledge of financial products as well as vulnerability to financial fraud, making it essential to study their financial preparedness (OECD, 2016). Moreover, the study fills an important methodological gap by incorporating numeracy—a skill frequently overlooked in Indian financial literacy research—despite its central role in interpreting interest rates, EMIs and investment outcomes (Reyna et al., 2009). By analysing how numeracy influences women’s financial behaviour, the study impacts to a deeper insight to financial capability further than basic awareness.

In addition to academic relevance, the study offers practical value for industries and employers in South Gujarat, particularly those in textiles, diamonds, services and healthcare, where large numbers of women are employed. Insights from the study can help organisations design workplace financial literacy initiatives that improve financial well-being, reduce stress and enhance productivity (World Bank, 2013). The research also strengthens the broader goal of women’s empowerment by highlighting how financial literacy improves household budgeting, savings discipline and long-term financial planning (Mandell & Klein, 2009). Furthermore, because South Gujarat includes a socio-economically diverse population across urban, rural and tribal communities, the findings can guide policymakers and NGOs in designing targeted and culturally appropriate financial education programmes (Atkinson & Messy, 2013). Finally, the research makes an important influence to the limited literature available on regional financial literacy in India, particularly for working women, a group often overlooked in national-level analyses (Agarwalla et al., 2015). By providing region-specific, evidence-based insights, the study puts a basis for future research and interventions aimed at strengthening women’s financial empowerment across Gujarat and India.

CHAPTER 2

REVIEW OF

LITERATURE

2. LITERATURE REVIEW

- **Gutti R K Prasad and Prof Byju John (2022)** analyzed financial numeracy and attitudes among 130 teachers in higher education institutions in Hyderabad using convenience sampling. Reliability tests and frequency analyses showed that 21% of teachers had high financial literacy scores (8–10), while 58% scored low (5–7). Financial knowledge was strong for 23% of teachers, particularly in budgeting, managing income and expenses, paying bills, saving, investing, debt management, and insurance. Most respondents valued savings, money management, understanding credit, and using insurance to reduce risk.
- **Kella Veerababu, Dr. G Uma Maheshwari (2022)** conveyed out a study on “Understanding Financial Literacy among Post Graduate Students”. The objective was to identify most preferred investment avenue and measure the intensity of financial literacy among PG students. The analysis revealed age has significant impact on financial decisions. Respondents should improve knowledge regarding credit card and Debt Management.
- “An financial study on financial literacy among working women in Madurai city” was conducted by **J. Durachamay and P. Ponraj in 2021**. Research aimed to assess the level of financial literacy with the demographic. Data were accumulated from 45 working women and analyzed using frequency analysis and one-way ANOVA. The results indicate that participants exhibit a high intensity of financial literacy despite lower educational attainment. Gold and silver were identified as the preferred investment options, with mutual funds being the least favored. The one-way ANOVA results revealed that respondents' educational qualifications significantly influence their choice of investment instruments; individuals with higher education levels tend to possess unique investment portfolios compared to those with less education.
- **(Elisabeth M. Struckell, Pankaj C. Patel, Divesh Ojha, and Pejvak Oghazi) (2021)** piloted “a study on financial literacy and self-employment, examining the moderating effects of gender and race”. The research aimed to determine the correlation between financial literacy and self-employ within the USA. Data were collected from 15,069 American participants. Through correlation and regression analysis, the study demonstrated that financial literacy is more pronounced among individuals who are self-working, with female self-freelancing participants exhibiting higher levels of financial literacy. Additionally, the results show that white and non-white self-employed individuals do not differ significantly in their levels of financial literacy.
- **(J.D. Jayaraman, Saigeetha Jambunathan, and Kenneth Counselman) (2018)** conducted research entitled "The Connection between Financial Literacy and Numeracy: A Case Study from India." The objective of the examine was to analyze the link between financial literacy

and numeracy by measuring and modelling these levels among senior high school undergraduates in India. The study involved 586 participants, with data analysed using Percentage Correct Score (PCS), Reliability Testing, Linear Mixed Model, and Ordered Logistic Regression. The findings demonstrate a significant correlation between numeracy with financial literacy skills. Specifically, low numeracy is linked to 4.8% decrease in financial literacy, while excessive numeracy corresponds to a 5.6% increase. The association continues to hold after controlling gender, grade level, educational stream, the extent of financial education received, language of instruction, parental engagement, parents' educational background, household income, and intended future education.

- **Dharmendra Yadav (2022)** conducted “a study on financial literacy among women employees working in the government sector”. Objective was to assess the level of financial literacy among women employed in Allahabad. Analysis of frequency distributions and charts indicated that, regarding basic financial literacy, approximately 60% of respondents were unfamiliar with interest rate calculations, 50% with normal inflation, and 60% with percentage calculation. In terms of advanced financial literacy, the study found that around 80% of participants lacked knowledge of fundamental concepts such as stocks, shares, bonds, and mutual funds.
- **Khushboo Solanki and Dr. Shiv Prasad (2020)** conducted “a study examining financial literacy among working women in Jaipur”. The purpose was to assess the financial literacy levels within this group. Through the application of Frequency and Gap Analysis, the results indicated that while most participants were proficient in calculating simple interest, their aptitude for compound interest calculations declined noticeably. The gap analysis further revealed that although many women are knowledgeable about various financial terms and products, there is limited familiarity with Bullion trading (gold and silver), Demat Accounts, and Portfolio Management.
- **(Jyoti Gupta and Manish Madan) (2017)** conducted “an empirical study on the financial literacy of salaried females in the digital era.” The examination aimed to assess financial literacy and examine the relationships with three variables. A total of 213 salaried women were selected as participants. Data analysis was performed using Reliability Testing, Correlation, Regression, and ANOVA. The findings indicated Financial Knowledge, Financial Attitude, and Financial Behavior each showed significant positive correlation with individual financial literacy scores. The average financial literacy score among participants was 5.5 out of 9. Regression analysis yielded the following equation: $\text{Financial Literacy} = 1.558 + 0.915 \text{ Financial Knowledge} + 1.103 \text{ Financial Attitude} + 1.209 \text{ Financial behavior}$.

- **Rusliza Yahaya, Zuraidah Zainol, and Juliana Haji Osman (2019)** conducted a study entitled "The Effect of Financial Knowledge and Financial Attitudes on Financial Behavior among University Students" in Malaysia. The objective was to assess the level of financial literacy and examine impact of financial knowledge, attitudes, and behavior on financial literacy. Reliability analysis, independent t-tests, linear regression, and multiple regression analysis were performed on 370 university students. The results indicate respondents scored particularly low in areas related to insurance and savings, with many perceiving insurances primarily as an investment vehicle. Findings further demonstrate that financial knowledge influences financial attitudes, which in turn significantly affects behavior. However, financial knowledge alone does not have that much impact on monetary behavior.
- **Wirawan E.D. Radianto, Tommy Christian Efrata, Fulgentius Danardana Murwani, and Liliana Dewi (2020)** conducted a study on titled "The Role of Financial Attitude in The Relationship between Financial Knowledge and Financial Behavior" in Indonesia. Primary aim of the research was to investigate the mediating effects of financial attitude and mental accounting on the relationship between financial knowledge and financial behavior. The study sample comprised 400 young entrepreneurs. Analysis using partial least squares revealed that financial attitude serves as mediator between financial knowledge & financial behavior, whereas mental accounting does not mediate this relationship. Additionally, the findings indicated that financial attitude influences monetary behavior; financial knowledge impacts financial attitude; financial self-efficiency affects financial attitude; and mental accounting influences both financial attitude an behavior. Notably, There is no significant relationship was found between financial knowledge behavior, nor among monetary knowledge and mental accounting.
- "A Study on Financial Literacy and Its Effects on Rural Development in India: Evidence Using Panel Data Analysis" by **(Rahul Singh Gautam, Dr. Shailesh Rastogi, and Aashi Rawal) (2022)** examines the influence of financial literacy on financial inclusion and rural development in India. The study covers 29 states and 2 union territories. The results of the panel data analysis show that better financial literacy contributes positively to both financial inclusion and rural development in the country.
- **Ms. Sudeshna T and Dr. Sujatha Balkrishna (2020)** conducted a study on individual financial education and financial behavior. The aim of the study was to assess the level of financial education among individuals and to examine the relationship between financial education and financial behavior. Using Cronbach's alpha, correlation analysis, and multiple regression, the researchers found that participants had a limited understanding of basic

financial concepts such as compound interest, the time value of money, and credit purchases, as well as advanced concepts like stock trading, bond valuation, mutual funds, and credit financing. The results indicated the existence of a positive relationship between financial education, both basic and advanced, and financial behavior.

- **Kapil Choudhary and Samriti Kamboj (2017)** conducted a study on financial education and its determinants, based on data from India. The aim of the research was to assess the financial education of participants in the state of Haryana according to various sociodemographic variables. A total of 500 participants were selected for the analysis. The methodology included dummy variable regression and multivariate regression, with the independent variables being gender, place of residence, marital status, employment status, age, education level, income, and income stability. The dependent variable was the level of financial education. The results showed that while most people had basic financial knowledge and exhibited positive financial behavior, 57% of respondents nevertheless had a negative financial attitude.
- **Mahabub Basha S, M. Kethan, T. Jaggaiah, and Mohammed Khizerulla (2022)** conducted a study on financial literacy and investment behavior among IT professionals in India. The aim was to assess investment preferences and the factors influencing these decisions. Data from 100 IT professionals were analyzed using ANOVA, T-test, chi-square test, and correlation analysis. The results showed that the majority of participants had low savings rates and preferred bank deposits and insurance policies as investment options. The main investment motive was returned, while the long-term goal was to meet the future needs of the family.
- **Abdul Latheef Kiliyanni and Sunitha Sivaraman (2018)** conducted a study entitled “Predictive Model of Financial Literacy Among Young Graduates in Kerala.” The objective of this study was to develop a predictive model of financial literacy based on a sample of 736 students. Logistic regression analysis, which estimates and predicts the level of financial literacy among young adults in Kerala, shows that factors such as male gender, age group (26–29 years), studies in economics, business administration, or management, employment in business, finance, or education, and high income are positively correlated with financial literacy.
- **Mehak and Khushdeep Dharni (2022)** conducted a comprehensive study entitled “A Study of Financial Inclusion in India and its Link to Financial Literacy.” The authors analyzed the literature published between 1993 and 2021. Their findings show that financial literacy is a crucial element of financial inclusion and a prerequisite for integrating a significant portion of the population previously excluded from the financial sector. The study also identifies various

factors—such as income, education level, occupation, gender, and age—that influence the level of financial literacy.

- **Agarwalla, S. K., Barua, S., Jacob, J., and Varma, J. R. (2012)** conducted a study entitled "Survey of the Financial Literacy of Students, Young Professionals, and Retirees in India." This study aimed to assess the financial literacy of these three age groups and understand their investment behaviors. The sample included 1,001 students, 983 professionals, and 983 retirees. The results show that financial literacy in India is relatively low compared to that of other countries. Fundamental principles of personal finance, such as compound interest, the impact of inflation on returns and prices, and the importance of diversification, are poorly understood. Furthermore, the study highlighted a significant correlation between a positive attitude toward finance and a higher level of financial literacy and found that men generally have a higher level of financial literacy than women.
- **Binod A. (2019)** conducted a study entitled "Women's Financial Literacy in Kerala: A Comparison Between Rural and Urban Areas." The objective was to analyze the level of financial literacy among women in Kerala and to investigate the influence of sociodemographic factors on this level. Data were collected from 150 respondents using a structured questionnaire. The variables considered included place of residence, age, marital status, household size, monthly income, education level, and occupation. Pearson's chi-squared test was used to examine the associations between financial literacy and these sociodemographic characteristics. The results showed that women with higher levels of education, stable employment, higher monthly income, and residence in urban areas had a higher level of financial literacy than other groups.
- **Satijta Kalpana and Sharma Richa (2013)** conducted a study entitled "Integrating Women's Economic Empowerment through Government Support Programs (Sakhi Mandala Program) in Kheda District, India." This study aimed to examine the extent to which the needs of women in urban and rural areas of Kheda District, Gujarat, are being met. The researchers assessed women's participation in economic activities supported by government initiatives and concluded that there is a need to strengthen women's economic confidence and raise their awareness of their rights and the benefits to which they are entitled through targeted government support programs, particularly in rural areas.
- **In 2016, Dr. Garima Baluja** conducted a study entitled "Women's Financial Education in India: An Overview." This study aimed to examine the factors influencing women's financial education and the measures implemented by the Indian government to support them. It also explored areas for improvement. The findings showed that Indian women face various

obstacles—cultural, physical, psychological, and financial—that contribute to their low levels of financial literacy.

- The **2014** study, "Financial Education of Working Women in Pune," conducted by Malti Chijwani, examined the financial literacy levels of working women and their preferred investments. The study explored their reliance on professional financial planning advice and the reasons for this reliance. A frequency analysis revealed that while women in India possess basic financial knowledge, they often lack comprehensive financial education and generally do not hold securities accounts. However, the study showed that women living in urban areas enjoy greater autonomy in their personal and family investment decisions.
- **Gopeekrishna and Geetha (2018)** investigated the level of financial literacy and its impact on the economic empowerment of working women in Kerala. The aim of this study was to identify the determinants of monthly savings among these women and to examine the relationship between economic empowerment and financial literacy. The study used statistical methods such as multiple regression analysis, the economic empowerment index, correlation analysis, and graphical representations. The results showed that predictive variables, particularly financial decision-making and monthly expenditures, significantly influenced the monthly savings of participants in Kerala. In contrast, variables such as age, caste, financial literacy, family structure, and employment status did not have a significant impact on monthly savings. A negative correlation was observed between financial literacy and economic empowerment.
- **Dr. S. Amutha Rani** conducted a study entitled "Survey on the Financial Literacy of Rural Women in Virudhunagar District." This study aimed to analyze the socioeconomic background of the participants and identify gaps in their financial literacy. A sample of 360 women was selected using convenience sampling. Statistical methods, including percentage and variance analysis, were employed. The study revealed a significant need for improvement in knowledge of bank loans and online banking services. Moderate improvements are needed in other areas, such as understanding different types of accounts, familiarity with deposit and withdrawal procedures, understanding investment durations, using bank cards, and Know Your Customer (KYC) procedures.
- In **2015**, **Pratisha Padmasri Deka** presented a theoretical study entitled "Financial Education and Financial Inclusion for Women's Empowerment: A Study." This study identified several factors contributing to low levels of financial education and inclusion, including non-price barriers such as identity verification requirements, behavioral aspects such as language barriers

and documentation issues, limited access to credit due to complex lending procedures, and increased transaction costs associated with borrowing and transportation to banks.

- **Lazar, D. and Chandirasekar, B. (2016)** conducted a study entitled “Demographic Characteristics and Financial Literacy: A Study of Working Women in Pondicherry.” This study aimed to examine the influence of demographic variables on financial literacy. Using a sample of 800 participants from Pondicherry, the researchers assigned one point for each correct and positive answer to assess their financial knowledge, behaviors, and attitudes. A multiple linear regression model was used to analyze the relationship between the independent variables and financial literacy. The results showed that financial literacy increased with age and education level, with women aged 30 to 40 exhibiting a higher level of financial literacy than younger and older age groups.
- **Sangeeta Gupta's 2017** study, "Measuring the Financial Literacy of Delhi's Population," examined the relationship between financial literacy and various demographic and socioeconomic factors. The sample consisted of 100 randomly selected respondents. Participants answered questions on financial literacy, categorized into two levels: elementary and advanced. Statistical analysis was performed using cross-tabulations. The study considered gender, age, monthly income, occupation, education level, marital status, and family type. The results showed that single women from nuclear families exhibited a lower level of financial literacy, while age did not significantly influence this level.
- **Gangwar and Singh (2018)** published a study entitled "Analysis of Factors Influencing Financial Literacy and Their Impact on the Investment Behavior of Adults in India." This study aimed to identify the characteristics influencing financial literacy and examine their impact on the investment behavior of 309 respondents. The analysis included least squares regression and t-tests. The main findings revealed an overall low level of financial literacy, with a limited understanding of concepts such as interest calculation, the effects of inflation, and risk diversification. The study concludes that financial literacy does not have a significant impact on investment behavior.
- In **2012, Heena Kothari** conducted a study on investor behavior in Indore. The aim was to analyze attitudes toward different types of investment and to examine perceptions across age groups. Participants were divided into three groups: young adults (under 30), middle-aged adults (30-40), and seniors (over 40). One hundred people were randomly selected in Indore. Data reliability was assessed using Cronbach's alpha coefficient, and the analysis focused on the mean and variance. The results revealed significant differences in perception between the

age groups. Young adults showed a greater interest in investing than middle-aged and senior participants.

- **Parimalakanthi, K., and Kumar, M. A. (2015)** studied the investment preferences and behaviors of individuals in Coimbatore. The objective of this study was to analyze these preferences and behaviors. Data analysis included the Friedman test, the Garrett ranking, and factor analysis. The results of the Friedman ranking test showed that most investors use the internet as a source of information for their investment decisions, followed by television and discussions with acquaintances or friends. The Garrett ranking revealed a preference for investments in savings accounts, gold and silver, and term deposits. The factor analysis showed that investors generally consider various options, seek advice from intermediaries, and take transaction costs into account before making their investment decisions.
- **P. Vanishree Sah (2017)** conducted a study entitled "An Investigation into the Investment Behavior Patterns of Female Investors." This study aimed to identify the investment objectives, information sources, and decision-making factors of female investors in Hyderabad. Eighty participants were randomly selected, and the data were analyzed using frequency, mean, and standard deviation calculations. The results indicate that women prioritize covering immediate expenses, particularly medical needs, and prefer short-term investments. Furthermore, they generally rely on family, friends, and acquaintances for investment information and support.
- **Amsaveni and Nithyadevi (2018)** conducted a study entitled "Attitudes of Working Women Towards Investment" in the Tiruppur district. This study aimed to analyze the attitudes of working women towards various investment opportunities in this district. The research was based on a random sample of 100 working women. The analytical methods used included simple percentage analysis, classification analysis, and the chi-square test. Attitudes towards investment opportunities were classified into three categories: low (low-risk investments), medium (medium-risk investments), and high (high-risk investments). The results revealed no significant correlation between attitudes and variables such as place of residence, age, and education level. In contrast, a significant correlation was observed between attitudes and occupation, marital status, and monthly income.
- **Bhuvaneswari, A. (2017)** conducted a study entitled "Investor Attitudes Toward Investments: Differences Between Men and Women." This study aimed to examine the socioeconomic profile of respondents and identify potential correlations between this profile and their attitudes toward investments. Data were collected from a stratified proportional random sample of 440 respondents. Analytical methods included descriptive statistics, t-tests, ANOVA, and two-group discriminant analysis. The results revealed significant differences in attitudes toward

investments between men and women, particularly regarding "financial needs," "investment goals," and "financial stability." The main differentiating factors between male and female respondents were "investment goals" and "financial stability."

- **N.S.V.N. Raju and Anita Patra (2016)** conducted a study entitled "Analysis of Investor Attitudes Towards Equity Investments in the District of Visakhapatnam (Andhra Pradesh)." This study aimed to analyze investors' preferences for different investment options and the factors influencing their investment decisions in this district. The study involved a convenience sample of 200 individuals. Statistical analyses included the chi-square test and the weighted mean rank method. The results showed that the most important factors for investors were operations, profitability, earnings growth and prospects, and the company's business model. Conversely, factors such as the company's vision and mission, its values and philosophy, and customer reviews were considered the least important.
- **Mahalaxmi Kumar and Dr. Rajesh Mankani (2017)** conducted a study entitled "Study of the Knowledge of Working and Educated Women Regarding Investment Opportunities, with a Focus on Mumbai." This study aimed to examine the various investment opportunities available in India and determine the level of knowledge among working and educated women about them. The sample, consisting of 500 participants, was selected by random sampling. Statistical analysis was performed using non-parametric tests, including the chi-square test. The results showed that working and educated women in Mumbai possess a high level of knowledge regarding the various investment opportunities.
- **Lokhande M (2015)** conducted a study entitled "An Investigation of Investment Awareness and Savings and Investment Patterns of Rural Investors." This study aimed to understand rural investors' investment criteria, assess their level of knowledge and preferences regarding investment options, and compare the investment behaviors of rural men and women. A sample of 300 respondents was selected using convenience sampling. Analysis methods included simple percentage analysis, ANOVA, and Garrett's ranking method. The results showed a similar level of knowledge among rural investors, both men and women, regardless of their education level. According to Garrett's ranking, bank deposits were the highest investment priority, followed by gold jewelry, real estate, and postal savings accounts.
- **Jhatiya Vijay Naranbhai (2018)** studied investment knowledge among working women in the Kachchh district. The study analyzed the socio-economic context, investment preferences and habits, and investment behaviors of these women. The sample consisted of 100 randomly selected participants. Data were analyzed using percentage analyses and correlation tests. The results revealed no significant relationship between investment experience and risk tolerance

or investor type. Furthermore, it was found that working women favored postal savings accounts, while commodities were the least popular. The primary investment objective was capital growth; 91% of respondents reported an annual income of less than 500,000 rupees.

- **Sekar M and Gowri M (2015)** conducted a study entitled "Survey on Financial Literacy and its Determinants among Generation Y Employees in Coimbatore." This study aimed to determine the level of financial knowledge, measure financial literacy, and examine the relationship between financial literacy and certain demographic factors. A random sample of 189 individuals was selected. An analysis of variance (ANOVA) revealed that gender, education level, and income significantly influenced financial literacy, unlike age. The overall rate of financial literacy was 50.90%, indicating an insufficient level among the respondents
- **Giaani N, Brenda C, and Swarn C (2013)** performed a comparative study titled "Financial Literacy: A Comparative Study in Four Countries." This research analyzed the variations in financial literacy among Canada, the United Kingdom, the United States, and Italy to assess if the elements affecting financial literacy can be applied globally. Data sources comprised the FINRA National Financial Capability Study 2009 (USA, n=1488), the Canadian Financial Capability Survey 2009 (Canada, n=15,519), the FSA Financial Capability Baseline Survey 2006 (United Kingdom, n=5,328), and the 2009 Italian Survey on Household Income and Wealth (Italy, n=7,977). The financial literacy scores for the UK, USA, Canada, and Italy were 2.419, 2.251, 2.603, and 2.603, respectively. Logistic regression was employed because of differing sample sizes. The research revealed that men demonstrated consistently greater financial literacy across all nations and determined that cultural and national elements greatly affect financial literacy, evident in the variations between countries.
- **Kaur, G. P., Bedi, H. S., Saini, D., and Singh, A. (2019)** studied the financial literacy of women in Punjab. The study aimed to assess their knowledge of investment opportunities, examine the influence of education level on their financial decisions, and analyze the relationship between their risk tolerance and investment preferences. Data were collected from 90 participants using structured questionnaires. The ANOVA results showed that, despite having a university degree, a significant proportion of the participants had low financial literacy. Respondents favored term deposits, gold, and life insurance as safe investments but were hesitant about stocks, mutual funds, and real estate. Most women were familiar with traditional financial products and displayed a risk aversion but reported limited knowledge of credit cards, securities accounts, and mutual funds.
- **MC Singh and R Kumar** conducted a study entitled "Women's Financial Literacy Study – A Case Study of Varanasi Hindu University" to assess the financial literacy of working women

at the university. The study surveyed 168 women, whose data was collected via email. The results showed that these women had little confidence in their investment decisions and frequently sought advice from relatives. Tangible assets were their preferred investment, and the participants tended to invest for the short term, indicating a low risk tolerance.

- **Sharma and B. Joshi (2015)** studied financial literacy and its impact on investment decisions among 85 working women. Their results showed that 90% of participants believed that financial knowledge contributed to a higher standard of living, greater independence in financial decisions, and greater autonomy. However, these women's investment decisions were more often influenced by their colleagues than by their personal preferences. The importance of financial literacy for financial autonomy has been widely recognized.
- **Agarwal, P., Ansari, M. S., Yadav, S., and Kureel, R. (2015)** conducted a study entitled “Survey of the Financial Literacy of Working Women in the Education Sector in Jhansi District: A Focus on Investment Opportunities.” This study highlighted the need to raise women’s awareness of investment opportunities, as many rely on their families or spouses for financial decisions. The research revealed that term deposits at the post office and banks are the most common forms of investment, while a lack of knowledge about stocks, mutual funds, and similar products discourages investment in these areas.
- **Kuruvilla, R. R., and Harikumar, P. N. (2018)** studied the relationship between financial literacy and education level among women entrepreneurs in the Kottayam district. Through interviews with 50 participants and a gap analysis, the authors found that these entrepreneurs had a limited understanding of the time value of money. A correlation analysis also showed that the level of financial literacy was correlated with the entrepreneurs' education level.
- In **2019, Dr. Krishna Vaghela** conducted a study entitled “Empowering Women Through Financial Education: A Survey of Working Women in Gujarat.” Data was collected from a non-probability sample of 239 working women. Their level of financial education was assessed using the OECD questionnaire. The results revealed a direct correlation between age, education level, and financial education. The study also highlighted gaps in the women’s knowledge regarding concepts such as the time value of money, interest, capital amounts, and inflation.
- The study “Financial Literacy: The Case of Poland” **(2020)** conducted a nationwide survey of secondary school students aged 15 to 16. The sample, consisting of 1,932 individuals, was collected between January and December 2017. Financial behaviors were measured using variables such as saving, debt, consumption, and related habits, and rated on a scale of 0 to 5. The researchers found that differences in financial literacy between the sexes were insignificant, but that there were marked differences in financial skills and behaviors. Most

importantly, the study revealed that a high level of financial literacy does not necessarily translate into appropriate financial behaviors.

- **Kadoya and Khan (2020)** investigated the determinants of financial literacy in Japan to identify factors influencing financial awareness in the country. Their findings highlight the important role of social connections and future orientation in the development of financial literacy. A total of 3,905 participants were selected using stratified random sampling, with Japan divided into regional blocks based on population size. The questionnaire was based on the model developed by Lusardi and Mitchell (2008), with demographic, socioeconomic, and psychological factors serving as independent variables. Data were analyzed using linear regressions and generalized linear models. Robustness tests confirmed that financial literacy is influenced by gender, age, education level, income, and future orientation.
- **Agarwalla, S. K., Barua, S. K., Jacob, J., and Varma, J. R.,** studied the financial literacy of young working adults in Indian cities, focusing on the influence of sociodemographic factors on different dimensions of financial knowledge. The study analyzed the impact of extended family structures and collaborative decision-making on financial literacy and assessed the responses of 754 individuals. Despite the respondents' high level of education, the results revealed insufficient financial literacy. The research also highlighted a positive correlation between financial knowledge and financial behaviors, while a significant negative correlation was observed between financial attitudes and financial behaviors.
- **Mathivathani and Velumani (2014)** studied the financial literacy of rural women in Tamil Nadu, identifying obstacles such as sociocultural limitations, health problems, lack of education, and financial difficulties. Their study revealed an alarming level of financial literacy among marginalized women in rural areas. The authors recommend that these women improve their knowledge of the financial services available in their communities by participating in information sessions.
- **Shethy and Thomas (2013)** conducted a survey of 100 young adults aged 18 to 23 from various academic disciplines (sciences, humanities, and economics) in Mumbai. They used a questionnaire based on existing literature regarding the components of financial literacy. Their results show that the financial knowledge of Mumbai students falls below international standards. The study suggests that greater emphasis should be placed on improving the financial literacy of all students.
- **Gowri (2013)** conducted a study of young employees aged 25 to 35 in Coimbatore. This study concluded that employees' financial attitudes and behaviors are strongly influenced by their level of financial literacy.

- **Bijle (2012)** studied women's financial management practices within self-help groups (SEs) in Grameen Koota, Karnataka. The study revealed that women had limited influence over household finances, while men, despite possessing financial knowledge, were often reluctant to discuss these matters with their wives. Furthermore, SE members demonstrated very limited, if any, knowledge of saving and credit card management. These findings suggest that the quality of SEs can only be improved by focusing efforts not only on increasing membership but also on actively promoting financial literacy.
- **Mitchell and Lusardi (2011)**, in their study entitled "Global Financial Education," found that individuals are generally better informed about inflation if their country has recently experienced a period of inflation. Furthermore, they observed that individuals have a better understanding of risk diversification if privatizations have taken place in their country.
- **Desai and Surti (2015)**, in their study entitled "Study on Financial Inclusion and Literacy Rates in India," found that while several Indian states have high literacy rates, the proportion of households using banking services is low. For example, in Manipur, the literacy rate is 79.21%, but only 29.6% of households use banking services, a remarkably low figure. Similarly, there is a significant gap between literacy rates and the proportion of households using banking services in Meghalaya, Mizoram, and Nagaland, where the corresponding figures are 36.93%, 36.43%, and 44.65%, respectively. Their research suggests a moderate correlation between household access to banking services and literacy levels, and indicates that the government should consider various behavioral factors when developing financial inclusion strategies.
- **Behrman, Mitchell, Cindy, and Bravo (2012)** studied the effects of financial education and literacy and found a significant positive correlation between financial literacy and total wealth, as well as its components. Their results also show that people who have difficulty understanding their financial environment are less likely to accumulate wealth.
- **Bumcrot and Lusardi (2011)** studied the geographic distribution of financial knowledge and found that most Americans were unfamiliar with basic financial decision-making concepts. Their research also highlighted significant geographic disparities in financial education. The authors suggest that future research should focus on understanding the causes of these geographic differences in financial knowledge.
- In her **2010 study**, "Attitudes Towards Saving and Financial Literacy Among Low-Income Populations," Turnham examined how non-profit organizations can promote better financial practices, including higher savings rates, among low-income and vulnerable groups. Focus groups were used to gather data on motivations, behaviors, and attitudes toward saving, as well

as views on the timing, content, and format of financial education initiatives. The findings indicate that providing financial literacy to low-income and vulnerable populations is essential. Interventions aimed at promoting behavioral change, particularly building self-control over saving and spending, may prove more effective for long-term financial security.

- **Altat (2014)** conducted a study entitled “Measuring the Financial Literacy of Management Graduates at Central Kashmir University,” the main objective of which was to assess students’ financial awareness. The study revealed that students lacked sufficient knowledge and skills in financial literacy. It also concluded that integrating financial education programs into school and university curricula would be a wise and effective measure to improve this literacy
- **Refera, Dahliwal, and Kaur (2018)** conducted a study investigating the relationship between financial literacy levels and personal financial management practices among urban residents of Addis Ababa, Ethiopia. Their findings suggest that monetary behavior and trust in financial decision-making have a significant positive impact on financial management conduct within this population. The study found no statistically significant effect of financial knowledge alone. The authors recommend that financial education programs prioritize behavioral aspects over knowledge acquisition and underscore the importance of teaching practical financial management skills to inspire confidence and enhance individuals' abilities in making effective personal financial decisions.
- **Gnani V Dharmaja, Ganesh, and Santhi (2012)** analyzed the financial behavior of investors at Geojit BNP Paribas Financial Services Limited in Coimbatore. Their results showed that 61% of investors had an average level of financial literacy, 9.5% a low level, and 29.5% a high level. Furthermore, they observed that the majority (60%) held a neutral position regarding their financial risk tolerance, 18% were pessimistic about their assets, and 22% were optimistic about their financial future
- **Saranagapani A and Mamatha T (2011)** conducted an analytical study entitled “Investment Profiles of Indian Investors: An Analysis of Investors in Hyderabad.” This study examined demographic factors such as age, education level, gender, occupation, income, savings, perceptions, and other motivational variables using data from 500 investors residing in Hyderabad. The analysis revealed that middle-income male investors were more active in the securities market. Most participants were in a younger age bracket. Regarding investment preferences, the majority favored diversification across different financial instruments, while a smaller proportion invested exclusively in equities.
- **Deepak Sood and Navdeep Kaur (2015)** found that individuals use their funds for various purposes, such as their children's education, marriage, and other life projects. Their study

revealed a preference for traditional investments, primarily due to limited knowledge of stock and commodity markets.

- **Ishwara P (2014)** concluded that the author had studied employee behavior and satisfaction with different investment options. The majority expressed a positive attitude toward the investment choices, although their knowledge of securities was relatively low.
- **Priya Vasagadekar (2014)** conducted a study of women employed in various sectors in Pune. Interviews were conducted to understand their investment behaviors, decision-making power, investment preferences, and risk tolerance. The study revealed that most of the women lacked in-depth knowledge of investment instruments and generally favored safe investments such as fixed-term bank deposits and postal savings accounts.
- **Devi (2016)** identified gender as an important factor influencing individuals' financial literacy in India and noted that Indian women face difficulties in making decisions related to saving and purchasing financial products.
- **Michael P. (2013)** found that financial literacy was lowest among students from disadvantaged backgrounds, those with poor English skills, and those with lower academic performance. However, neither relative poverty nor poor English skills were correlated with the ability to apply financial knowledge.
- **Martha Klatt (2009)** noted that education plays a vital role in improving women's financial literacy and stressed that educational efforts should begin at home and continue through university-level economics courses.
- **Chen and Volpe (2002)** studied differences in financial literacy among students at American universities, based on gender. They surveyed 1,800 students at fourteen universities and collected 924 usable responses. The study assessed students' knowledge of personal finance, including general concepts, saving and borrowing, insurance, and investing. The results showed that women generally had a lower level of financial literacy than men. These differences remained statistically significant even after adjusting for factors such as education level, work experience, and age. The results also highlighted the link between participants' financial literacy and their education level and work experience.
- **Koskelainen, T., Kalmi, P., Scornavacca, E., and Vartiainen, T. (2023)** conducted a study entitled “Financial Literacy in the Digital Age: A Research Program.” The objective was to examine the impact of digitalization on financial literacy and skills. The study analyzed 29 peer-reviewed articles and highlighted the need to update financial literacy programs, develop educational resources, and improve methods for assessing this literacy.

- **Dr. Reddy and Hridhya PK** conducted a literature review entitled "Overview of Financial Literacy in India." Their study aimed to clarify the concept and importance of financial literacy and to synthesize the various initiatives of the Indian government. Using secondary data, they concluded that, despite the commendable efforts of Indian regulatory authorities to promote financial literacy, the overall level of this literacy among the population remains insufficient.
- **Jayaraman, J. D., Jambunathan, S., and Counselman, K. (2018)** investigated the relationship between financial literacy and numeracy skills using data collected from secondary school students in India. The study included 586 participants selected through targeted sampling in Chennai and Madurai. Data analysis included the percentage of correct answers (PRC), Cronbach's alpha coefficient, and a three-stage mixed model. The results revealed a strong, statistically significant association between financial literacy and numeracy skills. This association persisted even after accounting for variables such as gender, grade level, type of school, language of instruction, parental involvement, study plans, parental education level, family income, and financial literacy level.
- **Bharucha, J. P. (2019)** studied the factors influencing the financial literacy of young Indians. The results show that homeownership is the factor most strongly correlated with financial literacy (+0.327), followed by education level (+0.245) and employment (+0.140). The study also concludes that women are less likely than men to have a high level of financial literacy (-0.271).
- **Bhushan P. and Medury Y. (2013)** studied financial literacy and its influencing factors among employees. The objective of the study was to assess the level of financial literacy in relation to various demographic and socioeconomic factors. A sample of 516 participants from three districts in Himachal Pradesh (Shimla, Solan, and Kangra) was used for this purpose. The hypotheses were tested using analysis of variance (ANOVA). The results showed that gender, education level, income, type of employment, and workplace location significantly influenced the level of financial literacy, while age and geographic region did not have a significant influence.
- **Arora A. (2016)** studied the level of financial literacy among working women in Rajasthan using a survey of 444 participants. The results showed that, while women scored higher in terms of financial attitudes and behaviors than in financial literacy, single women generally had a higher level of financial literacy than married women.
- In 2010, **Dr. Trivedi A.** studied the financial literacy of urban women in the Ahmedabad district. Her study aimed to determine their level of financial knowledge and access to financial services, as well as to identify significant differences between various groups. Conducted with

300 urban women, the study revealed a significant gap in financial literacy between those receiving social assistance and those not receiving it. The latter group exhibited a lower level of financial literacy.

- In **2018, Avani P.** conducted a descriptive study on the financial literacy of Gujarat residents. Her sample of 600 people from various cities across the state examined the influence of demographic factors on this literacy. The results showed that, aside from knowledge of bonds and long-term investment returns, respondents displayed a satisfactory level of financial literacy. Chi-square analysis revealed that age, gender, income, and marital status significantly influenced financial literacy, unlike place of residence.
- In **2019, Dr. Vaghela K.** conducted a study entitled "Empowering Women Through Financial Education: A Survey of Working Women in Gujarat" with a sample of 239 working women. The results, obtained through a t-test analysis, showed that age and education level significantly influence financial education. Furthermore, the findings suggest that a higher level of financial education boosts working women's self-confidence and enables them to make independent financial decisions without relying on their families.
- **Shobha and Shalini (2015)** conducted a survey in Bengaluru to examine women's perspectives on personal financial planning. The study revealed that Indian women often prioritize the needs of their families and children over their own financial security and personal goals. Furthermore, convincing their spouses and families to adopt financial strategies proved difficult for them. The research showed that gold, real estate, bank deposits, insurance products, and pension funds are perceived as the safest investments, while mutual funds, derivatives, savings plans, stocks, and shares are considered riskier. This perception, coupled with limited knowledge of new financial instruments, restricts women's ability to achieve optimal returns.
- In **2020, V. Sornaganesh and A. V. Chellamma** conducted a study on the financial literacy of working women in the Thoothukudi region. The majority of participants had gaps in their knowledge of stocks, bonds, mutual funds, real estate, and government bonds. A significant proportion had limited knowledge of government bonds, insurance, and precious metals such as gold and silver. Participants generally had a good understanding of bank deposits and postal savings accounts. Key factors influencing tax knowledge included age, marital status, education level, occupation, annual income, and household size, while family structure did not affect general tax knowledge. However, occupation and family structure did have a specific impact on income tax knowledge. The study also revealed that age, marital status, education

level, annual income, and family structure had little influence on regulatory authorities' understanding.

- **Naranbhai's 2018** study, published in the IJRSML, examined the investment knowledge of working women in the Kutch district of Gujarat, India. The findings showed that 47% of respondents made their financial decisions independently, while 39% consulted their spouses. Growth-oriented investments were cited as the primary objective, while maximizing short-term profits was the least favored strategy. Commodities were considered relatively risky investments, while postal savings accounts were perceived as the safest option. Working women in Gujarat primarily used magazines and newspapers as sources of information for financial planning.
- **Rawat, A., Singh, M. and Goswami, V. (2022)** used the snowball sampling method to collect data from 390 working women in the service sector. Their results showed that most women had an average level of financial literacy, while only a small percentage had advanced financial literacy.
- **Rawat, A., Singh, M., & Goswami, V. (2022).** Financial literacy of Indian women in the service sector. *Journal of Positive School Psychology*, 6(3), 10211–10216.
- In **2023, Dr. Aashka Thakkar** conducted a study entitled "Financial Literacy Among the Population of Gujarat." This study aimed to assess the population's financial knowledge and identify factors influencing financial decisions. The relationship between demographic factors and financial literacy was also examined. A questionnaire was distributed to 101 people in the towns of Vadodara and Bharuch, Gujarat. The results revealed limited knowledge of the stock market and investment funds and concluded that age and education level did not significantly influence financial literacy.
- **Tanya Kumar and Satveer Kaur (2022)** studied the influence of women's financial literacy on financial planning. Their analysis of the existing literature revealed that women often strive to balance personal and professional obligations. However, their insufficient knowledge of financial instruments and available investment opportunities motivates them less to manage their finances, thus relegating financial planning to a secondary priority.
- **Roy, B. and Jain, R. (2018)** conducted a study entitled "Study of the Financial Literacy of Indian Women," focusing on women in Jaipur. Their analysis revealed that many working women, particularly in urban areas, lack knowledge of financial concepts and often fail to grasp their importance. The main reason identified was insufficient awareness of current developments in the financial sector. Furthermore, the study highlighted a strong risk aversion

among these women, which discourages them from investing their savings in financial instruments with high potential returns.

- **Manchanda and Sukhija (2019)** investigated the factors influencing the financial literacy of working women in Punjab. The study aimed to identify the most important factors for this population group. To this end, 500 women were interviewed. Analytical methods such as percentages, cross-tabulations, and ANOVA were used. The results showed that tax incentives, interactions with financial advisors, peer support, past business performance, family influence, and reading financial magazines and newspapers positively influence the financial literacy of working women. In contrast, factors such as budgeting, children's education/marriage, healthcare, loan repayment, family well-being, guaranteed profits, low risk, financial stability, and regular income sources were not found to be significant determinants. The results highlighted that age and type of business contribute significantly to improving financial culture, while education level, profession and marital status have only a minor influence.
- **Kumari, S. and Sondhi, J. (2020)** highlighted the importance of government and institutional support for women entrepreneurs, who play a crucial role in job creation and national economic growth. They advocated for the implementation of programs and social measures that benefit women entrepreneurs and stressed that accessible and tax-free financial education is essential for maintaining financial stability throughout the country.
- **Sinha and Gupta (2021)** conducted an empirical study on women's financial literacy in Delhi and its surrounding areas. Their study, carried out in slums, collected testimonies from 538 women. Data analysis was performed using graphs, percentage calculations, and chi-square tests. The study revealed that women in Delhi generally possess a high level of financial literacy, with marital status, income, and education level being influential factors. Furthermore, the study showed that women tend to be highly risk-averse, with term deposits being the most popular investment option, followed by life annuities.
- **Murugesan R. and Manohar V. (2022)** conducted a study entitled “Relationship between demographic characteristics and women’s financial literacy” with 540 women from Virudhunagar, Andhra Pradesh. The relationship between demographic factors and financial literacy was analyzed using a one-way analysis of variance (ANOVA). The results showed that demographic variables such as gender, income, age, and education level—with the exception of employment status—significantly influenced financial literacy.
- **Gautam C., Wadhwa R., and Raman T. (2022)** investigated the behavioral aspects of financial decision-making among working women in the Indian capital region. Primary data were collected using a structured questionnaire with a 5-point Likert scale and analyzed using

partial least squares structural equation modeling (PLS-SEM). The study revealed a positive and significant relationship between working women's financial decision-making, their financial knowledge, and their personal financial planning. Conversely, risky behaviors had a negative impact on their financial judgment. Furthermore, financial knowledge was strongly correlated with attitudes, behaviors, and financial knowledge.

- **Dhaigude R. (2023)** found that the distribution of decision-making power between men and women significantly influences a household's savings and investments. The results suggest that the likelihood of higher savings, investments, and debt repayment increases when women are responsible for financial decisions within the household.
- **Sudhinra V.R. and Dr. Naidu J. (2018)** investigated the difficulties faced by working women in making financial decisions by surveying 378 female IT professionals in Bengaluru. Their structural equation modeling (SEM) analysis revealed that knowledge, attitudes, and behaviors all positively influenced these decisions. The authors concluded that focusing on behaviors rather than attitudes was more effective in influencing financial decisions.
- **Sharma P. and Kaur N. (2019)** studied the investment attitudes of working women in the education sector in Punjab and found that financial literacy is a crucial factor influencing their investment behavior.
- **Khokkar P. and Kaur D. (2022)** emphasized that women aspire to financial inclusion to advance economically and highlighted financial literacy as a key success factor. They stressed the importance for individuals to become familiar with different financial products and services in order to make informed decisions.
- **Rahman T., Hussain F., and Khan F. (2020)** studied the financial literacy and investment preferences of women working in the education sector in Kanpur. The study analyzed the level of financial literacy and the factors influencing the investment decisions of women employed in both the public and private sectors. It revealed that women primarily invest to generate future interest, with gold and bank deposits being their preferred investments. Although most women in the education sector possess basic investment knowledge, this knowledge remains limited, contributing to a lack of financial skills regarding money management and alternative investments.
- In their study, **Chellamma A.V. and Sornaganesh V. (2020)** found that age, marital status, education level, occupation, annual income, and household size influence tax knowledge. They also concluded that family structure has only a minor influence on this knowledge.

International:

- **Lusardi and Bassa Scheresberg (2017)** examined the financial knowledge and literacy of working women in the United States using a sample of 6,684 participants. The study found that with the economic recovery, these women's personal financial situations had improved; they were better able to make ends meet and less reliant on alternative financial services. Furthermore, they used their credit cards more cautiously and were less likely to be in debt. Nevertheless, some subgroups, such as women in the early stages of their careers, mothers, and women going through separation, continued to experience financial difficulties.
- **Potrich, A. C. G., Vieira, K. M., and Kirch, G. (2018)** studied financial literacy in Brazil using a survey of 2,485 people. Their results showed that the overall level of financial literacy was low across all genders; however, a larger proportion of men exhibited a high level of financial literacy. This significant gender difference underscores the need for targeted education, particularly for single women and those with low incomes and limited education.
- **Farrar, S., Moizer, J., Lean, J., and Hyde, M. (2019)** investigated the links between gender, retirement planning, and financial literacy using data from 516 pre-retirement individuals in the UK. Their study, which incorporated variables related to attitudes and expectations, found that while women tended to plan their retirement less than men, financial literacy itself was not strongly correlated with planning behaviors. Remarkably, gender lost its statistically significant predictive power for retirement planning once factors related to attitudes and expectations were taken into account.
- In their study, **Aguiar-Díaz and Zagalaz-Jiménez (2022)** examined the level of financial literacy among women in Spain, focusing particularly on the influence of marital status. Their research is based on data from 7,456 individuals who participated in the Spanish Central Bank's Financial Literacy Survey (2016). The results show that married women or women living with a partner have a lower level of financial literacy than men. This gap could be explained by traditional gender roles within the household, where men are more likely to manage family finances and women to assume other responsibilities.
- **Tambun, Sitorus, and Nurwanti (2022)** conducted a study in Indonesia and concluded that financial education significantly influences women's financial behavior, particularly through their motivation to invest. This study underscores the importance of comprehensive financial education for women, as well as the need to encourage them to invest in themselves and improve their financial knowledge to adopt sound financial practices. Promoting responsible financial behavior among women is seen as a solution to the low rate of female literacy in Indonesia.

- **Davoli and Rodríguez-Planas (2022)** found that in the United States, women have a higher level of financial literacy than men. This difference is explained by the degree of convergence in financial literacy between the sexes, which is linked to social background. After ruling out differences in cognitive and non-cognitive abilities as potential causes, they observed that, in men, a higher level of financial literacy was correlated with greater patience and less altruism, unlike in women. Even when accounting for differences in preferences related to gender and country of origin, the convergence in financial literacy between the sexes remains associated with a higher level of financial literacy among women in the United States, thus highlighting the influence of social constructs. These improvements are particularly evident with regard to inflation and risk diversification.
- **Kendzia and Borrero (2022)** studied the financial literacy of young people in Switzerland. Their analysis shows that young men are more inclined to invest and perform better on financial literacy tests than young women. University graduates also demonstrate greater competence and a stronger propensity to invest than those without a degree. A lack of financial knowledge was identified as the main obstacle to investing. Individuals with low financial literacy tend to make more costly mistakes, save less for retirement, and accumulate less wealth over time.
- In a case study, **Fukuhara (2022)** examined gender differences in financial culture in Japan. The results suggest that while women may have better financial behaviors than men, they are not necessarily less competent in this area, contrary to what is often assumed.
- **Namaweje et al.** studied the determinants of financial literacy in Uganda. Their analysis revealed an average financial literacy score of 62.32 among women, with 53.55% considered financially illiterate and 46.45% considered financially literate. Rural women with any financial education were 13.35 times more likely to have high financial literacy. This trend was also observed among women with a secondary or university degree. Furthermore, women who managed their own budgets and acted as specialized shoppers demonstrated a higher level of financial knowledge.
- **Thabet, Ali, and Kantakji (2019)** analyzed the relationship between sociodemographic factors and financial literacy. Their research shows that age and marital status are significantly correlated with financial literacy, unlike gender, ethnicity, and education level. The study revealed that married and older individuals tend to have higher levels of financial literacy than single and younger individuals. Furthermore, financial literacy is associated with both financial behaviors and attitudes toward finance; individuals with a positive attitude toward financial

matters and a cautious approach to money, spending, and investments generally exhibit higher levels of financial literacy.

- **Paudel (2021)** studied the financial literacy of white-collar workers in the Pokhara Lekhanath metropolitan area of Nepal. The findings show that these women have relatively low levels of financial literacy, particularly regarding insurance, loans, wealth, and inflation. While income level is strongly correlated with financial attitudes, the correlation with financial behavior is minimal (3.112%). Other variables, such as gender and educational institution, influence financial behavior, whereas occupation, field of study, and educational institution do not have a significant impact on financial attitudes. The data indicate that most white-collar workers favor deposits, maintain minimal accounting records, control their spending, save regularly, invest in term deposits, and purchase stocks.
- As demonstrated by **Morgan J. Peter and Trinh Q. (2019)**, there is a positive correlation between general education levels and financial literacy. However, each country should prioritize complementary educational initiatives and awareness programs to directly improve the financial literacy of its citizens. Greater financial inclusion is likely to further strengthen this culture, and individuals should be encouraged to save more. The authors argue that promoting general education in Cambodia and Vietnam is essential for developing a culture of saving, responsible financial management, and improved financial literacy.
- **Harris, Laurence, and Maryam Sholevar (2019)** indicate that, according to an experimental study, women have a lower level of financial literacy than men. Factors such as cultural barriers, attitudes, gender inequality, and educational gaps contribute to this disparity. The study emphasizes that providing women with additional information strengthens their decision-making capacity and positively influences their financial behavior.
- **Nguyen Thi and Zoltan (2019)** found that the average level of financial literacy in Vietnam remains low. Remarkably, 59.6% of respondents sought financial advice to prepare for retirement, contributing to greater awareness among the Vietnamese population. The authors recommend that policymakers promote financial literacy and access to financial planning tools to foster effective retirement strategies.
- **Kim Daniel and Katsanos Dimitri (2018)** recommend integrating financial education into school curricula. Comprehensive financial education should begin in high school to prepare young people for the complex challenges of modern financial responsibility. The researchers encourage students at Georgetown University to deepen their knowledge and develop advanced financial skills. In today's world, financial education is essential for personal financial independence. At prestigious universities, student vulnerability often stems from

limited basic financial knowledge and a lack of savings and investment practices among millennials, particularly in the United States.

CHAPTER 3

RESEARCH

METHODOLOGY

3. RESEARCH METHODOLOGY

3.1 Problem Statement:

Women around the world face challenges and various obstacles when it comes to achieving financial security. According to the survey results from the Women & Money Magazine group, many women feel uncomfortable discussing their personal finance concerns. Additionally, only about 33.33% of women have a detailed financial plan. As published by the Hindustan Times (2017), the World Bank mentioned in one of its reports that India ranked 120th out of 131 countries in terms of active female participation in the labor market. According to the report, ignorance and lack of knowledge are the reasons that prevent women from making investment decisions.

In India, women are particularly active in making decisions concerning household resources, and they also have a natural tendency to save and invest, though unfortunately often not appropriately. Women generally put aside a little money at home. Although this habit of saving money at home is especially common among women who do not work, it is also found among working women. It has been observed that working women strive hard to balance their personal and professional lives. Facing work pressure, deadlines, workload, as well as taking care of their children, spouse, health, social obligations, and household chores, they hardly think about their own well-being. Many working women have enough reserves to meet their family's needs, but when it comes to their own they are not able to manage money.

The economic development of a country revolves around the economic empowerment and financial well-being of women. In the McKinsey Global Institute report (2015), it was mentioned that India could increase its GDP by 16% by 2025 if women's participation in the workforce increased by 10%. Thus, women have been identified as the main economic force contributing to the nation's economic growth. The literature review shows that, although women are becoming economically independent worldwide, they remain cautious in their investment decisions. Several studies have examined these aspects. Some suggest that this is due to differences in demographic characteristics. Arti et al. (2011) stated that women are less confident in decision-making.

Atchyuthan N. and Yogendrarajah R. (2017) stated that women depend on their husbands. Lusardi A. (2006) found that women have only low financial knowledge, which has sparked researchers' interest. The researcher therefore deemed it important to examine the level of financial education and literacy among working women.

3.2 Significance of Study:

This study is important because it examines the extent to which women employed in southern Gujarat understand basic financial concepts and mathematical skills. In today's world, women who earn an income need to manage their finances securely, make informed decisions, and plan for their future. By understanding their current financial knowledge, the study helps identify areas where they may need additional support or training. Active women play an important role in the economic growth of the region. If they possess strong financial knowledge, they can better manage household finances, avoid debt, save regularly, and invest wisely. This not only improves their own well-being but also benefits their family and the community. The results will help policymakers, educators, and organizations to develop programs that match need of Women in South Gujarat. The study is also important because little research has been conducted on this specific group in this region. By focusing on working women, it fills a significant gap and provides relevant knowledge at the local level. Overall, this research supports the goal of strengthening financial confidence and promoting greater financial independence among working women in southern Gujarat.

3.3 Research Objectives:

- To measure the level of financial literacy and Numeracy among working women in South Gujarat.
- To find out the determinants of financial literacy among the working women.
- To know whether there is any relationship between demographic factors and socio-economic factors with financial numeracy and literacy.
- To find out relationship among financial knowledge, financial attitude and financial behaviour of working women with their financial literacy level.
- To measure the impact of financial knowledge, financial attitude and financial behaviour on financial literacy.

Research Objective	Statistical Tool Used
To measure the level of financial literacy and numeracy among working women in South Gujarat	Frequency Analysis, Lusardi's score card.
To find out the determinants of financial literacy among working women	Factor Analysis
To examine the relationship between demographic and socio-economic factors with financial numeracy and literacy	Kruskal–Wallis Test Mann – Whitney U Test

Research Objective	Statistical Tool Used
To analyze the relationship among financial knowledge, attitude, and behaviour with financial literacy	Factor Analysis & SEM
To measure the impact of financial knowledge, attitude, and behaviour on financial literacy	Structural Equation Modeling (SEM)

3.3 Hypothesis:

H1: Financial Attitude has Significant positive effect on financial literacy.

H2: Financial Behaviour has Significant positive effect on financial literacy.

H3: Financial Product awareness has no significant effect on financial literacy.

H4: there is significant difference between urban and semi urban respondents' financial literacy in terms of financial awareness, attitude and behaviour.

H5: there is significant difference between married and unmarried respondents' financial literacy in terms of financial awareness, attitude and behaviour

H6: there is significant difference among age categories regarding financial literacy in terms of financial awareness, attitude and behaviour.

H7: there is significant difference among education categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H8: there is significant difference among occupation categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H9: there is significant difference among districts regarding financial literacy in terms of financial awareness, attitude and behaviour

H10: there is significant difference among current working status categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H11: there is significant difference among number of earning members in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour.

H12: there is significant difference among number of dependent in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour.

H13: there is significant difference among monthly income categories regarding financial literacy in terms of financial awareness, attitude and behaviour.

3.4 Research Design:

The research design is a structured plan or framework that outlines the process and methods for conducting a research study. It serves as a model for how a research project is carried out and guides the collection, analysis, and interpretation of data to answer specific research questions or objectives. The research plan includes decisions regarding the research approach, data collection methods, data analysis techniques, and the overall strategy. The plan should be chosen based on the type of research and its objectives.

Exploratory Research Design:

Exploratory research design is a research method used to examine a research problem when little or no pre-existing information or knowledge is available. It is often employed when the researcher seeks to gain a preliminary understanding of a subject, develop ideas, or formulate research questions for a more in-depth study. Exploratory research is generally conducted at the beginning of the research process and is considered a critical approach in research.

Causal Research Design:

This design involves manipulating one or more independent variables in order to observe their influence on dependent variables. It is often used to establish cause-and-effect relationships. The causal or experimental research design is a research methodology used to study cause-and-effect relationships between variables. It is characterized by a structured and controlled approach to determine whether changes in one variable (the independent variable) cause changes in another variable (the dependent variable).

Descriptive Research Design:

This type of design is used to provide a comprehensive description of a phenomenon, a group, or a situation. It involves collecting data through observation, surveys, or content analysis. The descriptive research design is a research methodology used to systematically describe and analyze the characteristics, attributes, and properties of a specific phenomenon, group, or situation, without manipulating variables. This type of research focuses on providing an accurate and complete overview of what exists and does not seek to establish causal relationships. Descriptive research is especially useful when researchers want to answer questions such as who, what, when, where, and how. Descriptive research is valuable for creating a knowledge base on a subject or phenomenon.

The research design for this study is descriptive research design, as data are collected at a specific point in time and it describe the level of financial literacy and numeracy among working women in the South Gujarat region. It allows for the examination of relationships between variables and provides insights of the current situation.

3.5 Data Collection:

Primary Data:

Primary data collection is the process of directly gathering information or data from original sources. This data is collected by the researcher for a specific research or study and is not previously published or available from secondary sources. Primary data collection methods involve interacting with subjects or sources to obtain information relevant to the research objectives. The methods and techniques of primary data collection can vary depending on the research context and objectives. Here are some common methods of primary data collection:

Surveys and questionnaires: These methods involve asking participants a series of questions to gather information about their opinions, attitudes, decisions, or behaviors. They can be conducted in person, by mail, via online platforms, or over the phone.

Interviews: Interviews involve direct interaction with individuals or groups to obtain detailed information. They can be structured with fixed questions, semi-structured with guided open-ended questions, or unstructured, like informal conversations.

Observations: In observational research, the researcher carefully watches and records behaviors, actions, or events. This can be done through active participation in the environment or by observing from a distance, either in a natural setting or a controlled environment.

Experiments:

Experimental studies involve changing or controlling certain variables to see how they influence other variables. This approach allows researchers to control conditions and determine cause-and-effect relationships.

Secondary Data:

Secondary data refers to information obtained from existing sources and compiled by other researchers, institutions, or organizations. Instead of collecting the data themselves, researchers use materials available in published documents, reports, databases, and other recorded sources. This type

of data is useful because it supports research work, facilitates literature reviews, helps in formulating hypotheses, and provides context or comparison information.

In this study, secondary data was extracted from books, research papers, journal articles, online resources, and previous theses. A significant portion of the secondary information used here comes from national and international research studies and scientific articles.

To collect relevant data for the study, a mixed-method approach has been used. Primary data have been collected through a structured questionnaire survey. The questionnaire is consisting of both closed-ended and open-ended questions to gather quantitative and qualitative data. The data for this study has been collected through a survey of working women in the South Gujarat region. The survey has been conducted online as well as offline and it include questions on financial literacy and numeracy. The survey has also collected demographic and Socio-economic information about the respondents, such as their age, education level, and income.

The target population for this study comprises working women in the South Gujarat region. The study focused on working women especially those who are earning monthly salary. To ensure a representative sample, a multistage sampling technique will be employed.

In the first stage, five districts name Surat, Bharuch, Tapi, Navsari and Valsad within the South Gujarat region will be selected. The selection will aim to include areas that reflect the diversity of the working women population in terms of socio-economic status, occupation, and educational background. In the second stage, estimated female population in particular district will be identified and samples are collected based on non-probability convenient sampling method.

District	2011 (Female Population)	2023 (Estimated female Population)	Sample Representative
Surat	26,79,098	31,20,613	300
Tapi	4,04,834	4,71,550	154
Navsari	6,51,507	7,58,875	202
Valsad	8,18,456	9,53,338	210
Bharuch	7,45,312	8,10,000	154
			1020

(Source: [Census 2011 India](#))

3.6 Sample Size:

Deciding the correct sample size is a very important part of empirical research. The sample should be chosen carefully so that it can accurately represent the entire population. The purpose of the present study is to understand how personality traits affect investment decisions in mutual funds among investors living in the South Gujarat region. For this reason, data has been collected from different districts across South Gujarat.

The sample size was estimated by applying the **Central Limit Theorem** and then using sample size formulas for a finite population as described in **Ken Black (2008)**. According to the Central Limit Theorem, when the sample size is more than 30, the distribution of sample means becomes approximately normal, regardless of the population distribution. Therefore, the researcher can use **Z-scores** for analysis. **Israel (1992)**, referring to the work of **Cochran (1963)**, provides a formula for deciding sample size for large populations:

$$n = \frac{(Z)^2 \cdot p(1 - p)}{(MOE)^2}$$

Substituting the values:

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = \frac{3.8416 \times 0.25}{0.0025} = \frac{0.9604}{0.0025} = 384.16 \approx 385$$

Thus, the required sample size is **385 respondents**.

Explanation of Parameters

- **Margin of Error (MOE):** It reflects how much difference the researcher is willing to accept between the sample results and the true population value. In this study, a **±5% margin of error** was considered acceptable.
- **Level of Significance:** It indicates the probability of rejecting a true null hypothesis. A **5% significance level** shows that the researcher accepts a 5% risk of making a wrong decision.
- **Confidence Level:** It expresses the level of certainty that the true population value lies within the confidence interval. This study uses a **95% confidence level**.
- **Standard Deviation:** It represents the expected variability among responses. A value of **0.50** is used, which assumes maximum variability.

- Z-Score: It shows the distance of a value from the mean in standard deviation units. For a 95% confidence level, the Z-score is **1.96**.

The required sample size was 385 but in total, 1050 questionnaires were distributed via online and offline mode. Out Of these, 1020 responses were considered valid for analysis. Therefore, the final sample size for the study was 1020 from district such as Surat, Bharuch, Tapi, Navsari and Valsad

CHAPTER 4
DATA ANALYSIS
AND
INTERPRETATION

4. DATA ANALYSIS AND INTERPRETATIONS

4.1 Demographic Profile

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 30 Years	465	45.6	45.6	45.6
	31 – 45 Years	441	43.2	43.2	88.8
	46 - 60 Years	101	9.9	9.9	98.7
	More than 60 Years	13	1.3	1.3	100.0
	Total	1020	100.0	100.0	

Table 4. 1 Age

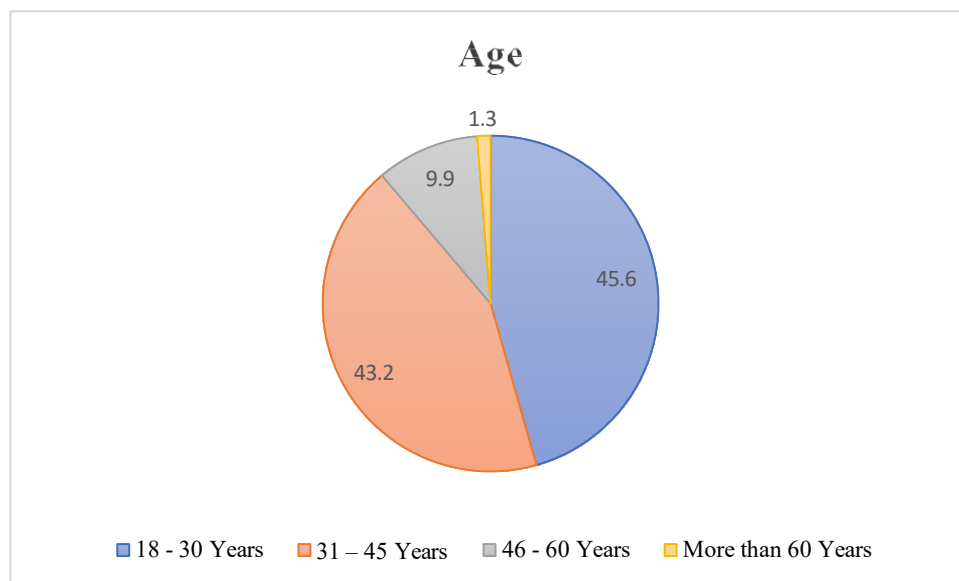


Figure 4. 1 Age

The data reveals the age distribution of the respondents in the study. It shows that the majority of participants belong to the younger and middle age groups. Specifically, individuals aged between 18 to 30 years constitute the largest portion of respondents, representing nearly half of the total sample. This indicates a strong representation of young adults in the study, suggesting that the findings may largely reflect the views and behaviors of this age group. The second-largest group comprises respondents aged 31 to 45 years, who account for a significant proportion of the total, indicating active participation from individuals in their prime working and earning years. A smaller segment of respondents falls within the 46 to 60 years category, contributing a modest share to the overall sample. Finally, participants above 60 years form a very small proportion, indicating limited representation of senior citizens in the study.

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unmarried	378	37.1	37.1	37.1
	Married	642	62.9	62.9	100.0
	Total	1020	100.0	100.0	

Table 4. 2 Marital Status

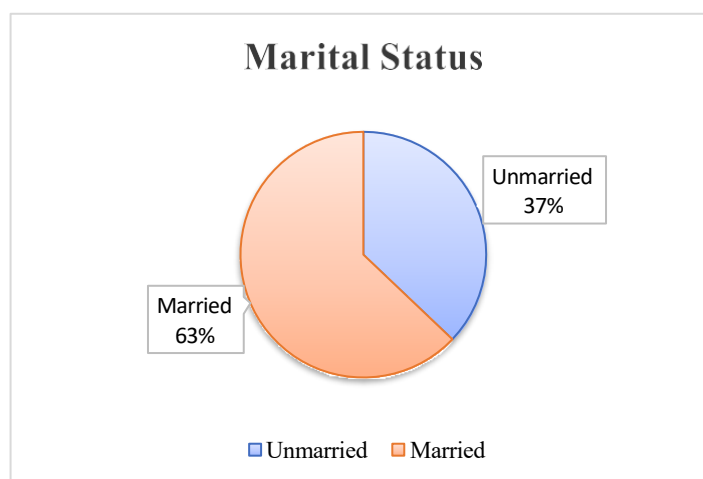


Figure 4. 2 Marital Status

The data on marital status indicates that a majority of the respondents are married, making up nearly two-thirds of the total sample. This suggests that the study population predominantly consists of individuals who may have family responsibilities and stable life situations, which could influence their attitudes and decision-making patterns.

In contrast, a smaller yet considerable portion of respondents are unmarried, representing slightly more than one-third of the total. The distribution highlights that both married and unmarried individuals are well-represented in the sample, allowing for diverse perspectives, though the higher proportion of married respondents suggests their opinions may have a greater influence on the overall findings.

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below HSC	150	14.7	14.7	14.7
	Graduation	434	42.5	42.5	57.3
	Post-Graduation	436	42.7	42.7	100.0

	Total	1020	100.0	100.0	
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Table 4. 3 Education

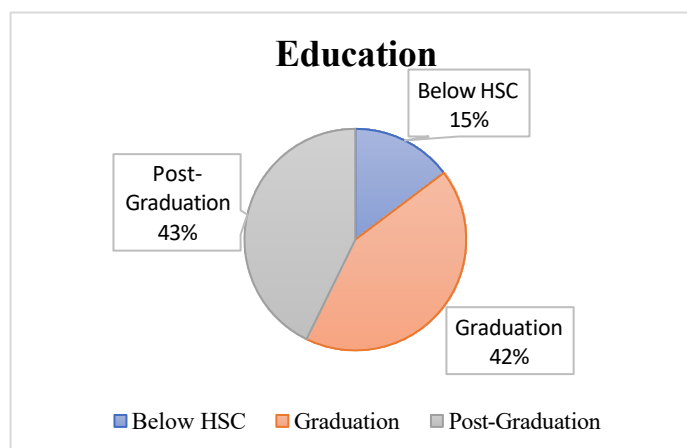


Figure 4. 3 Education

The educational profile of the respondents shows that the majority possess higher educational qualifications. Most participants have completed either graduation or post-graduation, with both groups having nearly equal representation in the sample. This indicates that the study largely reflects the opinions and behaviors of well-educated individuals who are likely to have better awareness, analytical skills, and access to information. A smaller segment of the respondents, representing those below the higher secondary level, forms a limited proportion of the total sample. This suggests that while the study includes participants from varying educational backgrounds, it is predominantly composed of individuals with tertiary education, which may influence the level of understanding and interpretation of the study's subject matter.

Occupation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	130	12.7	12.7	12.7
	Employee	780	76.5	76.5	89.2
	Business / Profession	95	9.3	9.3	98.5
	Retired	15	1.5	1.5	100.0
	Total	1020	100.0	100.0	

Table4. 4 Occupation

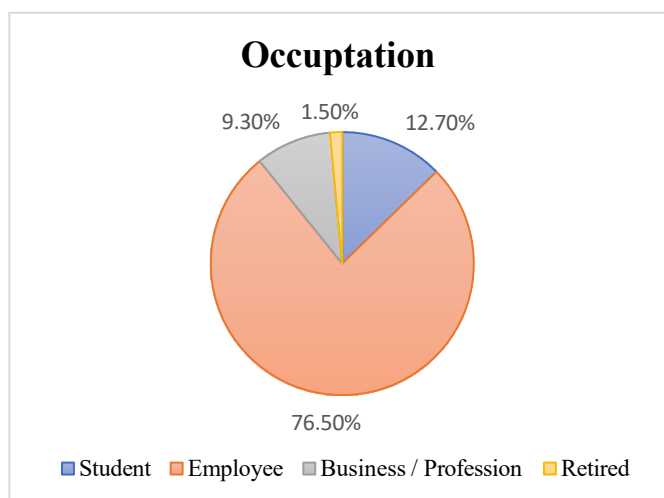


Figure 4. 4 Occupation

The occupational distribution of respondents reveals that the majority are employed individuals, comprising more than three-fourths of the total sample. This indicates that a large portion of the participants are actively engaged in the workforce, likely contributing to a stable income level and consistent financial behavior patterns. Students form the second-largest group, accounting for a modest proportion of the total respondents, suggesting that a notable number of young individuals are also represented in the study. A smaller portion of respondents belong to the business or professional category, reflecting participation from self-employed individuals and entrepreneurs. The retired group constitutes the smallest segment of the sample, indicating limited representation from individuals no longer in active employment. Overall, the data shows that the study is largely driven by the views of working professionals, with smaller contributions from students, businesspersons, and retirees.

District					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Surat	300	29.4	29.4	29.4
	Bharuch	154	15.1	15.1	44.5
	Navsari	202	19.8	19.8	64.3
	Valsad	210	20.6	20.6	84.9
	Tapi	154	15.1	15.1	100.0
	Total	1020	100.0	100.0	

Table 4. 5 District

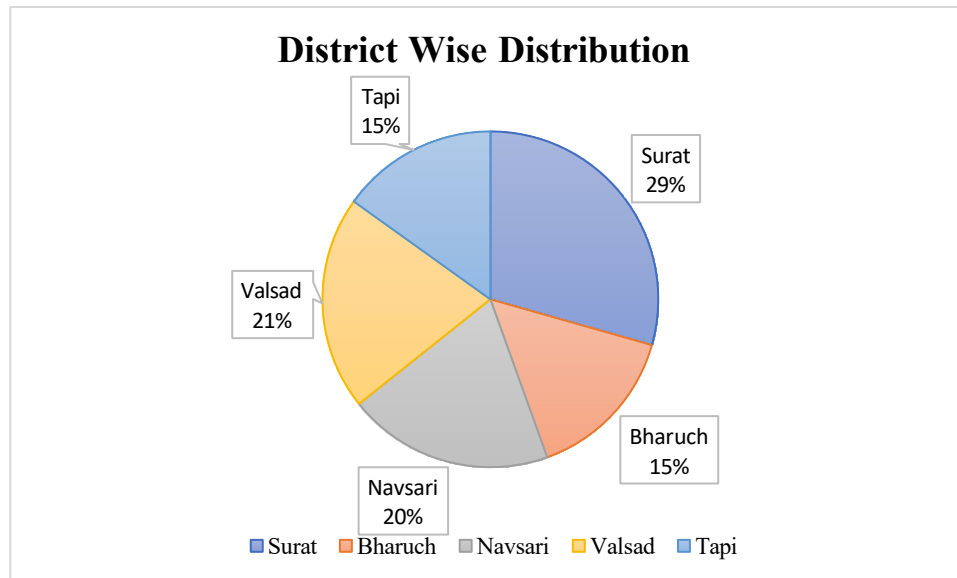


Figure 4. 5 District

The district-wise distribution of respondents indicates that participants are fairly well spread across the five selected districts, ensuring regional representation within the study. Surat district accounts for the largest share of respondents, representing nearly one-third of the total sample. This is expected given Surat's larger population size and higher level of urban and economic activity. Valsad and Navsari districts follow, each contributing a considerable proportion of participants, suggesting active participation from these areas as well. Bharuch and Tapi districts contribute an equal and smaller share of respondents, reflecting balanced inclusion from relatively less urbanized regions.

Area					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	403	39.5	39.5	39.5
	Semi Urban	617	60.5	60.5	100.0
	Total	1020	100.0	100.0	

Table 4. 6 Area

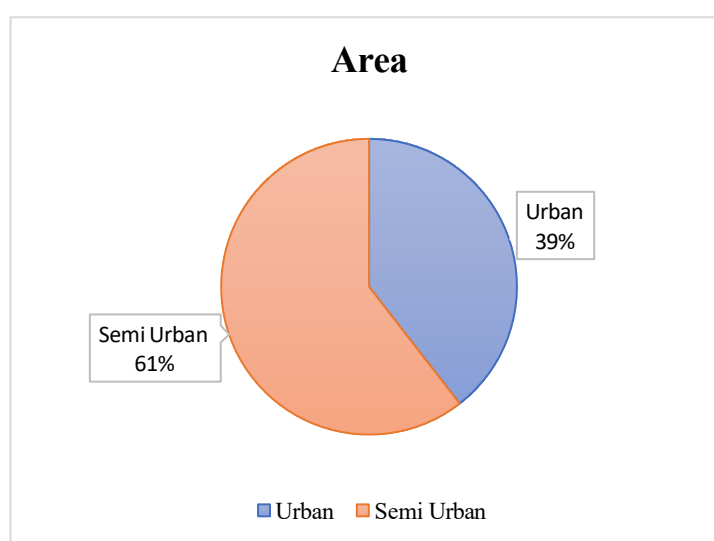


Figure 4. 6 Area

The area-wise distribution of respondents shows that a majority come from semi-urban regions, accounting for more than half of the total sample. This suggests that the study predominantly reflects the views and experiences of individuals residing in developing or moderately urbanized areas, where access to modern facilities is growing but may still be limited compared to fully urban centers. Respondents from urban areas make up a smaller yet substantial proportion, indicating meaningful representation from well-developed regions with greater exposure to technology, infrastructure, and services.

Current Working Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Part time Job	161	15.8	15.8	15.8
	Self Employed	132	12.9	12.9	28.7
	Full Time Job	718	70.4	70.4	99.1
	Part Time and Self Employed	9	.9	.9	100.0
	Total	1020	100.0	100.0	

Table 4. 7 Current Working Status

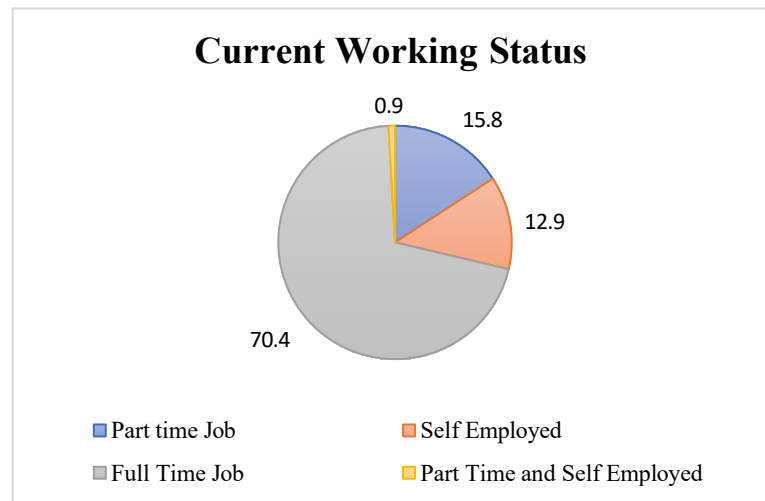


Figure 4. 7 Current Working Status

The data on current working status reveals that a large majority of respondents are engaged in full-time employment, accounting for over two-thirds of the total sample. This indicates that most participants have stable and regular work commitments, which may influence their financial stability, decision-making behavior, and lifestyle patterns. A smaller yet notable portion of respondents are involved in part-time jobs, suggesting participation from individuals who may be students, early-career professionals, or those balancing multiple responsibilities. Additionally, a fair number of respondents identify as self-employed, representing entrepreneurs or individuals managing their own businesses. A very small fraction of the sample is engaged in both part-time work and self-employment, reflecting limited instances of dual engagement.

Earning Members in Family					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One	98	9.6	9.6	9.6
	Two	534	52.4	52.4	62.0
	Three	243	23.8	23.8	85.8
	More than Three	145	14.2	14.2	100.0
	Total	1020	100.0	100.0	

Table 4. 8 Earning Members in Family

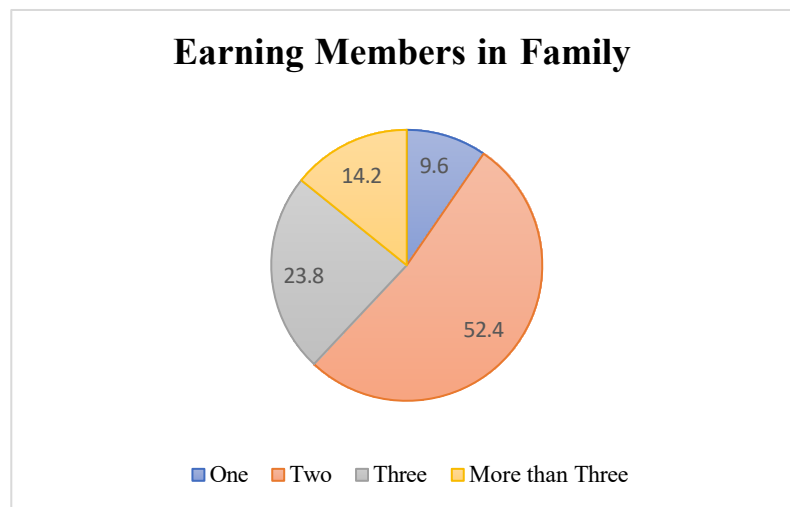


Figure 4. 8 Earning Members in Family

The data on the number of earning members in the family indicates that the majority of respondents belong to households with two earning members, representing more than half of the total sample. This suggests a prevalence of dual-income families, which may contribute to greater financial stability and purchasing capacity within these households. A significant portion of respondents come from families with three earning members, reflecting a relatively high level of economic participation among family members. Smaller segments of the sample include families with only one earning member, indicating households that may rely on a single source of income, and those with more than three earning members, representing financially stronger families with multiple contributors. Overall, the distribution highlights that most respondents come from economically active families with shared earning responsibilities, which could positively influence their spending behavior and financial decision-making.

Number of Dependent in Family					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	322	31.6	31.6	31.6
	Upto 2	467	45.8	45.8	77.4
	3 to 4	162	15.9	15.9	93.2
	5 to 6	53	5.2	5.2	98.4
	More than 6	16	1.6	1.6	100.0
	Total	1020	100.0	100.0	

Table 4. 9 No. of Dependent in Family

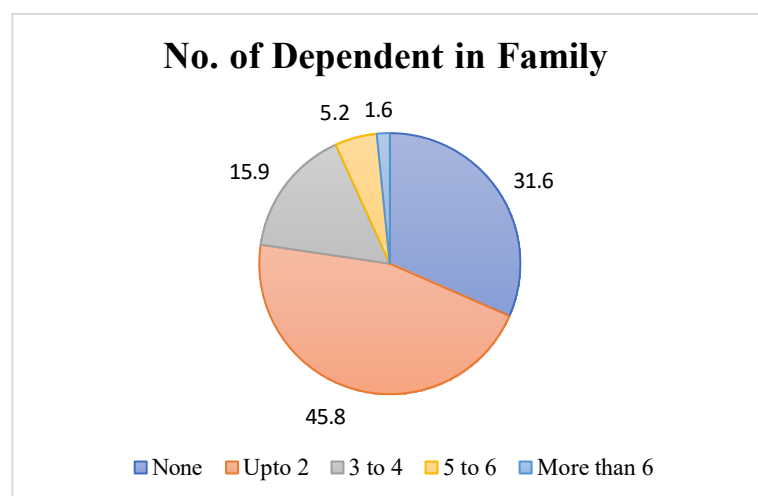


Figure 4. 9 No. of Dependent in Family

The data on the number of dependents in the family shows that a majority of respondents have up to two dependents, representing nearly half of the total sample. This suggests that most families are relatively small and likely to have manageable financial responsibilities. A considerable proportion of respondents reported having no dependents, indicating a segment of the population that may consist of single individuals or couples without dependents, potentially allowing for greater financial flexibility and savings. A smaller share of respondents have between three and four dependents, while very few reported having five or more dependents, reflecting the presence of larger families within a limited section of the sample. Overall, the distribution suggests that the majority of respondents live in households with few or no dependents, indicating a demographic trend toward smaller family sizes and potentially lower financial dependency burdens.

Monthly Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to Rs. 10,000	278	27.3	27.3	27.3
	Rs. 10,001 to Rs. 25,000	300	29.4	29.4	56.7
	Rs. 25,001 to Rs. 40,000	163	16.0	16.0	72.6
	Rs. 40,001 to Rs. 60,000	147	14.4	14.4	87.1
	More than Rs. 60,000	132	12.9	12.9	100.0
	Total	1020	100.0	100.0	

Table 4. 10 Monthly Income

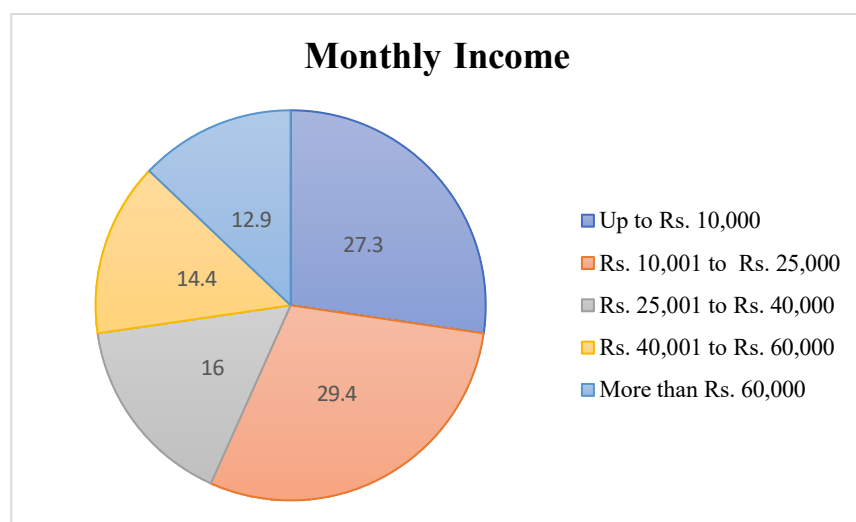


Figure 4. 10 Monthly Income

The data on monthly income reveals a diverse economic profile among the respondents, with a noticeable concentration in the lower to middle-income ranges. The largest group of respondents falls within the income bracket of Rs. 10,001 to Rs. 25,000 per month, representing close to one-third of the total sample. This is followed by those earning up to Rs. 10,000, indicating that a substantial proportion of the respondents belong to the lower-income segment. A moderate number of participants report monthly incomes between Rs. 25,001 and Rs. 40,000, suggesting a growing middle-income group within the sample. A smaller yet significant portion earns between Rs. 40,001 and Rs. 60,000, while the highest income group, earning above Rs. 60,000 per month, forms a relatively limited share of the total respondents. Overall, the data suggests that while the study includes individuals from all income levels, it is primarily dominated by respondents from lower and middle-income categories, reflecting a balanced yet modest financial representation.

Awareness about the Investment Options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	630	61.8	61.8	61.8
	No	227	22.3	22.3	84.0
	May Be	163	16.0	16.0	100.0
	Total	1020	100.0	100.0	

Table 4. 11 Awareness about the Investment Options

The data on awareness about investment options indicates that a majority of respondents are knowledgeable about various investment avenues, with nearly two-thirds answering affirmatively. This suggests that a significant portion of the sample has at least a basic understanding of financial

instruments, which could influence their investment decisions and financial behaviour. A smaller segment of respondents reported not being aware of investment options, representing just over one-fifth of the total, highlighting the presence of individuals who may require guidance or education on financial matters. Additionally, a notable proportion of respondents expressed uncertainty, indicating that while they may have some exposure to investment concepts, their understanding is not complete. Overall, the data suggests that awareness of investment options is relatively high among the respondents, though there remains scope for enhancing knowledge among those who are unsure or unaware.

Investment in Financial in Product					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	801	78.5	78.5	65.7
	No	219	21.5	21.5	100.0
	Total	1020	100.0	100.0	

Table 4. 12 Investment in Financial Product

The data on investment in financial products shows that a majority of respondents have actively invested in such products, accounting for nearly two-thirds of the total sample. This indicates a strong participation in financial markets and suggests that a significant portion of the respondents are engaged in managing and growing their personal wealth.

A smaller proportion, slightly more than one-third, reported not investing in financial products, reflecting a segment of the population that may be cautious, risk-averse, or lacking sufficient knowledge or resources to participate in investments. Overall, the data highlights a positive trend of financial engagement among the respondents, with a clear majority taking steps toward investment and wealth management.

Portion of Income Invested					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	219	21.5	21.5	21.5
	up to 10%	352	34.5	34.5	56.0
	10% - 20%	242	23.7	23.7	79.7
	20% - 30%	122	12.0	12.0	91.7
	30% - 40%	60	5.9	5.9	97.5

	More than 40%	25	2.5	2.5	100.0
	Total	1020	100.0	100.0	

Table 4. 13 Portion of Income Invested

The data on the portion of income invested reveals that the majority of respondents invest a relatively small percentage of their income in financial products. Around one-third of respondents invest up to 10% of their income, indicating a cautious approach toward saving and investment. Another notable segment invests between 10% and 20%, showing a moderate level of financial engagement. Smaller proportions of respondents allocate larger portions of their income, with only a limited number investing between 20% and 30%, 30% and 40%, or more than 40%, reflecting a conservative investment behavior among most participants. Additionally, a significant segment reported “Not Applicable,” likely representing individuals who do not currently invest, either due to lack of resources, awareness, or other personal reasons. Overall, the data suggests that while most respondents participate in investments, they tend to commit a modest portion of their income, indicating cautious financial planning and risk management.

4.2 Financial Product Awareness:

Awareness for Bank Fixed Deposits					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	412	40.4	40.4	40.4
	Very Much Aware	243	23.8	23.8	64.2
	Moderately Aware	192	18.8	18.8	83.0
	Slightly Aware	113	11.1	11.1	94.1
	Not at all Aware	60	5.9	5.9	100.0
	Total	1020	100.0	100.0	

Table 4. 14 Awareness for Bank Fixed Deposits

The data on awareness of bank fixed deposits indicates that a majority of respondents have a high level of knowledge about this investment option. Around two-thirds of participants are either extremely aware or very much aware, suggesting that fixed deposits are widely recognized and understood among the sample. A smaller portion of respondents are moderately aware, while fewer individuals report being slightly aware or not at all aware, reflecting limited familiarity among a minority.

Awareness for Public Provident / Pension Fund					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	196	19.2	19.2	19.2
	Very Much Aware	242	23.7	23.7	42.9
	Moderately Aware	278	27.3	27.3	70.2
	Slightly Aware	181	17.7	17.7	87.9
	Not at all Aware	123	12.1	12.1	100.0
	Total	1020	100.0	100.0	

Table 4. 15 Awareness for Public Provident fund

The data on awareness of Public Provident Fund (PPF) and pension fund schemes shows a mixed level of familiarity among respondents. While a portion of the sample—around 43%—is highly aware, either extremely or very much aware, the largest single group is moderately aware, indicating general but not in-depth knowledge of these investment options.

A smaller segment is slightly aware, and about 12% of respondents report no awareness at all, reflecting gaps in understanding among a notable minority.

Awareness for Post Office savings					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	248	24.3	24.3	24.3
	Very Much Aware	287	28.1	28.1	52.5
	Moderately Aware	211	20.7	20.7	73.1
	Slightly Aware	172	16.9	16.9	90.0
	Not at all Aware	102	10.0	10.0	100.0
	Total	1020	100.0	100.0	

Table 4. 16 Awareness for Post Office Savings

The data on awareness of Post Office savings schemes indicates that a majority of respondents have a moderate to high level of knowledge about this investment option. Around half of the respondents are extremely or very much aware, suggesting that Post Office savings schemes are fairly well recognized. An additional segment is moderately aware, showing general familiarity without in-depth understanding. Smaller portions of respondents are slightly aware or not at all aware, reflecting limited knowledge among a minority.

Awareness for Mutual Funds					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	207	20.3	20.3	20.3
	Very Much Aware	256	25.1	25.1	45.4
	Moderately Aware	261	25.6	25.6	71.0
	Slightly Aware	196	19.2	19.2	90.2
	Not at all Aware	100	9.8	9.8	100.0
	Total	1020	100.0	100.0	

Table 4. 17 Awareness for Mutual Fund

The data on awareness of mutual funds shows a varied level of familiarity among respondents. Around 45% of participants are highly aware, being either extremely or very much aware of mutual funds, indicating a strong recognition of this investment option among nearly half the sample. The largest single group is moderately aware, reflecting general knowledge without detailed understanding. Smaller segments are slightly aware or not aware at all, indicating that a notable portion of respondents has limited or no familiarity with mutual funds.

Awareness for Life Insurance Policies					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	259	25.4	25.4	25.4
	Very Much Aware	245	24.0	24.0	49.4
	Moderately Aware	222	21.8	21.8	71.2
	Slightly Aware	177	17.4	17.4	88.5
	Not at all Aware	117	11.5	11.5	100.0
	Total	1020	100.0	100.0	

Table 4. 18 Awareness for Life Insurance Policies

The data on awareness of life insurance policies indicates that a significant portion of respondents are well-informed about this investment option. Around half of the sample is either extremely aware or very much aware, showing strong recognition and understanding among these respondents. Another notable segment is moderately aware, reflecting general familiarity without detailed knowledge. Smaller portions are slightly aware or not at all aware, indicating that a minority of respondents have limited or no understanding of life insurance policies. Overall, the findings suggest that life insurance

policies are widely recognized, though there is still scope to improve awareness among less informed individuals.

Awareness for Government Securities					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	138	13.5	13.5	13.5
	Very Much Aware	209	20.5	20.5	34.0
	Moderately Aware	284	27.8	27.8	61.9
	Slightly Aware	270	26.5	26.5	88.3
	Not at all Aware	119	11.7	11.7	100.0
	Total	1020	100.0	100.0	

Table 4. 19 Awareness for Government Securities

The data on awareness of government securities indicates that respondents have a relatively low to moderate level of knowledge about this investment option. Only a small portion of participants are extremely or very much aware, together accounting for about one-third of the sample. The largest groups are moderately aware and slightly aware, suggesting that most respondents have limited familiarity or understanding of government securities. A smaller segment is not aware at all, reflecting a lack of knowledge among a minority. Overall, the findings suggest that government securities are not widely recognized or well-understood by respondents, highlighting the need for increased financial education in this area.

Awareness for Stock Market Investments					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	188	18.4	18.4	18.4
	Very Much Aware	158	15.5	15.5	33.9
	Moderately Aware	208	20.4	20.4	54.3
	Slightly Aware	276	27.1	27.1	81.4
	Not at all Aware	190	18.6	18.6	100.0
	Total	1020	100.0	100.0	

Table 4. 20 Awareness for Stock Market Investment

The data on awareness of stock market investments indicates that respondents have a varied and generally moderate level of knowledge about this investment option. Only a small portion, around one-third of the sample, is highly aware, being extremely or very much aware.

The largest groups are slightly aware and moderately aware, suggesting that most respondents have limited familiarity or partial understanding of stock market investments. A significant minority is not aware at all, reflecting low recognition among some participants. Overall, the findings suggest that awareness of stock market investments is relatively low compared to more common financial instruments, highlighting the need for targeted education and awareness initiatives.

Awareness for Precious Metals (Gold, Silver, Etc.)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Aware	307	30.1	30.1	30.1
	Very Much Aware	221	21.7	21.7	51.8
	Moderately Aware	173	17.0	17.0	68.7
	Slightly Aware	168	16.5	16.5	85.2
	Not at all Aware	151	14.8	14.8	100.0
	Total	1020	100.0	100.0	

Table 4. 21 Awareness for Precious Metals

The data on awareness of precious metals, including gold and silver, shows that a significant portion of respondents are well aware of this investment option. Around half of the participants are either extremely or very much aware, indicating strong recognition and understanding. A smaller portion is moderately aware, while the remaining respondents are slightly aware or not aware at all, reflecting limited knowledge among a notable minority. Overall, the findings suggest that precious metals are widely recognized as an investment avenue, though there is room to improve awareness among those with lesser familiarity.

4.3 Financial Attitude

I find it more satisfying to spend money than to save it for the long term					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	55	5.4	5.4	5.4
	Disagree	85	8.3	8.3	13.7
	Neutral	364	35.7	35.7	49.4
	Agree	351	34.4	34.4	83.8

	Completely Agree	165	16.2	16.2	100.0
	Total	1020	100.0	100.0	

Table 4. 22 Financial Attitude_1

The data on financial attitude reveals that the majority of respondents hold a neutral to positive view toward spending money rather than saving it for the long term. Specifically, 35.7% of respondents remained neutral, indicating a balanced or indifferent attitude toward spending versus saving. Additionally, a significant proportion, 34.4%, agreed, and 16.2% completely agreed with the statement, suggesting that nearly half of the participants find more satisfaction in spending money than in saving it. On the other hand, only a small portion of respondents disagreed (8.3%) or completely disagreed (5.4%), indicating that a relatively low number of individuals strongly prioritize long-term savings over immediate spending. Overall, the findings suggest that while a moderate number of individuals are cautious or neutral, there is a noticeable inclination among respondents toward a spending-oriented financial attitude rather than a saving-oriented one.

I am prepared to risk some of my own money when saving or making an investment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	90	8.8	8.8	8.8
	Disagree	117	11.5	11.5	20.3
	Neutral	257	25.2	25.2	45.5
	Agree	357	35.0	35.0	80.5
	Completely Agree	199	19.5	19.5	100.0
	Total	1020	100.0	100.0	

Table 4. 23 Financial Attitude_2

The responses indicate that a majority of the participants demonstrate a positive attitude toward taking financial risks when saving or investing their money. Specifically, 35% of respondents agreed and 19.5% completely agreed that they are prepared to risk some of their own money, suggesting a considerable level of risk tolerance among investors. Meanwhile, 25.2% of respondents remained neutral, reflecting uncertainty or a balanced perspective toward financial risk-taking. On the other hand, 11.5% disagreed and 8.8% completely disagreed, representing a smaller proportion of individuals who are risk-averse and prefer safer investment options. Overall, the findings reveal that most respondents are open to calculated financial risks, indicating a proactive and confident attitude toward investment opportunities that may involve some degree of uncertainty.

Money is there to be spent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	144	14.1	14.1	14.1
	Disagree	168	16.5	16.5	30.6
	Neutral	344	33.7	33.7	64.3
	Agree	254	24.9	24.9	89.2
	Completely Agree	110	10.8	10.8	100.0
	Total	1020	100.0	100.0	

Table 4. 24 Financial Attitude_3

The data indicates that respondents hold mixed views regarding the statement “Money is there to be spent.” The largest proportion, 33.7%, expressed a neutral opinion, suggesting that many individuals maintain a balanced outlook between spending and saving. However, a considerable share of respondents—24.9% agreed and 10.8% completely agreed—believe that money should primarily be used for spending, highlighting a tendency among some individuals toward a consumption-oriented mindset. Conversely, 16.5% disagreed and 14.1% completely disagreed, reflecting a segment of respondents who favor financial prudence and saving over spending. Overall, the findings suggest that while a majority of respondents are either neutral or inclined toward spending, there remains a significant portion that values saving, indicating diverse financial attitudes within the group.

I am satisfied with my present financial situation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	91	8.9	8.9	8.9
	Disagree	118	11.6	11.6	20.5
	Neutral	244	23.9	23.9	44.4
	Agree	354	34.7	34.7	79.1
	Completely Agree	213	20.9	20.9	100.0
	Total	1020	100.0	100.0	

Table 4. 25 Financial Attitude_4

The data reveals that a majority of respondents are content with their current financial situation. Specifically, 34.7% agreed and 20.9% completely agreed with the statement, indicating that more than half of the participants experience financial satisfaction and stability. Meanwhile, 23.9% of

respondents remained neutral, suggesting that they neither feel dissatisfied nor particularly satisfied with their finances, possibly reflecting uncertainty or moderate financial comfort. On the other hand, 11.6% disagreed and 8.9% completely disagreed, representing a smaller segment of individuals who are dissatisfied with their financial circumstances. Overall, the findings suggest that most respondents hold a positive outlook on their present financial condition, reflecting a sense of confidence and contentment in managing their financial resources.

I keep a close personal watch on my financial affairs					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	7	.7	.7	.7
	Disagree	216	21.2	21.2	21.9
	Neutral	509	49.9	49.9	71.8
	Agree	277	27.2	27.2	98.9
	Completely Agree	11	1.1	1.1	100.0
	Total	1020	100.0	100.0	

Table 4. 26 Financial Attitude_5

The data indicates that most respondents adopt a moderate approach toward monitoring their financial affairs. Nearly half of the participants (49.9%) expressed neutrality, suggesting that they neither actively manage their finances closely nor completely neglect them. Additionally, 27.2% agreed and 1.1% completely agreed with the statement, showing that about one-third of respondents do keep an active watch over their financial matters. Conversely, 21.2% disagreed and 0.7% completely disagreed, indicating that a minority of respondents are less attentive to personal financial management. Overall, the findings suggest that while a considerable portion of respondents are somewhat involved in overseeing their finances, there is room for improvement in developing stronger financial awareness and proactive money management habits.

My financial situation limits my ability to do the things that are important to me					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	6	.6	.6	.6
	Disagree	203	19.9	19.9	20.5
	Neutral	536	52.5	52.5	73.0
	Agree	269	26.4	26.4	99.4

	Completely Agree	6	.6	.6	100.0
	Total	1020	100.0	100.0	

Table 4. 27 Financial Attitude_6

The data shows that a majority of respondents maintain a neutral stance regarding the impact of their financial situation on their ability to pursue important activities. Specifically, 52.5% of participants selected the neutral option, indicating uncertainty or a balanced view about whether their finances restrict their personal goals. Meanwhile, 26.4% agreed and 0.6% completely agreed, suggesting that around one-fourth of respondents feel that their financial situation does impose certain limitations on their desired activities. On the other hand, 19.9% disagreed and 0.6% completely disagreed, representing individuals who feel financially secure enough to meet their priorities without major restrictions. Overall, the findings suggest that while most respondents neither strongly agree nor disagree, a noticeable proportion experiences some degree of financial constraint that affects their ability to fulfill important personal aspirations.

I set long term financial goals and strive to achieve them					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	5	.5	.5	.5
	Disagree	153	15.0	15.0	15.5
	Neutral	584	57.3	57.3	72.7
	Agree	268	26.3	26.3	99.0
	Completely Agree	10	1.0	1.0	100.0
	Total	1020	100.0	100.0	

Table 4. 28 Financial Attitude_7

The data reveals that the majority of respondents hold a neutral attitude toward setting and pursuing long-term financial goals. Specifically, 57.3% of participants chose the neutral option, suggesting that while they may recognize the importance of financial planning, they might not actively engage in structured goal-setting. Meanwhile, 26.3% agreed and 1.0% completely agreed, indicating that around one-fourth of respondents are proactive and intentional about defining and working toward long-term financial objectives. Conversely, 15.0% disagreed and 0.5% completely disagreed, representing individuals who lack focus or motivation in establishing long-term financial plans. Overall, the findings suggest that while a small but meaningful group of respondents demonstrates goal-oriented financial behavior, most individuals display passivity or uncertainty regarding long-term financial planning and commitment.

I believe that money in a bank will be safe even if the bank fails					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	60	5.9	5.9	5.9
	Disagree	87	8.5	8.5	14.4
	Neutral	364	35.7	35.7	50.1
	Agree	340	33.3	33.3	83.4
	Completely Agree	169	16.6	16.6	100.0
	Total	1020	100.0	100.0	

Table 4. 29 Financial Attitude_8

The data indicates that most respondents hold a generally positive level of trust in the safety of money kept in banks, even in the event of bank failure. Specifically, 33.3% agreed and 16.6% completely agreed with the statement, showing that nearly half of the respondents have confidence in the banking system's security mechanisms, such as deposit insurance and government protection. Meanwhile, 35.7% remained neutral, reflecting uncertainty or limited awareness about how financial safeguards operate in such situations. On the other hand, 8.5% disagreed and 5.9% completely disagreed, indicating a small but notable portion of respondents who are skeptical about the safety of their deposits. Overall, the findings suggest that while trust in banks remains relatively high among respondents, a significant share still lacks full confidence or clarity regarding the protection of their money in case of institutional failure.

I have too much debt right now					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	90	8.8	8.8	8.8
	Disagree	120	11.8	11.8	20.6
	Neutral	246	24.1	24.1	44.7
	Agree	356	34.9	34.9	79.6
	Completely Agree	208	20.4	20.4	100.0
	Total	1020	100.0	100.0	

Table 4. 30 Financial Attitude_9

The data reveals that a substantial portion of respondents perceive themselves as being burdened with debt. Specifically, 34.9% agreed and 20.4% completely agreed with the statement, indicating that more than half of the participants acknowledge having a significant level of debt at present. Meanwhile, 24.1% of respondents remained neutral, suggesting uncertainty about their debt levels or perhaps

perception of manageable indebtedness. On the other hand, 11.8% disagreed and 8.8% completely disagreed, representing a smaller group of financially stable individuals who feel comfortable with their current liabilities. Overall, the findings suggest that debt is a notable concern among the respondents, with many feeling financially strained or burdened by their obligations, highlighting the need for improved debt management and financial planning strategies.

If I borrow money I have a responsibility to pay it back					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely Disagree	3	.3	.3	.3
	Disagree	117	11.5	11.5	11.8
	Neutral	559	54.8	54.8	66.6
	Agree	329	32.3	32.3	98.8
	Completely Agree	12	1.2	1.2	100.0
	Total	1020	100.0	100.0	

Table 4. 31 Financial Attitude_10

The data shows that a majority of respondents hold a neutral stance regarding the responsibility to repay borrowed money. Specifically, 54.8% of participants selected the neutral option, suggesting either uncertainty or a moderate sense of financial accountability. Meanwhile, 32.3% agreed and 1.2% completely agreed, indicating that about one-third of respondents recognize and uphold the ethical and financial responsibility of repaying borrowed funds. Conversely, 11.5% disagreed and a very small proportion (0.3%) completely disagreed, reflecting a minor group that may lack strong awareness or concern about repayment obligations. Overall, the findings suggest that while a notable portion of respondents acknowledge the importance of repaying debts, a large share remains indifferent or uncertain, pointing toward the need for greater emphasis on financial ethics and responsible borrowing behavior.

4.4 Financial Behavior

I tend to worry about paying my normal living expenses					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	5	.5	.5	.5
	Rarely	25	2.5	2.5	2.9

	Sometimes	210	20.6	20.6	23.5
	Often	595	58.3	58.3	81.9
	Always	185	18.1	18.1	100.0
	Total	1020	100.0	100.0	

Table 4. 32 Financial Behaviour_1

The data indicates that a majority of respondents frequently experience concern about managing their regular living expenses. Specifically, 58.3% of participants stated that they often worry, while 18.1% reported that they always worry about meeting their daily financial obligations. This suggests that over three-fourths of the respondents face some level of financial stress in handling routine expenses. Meanwhile, 20.6% sometimes worry, reflecting occasional financial pressure, and only a very small portion—2.5% rarely and 0.5% never—expressed little to no concern. Overall, the findings reveal that financial anxiety related to everyday living costs is widespread among respondents, highlighting potential challenges in maintaining consistent financial stability and effective budgeting practices.

My finances control my life					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	.3	.3	.3
	Rarely	19	1.9	1.9	2.2
	Sometimes	196	19.2	19.2	21.4
	Often	616	60.4	60.4	81.8
	Always	186	18.2	18.2	100.0
	Total	1020	100.0	100.0	

Table 4. 33 Financial Behaviour_2

The data reveals that a significant majority of respondents feel that their finances have a strong influence over their lives. Specifically, 60.4% indicated that their finances often control their life, while 18.2% stated that this is always the case. This shows that nearly four out of five respondents experience substantial financial dependence or constraint in their daily decisions. Additionally, 19.2% reported that their finances sometimes control their life, suggesting occasional financial pressure. In contrast, only a minimal number—1.9% rarely and 0.3% never—felt free from financial control. Overall, the findings highlight that financial concerns play a dominant role in shaping the respondents' lifestyle choices and sense of autonomy, reflecting widespread financial stress and limited flexibility in managing personal finances.

Before I buy something I carefully consider whether I can afford it					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	39	3.8	3.8	3.8
	Sometimes	520	51.0	51.0	54.8
	Often	453	44.4	44.4	99.2
	Always	8	.8	.8	100.0
	Total	1020	100.0	100.0	

Table 4. 34 Financial Behaviour_3

The data shows that the majority of respondents exhibit a cautious approach toward spending, often considering their financial capacity before making purchases. Specifically, 51% of participants indicated that they sometimes consider affordability, while 44.4% reported that they often do so. This suggests that most respondents demonstrate moderate financial awareness and decision-making restraint when it comes to spending. Only a very small proportion (0.8%) stated that they always assess affordability before buying, reflecting limited instances of strict financial discipline. Meanwhile, 3.8% admitted to rarely considering affordability, indicating impulsive spending behavior among a few individuals. Overall, the findings suggest that while respondents generally show mindful spending habits, there is room for improvement in consistently applying careful financial evaluation before making purchases.

I have money left over at the end of the month					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	.2	.2	.2
	Rarely	10	1.0	1.0	1.2
	Sometimes	187	18.3	18.3	19.5
	Often	588	57.6	57.6	77.2
	Always	233	22.8	22.8	100.0
	Total	1020	100.0	100.0	

Table 4. 35 Financial Behaviour_4

The data indicates that most respondents are able to manage their finances effectively enough to have some money left over at the end of the month. A majority, 57.6%, reported that they often have a financial surplus, while 22.8% stated that they always do, reflecting sound budgeting and controlled spending habits among a large portion of participants. Additionally, 18.3% mentioned that they

sometimes have money left, suggesting occasional challenges in balancing income and expenses. Only a very small percentage—1.0% rarely and 0.2% never—reported consistently running out of funds. Overall, the findings suggest that the majority of respondents demonstrate good financial management and spending discipline, allowing them to maintain savings or financial reserves at the end of each month.

I pay my bills on time					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	.1	.1	.1
	Rarely	21	2.1	2.1	2.2
	Sometimes	230	22.5	22.5	24.7
	Often	546	53.5	53.5	78.2
	Always	222	21.8	21.8	100.0
	Total	1020	100.0	100.0	

Table 4. 36 Financial Behaviour_5

The data reveals that most respondents display responsible financial behavior by paying their bills on time. A majority of 53.5% reported that they often make timely payments, while 21.8% stated that they always do so, indicating that nearly three-fourths of the participants regularly meet their financial obligations. Meanwhile, 22.5% sometimes pay their bills on time, reflecting occasional lapses possibly due to financial constraints or forgetfulness. Only a small percentage—2.1% rarely and 0.1% never—admitted to consistently missing payment deadlines. Overall, the findings suggest that respondents generally demonstrate good financial discipline and accountability, with most showing consistent commitment to maintaining their payment schedules and avoiding debt or penalties.

I share the passwords and PINs of my bank account with my close friends					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	16	1.6	1.6	1.6
	Sometimes	345	33.8	33.8	35.4
	Often	633	62.1	62.1	97.5
	Always	26	2.5	2.5	100.0
	Total	1020	100.0	100.0	

Table 4. 37 Financial Behaviour_6

The data indicates that a large majority of respondents tend to share sensitive financial information such as bank account passwords and PINs with close friends. Specifically, 62.1% reported that they often do so, while 33.8% stated that they sometimes share such details. This suggests that over 95% of respondents engage in this risky financial behavior to some extent, potentially compromising their financial security. Only a very small portion—1.6% rarely and 2.5% always—reported either minimal or constant sharing. Overall, the findings highlight a concerning trend of weak financial privacy and awareness among respondents, indicating a need for stronger financial literacy and caution regarding digital and banking security practices.

Before buying a financial product online I check if the provider is regulated in my country					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	6	.6	.6	.6
	Sometimes	339	33.2	33.2	33.8
	Often	659	64.6	64.6	98.4
	Always	16	1.6	1.6	100.0
	Total	1020	100.0	100.0	

Table 4. 38 Financial Behaviour_7

The data reveals that most respondents demonstrate cautious and responsible financial behavior when purchasing financial products online. A large majority, 64.6%, reported that they often check whether the provider is regulated in their country, while 1.6% stated that they always do so. This indicates a high level of financial awareness and concern for security among respondents. Meanwhile, 33.2% sometimes verify the provider's regulatory status, suggesting moderate awareness but inconsistent application of safe financial practices. Only a very small proportion (0.6%) rarely perform such checks, reflecting minimal attention to financial legitimacy. Overall, the findings suggest that respondents generally exhibit prudent financial behavior, prioritizing safety and regulatory compliance when engaging in online financial transactions.

I share information about my personal finances publicly online (e.g. on social media)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	5	.5	.5	.5
	Sometimes	338	33.1	33.1	33.6

	Often	660	64.7	64.7	98.3
	Always	17	1.7	1.7	100.0
	Total	1020	100.0	100.0	

Table 4. 39 Financial Behaviour_8

The data shows that a vast majority of respondents frequently share information about their personal finances publicly online. Specifically, 64.7% reported that they often do so, while 33.1% sometimes share such details. This indicates that nearly all respondents engage in this behavior to some extent, potentially exposing themselves to privacy risks or financial fraud. Only a very small percentage—0.5% rarely and 1.7% always—reported minimal or constant sharing. Overall, the findings highlight a concerning lack of caution and financial privacy awareness among respondents, suggesting the need for stronger digital literacy and education on protecting personal financial information in online spaces.

I buy goods and services that I do not need					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	.1	.1	.1
	Rarely	6	.6	.6	.7
	Sometimes	258	25.3	25.3	26.0
	Often	709	69.5	69.5	95.5
	Always	46	4.5	4.5	100.0
	Total	1020	100.0	100.0	

Table 4. 40 Financial Behaviour_9

The data indicates that a large majority of respondents tend to engage in unnecessary spending behavior. Specifically, 69.5% stated that they often buy goods and services they do not need, while 4.5% admitted to always doing so. This suggests that impulsive or non-essential purchasing is a common financial behavior among the participants.

Additionally, 25.3% reported that they sometimes make such purchases, reflecting occasional indulgence or weak spending discipline. Only a very small fraction—0.6% rarely and 0.1% never—claimed to avoid unnecessary buying altogether. Overall, the findings highlight a strong inclination toward impulsive consumption and a lack of strict financial control among respondents, indicating the need for improved budgeting awareness and responsible spending habits.

4.5 Measurement of Financial Numeracy:

Financial Numeracy Score:

Sr. No.	Variables	Correct	Incorrect	Don't Know
1	Compounding Interest	59.51%	12.25%	28.24%
2	Stock Risk	51.40%	48.60%	0.00%
3	Time Value of Money	38.24%	23.73	38.04%
4	Inflation	32.35%	36.67%	30.98
5	Bond Valuation	23.24%	36.08%	40.69
	Average	40.95%	31.47%	27.59%

Table 4. 41 Financial Numeracy Score

Compounding Interest

The results indicate that respondents demonstrate a relatively strong understanding of compounding interest, with 59.51% answering correctly. This is the highest correct response rate among all five financial concepts assessed, suggesting that individuals are more familiar with basic interest calculations, likely due to their exposure to bank savings, recurring deposits, fixed deposits, and loan products where compounding is commonly applied. However, the substantial proportion of “Don't Know” responses (28.24%) points to lingering uncertainty, implying that while many respondents may have some practical familiarity, conceptual clarity remains incomplete. The presence of 12.25% incorrect responses further reinforces the idea that although compounding interest is widely encountered in financial products, it is not universally understood in theoretical terms. Overall, the data suggests that respondents possess moderate awareness of compounding but require deeper conceptual understanding to make informed long-term financial decisions.

Stock Risk

The findings related to stock risk show that 51.40% of respondents correctly understand the risk-return nature of stock investments, indicating a moderate level of financial literacy in equity markets. However, the nearly equal share of incorrect responses (48.60%) reveals a highly polarized perception of stock-related risk. Unlike other topics where respondents often select “Don't Know,” here all participants attempted the question, reflecting that stock markets are widely discussed and familiar even to those who may not fully grasp the underlying principles. The high proportion of incorrect answers suggests prevalent misconceptions about volatility, market fluctuations, and long-term risk, implying that the exposure to market discussions may not always translate into accurate understanding.

This polarization highlights the need for investor education programs focused on risk comprehension, as misunderstanding stock risk can lead to poor investment choices, excessive risk aversion, or overconfidence in speculative behavior.

Time Value of Money

The results for the time value of money (TVM) reveal substantial gaps in financial numeracy. Only 38.24% of respondents answered correctly, while 38.04% selected “Don't Know,” indicating that a significant portion lacks confidence or familiarity with this fundamental financial concept. The remaining 23.73% answered incorrectly, reinforcing the observation that TVM is not well understood among respondents. TVM forms the foundation of financial decision-making related to savings, investment planning, loan comparisons, and retirement strategies, and the inability to grasp this principle may hinder individuals’ ability to assess future value, discounting, and opportunity cost effectively. The nearly equal distribution between incorrect and “Don't Know” responses suggests that respondents either guess without understanding or acknowledge their lack of knowledge. Overall, the low comprehension of TVM highlights a critical educational gap that could negatively influence long-term financial planning and wealth accumulation.

Inflation

The understanding of inflation among respondents appears quite limited, with only 32.35% answering correctly and a substantial proportion giving incorrect responses (36.67%). This pattern reveals that misconceptions about inflation are widespread, and many individuals may not fully understand how rising prices affect purchasing power, savings, or investments. Additionally, 30.98% of respondents admitted uncertainty by selecting “Don't Know,” reflecting a lack of conceptual clarity. Since inflation directly impacts everyday life and long-term financial planning, the low level of correct responses suggests that respondents might struggle to adjust their financial decisions to account for real returns or inflationary pressures. Such gaps may lead to inadequate preparation for future financial needs, especially in inflationary economic environments. Overall, the findings show that although inflation is a widely discussed economic phenomenon, its practical implications remain poorly understood by a large segment of the population.

Bond Valuation

Bond valuation emerged as the least understood concept, with only 23.24% of respondents answering correctly. The majority either provided incorrect answers (36.08%) or chose “Don't Know” (40.69%), indicating substantial knowledge deficiencies regarding fixed-income instruments. Bond pricing, yields, interest rate fluctuations, and duration are generally more complex financial topics and may

not be part of the typical financial exposure of the average individual. The very high “Don't Know” percentage highlights that many respondents are unfamiliar with bond markets altogether. This lack of understanding can prevent individuals from diversifying their investments, evaluating low-risk options, or making balanced portfolio decisions. The findings suggest that bonds, despite being critical components of long-term investment portfolios, remain inaccessible concepts for most respondents due to limited exposure, complexity, or lack of education on fixed-income financial instruments.

Overall Average Financial Numeracy:

The combined averages across all five financial numeracy components—40.95% correct, 31.47% incorrect, and 27.59% “Don't Know”—indicate that respondents possess only moderate financial numeracy, with significant room for improvement. While basic concepts such as compounding interest and stock market risk show relatively better comprehension, knowledge substantially declines as the complexity of the concept increases, particularly in areas such as time value of money, inflation, and bond valuation. The relatively high percentages of both incorrect and “Don't Know” responses reflect a blend of misconceptions and lack of exposure, signaling that individuals are not only uncertain but sometimes confidently wrong in their understanding of key financial principles. This combination may hinder effective financial decision-making, reduce participation in investment markets, and expose individuals to unnecessary financial risks. The results emphasize the need for targeted financial literacy programs that focus on fundamental concepts and advanced financial reasoning to improve financial capability and long-term financial well-being.

Total Score Frequency of Financial Numeracy:

Sr. No.	Number of Correct Answer	Frequency	% of Frequency
1	All Incorrect (- 5 Score)	4	0.39
2	4 Incorrect (- 4 Score)	20	1.96
3	3 Incorrect (- 3 Score)	79	7.75
4	2 Incorrect (- 2 Score)	81	7.94
5	1 Incorrect (- 1 Score)	239	23.43
6	Neutral (0 Score)	108	10.59
7	1 Correct (+ 1 Score)	198	19.41
8	2 Correct (+ 2 Score)	86	8.43
9	3 Correct (+ 3 Score)	77	7.55
10	4 Correct (+ 4 Score)	20	1.96
11	5 Correct (+ 5 Score)	108	10.59

Table 4. 42 Total Frequency of Financial Numeracy Score

The distribution of total financial numeracy scores reveals a clear picture of respondents' overall financial understanding. Only a very small proportion of participants fell into the lowest scoring categories, with 0.39% scoring completely incorrect and 1.96% scoring four incorrect responses, indicating that very few respondents lack all basic financial knowledge. As the number of incorrect answers decreases, the frequency of respondents increases, with 23.43% falling in the "1 Incorrect" category, representing the largest group. This suggests that while most respondents have some level of financial understanding, their knowledge may still be incomplete or inconsistent.

Further considerable 10.59% scored "Neutral" (zero), which indicates balanced performance with equal correct and incorrect answers, reflecting uncertainty or partial understanding of the concepts assessed. On the positive side, a significant proportion of respondents demonstrated strong financial numeracy, with 19.41% scoring "1 Correct," 8.43% scoring "2 Correct," and 7.55% scoring "3 Correct." Higher proficiency is further reflected by 1.96% achieving "4 Correct" and another 10.59% achieving a perfect score of "5 Correct." The overall pattern suggests that while a small minority struggles significantly with financial concepts, the majority of respondents possess moderate to strong levels of financial knowledge.

The distribution's gradual shift from lower to higher scores indicates a generally positive financial literacy trend, although the clustering around mid-level scores also highlights the need for targeted educational interventions to move a larger proportion of individuals toward higher performance levels.

Frequency Distribution:

Supposing you have Rs 100 in saving account and the interest rate is 2% per year. After 5 years, the money in your saving account would be.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than Rs. 102	607	59.5	59.5	59.5
	Exactly Rs. 102	94	9.2	9.2	68.7
	Less than Rs 102	31	3.0	3.0	71.8
	Don't Know	288	28.2	28.2	100.0
	Total	1020	100.0	100.0	

Table 4. 43 Interest Rate Calculation

The data indicates that a majority of respondents demonstrate a correct understanding of basic financial numeracy related to simple interest calculations. Specifically, 59.5% correctly answered that the amount would be more than Rs. 102 after 5 years at an annual interest rate of 2%, showing a satisfactory level of financial literacy among more than half of the participants. However, 9.2% believed it would be exactly Rs. 102, and 3% thought it would be less than Rs. 102, reflecting some confusion about how interest accumulates over time. Notably, 28.2% of respondents selected “Don’t know,” indicating a considerable portion lacking basic understanding of interest growth in savings. Overall, the findings suggest that while a majority possess fundamental financial numeracy skills, a significant minority still lack essential knowledge about interest calculation, highlighting the need for greater financial education and awareness.

Buying a single company's stock usually provides safer return than a stock mutual fund					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	False	524	51.4	51.4	51.4
	True	496	48.6	48.6	100.0
	Total	1020	100.0	100.0	

Table 4. 44 Investment Risk Knowledge

The data reveals that respondents are almost evenly divided in their understanding of investment risk diversification. A slight majority of 51.4% correctly recognized that the statement “Buying a single company’s stock usually provides safer returns than a stock mutual fund” is false, demonstrating an awareness that mutual funds generally offer greater safety through diversification. However, 48.6% of respondents incorrectly believed the statement to be true, indicating a substantial knowledge gap

regarding investment risk and portfolio diversification. Overall, the findings suggest that while just over half of the respondents possess accurate financial knowledge about investment safety, nearly half still misunderstand the comparative risk of individual stock investments versus mutual funds, emphasizing the need for improved investor education on risk management principles.

Presume that you inherit Rs 10,000 today (2019) and your sister inherits Rs 10,000 three years later in 2022. The richer person is					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	You	390	38.2	38.2	38.2
	Your Sister	104	10.2	10.2	48.4
	You both are equally Rich	138	13.5	13.5	62.0
	Don't Know	388	38.0	38.0	100.0
	Total	1020	100.0	100.0	

Table 4. 45 Time Value of Money Calculation

The data indicates a mixed understanding among respondents regarding the concept of the time value of money. Only 38.2% correctly identified that “you” would be richer if you inherited Rs. 10,000 earlier, as money received today holds more value due to its earning potential over time. Meanwhile, 10.2% incorrectly believed that the sister would be richer, and 13.5% thought both would be equally rich, showing confusion about how the value of money changes over time. Additionally, a significant 38% of respondents selected “Don’t know,” indicating uncertainty or lack of awareness of basic financial principles. Overall, the findings suggest that while a portion of respondents understand the time value of money, a large share either misunderstands or lacks knowledge about this fundamental financial concept, emphasizing the need for targeted financial literacy education.

Suppose that in the year 2022, your income has doubled, and prices of all goods (Day to Day Consumable) have doubled too. In 2022, with this income you would be able to buy					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than Today	202	19.8	19.8	19.8
	The Same	330	32.4	32.4	52.2
	Less than Today	172	16.9	16.9	69.0
	Don't Know	316	31.0	31.0	100.0
	Total	1020	100.0	100.0	

Table 4. 46 Inflation Rate Knowledge

The results reveal a considerable variation in respondents' understanding of inflation and purchasing power. Only 32.4% correctly identified that if both income and prices double, one would be able to buy "the same" amount of goods, reflecting an accurate grasp of real income stability under proportional inflation. However, 19.8% incorrectly believed they could buy more than today, while 16.9% thought they could buy less, showing confusion about the effects of inflation on real purchasing power. Additionally, 31% of respondents selected "Don't know," highlighting a notable gap in awareness regarding how inflation erodes the real value of money. Overall, the findings suggest that although some respondents demonstrate a sound understanding of inflation's impact, a large proportion either misinterpret or are unaware of the concept, indicating the need for enhanced financial education focused on inflation and real income understanding.

If interest rate rise, typically what happen to bond price?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	It will Fall	237	23.2	23.2	23.2
	It will stay same	95	9.3	9.3	32.5
	It will rise	273	26.8	26.8	59.3
	Don't Know	415	40.7	40.7	100.0
	Total	1020	100.0	100.0	

Table 4. 47 Bond Price Knowledge

The table indicates a limited understanding of the inverse relationship between interest rates and bond prices among respondents. Only 23.2% correctly recognized that when interest rates rise, bond prices typically fall, demonstrating a basic awareness of financial market dynamics. However, a larger portion of respondents showed misunderstanding: 26.8% believed bond prices would rise, while 9.3% thought they would remain unchanged. Notably, 40.7% of respondents selected "Don't know," reflecting a significant lack of knowledge regarding how interest rate fluctuations affect fixed-income securities. Overall, the results highlight a considerable gap in financial literacy, particularly in the area of investment instruments and market behavior, suggesting the need for greater financial education to improve understanding of how macroeconomic factors influence asset values.

4.6 Exploratory Factor Analysis

Reliability Test:

Reliability Statistics	
Cronbach's Alpha	N of Items
.873	32

Table 4. 48 Reliability Test

The Reliability Statistics table shows that the Cronbach's Alpha value is 0.873 for a total of 32 items. This indicates a high level of internal consistency among the items in the scale. In other words, the 32 statements or questions used in the study are measuring the same underlying construct reliably. A Cronbach's Alpha value above 0.7 is generally considered acceptable, while a value above 0.8 reflects strong reliability. Therefore, with an alpha of 0.873, the scale used in this research demonstrates excellent reliability, suggesting that the responses are consistent and dependable for further statistical analysis such as factor analysis, correlation, or regression.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.887
Bartlett's Test of Sphericity	Approx. Chi-Square	26566.677
	Df	351
	Sig.	.000

Table 4. 49 KMO and Bartlett's Test

The KMO and Bartlett's Test results indicate that the data is highly suitable for factor analysis. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.887, which is well above the acceptable threshold of 0.6, and even surpasses the ideal benchmark of 0.8, signifying excellent sampling adequacy. This means that the variables in the dataset share sufficient common variance to justify the application of factor analysis. The Bartlett's Test of Sphericity shows a Chi-square value of 26,566.677 with 351 degrees of freedom and a significance level (Sig.) of .000, which is less than 0.05. This indicates that the correlation matrix is not an identity matrix, meaning there are significant relationships among the variables.

Overall, these results confirm that the data is factorable and appropriate for further factor analysis, ensuring that the underlying structure among the variables can be meaningfully extracted and interpreted.

Communalities		
	Initial	Extraction
FPA_1	1.000	.441
FPA_2	1.000	.477
FPA_3	1.000	.491
FPA_4	1.000	.555
FPA_5	1.000	.601
FPA_6	1.000	.426
FPA_7	1.000	.479
FPA_8	1.000	.516
FA_1	1.000	.178
FA_2	1.000	.729
FA_3	1.000	.266
FA_4	1.000	.736
FA_5	1.000	.822
FA_6	1.000	.874
FA_7	1.000	.782
FA_8	1.000	.181
FA_9	1.000	.739
FA_10	1.000	.788
FB_1	1.000	.518
FB_2	1.000	.578
FB_3	1.000	.754
FB_4	1.000	.529
FB_5	1.000	.520
FB_6	1.000	.716
FB_7	1.000	.775
FB_8	1.000	.797
FB_9	1.000	.703
Extraction Method: Principal Component Analysis.		

Table 4. 50 Communalities

The Communalities Table provides insight into how much of the variance in each variable is explained by the extracted factors after performing Principal Component Analysis (PCA). The initial values for all variables are 1.000, as PCA assumes that each variable's total variance is initially 100%. The extraction values indicate the proportion of variance explained by the retained components.

Most variables have extraction values above 0.5, which suggests that these items are well represented by the extracted factors. Variables such as FA_5 (0.822), FA_6 (0.874), FA_7 (0.782), FA_9 (0.739), FA_10 (0.788), FB_3 (0.754), FB_7 (0.775), and FB_8 (0.797) have high communalities, meaning they strongly load on the extracted components and are key contributors to explaining the overall variance. Conversely, variables such as FA_1 (0.178), FA_3 (0.266), FA_8 (0.181), and FPA_6 (0.426) show lower communalities, indicating that these items are less effectively explained by the factor solution and may have weaker relationships with the underlying constructs.

Overall, the communalities suggest that the majority of variables demonstrate good representation and shared variance, indicating that the factor model effectively captures the structure within the data. However, a few items with low extraction values may need reconsideration or refinement for better model fit.

Total Variance Explained

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.917	29.322	29.322	5.928	21.955	21.955
2	5.123	18.975	48.297	5.750	21.297	43.252
3	2.931	10.857	59.154	4.293	15.902	59.154
4	2.564	9.496	68.650			
5	1.219	4.514	73.163			
6	.774	2.865	76.028			
7	.693	2.568	78.597			
8	.630	2.333	80.930			
9	.577	2.139	83.069			
10	.521	1.930	84.999			
11	.482	1.785	86.784			
12	.468	1.733	88.517			
13	.415	1.536	90.053			

14	.371	1.375	91.428			
15	.366	1.357	92.785			
16	.334	1.237	94.022			
17	.315	1.166	95.188			
18	.274	1.014	96.201			
19	.242	.896	97.097			
20	.209	.774	97.871			
21	.165	.610	98.482			
22	.145	.536	99.018			
23	.078	.289	99.307			
24	.070	.260	99.567			
25	.066	.244	99.812			
26	.031	.116	99.928			
27	.019	.072	100.000			

Table 4. 51 Total Variance Explained

The Total Variance Explained Table presents the results of Principal Component Analysis (PCA), indicating how much of the total variance in the dataset is explained by each extracted component before and after rotation. From the Initial Eigenvalues, it is evident that three components have eigenvalues greater than 1 — a common criterion (Kaiser’s rule) for determining the number of significant factors to retain. These three components explain a cumulative variance of 59.15%, which is considered quite satisfactory in social science research, as it shows that over half of the total data variability is captured by the extracted factors.

After rotation (Varimax method), the variance distribution becomes more balanced: Component 1 explains 21.96% of the variance, Component 2 explains 21.30%, and Component 3 explains 15.90%. These 3 are resulting in the same cumulative total variance of 59.15%. The rotation process redistributes the explained variance to achieve a clearer and more interpretable factor structure, ensuring that each variable loads more strongly on one factor and weakly on others. In summary, the three-factor solution provides a meaningful and statistically strong representation of the data. The 59.15% cumulative variance suggests that the identified components capture the majority of the underlying structure of financial literacy dimensions (e.g., financial awareness, attitudes, and behavior). This supports the adequacy of the factor model for further interpretation and analysis.

Rotated Component Matrix			
	Component		
	Financial Product Awareness	Financial Attitude	Financial Behaviour
FPA_1	.793		
FPA_6	.784		
FPA_5	.773		
FPA_4	.743		
FPA_8	.718		
FPA_3	.699		
FPA_7	.690		
FPA_2	.686		
FA_9		.853	
FA_4		.850	
FA_2		.846	
FA_10		.815	
FA_3		.758	
FA_6		.627	
FB_9			.803
FB_2			.758
FB_8			.732
FB_7			.731
FB_4			.726
FB_1			.718
FB_5			.717
Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization.			

Table 4. 52 Rotated Component Matrix

The Rotated Component Matrix presents the results of the Principal Component Analysis (PCA) after applying Equamax rotation with Kaiser Normalization, which helps in simplifying and clarifying the factor structure by redistributing variance among the components. Three distinct components have emerged — Financial Product Awareness, Financial Attitude, and Financial Behaviour — each defined by a strong set of variable loadings.

The first component, Financial Product Awareness, is represented by items FPA_1, FPA_2, FPA_3, FPA_4, FPA_5, FPA_6, FPA_7, and FPA_8, all of which have high loadings ranging from 0.686 to 0.793. This indicates that these variables are strongly interrelated and collectively capture the respondents' awareness and understanding of various financial products.

The second component, Financial Attitude, is defined by items FA_2, FA_3, FA_4, FA_6, FA_9, and FA_10, with factor loadings ranging between 0.627 and 0.853. These items reflect individuals' psychological tendencies, beliefs, and orientations toward managing finances, including their confidence, satisfaction, and risk perception in financial matters.

The third component, Financial Behaviour, includes items FB_1, FB_2, FB_4, FB_5, FB_7, FB_8, and FB_9, all showing strong loadings between 0.717 and 0.803. This component reflects the practical aspects of financial management, such as spending habits, saving discipline, payment timeliness, and decision-making regarding financial transactions.

Overall, the rotated matrix demonstrates a clear and interpretable three-factor solution, indicating that the variables are well-clustered under their respective dimensions. The high loading values across all three components confirm the construct validity and internal consistency of the scale used to measure financial literacy among respondents.

4.7 Structure Equation Model:

Measurement Model:

<u>Outer loadings</u>				
	Financial Attitude	Financial Behaviour	Financial Literacy	Financial Product Awareness
FA_10	0.809			
FA_2	0.926			
FA_4	0.929			
FA_6	0.591			
FA_9	0.934			
FB_1		0.700		
FB_2		0.733		
FB_4		0.656		
FB_7		0.868		
FB_8		0.874		
FB_9		0.845		
FN_1			0.895	
FN_3			0.894	
FN_4			0.800	
FPA_1				0.754
FPA_3				0.649
FPA_4				0.823
FPA_5				0.804
FPA_7				0.671

Table 4. 53 Measurement Model

The outer loadings presented in the table indicate the strength of the relationship between each observed variable (indicator) and its corresponding latent construct. For the construct Financial Attitude, all indicators show strong loadings, with values ranging from 0.591 to 0.934. Among these, items FA_9 (0.934), FA_4 (0.929), and FA_2 (0.926) exhibit very high loadings, signifying that they are the most reliable indicators of financial attitude, while FA_6 (0.591) shows a relatively weaker but still acceptable contribution.

For Financial Behaviour, the loadings range between 0.656 and 0.874, suggesting good construct reliability. Items FB_8 (0.874), FB_7 (0.868), and FB_9 (0.845) demonstrate strong associations with the latent construct, highlighting their importance in representing financial behaviour, whereas FB_4 (0.656) has the lowest loading but remains within acceptable limits. In the case of Financial Literacy, the loadings are all very high, ranging from 0.800 to 0.895, with FN_1 (0.895) and FN_3 (0.894) being the most influential indicators, followed by FN_4 (0.800). This reflects excellent internal consistency and strong representation of the construct.

Lastly, for Financial Product Awareness, the indicator loadings range from 0.649 to 0.823, showing a moderate to strong relationship. FPA_4 (0.823) and FPA_5 (0.804) have the highest loadings, implying that they are key indicators of financial product awareness, whereas FPA_3 (0.649) contributes comparatively less but remains acceptable. Overall, the results confirm that most items exhibit satisfactory reliability, indicating that the measurement model demonstrates strong indicator validity for all constructs.

<u>Construct reliability and validity</u>				
	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Attitude	0.895	0.912	0.926	0.719
Financial Behaviour	0.872	0.891	0.904	0.615
Financial Literacy	0.830	0.843	0.898	0.747
Financial Product Awareness	0.813	0.823	0.860	0.553

Table 4. 54 Construct Reliability and Validity

The results of construct reliability and validity indicate that all four constructs — Financial Attitude, Financial Behaviour, Financial Literacy, and Financial Product Awareness — demonstrate satisfactory internal consistency and convergent validity. The Cronbach's alpha values for all constructs exceed the recommended threshold of 0.70, confirming strong internal reliability. Specifically, Financial Attitude (0.895) and Financial Behaviour (0.872) show very high reliability, while Financial Literacy (0.830) and Financial Product Awareness (0.813) also meet the acceptable standard, suggesting consistency among their respective items. The composite reliability (rho_a and rho_c) values for all constructs range between 0.823 and 0.926, exceeding the benchmark value of 0.70, further confirming the robustness of the constructs.

Financial Attitude exhibits the highest composite reliability (rho_c = 0.926), indicating excellent internal consistency among its indicators, while Financial Product Awareness, though slightly lower

($\rho_c = 0.860$), still reflects good reliability. The average variance extracted (AVE) values for all constructs are above or close to the ideal cutoff of 0.50, establishing convergent validity. Financial Literacy (AVE = 0.747) and Financial Attitude (AVE = 0.719) display strong convergent validity, signifying that a substantial proportion of variance in their indicators is explained by their latent construct. Financial Behaviour (AVE = 0.615) and Financial Product Awareness (AVE = 0.553) also meet the acceptable standard, confirming that their indicators sufficiently represent the underlying constructs. Overall, these results indicate that the measurement model possesses high reliability and convergent validity across all constructs.

<u>Discriminant validity - Heterotrait-monotrait ratio (HTMT) - Matrix</u>				
	Financial Attitude	Financial Behaviour	Financial Literacy	Financial Product Awareness
Financial Attitude				
Financial Behaviour	0.348			
Financial Literacy	0.454	1.067		
Financial Product Awareness	0.357	0.096	0.079	

Table 4. 55 HTMT Matrix

The Heterotrait-Monotrait ratio (HTMT) results provide evidence regarding the discriminant validity of the constructs, which assesses whether each construct is truly distinct from the others in the model. Generally, an HTMT value below 0.85 (strict criterion) or 0.90 (lenient criterion) indicates acceptable discriminant validity. In this matrix, the HTMT values between Financial Attitude and the other constructs — Financial Behaviour (0.348), Financial Literacy (0.454), and Financial Product Awareness (0.357) — are all well below 0.85, indicating clear discriminant validity and minimal overlap among these constructs. Similarly, the relationships of Financial Product Awareness with Financial Behaviour (0.096) and Financial Literacy (0.079) also exhibit very low HTMT ratios, signifying strong distinctiveness between these variables.

However, the HTMT value between Financial Behaviour and Financial Literacy (1.067) exceeds the acceptable threshold of 0.90, suggesting a potential issue of discriminant validity between these two constructs.

This high value indicates that these two constructs may share overlapping content or measure similar behavioral tendencies related to financial management and understanding. Overall, the results suggest that while most constructs demonstrate satisfactory discriminant validity, the high HTMT ratio between Financial Behaviour and Financial Literacy warrants further investigation, as it indicates a

lack of clear distinction between these two dimensions. Refinement of measurement items or construct definitions may be necessary to strengthen discriminant validity in this area.

<u>R-square</u>		
	R-square	R-square adjusted
Financial Literacy	0.855	0.855

Table 4. 56 R-square

The R-square value for Financial Literacy is 0.855, with an adjusted R-square of the same magnitude (0.855), indicating a very strong level of explanatory power. This means that approximately 85.5% of the variance in Financial Literacy is explained by its predictor constructs included in the model. Such a high R-square value suggests that the model provides an excellent fit in explaining the variability of Financial Literacy based on the independent variables. The fact that the R-square and adjusted R-square values are identical implies that the model is stable and free from overfitting, meaning that the predictors included contribute meaningfully to explaining Financial Literacy without unnecessary complexity. In the context of behavioral or financial research, an R-square above 0.75 is considered substantial, according to Hair et al. (2019), reinforcing the model's robustness and predictive accuracy. Overall, these results confirm that the model demonstrates strong predictive relevance for Financial Literacy, indicating that the included independent constructs effectively explain the observed variance in this dependent variable.

<u>f-square</u>	
	Financial Literacy
Financial Attitude	0.058
Financial Behaviour	4.789
Financial Product Awareness	0.001

Table 4. 57 f-square

The f-square values measure the effect size of each predictor construct on the dependent variable — in this case, Financial Literacy — indicating the magnitude of their individual contributions to the R-square value. According to Cohen's (1988) guidelines, f-square values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. Based on the results, Financial Behaviour shows an exceptionally large effect on Financial Literacy, with an f-square value of 4.789, signifying that it is the dominant predictor and has a substantial influence on explaining variance in Financial Literacy. This highlights that behavioral aspects, such as financial management and decision-making practices, play a crucial role in shaping financial understanding.

In contrast, Financial Attitude has an f-square value of 0.058, indicating a small but meaningful effect on Financial Literacy. This suggests that individuals' attitudes toward finances—such as confidence, planning, and outlook—contribute modestly to their financial knowledge and literacy levels. Meanwhile, Financial Product Awareness exhibits an extremely low f-square value of 0.001, suggesting a negligible effect on Financial Literacy. This implies that awareness of financial products, by itself, does not significantly enhance an individual's financial literacy within this model.

Structured Equation Model:**Hypothesis / Linkages:****H1: Financial Attitude has a significant positive effect on Financial Literacy.**

This hypothesis suggests that individuals with a positive attitude toward financial matters—such as confidence, planning, and responsible financial outlook—are more likely to possess higher levels of financial literacy.

H2: Financial Behaviour has a significant positive effect on Financial Literacy.

This hypothesis proposes that individuals who engage in prudent financial behaviours—such as budgeting, saving, and managing expenses—tend to have greater financial knowledge and understanding, thereby enhancing their financial literacy.

H3: Financial Product Awareness has significant effect on Financial Literacy.

This hypothesis implies that merely being aware of financial products and services does not necessarily improve an individual's financial literacy, indicating that awareness alone is insufficient without proper understanding or behavioural application.

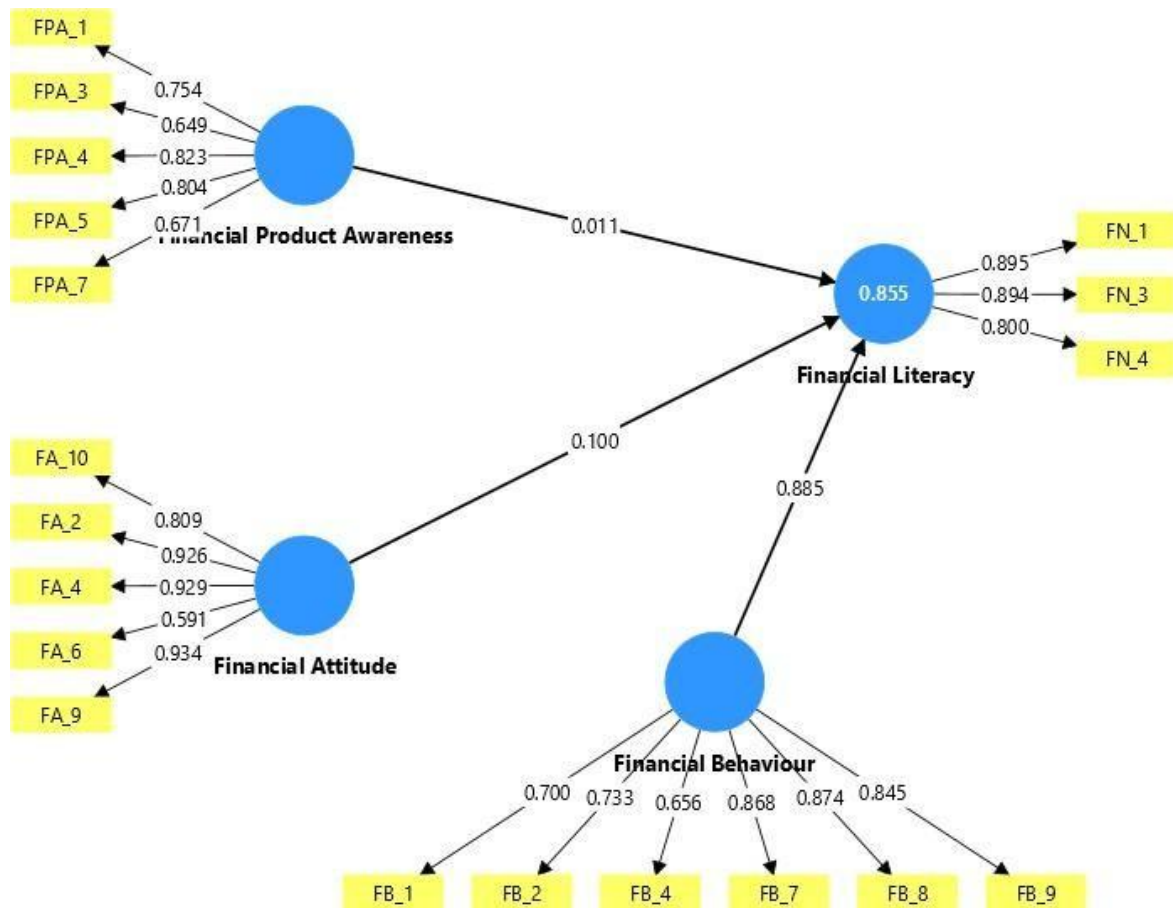
Path Diagram:

Figure 4. 11 Path Diagram

Path coefficients			
	Original sample	T statistics	P values
Financial Attitude -> Financial Literacy	0.100	8.300	0.000
Financial Behaviour -> Financial Literacy	0.885	116.836	0.000
Financial Product Awareness -> Financial Literacy	0.011	0.888	0.375

Table 4. 58 Path coefficients

The path coefficient results reveal the strength and significance of the relationships between the independent constructs and Financial Literacy. The path coefficient (β) represents the standardized relationship between constructs, while the t-statistic and p-value determine the statistical significance of these relationships. The path from Financial Behaviour to Financial Literacy shows a very strong positive relationship ($\beta = 0.885$, $t = 116.836$, $p = 0.000$), indicating that Financial Behaviour has a highly significant and substantial effect on Financial Literacy.

This means that individuals who demonstrate sound financial behaviors—such as budgeting, saving, and responsible spending—tend to have much higher levels of financial literacy. The path from Financial Attitude to Financial Literacy is also positive and statistically significant ($\beta = 0.100$, $t = 8.300$, $p = 0.000$), though the strength of the relationship is relatively weaker compared to Financial Behaviour. This suggests that a positive financial attitude contributes meaningfully to enhancing financial literacy, but its overall impact is modest.

On the other hand, the path from Financial Product Awareness to Financial Literacy ($\beta = 0.011$, $t = 0.888$, $p = 0.375$) is statistically insignificant, as the p-value exceeds the 0.05 threshold. This indicates that awareness or knowledge of financial products alone does not significantly influence an individual's financial literacy level.

Overall, Financial Behaviour is the most dominant and significant predictor of Financial Literacy, followed by a smaller yet significant contribution from Financial Attitude, while Financial Product Awareness has no significant effect in this model. These results align with behavioral finance theory, emphasizing that actual financial actions and responsible habits play a more critical role in enhancing financial literacy than mere awareness of financial instruments.

4.8 Differences in Demographic Profile regarding Financial Numeracy

Normality Test:

H0: data are normally distributed

H1: data are not normally distributed

Tests of Normality						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial Numeracy	.148	1020	.000	.947	1020	.000

Table 4. 59 Normality Test

The results of the normality tests indicate that the distribution of **Average Financial Numeracy** does not follow a normal distribution. The Kolmogorov–Smirnov test yielded a statistic of 0.148 with a significance value of 0.000, while the Shapiro–Wilk test reported a statistic of 0.947, also with a significance value of 0.000. In both tests, the p-value is below the conventional threshold of 0.05, leading to the rejection of the null hypothesis of normality. This clearly demonstrates that the data for average financial numeracy is significantly non-normal.

Differences in Two Categorical Variables:

Residential Area:

H0: there is no significant difference between urban and semi urban respondents' financial numeracy score

H1: there is significant difference between urban and semi urban respondents' financial numeracy score

Ranks					
	Area	N	Mean Rank	Sum of Ranks	Test Statistics
Financial Numeracy	Urban	403	543.63	219083.50	-2.939 (0.003)
	Semi Urban	617	488.86	301626.50	
	Total	1020			

Table 4. 60 Rank Analysis – Financial Numeracy and Area

The results of the rank-based analysis reveal a statistically significant difference in financial numeracy scores across residential areas. The mean rank for respondents residing in urban areas is 543.63, which is notably higher than the mean rank of 488.86 observed for respondents from semi-urban areas. This

indicates that individuals living in urban locations tend to have stronger financial numeracy compared to their semi-urban counterparts.

The test statistic ($Z = -2.939$) with a significance value of $p = 0.003$ confirms that the difference between the two groups is statistically significant at the 1% and 5% level. This means the variation in financial numeracy is not due to random chance but reflects meaningful disparities associated with geographical location. These suggests that urban residents may have better access to financial information, digital resources, banking services, and financial education opportunities, which collectively contribute to higher financial numeracy. Conversely, semi-urban areas may face greater barriers such as limited exposure to financial products, reduced financial awareness programs, or lower levels of formal education related to financial matters.

Marital Status:

H0: there is no significant difference between married and unmarried respondents' financial numeracy score

H1: there is significant difference between married and unmarried respondents' financial numeracy score

Ranks					
	MS	N	Mean Rank	Sum of Ranks	Test Statistics
Financial Numeracy	Unmarried	378	510.44	192945.00	-0.005 (0.996)
	Married	642	510.54	327765.00	
	Total	1020			

Table 4. 61 Rank Analysis – Financial Numeracy and Marital Status

The analysis examining financial numeracy across marital status shows no meaningful difference between unmarried and married respondents.

The test statistic ($Z = -0.005$) and the corresponding p-value of 0.996 clearly demonstrate that the difference between the two groups is statistically insignificant. Since the p-value is far greater than the 0.05 threshold, the null hypothesis of no difference cannot be rejected. This suggests that marital status does not influence financial numeracy and that both unmarried and married individuals possess comparable levels of financial understanding. These findings imply that financial knowledge is more likely influenced by other factors—such as education, income, occupation, or exposure to financial services—rather than marital status alone. Overall, the results indicate that financial numeracy remains consistent regardless of whether individuals are married or unmarried.

Differences in More than Two Categorical variables:**Age:**

H0: there is no significant difference among age categories regarding financial numeracy score

H1: there is significant difference among age categories regarding financial numeracy score

Ranks				
	Age	N	Mean Rank	Test Statistics
Financial Numeracy	18 - 30 Years	465	492.47	3.862 (0.277)
	31 – 45 Years	441	524.38	
	46 - 60 Years	101	537.52	
	More than 60 Years	13	474.31	
	Total	1020		

Table 4. 62 Rank Analysis – Financial Numeracy and Age

The results of the rank-based analysis across age groups indicate that financial numeracy levels vary slightly among different age categories, although these differences are not statistically significant. Respondents aged 18–30 years show a mean rank of 492.47, suggesting comparatively lower financial numeracy among younger individuals. The mean rank increases for the 31–45 years group (524.38) and reaches its highest level among the 46–60 years group (537.52), indicating that middle-aged individuals tend to possess better financial numeracy. This may be attributed to greater financial experience, higher involvement in financial planning, or longer exposure to financial products.

Despite these observable trends, the test statistic value of 3.862 with a significance level of 0.277 clearly indicates that the differences across age groups are not statistically significant. Since the p-value exceeds the 0.05 threshold, the null hypothesis of no difference cannot be rejected. This implies that age does not play a decisive role in determining financial numeracy among the sampled respondents, and that financial knowledge is relatively uniform across age brackets. The results suggest that factors other than age—such as education, financial exposure, or digital financial literacy—may have a stronger influence on financial numeracy levels.

Education:

H0: there is no significant difference among education categories regarding financial numeracy score

H1: there is significant difference among education categories regarding financial numeracy score

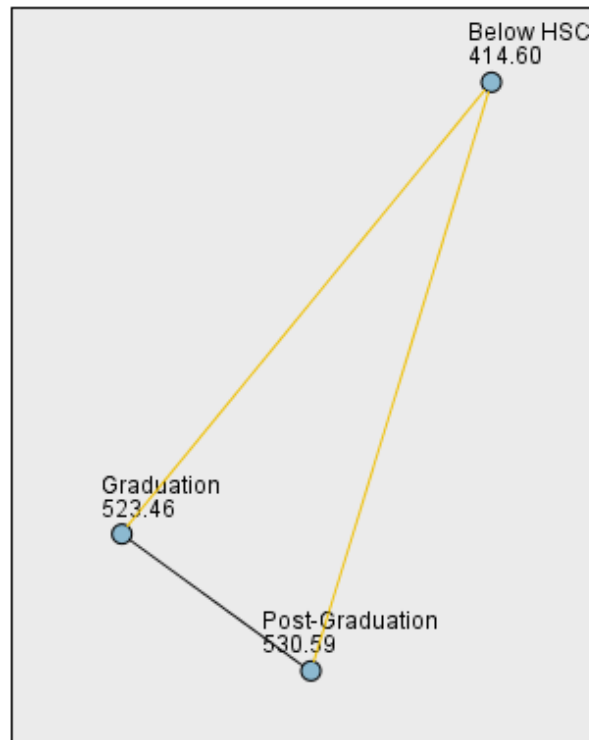
Ranks				
	Education	N	Mean Rank	Test Statistics
Financial Numeracy	Below HSC	150	414.60	19.237 (0.000)
	Graduation	434	523.46	
	Post-Graduation	436	530.59	
	Total	1020		

Table 4. 63 Rank Analysis – Financial Numeracy and Education

The Kruskal–Wallis test was conducted to examine whether Financial Numeracy differs significantly across different education levels—Below HSC, Graduation, and Post-Graduation. The results indicate a statistically significant difference among the groups, as reflected by the test statistic of 19.237 with a p-value of 0.000, which is below the 0.05 threshold. This suggests that education level has a meaningful impact on participants' Financial Numeracy. The mean ranks show a clear upward trend: individuals with Below HSC education have the lowest financial numeracy (Mean Rank = 414.60), while those with Graduation (523.46) and Post-Graduation (530.59) exhibit considerably higher financial numeracy. This pattern implies that higher educational attainment is associated with better financial numeracy skills. Overall, the findings highlight the important role of formal education in enhancing individuals' ability to understand and work with financial concepts.

Multiple Comparisons:

Pairwise Comparisons of Education



Each node shows the sample average rank of Education.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.
Below HSC-Graduation	-108.860	27.557	-3.950	.000	.000
Below HSC-Post-Graduation	-115.993	27.541	-4.212	.000	.000
Graduation-Post-Graduation	-7.133	19.728	-.362	.718	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 12 Multiple Comparison - Financial Numeracy and Education

The pairwise comparison results indicate significant differences in average ranks of education levels among respondents. Individuals with education Below HSC show substantially lower average ranks compared to those with Graduation and Post-Graduation, and these differences are statistically significant, as reflected in the adjusted p-values of .000 for both comparisons. This means that the responses or perceptions measured in the analysis vary significantly for the Below HSC group when compared with the higher education groups.

However, the comparison between Graduation and Post-Graduation shows no statistically significant difference (Adj. Sig. = 1.000), indicating that individuals in these two education categories exhibit similar response patterns. Overall, the findings suggest that education level influences the measured variable substantially, with the most pronounced differences observed between the least educated group (Below HSC) and the more educated groups.

Occupation:

H0: there is no significant difference among occupation categories regarding financial numeracy score

H1: there is significant difference among occupation categories regarding financial numeracy score

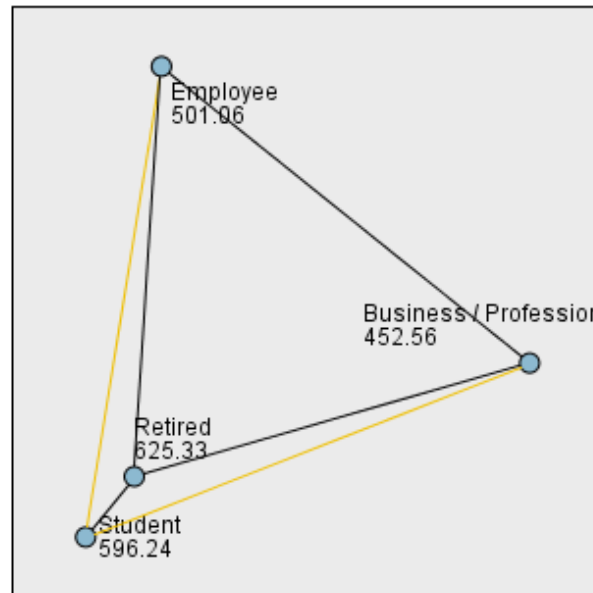
Ranks				
	Occupation	N	Mean Rank	Test Statistics
Financial Numeracy	Student	130	596.24	18.215 (0.000)
	Employee	780	501.06	
	Business / Profession	95	452.56	
	Retired	15	625.33	
	Total	1020		

Table 4. 64 Rank Analysis – Financial Numeracy and Occupation

The Kruskal–Wallis test was applied to investigate whether Financial Numeracy differs across various occupational categories, namely Students, Employees, Business/Profession individuals, and Retired respondents. The test yielded a statistically significant result, with a test statistic of 18.215 and a p-value of 0.000, indicating that Financial Numeracy varies meaningfully among the occupational groups. Examination of the mean ranks reveals notable differences: Retired individuals exhibit the highest financial numeracy (Mean Rank = 625.33), followed by Students (596.24), who also demonstrate relatively strong financial skills. Employees fall in the mid-range with a mean rank of 501.06, suggesting moderate financial numeracy. On the other hand, individuals engaged in Business or Profession show the lowest financial numeracy (452.56), contrary to common assumptions that business involvement enhances financial ability. Overall, the results suggest that financial numeracy is influenced by occupational status, with retirees and students performing better compared to employees and business professionals. This could reflect differences in exposure to financial decision-making, cognitive engagement with numerical tasks, or age-related experience among the groups.

Multiple Comparisons:

Pairwise Comparisons of Occupation



Each node shows the sample average rank of Occupation.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Business / Profession-Employee	48.500	31.617	1.534	.125	.750
Business / Profession-Student	143.684	39.272	3.659	.000	.002
Business / Profession-Retired	-172.775	80.837	-2.137	.033	.195
Employee-Student	95.184	27.563	3.453	.001	.003
Employee-Retired	-124.275	75.843	-1.639	.101	.608
Student-Retired	-29.091	79.339	-.367	.714	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 13 Multiple Comparison - Financial Numeracy and Occupation

The pairwise comparisons of occupation reveal that there are significant differences in responses among certain occupational groups, while others show no meaningful variation. The results indicate that individuals in Business/Profession differ significantly from Students (Adj. Sig. = .002), with students showing much higher average ranks, suggesting stronger or more positive responses on the

measured variable. Similarly, a significant difference exists between Employees and Students (Adj. Sig. = .003), again highlighting that students report higher ranks than employees. However, other comparisons—such as Business/Profession vs Employee, Business/Profession vs Retired, Employee vs Retired, and Student vs Retired—do not show statistically significant differences after adjustment, as their adjusted p-values exceed .05. This suggests that, except for the student group—who consistently differ from business professionals and employees—most other occupational groups respond similarly. Overall, the findings imply that occupation has a selective influence, with students demonstrating distinctly different patterns compared to employees and business professionals, while other groups remain relatively comparable.

District:

H0: there is no significant difference among district categories regarding financial numeracy score

H1: there is significant difference among district categories regarding financial numeracy score

Ranks				
	District	N	Mean Rank	Test Statistics
Financial Numeracy	Surat	300	469.16	49.201 (0.000)
	Bharuch	154	501.51	
	Navsari	202	439.25	
	Valsad	210	617.45	
	Tapi	154	547.63	
	Total	1020		

Table 4. 65 Rank Analysis – Financial Numeracy and District

The Kruskal–Wallis test was employed to examine whether Financial Numeracy significantly differs among respondents from the five districts surveyed—Surat, Bharuch, Navsari, Valsad, and Tapi. The test result is statistically significant, with a chi-square value of 49.201 and a p-value of 0.000, indicating that Financial Numeracy varies considerably across districts. An analysis of mean ranks reveals distinct differences in performance among the regions. Respondents from Valsad show the highest level of financial numeracy (Mean Rank = 617.45), followed by those from Tapi (547.63), suggesting stronger financial understanding in these districts. Participants from Bharuch also exhibit moderately high numeracy (501.51). In contrast, respondents from Surat (469.16) and particularly Navsari (439.25) display lower levels of financial numeracy compared to other districts. These findings highlight significant regional variations and suggest that district-level socioeconomic factors,

educational exposure, and financial awareness initiatives may influence financial numeracy competencies among residents. The substantial differences underscore the need for targeted financial literacy programs tailored to specific districts to reduce disparities.

Multiple Comparisons:

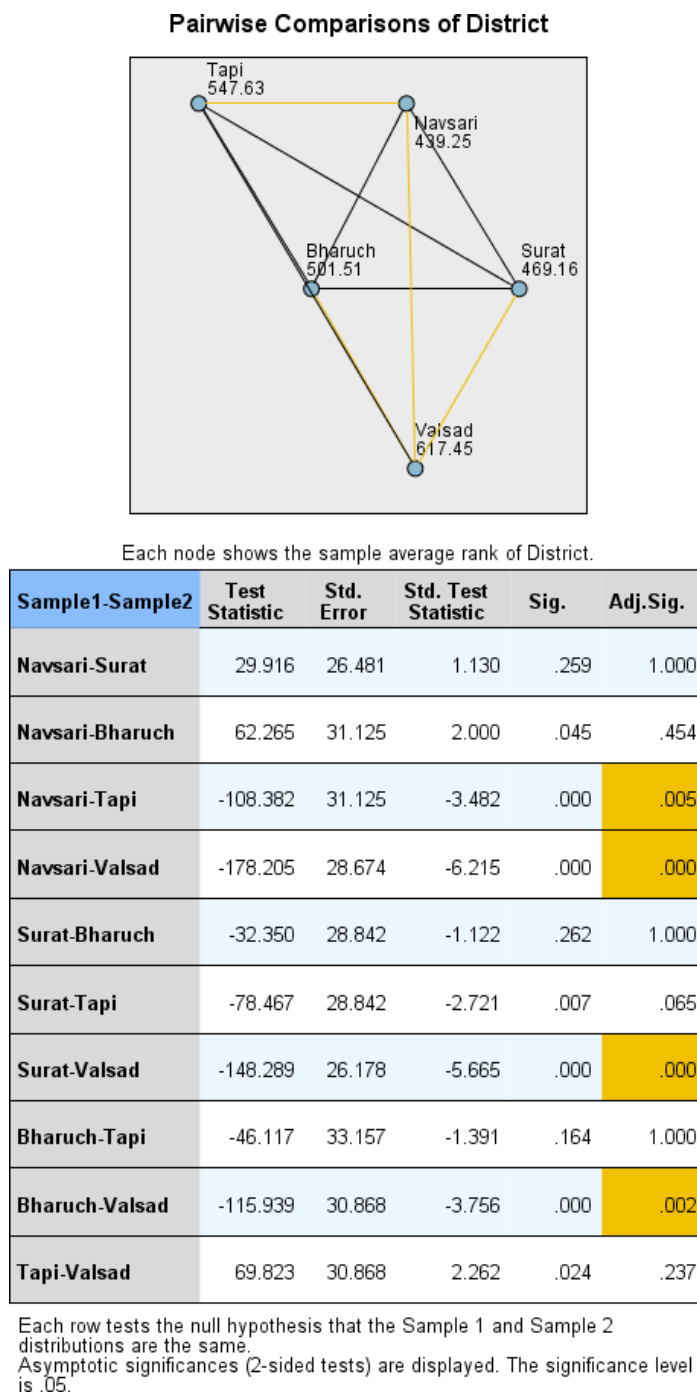


Figure 4. 14 Multiple Comparison - Financial Numeracy and District

The pairwise comparisons across districts reveal that several district pairs differ significantly in terms of their average ranks, while others show no meaningful variation. Navsari shows statistically significant differences when compared with Tapi (Adj. Sig. = .005) and Valsad (Adj. Sig. = .000), indicating that respondents from Navsari exhibit notably lower average ranks compared to those districts. Similarly, Surat also differs significantly from Valsad (Adj. Sig. = .000), suggesting that Valsad respondents have considerably higher ranks. Another significant difference is found between Bharuch and Valsad (Adj. Sig. = .002), again confirming Valsad's higher standing. In contrast, comparisons such as Navsari–Surat, Navsari–Bharuch, Surat–Bharuch, Tapi–Surat, Bharuch–Tapi, and Tapi–Valsad show adjusted significance values above .05, implying that these district groups share similar response distributions. Overall, Valsad consistently ranks higher than most other districts, while Navsari tends to rank lower, indicating notable geographic variation in the measured variable across the region.

Current Working Status:

H0: there is no significant difference among current working status categories regarding financial numeracy score

H1: there is significant difference among current working categories regarding financial numeracy score

Ranks				
	Current Working Status	N	Mean Rank	Test Statistics
Financial Numeracy	Part time Job	161	497.36	15.929 (0.001)
	Self Employed	132	603.51	
	Full Time Job	718	495.73	
	Part Time and Self Employed	9	560.06	
	Total	1020		

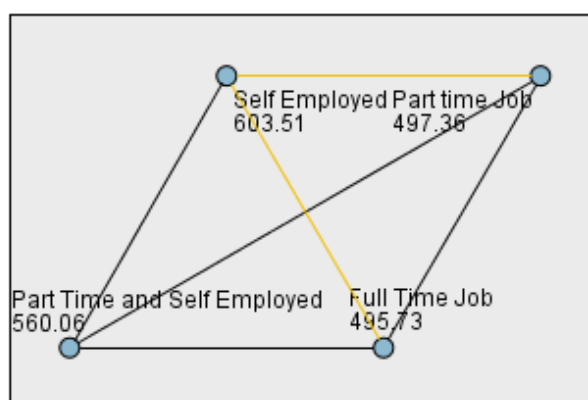
Table 4. 66 Rank Analysis – Financial Numeracy and Current Working Status

The table presents the mean ranks of financial numeracy scores across different current working statuses. Among the respondents, those who are self-employed exhibit the highest mean rank (603.51), indicating they possess relatively stronger financial numeracy skills compared to other groups. Individuals engaged in both part-time work and self-employment also show a high mean rank (560.06), although this group is very small (N=9), suggesting limited representation. In contrast, respondents working full-time jobs (495.73) and part-time jobs (497.36) have comparatively lower

mean ranks, implying a slightly lower level of financial numeracy. The test statistic of 15.929 with a p-value of 0.001 indicates that the differences in financial numeracy across working statuses are statistically significant, confirming that employment type is meaningfully associated with variations in financial numeracy skills among the sample.

Multiple Comparisons:

Pairwise Comparisons of CWS



Each node shows the sample average rank of CWS.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Full Time Job-Part time Job	1.630	25.371	.064	.949	1.000
Full Time Job-Part Time and Self Employed	-64.329	97.590	-.659	.510	1.000
Full Time Job-Self Employed	107.781	27.554	3.912	.000	.001
Part time Job-Part Time and Self Employed	-62.698	99.658	-.629	.529	1.000
Part time Job-Self Employed	-106.150	34.163	-3.107	.002	.011
Part Time and Self Employed-Self Employed	43.452	100.236	.433	.665	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 15 Multiple Comparison - Financial Numeracy and Current Working Status

The pairwise comparisons of Current Work Status (CWS) indicate that most groups do not differ significantly from one another; however, one clear pattern emerges involving the Self-Employed category. The results show that Full-Time Job vs Self-Employed is statistically significant (Adj. Sig.

= .001), with self-employed respondents having a much higher average rank, suggesting more positive or stronger responses on the measured variable. Similarly, the comparison between Part-Time Job and Self-Employed is also significant (Adj. Sig. = .011), again indicating that self-employed individuals score higher than those working part-time.

In contrast, all other comparisons—including Full-Time vs Part-Time Job, Full-Time vs Part-Time & Self-Employed, Part-Time Job vs Part-Time & Self-Employed, and Part-Time & Self-Employed vs Self-Employed—show adjusted significance values above .05, meaning their distributions are statistically similar. Overall, the findings highlight that self-employed individuals display distinctly higher rankings compared to both full-time and part-time workers, while the remaining groups exhibit no meaningful differences among themselves.

Number of Earning Members in the Family:

H0: there is no significant difference among number of earning members categories regarding financial numeracy score

H1: there is significant difference among number of earning members categories regarding financial numeracy score

Ranks				
	Earnings Members in the Family	N	Mean Rank	Test Statistics
Financial Numeracy	One	98	483.77	9.180 (0.027)
	Two	534	536.82	
	Three	243	480.38	
	More than Three	145	482.11	
	Total	1020		

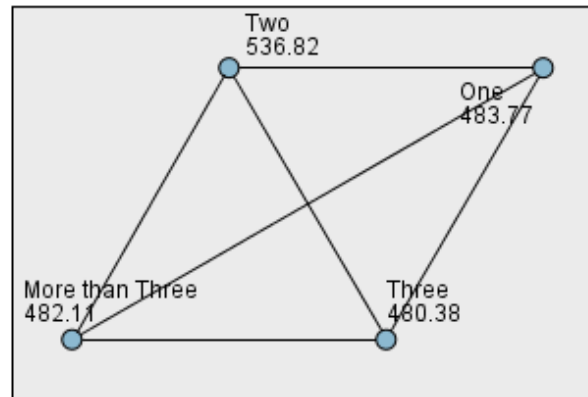
Table 4. 67 Rank Analysis – Financial Numeracy and Earning Members in the Family

The table shows the mean ranks of financial numeracy scores based on the number of earning members in the family. Families with two earning members have the highest mean rank (536.82), indicating that respondents from these families tend to have relatively better financial numeracy. Respondents from families with one earning member (483.77), three earning members (480.38), and more than three earning members (482.11) have lower and relatively similar mean ranks, suggesting a comparatively lower level of financial numeracy. The test statistic of 9.180 with a p-value of 0.027 indicates that the differences in financial numeracy across families with different numbers of earning members are

statistically significant, implying that the number of earning members in a family has a meaningful association with respondents' financial numeracy.

Multiple Comparisons:

Pairwise Comparisons of EMF



Each node shows the sample average rank of EMF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Three-More than Three	-1.726	30.532	-.057	.955	1.000
Three-One	3.386	34.816	.097	.923	1.000
Three-Two	56.434	22.514	2.507	.012	.073
More than Three-One	1.660	38.048	.044	.965	1.000
More than Three-Two	54.708	27.246	2.008	.045	.268
One-Two	-53.048	31.974	-1.659	.097	.583

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 16 Multiple Comparison - Financial Numeracy and Earning Members in Family

The pairwise comparison results for EMF indicate that there are no statistically significant differences between any of the groups after applying the adjusted significance values. Although some raw significance values fall below .05—such as the comparisons between Three vs Two and More than Three vs Two—their adjusted significance levels (.073 and .268 respectively) exceed the .05 threshold.

This means that once the multiple comparisons correction is applied, these differences are no longer considered meaningful.

All other comparisons, including Three vs More than Three, Three vs One, More than Three vs One, and One vs Two, show clearly non-significant adjusted p-values, indicating that the distributions for these groups are statistically similar. Overall, the findings suggest that the number of earning members in a family (EMF) does not significantly influence the measured variable, as no pair of EMF categories demonstrates a meaningful difference in average ranks.

Number of Dependent in the Family:

H0: there is no significant difference among number of dependent in the family categories regarding financial numeracy score

H1: there is significant difference among number of dependent in the family categories regarding financial numeracy score

Ranks				
	Number of Dependent in the Family	N	Mean Rank	Test Statistics
Financial Numeracy	None	322	472.15	18.829 (0.001)
	Upto 2	467	533.92	
	3 to 4	162	492.87	
	5 to 6	53	621.42	
	More than 6	16	409.88	
	Total	1020		

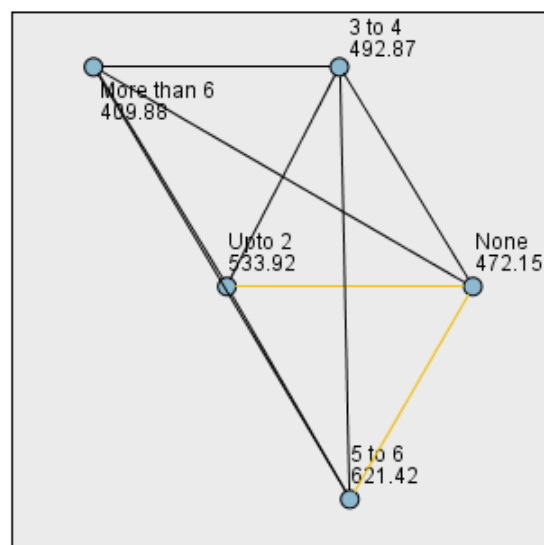
Table 4. 68 Rank Analysis – Financial Numeracy and No. of Dependent in the Family

The table presents the mean ranks of financial numeracy based on the number of dependents in the family. Respondents from families with 5 to 6 dependents show the highest mean rank (621.42), indicating they demonstrate the strongest financial numeracy among the groups. Those with up to 2 dependents also have a relatively high mean rank (533.92), suggesting moderately strong financial numeracy. Respondents with 3 to 4 dependents (492.87) and no dependents (472.15) show lower mean ranks, reflecting comparatively lower financial numeracy. Interestingly, respondents from families with more than 6 dependents have the lowest mean rank (409.88), indicating weaker financial numeracy in this group. The test statistic of 18.829 with a p-value of 0.001 indicates that these

differences are statistically significant, highlighting that the number of dependents in a family is meaningfully associated with variations in financial numeracy among respondents.

Multiple Comparisons:

Pairwise Comparisons of NDF



Each node shows the sample average rank of NDF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
More than 6-None	62.279	74.523	.836	.403	1.000
More than 6-3 to 4	82.992	76.246	1.088	.276	1.000
More than 6-Upto 2	124.041	73.974	1.677	.094	.936
More than 6-5 to 6	211.540	82.994	2.549	.011	.108
None-3 to 4	-20.714	28.026	-.739	.460	1.000
None-Upto 2	-61.763	21.075	-2.931	.003	.034
None-5 to 6	-149.261	43.129	-3.461	.001	.005
3 to 4-Upto 2	41.049	26.530	1.547	.122	1.000
3 to 4-5 to 6	-128.548	46.041	-2.792	.005	.052
Upto 2-5 to 6	-87.499	42.172	-2.075	.038	.380

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Figure 4. 17 Multiple Comparison - Financial Numeracy and No. of Dependent in Family

The pairwise comparisons for NDF (Number of Dependents in Family) show that most group differences are not statistically significant after adjusting for multiple comparisons, but a few specific contrasts do stand out. The only meaningful differences emerge when comparing households with no dependents to those with up to 2 dependents and 5 to 6 dependents. Specifically, the comparisons None vs Up to 2 (Adj. Sig. = .034) and None vs 5 to 6 (Adj. Sig. = .005) are statistically significant, indicating that respondents with no dependents have significantly lower average ranks compared to these two groups. All other comparisons—including those involving “More than 6,” “3 to 4,” and “Up to 2” categories—show adjusted significance values above .05, meaning their distributions do not differ meaningfully. Overall, the results suggest that the presence of dependents only affects responses in a limited way, with significant differences observed mainly between respondents with no dependents and those with a small (up to 2) or moderate (5 to 6) number of dependents, while other group differences remain statistically negligible.

Monthly Income:

H0: there is no significant difference among monthly income categories regarding financial numeracy score

H1: there is significant difference among monthly income categories regarding financial numeracy score

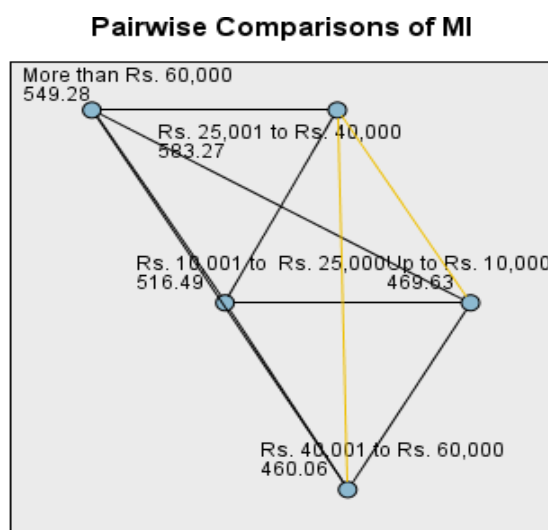
Ranks				
	Monthly Income	N	Mean Rank	Test Statistics
Financial Numeracy	Up to Rs. 10,000	278	469.63	22.573 (0.000)
	Rs. 10,001 to Rs. 25,000	300	516.49	
	Rs. 25,001 to Rs. 40,000	163	583.27	
	Rs. 40,001 to Rs. 60,000	147	460.06	
	More than Rs. 60,000	132	549.28	
	Total	1020		

Table 4. 69 Rank Analysis – Financial Numeracy and Monthly Income

The table illustrates the mean ranks of financial numeracy across different monthly income groups. Respondents earning between Rs. 25,001 and Rs. 40,000 have the highest mean rank (583.27), indicating the strongest financial numeracy among the income groups. Those earning more than Rs. 60,000 (549.28) and between Rs. 10,001 to Rs. 25,000 (516.49) also demonstrate relatively strong financial numeracy. In contrast, respondents earning up to Rs. 10,000 (469.63) and Rs. 40,001 to Rs.

60,000 (460.06) exhibit lower mean ranks, reflecting comparatively weaker financial numeracy. The test statistic of 22.573 with a p-value of 0.000 shows that the differences in financial numeracy across monthly income groups are statistically significant, indicating a meaningful association between respondents' income levels and their financial numeracy skills.

Multiple Comparisons:



Each node shows the sample average rank of MI.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Rs. 40,001 to Rs. 60,000-Up to Rs. 10,000	9.566	29.671	.322	.747	1.000
Rs. 40,001 to Rs. 60,000-Rs. 10,001 to Rs. 25,000	56.425	29.293	1.926	.054	.541
Rs. 40,001 to Rs. 60,000-More than Rs. 60,000	-89.219	34.888	-2.557	.011	.105
Rs. 40,001 to Rs. 60,000-Rs. 25,001 to Rs. 40,000	123.212	33.094	3.723	.000	.002
Up to Rs. 10,000-Rs. 10,001 to Rs. 25,000	-46.859	24.222	-1.935	.053	.530
Up to Rs. 10,000-More than Rs. 60,000	-79.653	30.754	-2.590	.010	.096
Up to Rs. 10,000-Rs. 25,001 to Rs. 40,000	-113.645	28.703	-3.959	.000	.001
Rs. 10,001 to Rs. 25,000-More than Rs. 60,000	-32.794	30.389	-1.079	.281	1.000
Rs. 10,001 to Rs. 25,000-Rs. 25,001 to Rs. 40,000	-66.786	28.311	-2.359	.018	.183
More than Rs. 60,000-Rs. 25,001 to Rs. 40,000	33.993	34.068	.998	.318	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 18 Multiple Comparison - Financial Numeracy and Monthly Income

The pairwise comparisons for MI (Monthly Income) reveal that only a few income groups differ significantly after applying the adjusted significance corrections. The most notable finding is that respondents earning Rs. 40,001 to Rs. 60,000 differ significantly from those earning Rs. 25,001 to Rs. 40,000 (Adj. Sig. = .002), indicating that the latter group has much higher average ranks. Another significant difference is observed between Up to Rs. 10,000 and Rs. 25,001 to Rs. 40,000 (Adj. Sig. = .001), again showing that the Rs. 25,001–40,000 group ranks substantially higher. Although a few other comparisons show raw significance values below .05, such as Rs. 40,001–60,000 vs More than Rs. 60,000 and Up to Rs. 10,000 vs More than Rs. 60,000, their adjusted significance levels exceed .05, meaning these differences are not statistically meaningful after correction. All other income brackets show no significant differences. Overall, the results indicate that the Rs. 25,001 to Rs. 40,000 income group consistently shows higher average ranks than both lower and higher income segments, making it the most distinctively different group in terms of the measured variable.

4.9 Differences in Demographic Profile regarding Financial Literacy

Normality Test:

H0: data are normally distributed

H1: data are not normally distributed

Tests of Normality						
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Financial Product Awareness	.182	1020	.000	.902	1020	.000
Financial Attitude	.271	1020	.000	.837	1020	.000
Financial Behaviour	.407	1020	.000	.681	1020	.000

Table 4. 70 Test of Normality FL

The results of the Kolmogorov-Smirnov and Shapiro-Wilk tests were used to assess the normality of the data for Financial Product Awareness, Financial Attitude, and Financial Behaviour. For all three constructs, the significance values (Sig.) are 0.000, which are below the 0.05 threshold, indicating that the data deviate significantly from a normal distribution. The Kolmogorov-Smirnov statistics (.182, .271, and .407) and Shapiro-Wilk statistics (.902, .837, and .681) further support this conclusion. Among the three constructs, Financial Behaviour shows the highest deviation from normality, followed by Financial Attitude, while Financial Product Awareness shows relatively lesser deviation but is still non-normal.

Differences in Two Categorical Variables:

Residential Area:

H0: there is no significant difference between urban and semi urban respondents' financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference between urban and semi urban respondents' financial literacy in terms of financial awareness, attitude and behaviour

Ranks					
	Area	N	Mean Rank	Sum of Ranks	Test Statistics
Financial Product Awareness	Urban	403	436.64	175964.00	-6.743 (0.000)
	Semi Urban	617	558.75	344746.00	
	Total	1020			
Financial Attitude	Urban	403	495.68	199758.00	-1.424 (0.154)
	Semi Urban	617	520.18	320952.00	
	Total	1020			
Financial Behaviour	Urban	403	522.32	210496.00	-1.300 (0.193)
	Semi Urban	617	502.78	310214.00	
	Total	1020			

Table 4. 71 Rank Analysis of Financial Literacy and Area

The results of the Mann–Whitney U Test (non-parametric test for comparing two independent groups) were used to examine whether there are significant differences between urban and semi-urban respondents in terms of Financial Product Awareness, Financial Attitude, and Financial Behaviour.

For Financial Product Awareness, the mean rank for semi-urban respondents (558.75) is higher than that of urban respondents (436.64). The test statistic value of -6.743 with a p-value of 0.000 (less than 0.05) indicates a statistically significant difference between the two groups. This implies that individuals from semi-urban areas have significantly higher levels of financial product awareness compared to those from urban areas. In the case of Financial Attitude, the mean rank for semi-urban respondents (520.18) is slightly higher than for urban respondents (495.68). However, the p-value of 0.154 (greater than 0.05) shows that this difference is not statistically significant. Hence, it can be concluded that there is no meaningful difference in financial attitude between urban and semi-urban respondents.

Similarly, for Financial Behaviour, the mean rank for urban respondents (522.32) is slightly higher than that of semi-urban respondents (502.78), with a p-value of 0.193, which is also greater than 0.05. This indicates that there is no significant difference in financial behaviour between respondents from the two areas.

Marital Status:

H0: there is no significant difference between married and unmarried respondents' financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference between married and unmarried respondents' financial literacy in terms of financial awareness, attitude and behaviour

Ranks					
	MS	N	Mean Rank	Sum of Ranks	Test Statistics
Financial Product Awareness	Unmarried	378	516.49	195234.50	-0.519 (0.603)
	Married	642	506.97	325475.50	
	Total	1020			
Financial Attitude	Unmarried	378	490.28	185325.00	-1.845 (0.065)
	Married	642	522.41	335385.00	
	Total	1020			
Financial Behaviour	Unmarried	378	509.45	192570.50	-0.110 (0.912)
	Married	642	511.12	328139.50	
	Total	1020			

Table 4. 72 Rank Analysis of Financial Literacy and Marital Status

The Mann–Whitney U Test results were used to examine whether marital status (unmarried vs. married respondents) has a significant influence on Financial Product Awareness, Financial Attitude, and Financial Behaviour. For Financial Product Awareness, the mean rank of unmarried respondents (516.49) is slightly higher than that of married respondents (506.97). However, the test statistic value of -0.519 with a p-value of 0.603 (greater than 0.05) indicates that this difference is not statistically significant. This suggests that marital status does not significantly affect individuals' awareness of financial products.

Regarding Financial Attitude, unmarried respondents have a lower mean rank (490.28) compared to married respondents (522.41). Although the difference is slightly more noticeable, the p-value of 0.065

is still above the 0.05 threshold, implying that the difference in financial attitude between married and unmarried individuals is not statistically significant, though it approaches marginal significance.

In the case of Financial Behaviour, the mean ranks of unmarried (509.45) and married respondents (511.12) are nearly identical, with a p-value of 0.912, indicating no significant difference between the two groups.

Differences in More than two categorical variables:

Age:

H0: there is no significant difference among age categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among age categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Age	N	Mean Rank	Test Statistics
Financial Product Awareness	18 - 30 Years	465	519.61	6.670 (0.083)
	31 – 45 Years	441	503.51	
	46 - 60 Years	101	523.21	
	More than 60 Years	13	323.04	
	Total	1020		
Financial Attitude	18 - 30 Years	465	499.63	5.823 (0.121)
	31 – 45 Years	441	523.18	
	46 - 60 Years	101	487.62	
	More than 60 Years	13	646.77	
	Total	1020		
Financial Behaviour	18 - 30 Years	465	515.28	2.197 (0.533)
	31 – 45 Years	441	506.03	
	46 - 60 Years	101	497.59	
	More than 60 Years	13	591.23	
	Total	1020		

Table 4. 73 Rank Analysis of Financial Literacy and Age

The results of the Kruskal–Wallis Test were used to examine whether there are significant differences in Financial Product Awareness, Financial Attitude, and Financial Behaviour among respondents belonging to different age groups.

For Financial Product Awareness, the mean ranks vary across age groups, with respondents aged 46–60 years (mean rank = 523.21) showing the highest awareness, followed by those aged 18–30 years (519.61), and 31–45 years (503.51). Respondents aged more than 60 years had the lowest mean rank (323.04). However, the test statistic value of 6.670 with a p-value of 0.083 (greater than 0.05) indicates that these differences are not statistically significant, suggesting that financial product awareness does not vary significantly by age.

In the case of Financial Attitude, the mean rank is highest among respondents aged more than 60 years (646.77), followed by those in the 31–45 years group (523.18). The youngest group (18–30 years) scored relatively lower (499.63), while the 46–60 years group had a mean rank of 487.62. Despite these variations, the p-value of 0.121 (above 0.05) shows that the differences are not statistically significant, meaning age does not have a significant effect on financial attitude.

For Financial Behaviour, the mean ranks are relatively close across all groups, with respondents over 60 years (591.23) ranking slightly higher, and the 31–45 years group having the lowest rank (506.03). The p-value of 0.533 indicates that these differences are statistically insignificant.

Education:

H0: there is no significant difference among education categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among education categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Education	N	Mean Rank	Test Statistics
Financial Product Awareness	Below HSC	150	703.99	106.542 (0.000)
	Graduation	434	524.39	
	Post-Graduation	436	430.10	
	Total	1020		
	Below HSC	150	565.66	21.111

Financial Attitude	Graduation	434	534.77	(0.000)
	Post-Graduation	436	467.36	
	Total	1020		
Financial Behaviour	Below HSC	150	499.46	2.276 (0.320)
	Graduation	434	523.36	
	Post-Graduation	436	501.50	
	Total	1020		

Table 4. 74 Rank Analysis of Financial Literacy and Education

The Kruskal–Wallis Test results were used to examine whether respondents' education level significantly influences their Financial Product Awareness, Financial Attitude, and Financial Behaviour. For Financial Product Awareness, there are clear variations in the mean ranks across education levels. Respondents with education below HSC have the highest mean rank (703.99), followed by those with graduation (524.39), while post-graduates have the lowest (430.10). The test statistic value of 106.542 with a p-value of 0.000 (less than 0.05) indicates a highly significant difference among the groups. This suggests that education level significantly affects Financial Product Awareness, with those having lower educational qualifications displaying greater awareness—possibly due to more direct financial engagement or practical exposure.

In the case of Financial Attitude, the mean ranks also differ noticeably across education levels. Respondents with education below HSC again have the highest mean rank (565.66), followed by graduates (534.77), and post-graduates (467.36). The test statistic value of 21.111 with a p-value of 0.000 confirms that these differences are statistically significant. This implies that financial attitude varies with education level, with less-educated respondents showing more positive or practical financial attitudes compared to higher-educated groups.

However, for Financial Behaviour, the differences among the education levels are minor. The mean ranks are fairly close: graduates (523.36), post-graduates (501.50), and below HSC (499.46). The p-value of 0.320 (greater than 0.05) indicates that the differences are not statistically significant, meaning education level does not significantly influence financial behaviour in this sample.

Multiple Comparisons for Financial Product Awareness:

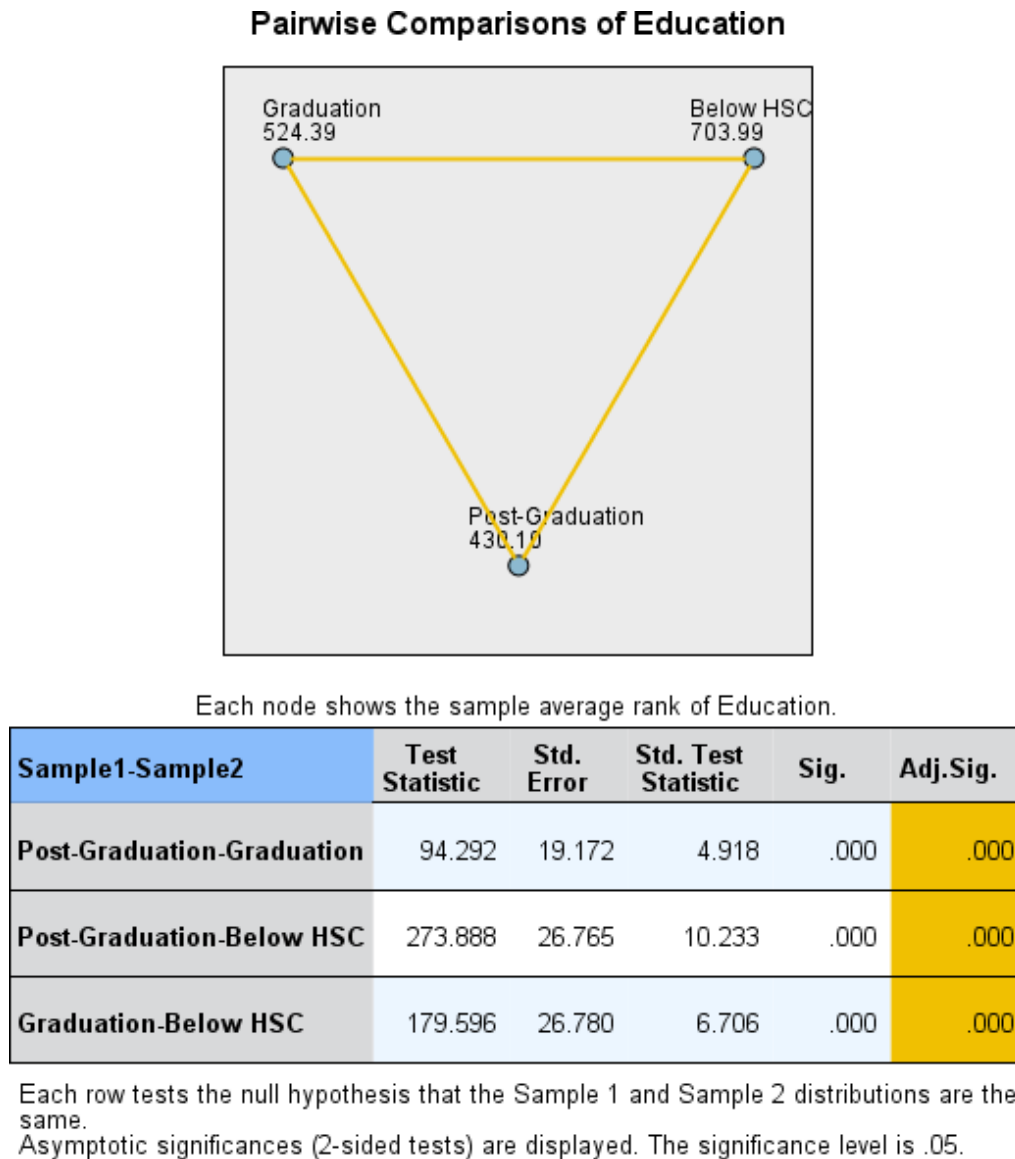


Figure 4. 19 Multiple Comparison – Financial Literacy and Education

The pairwise comparison results for education indicate that all three educational groups differ significantly from one another, as reflected by the adjusted significance values of .000 across all comparisons. The average ranks show a clear hierarchical pattern: respondents with Below HSC education have the highest rank, followed by those with Graduation, while Post-Graduation respondents have the lowest rank. The large test statistic values and highly significant p-values indicate substantial differences between the groups. Specifically, the gap between Post-Graduation and Below HSC is the largest, suggesting a strong divergence in responses or perceptions across these educational levels. Similarly, the differences between Graduation and Below HSC, as well as between Post-Graduation and Graduation, are statistically meaningful.

Multiple Comparisons for Financial Attitude:

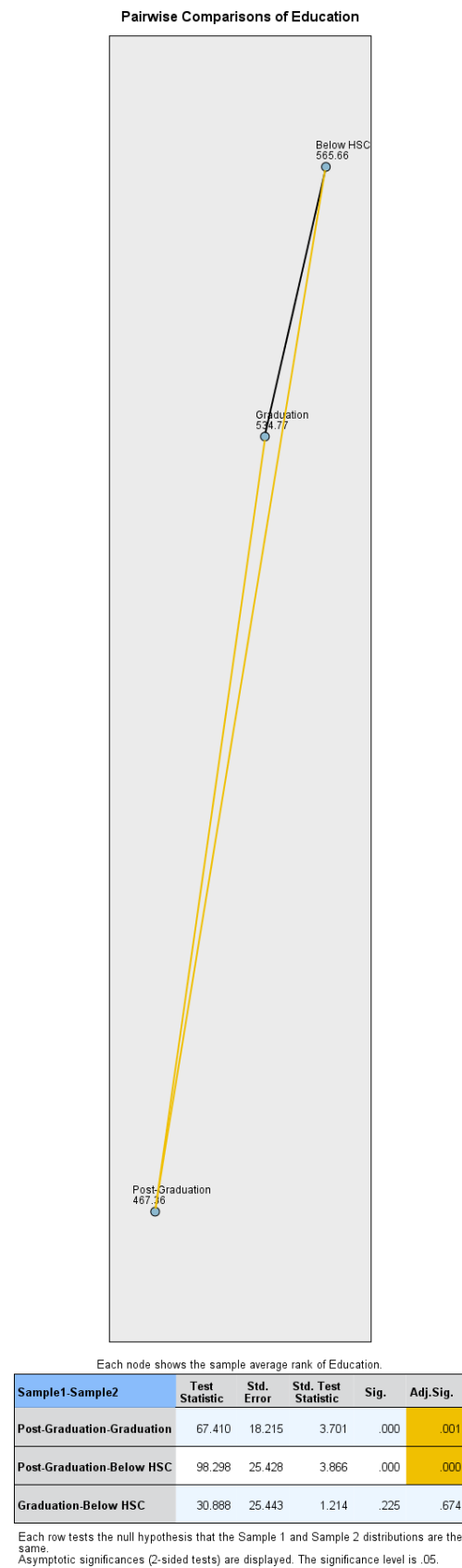


Figure 4. 20 Multiple Comparison – Financial Literacy and Education

The pairwise comparison results for education show that two of the three educational groups differ significantly from one another, while one comparison shows no meaningful difference. The results indicate significant differences between Post-Graduation and Graduation (Adj. Sig. = .001) and between Post-Graduation and Below HSC (Adj. Sig. = .000), meaning post-graduates have substantially lower average ranks compared to the other two groups. This suggests that post-graduate respondents hold distinctly different perceptions or behaviors related to the measured variable. However, the comparison between Graduation and Below HSC is not statistically significant (Adj. Sig. = .674), indicating that these two groups share similar response patterns and do not differ in a meaningful way. Overall, the findings highlight that post-graduates form a distinct group in terms of their responses, while graduates and Below HSC respondents exhibit comparable behavior.

Occupation:

H0: there is no significant difference among occupation categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among occupation categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Occupation	N	Mean Rank	Test Statistics
Financial Product Awareness	Student	130	476.96	9.548 (0.023)
	Employee	780	524.97	
	Business / Profession	95	452.52	
	Retired	15	415.87	
	Total	1020		
Financial Attitude	Student	130	503.42	1.625 (0.654)
	Employee	780	511.65	
	Business / Profession	95	498.20	
	Retired	15	590.23	
	Total	1020		
Financial Behaviour	Student	130	495.27	0.730 (0.866)
	Employee	780	513.64	
	Business / Profession	95	505.51	

	Retired	15	511.03	
	Total	1020		

Table 4. 75 Rank Analysis of Financial Literacy and Occupation.

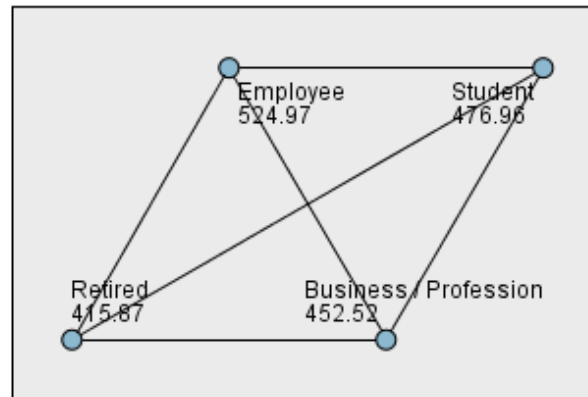
The Kruskal–Wallis Test results based on occupation reveal differences in Financial Product Awareness, Financial Attitude, and Financial Behaviour among respondents with different occupational backgrounds. For Financial Product Awareness, the mean ranks show noticeable variation across occupational groups — employees have the highest mean rank (524.97), followed by students (476.96), business/professional respondents (452.52), and retired individuals (415.87).

The test statistic value of 9.548 with a p-value of 0.023 (less than 0.05) indicates a statistically significant difference among the groups. This suggests that occupation has a significant influence on Financial Product Awareness, with employees demonstrating higher awareness, likely due to regular exposure to financial systems through income, salary accounts, and investment options.

In contrast, Financial Attitude shows relatively small differences across groups. The mean ranks range from 498.20 for business professionals to 590.23 for retired respondents, but the p-value of 0.654 (greater than 0.05) indicates that these differences are not statistically significant. Thus, occupation does not significantly affect financial attitude among respondents. Similarly, for Financial Behaviour, the mean ranks are quite close across categories — students (495.27), employees (513.64), business/professionals (505.51), and retired (511.03). The p-value of 0.866 (greater than 0.05) confirms that there is no significant difference in financial behaviour among the occupational groups.

Multiple Comparisons for Financial Product Awareness:

Pairwise Comparisons of Occupation



Each node shows the sample average rank of Occupation.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Retired-Business / Profession	36.654	78.558	.467	.641	1.000
Retired-Student	61.091	77.103	.792	.428	1.000
Retired-Employee	109.105	73.704	1.480	.139	.833
Business / Profession-Student	24.437	38.165	.640	.522	1.000
Business / Profession-Employee	72.451	30.725	2.358	.018	.110
Student-Employee	-48.014	26.786	-1.793	.073	.438

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 21 Multiple Comparison – Financial Literacy and Occupation

The pairwise comparisons of occupation show that none of the occupational groups differ significantly from one another after applying adjusted significance levels. Although the raw p-value for the comparison between Business/Profession and Employee is .018, the adjusted significance rises to .110, which is above the .05 threshold. This means that the difference is not statistically meaningful once multiple comparisons are accounted for. All other comparisons—including Retired vs Business/Profession, Retired vs Student, Retired vs Employee, Business/Profession vs Student, and Student vs Employee—also show adjusted significance values well above .05, indicating no

significant variation across these groups. The average rank plot visually supports this conclusion, as the occupational groups cluster reasonably close to one another without wide separation. Overall, the results suggest that occupation does not have a statistically significant influence on the measured variable, as respondents across all occupational categories exhibit broadly similar patterns.

District:

H0: there is no significant difference among districts regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among districts regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	District	N	Mean Rank	Test Statistics
Financial Product Awareness	Surat	300	554.91	33.902 (0.000)
	Bharuch	154	558.81	
	Navsari	202	494.73	
	Valsad	210	420.58	
	Tapi	154	518.98	
	Total	1020		
Financial Attitude	Surat	300	521.29	52.483 (0.000)
	Bharuch	154	600.48	
	Navsari	202	459.71	
	Valsad	210	430.58	
	Tapi	154	575.11	
	Total	1020		
Financial Behaviour	Surat	300	505.79	13.307 (0.010)
	Bharuch	154	557.87	
	Navsari	202	513.25	
	Valsad	210	469.70	
	Tapi	154	524.34	
	Total	1020		

Table 4. 76 Rank Analysis of Financial Literacy and District

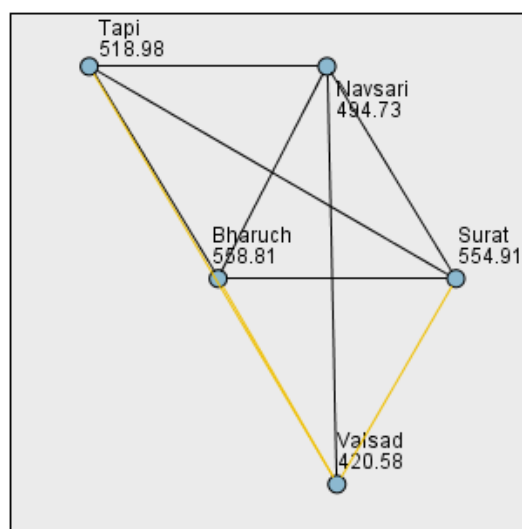
The Kruskal–Wallis Test results based on district-wise comparison reveal significant differences in Financial Product Awareness, Financial Attitude, and Financial Behaviour among respondents from different districts in South Gujarat.

For Financial Product Awareness, the mean ranks vary considerably across districts — Bharuch (558.81) and Surat (554.91) have the highest mean ranks, followed by Tapi (518.98), Navsari (494.73), and Valsad (420.58). The test statistic of 33.902 with a p-value of 0.000 (less than 0.05) indicates a statistically significant difference among districts. This implies that respondents from Bharuch and Surat are more aware of financial products compared to those from Valsad and Navsari. The higher awareness in industrially developed districts like Bharuch and Surat could be due to better financial literacy initiatives and exposure to diverse financial institutions.

For Financial Attitude, the mean ranks also show noticeable differences — Bharuch (600.48) and Tapi (575.11) have higher mean ranks, while Navsari (459.71) and Valsad (430.58) score lower. The test statistic of 52.483 with a p-value of 0.000 (less than 0.05) confirms that the differences are statistically significant. This suggests that respondents from Bharuch and Tapi possess a more positive or proactive financial attitude compared to those from Navsari and Valsad. For Financial Behaviour, although the variations are smaller, the pattern is similar. The mean ranks show Bharuch (557.87) and Tapi (524.34) at the top, followed by Navsari (513.25), Surat (505.79), and Valsad (469.70). The test statistic of 13.307 with a p-value of 0.010 (less than 0.05) indicates a significant difference among districts. This means that financial behaviour also varies across regions, with Bharuch again showing relatively better financial behaviour patterns.

Multiple Comparisons for Financial Product Awareness:

Pairwise Comparisons of District



Each node shows the sample average rank of District.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Valsad-Navsari	74.154	27.865	2.661	.008	.078
Valsad-Tapi	-98.402	29.997	-3.280	.001	.010
Valsad-Surat	134.330	25.440	5.280	.000	.000
Valsad-Bharuch	138.233	29.997	4.608	.000	.000
Navsari-Tapi	-24.248	30.248	-.802	.423	1.000
Navsari-Surat	60.176	25.735	2.338	.019	.194
Navsari-Bharuch	64.079	30.248	2.118	.034	.341
Tapi-Surat	35.928	28.029	1.282	.200	1.000
Tapi-Bharuch	39.831	32.222	1.236	.216	1.000
Surat-Bharuch	-3.903	28.029	-.139	.889	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 22 Multiple Comparison – Financial Product Awareness and District

The pairwise comparison results for districts show that Valsad stands out clearly from several other districts, while most other district comparisons do not show meaningful differences. The adjusted

significance values indicate statistically significant differences between Vaslād and Tapi (Adj. Sig. = .010), Vaslād and Surat (Adj. Sig. = .000), and Vaslād and Bharuch (Adj. Sig. = .000). In each of these cases, Vaslād has a much lower average rank than the other districts, suggesting that respondents from Vaslād exhibit distinctly different perceptions or behaviors compared to those from Tapi, Surat, and Bharuch.

Although the Vaslād–Navsari comparison shows a raw p-value of .008, it becomes non-significant after adjustment (Adj. Sig. = .078), meaning the difference cannot be considered statistically valid. All other comparisons—including Navsari vs Tapi, Navsari vs Surat, Navsari vs Bharuch, Tapi vs Surat, Tapi vs Bharuch, and Surat vs Bharuch—have adjusted significance values above .05, indicating no meaningful differences among these groups. Overall, the results reveal that Vaslād is the only district displaying consistently significant differences, while the other districts show largely similar response patterns.

Multiple Comparisons for Financial Attitude:

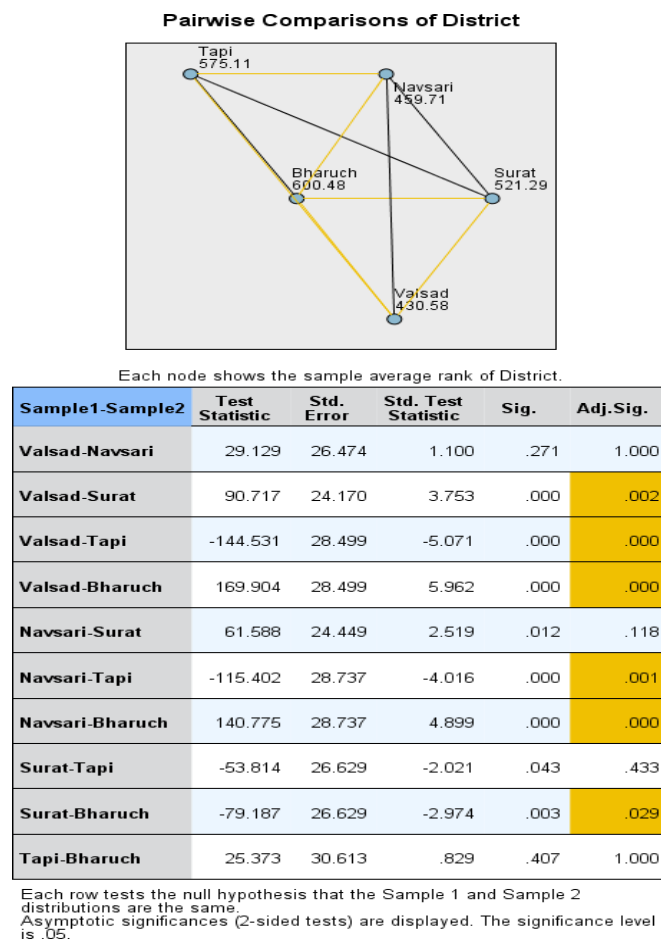
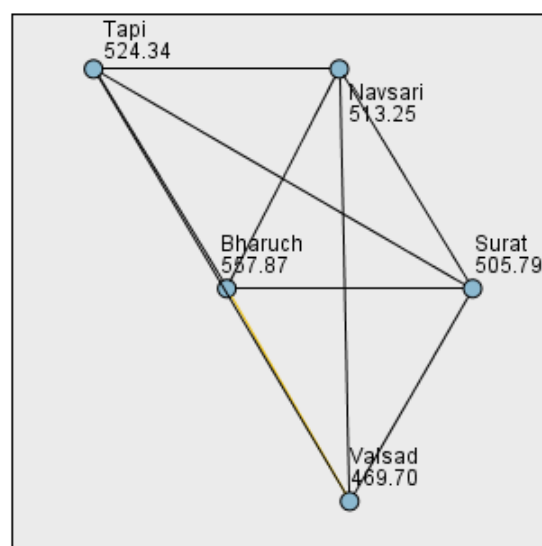


Figure 4. 23 Multiple Comparison – Financial Attitude and District

The pairwise comparisons for districts indicate that several district pairs differ significantly after adjustment, highlighting meaningful geographic variation in responses. The most consistent and strongest differences involve Valsad, which shows statistically significant differences with Surat (Adj. Sig. = .002), Tapi (Adj. Sig. = .000), and Bharuch (Adj. Sig. = .000). These results show that Valsad respondents have much lower average ranks than respondents from these districts. Navsari also shows significant differences with Tapi (Adj. Sig. = .001) and Bharuch (Adj. Sig. = .000), indicating that Navsari respondents score lower than those in Tapi and Bharuch. A smaller but still meaningful significant difference is observed between Surat and Bharuch (Adj. Sig. = .029), suggesting that Bharuch respondents have higher average ranks. Comparisons such as Valsad–Navsari, Navsari–Surat, Surat–Tapi, and Tapi–Bharuch show non-significant adjusted values, meaning these district pairs do not differ in a statistically meaningful way. Overall, the results emphasize that Valsad and Navsari consistently show lower ranks, while Bharuch and Tapi tend to score higher, reflecting clear district-level differences in the measured variable.

Multiple Comparisons for Financial Behaviour:

Pairwise Comparisons of District



Each node shows the sample average rank of District.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Valsad-Surat	36.087	21.114	1.709	.087	.874
Valsad-Navsari	43.552	23.127	1.883	.060	.597
Valsad-Tapi	-54.638	24.897	-2.195	.028	.282
Valsad-Bharuch	88.170	24.897	3.541	.000	.004
Surat-Navsari	-7.466	21.359	-.350	.727	1.000
Surat-Tapi	-18.551	23.263	-.797	.425	1.000
Surat-Bharuch	-52.083	23.263	-2.239	.025	.252
Navsari-Tapi	-11.085	25.105	-.442	.659	1.000
Navsari-Bharuch	44.618	25.105	1.777	.076	.755
Tapi-Bharuch	33.532	26.743	1.254	.210	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 24 Multiple Comparison – Financial Behaviour and District

The pairwise comparison results for districts regarding Financial Behaviour indicate that almost all district pairs do not differ significantly from one another after adjustment, with one clear exception. The only statistically meaningful difference is between Valsad and Bharuch, where the adjusted significance value is .004. This indicates that Bharuch respondents have significantly higher average ranks compared to Valsad, suggesting more favourable or stronger financial behaviour patterns in Bharuch. For all other district comparisons—such as Valsad vs Surat, Valsad vs Navsari, Valsad vs Tapi, Surat vs Navsari, Surat vs Tapi, Surat vs Bharuch (after adjustment), Navsari vs Tapi, Navsari vs Bharuch, and Tapi vs Bharuch—the adjusted significance values exceed .05, meaning the distributions are statistically similar.

Although a few raw p-values fall below .05 (for example, Valsad–Tapi and Surat–Bharuch), these become non-significant once corrections are applied, indicating the differences are not strong enough to be considered meaningful. Overall, the findings show that Financial Behaviour does not vary significantly across most districts, except for a notable difference where Bharuch respondents exhibit more positive financial behaviour compared to those from Valsad.

Current Working Status:

H0: there is no significant difference among current working status categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among current working status categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Current Working Status	N	Mean Rank	Test Statistics
Financial Product Awareness	Part time Job	161	557.14	19.084 (0.000)
	Self Employed	132	418.38	
	Full Time Job	718	517.56	
	Part Time and Self Employed	9	463.89	
	Total	1020		
Financial Attitude	Part time Job	161	508.03	1.935 (0.586)
	Self Employed	132	482.05	
	Full Time Job	718	515.84	
	Part Time and Self Employed	9	546.00	
	Total	1020		
Financial Behaviour	Part time Job	161	506.90	.639 (0.887)
	Self Employed	132	515.47	
	Full Time Job	718	511.11	
	Part Time and Self Employed	9	453.17	
	Total	1020		

Table 4. 77 Rank Analysis of Financial Literacy and Current Working Status

The Kruskal–Wallis Test results based on current working status indicate that there are varying levels of significance across the three financial constructs — Financial Product Awareness, Financial Attitude, and Financial Behaviour — depending on respondents' employment types.

For Financial Product Awareness, the mean ranks differ notably among groups: part-time job holders (557.14) show the highest awareness, followed by those in full-time jobs (517.56), part-time and self-employed individuals (463.89), and self-employed respondents (418.38). The test statistic value of 19.084 with a p-value of 0.000 (less than 0.05) indicates a statistically significant difference. This

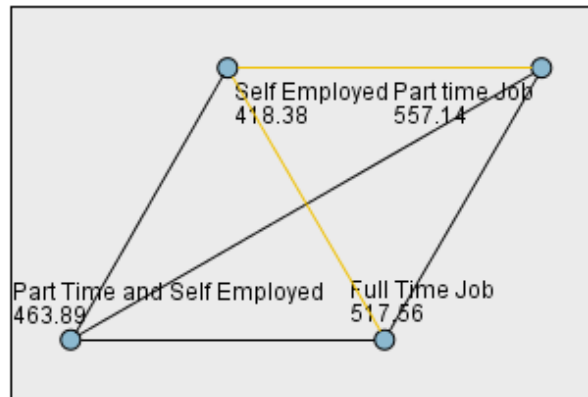
finding suggests that working status has a significant influence on financial product awareness. Part-time and full-time employees tend to be more financially aware, possibly due to exposure to structured financial systems, payroll mechanisms, and employer-linked financial benefits, whereas self-employed individuals may rely more on informal financial practices.

In the case of Financial Attitude, the mean ranks are relatively close across groups, ranging from 482.05 (self-employed) to 546.00 (part-time and self-employed). The test statistic value of 1.935 with a p-value of 0.586 (greater than 0.05) indicates that there is no significant difference in financial attitude among respondents with different working statuses. This implies that attitudes toward financial planning and responsibility remain relatively stable regardless of employment type.

Similarly, for Financial Behaviour, the mean ranks show minimal variation — 515.47 (self-employed), 511.11 (full-time job), 506.90 (part-time job), and 453.17 (part-time and self-employed). The test statistic value of 0.639 with a p-value of 0.887 (greater than 0.05) confirms that these differences are not statistically significant. Thus, working status does not have a substantial impact on financial behaviour patterns.

Multiple Comparisons for Financial Product Awareness:

Pairwise Comparisons of CWS



Each node shows the sample average rank of CWS.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Self Employed-Part Time and Self Employed	-45.506	97.410	-.467	.640	1.000
Self Employed-Full Time Job	-99.178	26.777	-3.704	.000	.001
Self Employed-Part time Job	138.760	33.200	4.180	.000	.000
Part Time and Self Employed-Full Time Job	53.672	94.839	.566	.571	1.000
Part Time and Self Employed-Part time Job	93.254	96.848	.963	.336	1.000
Full Time Job-Part time Job	39.582	24.656	1.605	.108	.650

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 25 Multiple Comparison – Financial Product Awareness and Current Working Status

The pairwise comparison results for CWS (Current Work Status) show that only the Self-Employed group differs significantly from other categories, while all remaining comparisons are statistically non-significant. Specifically, Self-Employed vs Full-Time Job shows a strong and significant difference (Adj. Sig. = .001), with self-employed respondents having much lower average ranks. Similarly, Self-Employed vs Part-Time Job is also highly significant (Adj. Sig. = .000), indicating that self-employed individuals differ sharply from part-time workers as well.

These imply that the financial behaviour or perceptions measured in the study vary substantially for self-employed participants compared to those in full-time or part-time jobs. In contrast, all other comparisons—such as Self-Employed vs Part-Time & Self-Employed, Part-Time & Self-Employed vs Full-Time Job, Part-Time & Self-Employed vs Part-Time Job, and Full-Time Job vs Part-Time Job—have adjusted significance values above .05, indicating no meaningful differences among these groups. This shows that full-time, part-time, and mixed employment categories behave similarly in the measured variable.

Number of Earning Members in the Family:

H0: there is no significant difference among number of earning members in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among number of earning members in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Earning Members in Family	N	Mean Rank	Test Statistics
Financial Product Awareness	One	98	534.65	2.773 (0.428)
	Two	534	517.51	
	Three	243	502.81	
	More than Three	145	481.26	
	Total	1020		
Financial Attitude	One	98	505.16	8.890 (0.031)
	Two	534	502.84	
	Three	243	551.54	
	More than Three	145	473.54	
	Total	1020		
Financial Behaviour	One	98	502.86	9.676 (0.022)
	Two	534	513.76	
	Three	243	536.19	
	More than Three	145	460.60	
	Total	1020		

Table 4. 78 Rank Analysis of Financial Literacy and Earning Members in Family

The Kruskal–Wallis Test results based on the number of earning members in the family reveal interesting variations in Financial Product Awareness, Financial Attitude, and Financial Behaviour among respondents with different family income structures.

For Financial Product Awareness, the mean ranks show a gradual decline as the number of earning members increases — one earning member (534.65), two (517.51), three (502.81), and more than three (481.26).

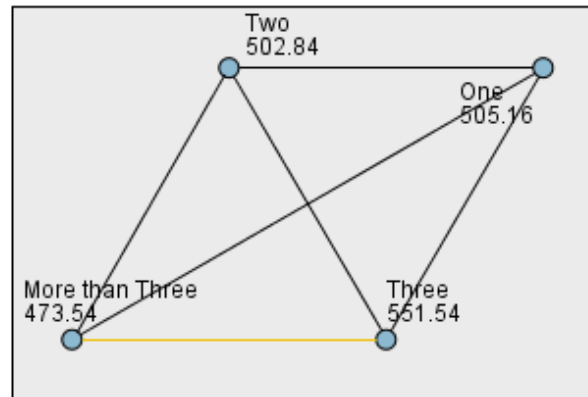
However, the test statistic value of 2.773 with a p-value of 0.428 (greater than 0.05) indicates that the differences are not statistically significant. This suggests that the number of earning members in a family does not significantly affect financial product awareness. In other words, awareness of financial products remains relatively consistent regardless of family earning capacity.

In contrast, Financial Attitude shows notable variation across groups. The mean rank is highest for families with three earning members (551.54), followed by one earning member (505.16), two (502.84), and more than three (473.54). The test statistic value of 8.890 with a p-value of 0.031 (less than 0.05) indicates a significant difference in financial attitude among the groups. This suggests that families with three earning members demonstrate a stronger or more positive financial attitude, possibly because shared earning responsibilities foster better financial planning, cooperation, and awareness of household financial goals.

Similarly, Financial Behaviour also varies significantly with family earning structure. The mean rank is highest for three earning members (536.19), followed by two (513.76), one (502.86), and more than three (460.60). The test statistic value of 9.676 with a p-value of 0.022 (less than 0.05) indicates a statistically significant difference. This implies that families with two or three earning members tend to exhibit more responsible and consistent financial behaviour, likely due to greater income stability and collective financial decision-making.

Multiple Comparisons for Financial Product Attitude:

Pairwise Comparisons of EMF



Each node shows the sample average rank of EMF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
More than Three-Two	29.298	25.156	1.165	.244	1.000
More than Three-One	31.617	35.128	.900	.368	1.000
More than Three-Three	78.002	28.189	2.767	.006	.034
Two-One	2.319	29.521	.079	.937	1.000
Two-Three	-48.704	20.787	-2.343	.019	.115
One-Three	-46.385	32.145	-1.443	.149	.894

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

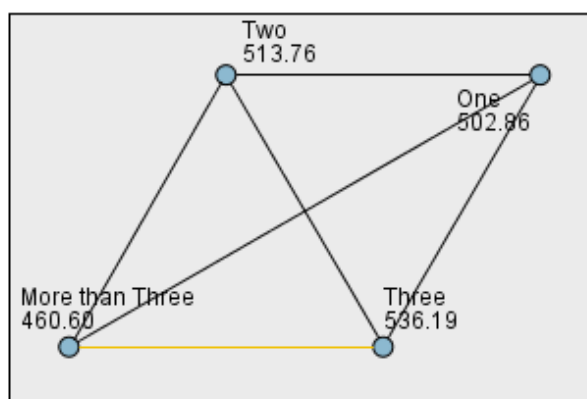
Figure 4. 26 Multiple Comparison – Financial Attitude and Earning Members in Family

The pairwise comparison results for EMF (Earning Members in Family) show that almost all group differences are statistically non-significant after adjustment, with only one meaningful exception. The only significant comparison is between “More than Three” earning members and “Three” earning members, where the adjusted significance value is .034, indicating a genuine difference in average ranks between these two groups. Specifically, households with more than three earning members show higher average ranks than those with exactly three earning members, suggesting stronger or more favourable financial behaviour or attitudes in larger earning households.

All other comparisons—such as More than Three vs Two, More than Three vs One, Two vs One, Two vs Three, and One vs Three—have adjusted significance values above .05, meaning no statistically meaningful differences exist between these groups. Although the raw p-value for Two vs Three is below .05, it becomes non-significant after correction (.115), indicating the difference is not strong enough to be considered reliable.

Multiple Comparisons for Financial Behavior:

Pairwise Comparisons of EMF



Each node shows the sample average rank of EMF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
More than Three-One	42.257	30.688	1.377	.169	1.000
More than Three-Two	53.160	21.976	2.419	.016	.093
More than Three-Three	75.593	24.626	3.070	.002	.013
One-Two	-10.903	25.789	-.423	.672	1.000
One-Three	-33.336	28.082	-1.187	.235	1.000
Two-Three	-22.433	18.159	-1.235	.217	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 27 Multiple Comparison – Financial Behaviour and Earning Members in Family

The pairwise comparison results for EMF (Earning Members in Family) indicate that most group differences are not statistically significant once adjustments are applied, with only one meaningful

difference emerging. The only significant comparison is between “More than Three” earning members and “Three” earning members, where the adjusted significance value is .013, showing a statistically reliable difference in their average ranks. This suggests that households with more than three earning members demonstrate significantly different (and likely higher) financial behaviour patterns compared to households with exactly three earning members.

All other pairings—More than Three vs One, More than Three vs Two, One vs Two, One vs Three, and Two vs Three—have adjusted p-values greater than .05, indicating no statistically significant differences. Although the raw significance for More than Three vs Two is .016, the adjusted value increases to .093, meaning the difference is not strong enough to be considered statistically reliable after correction.

Number of Dependent in the Family:

H0: there is no significant difference among number of dependent in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among number of dependent in the family categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	No. of Dependent	N	Mean Rank	Test Statistics
Financial Product Awareness	None	322	500.11	15.105 (0.004)
	Upto 2	467	518.85	
	3 to 4	162	551.94	
	5 to 6	53	384.61	
	More than 6	16	473.25	
	Total	1020		
Financial Attitude	None	322	454.30	39.663 (0.000)
	Upto 2	467	553.64	
	3 to 4	162	543.45	
	5 to 6	53	397.05	
	More than 6	16	424.63	
	Total	1020		
	None	322	474.05	13.891

Financial Behaviour	Upto 2	467	535.78	(0.008)
	3 to 4	162	514.80	
	5 to 6	53	510.35	
	More than 6	16	463.28	
	Total	1020		

Table 4. 79 Rank Analysis of Financial Literacy and No. of Dependent in Family

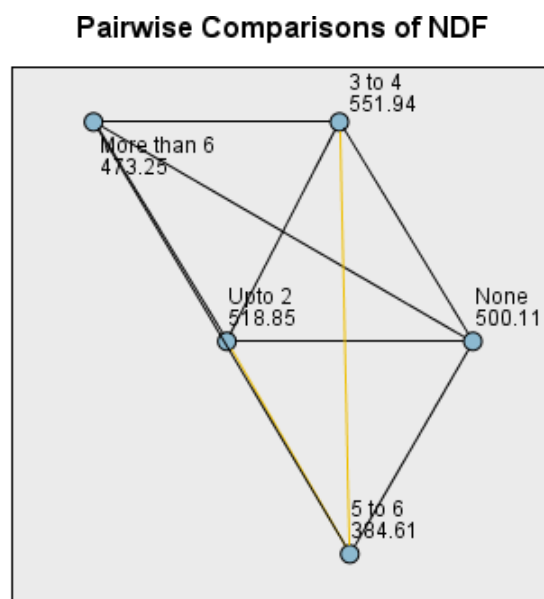
The Kruskal–Wallis Test results based on the number of dependents in the family indicate significant variations in Financial Product Awareness, Financial Attitude, and Financial Behaviour among respondents with differing dependency burdens.

For Financial Product Awareness, the mean ranks vary across groups — 3 to 4 dependents (551.94) have the highest awareness, followed by up to 2 dependents (518.85), none (500.11), more than 6 dependents (473.25), and 5 to 6 dependents (384.61). The test statistic value of 15.105 with a p-value of 0.004 (less than 0.05) indicates a statistically significant difference. This suggests that individuals with a moderate number of dependents (up to 4) tend to have higher financial awareness, possibly due to greater financial responsibilities motivating them to explore and utilize financial products effectively.

For Financial Attitude, the mean ranks again reveal substantial differences — respondents with up to 2 dependents (553.64) and 3 to 4 dependents (543.45) show stronger financial attitudes compared to those with no dependents (454.30) or 5 to 6 dependents (397.05). The test statistic value of 39.663 with a p-value of 0.000 (less than 0.05) indicates a highly significant difference. This implies that individuals with fewer dependents exhibit a more positive and proactive attitude toward financial planning, while those with larger dependent families may experience financial strain that limits their attitude toward saving and investment.

Similarly, for Financial Behaviour, the mean ranks show meaningful variation — up to 2 dependents (535.78) and 3 to 4 dependents (514.80) demonstrate better financial behaviour than those with none (474.05) or many dependents (463.28, 510.35). The test statistic value of 13.891 with a p-value of 0.008 (less than 0.05) confirms a significant difference. This indicates that having a manageable number of dependents encourages more disciplined financial behaviour, likely due to structured budgeting and prioritization of family financial needs.

Multiple Comparisons for Financial Product Awareness:



Each node shows the sample average rank of NDF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
5 to 6-More than 6	-88.637	80.655	-1.099	.272	1.000
5 to 6-None	115.502	41.913	2.756	.006	.059
5 to 6-Upto 2	134.236	40.983	3.275	.001	.011
5 to 6-3 to 4	167.325	44.743	3.740	.000	.002
More than 6-None	26.865	72.422	.371	.711	1.000
More than 6-Upto 2	45.599	71.888	.634	.526	1.000
More than 6-3 to 4	78.688	74.096	1.062	.288	1.000
None-Upto 2	-18.734	20.481	-.915	.360	1.000
None-3 to 4	-51.823	27.236	-1.903	.057	.571
Upto 2-3 to 4	-33.089	25.782	-1.283	.199	1.000

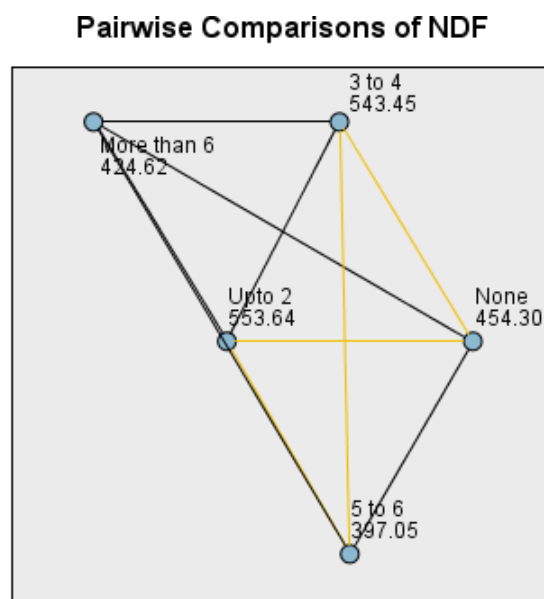
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 28 Multiple Comparison – Financial Product Awareness and No. of Dependent in Family

The pairwise comparison results for NDF (Number of Dependents in Family) show that most group differences are not statistically significant after adjustment, with only two meaningful comparisons emerging. The significant differences involve the “5 to 6 dependents” category, which shows higher average ranks compared to “Up to 2 dependents” (Adj. Sig. = .011) and “3 to 4 dependents” (Adj. Sig. = .002). This indicates that households with 5 to 6 dependents exhibit distinctly different—likely stronger or more active—financial behaviour patterns than those with smaller dependent groups.

All other comparisons, including 5 to 6 vs None, More than 6 vs all other categories, None vs Up to 2, None vs 3 to 4, and Up to 2 vs 3 to 4, show adjusted significance values above .05, meaning their differences are not statistically meaningful. Although the raw p-value for 5 to 6 vs None is .006, the adjusted significance rises to .059, which is above the threshold, so it is not considered significant after correction. Similarly, the comparison None vs 3 to 4 approaches significance (.057) but still remains non-significant after adjustment.

Multiple Comparisons for Financial Attitude:



Each node shows the sample average rank of NDF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
5 to 6-More than 6	-27.578	76.627	-.360	.719	1.000
5 to 6-None	57.253	39.820	1.438	.150	1.000
5 to 6-3 to 4	146.407	42.509	3.444	.001	.006
5 to 6-Upto 2	156.590	38.937	4.022	.000	.001
More than 6-None	29.675	68.806	.431	.666	1.000
More than 6-3 to 4	118.829	70.396	1.688	.091	.914
More than 6-Upto 2	129.012	68.298	1.889	.059	.589
None-3 to 4	-89.154	25.876	-3.445	.001	.006
None-Upto 2	-99.337	19.458	-5.105	.000	.000
3 to 4-Upto 2	10.183	24.494	.416	.678	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

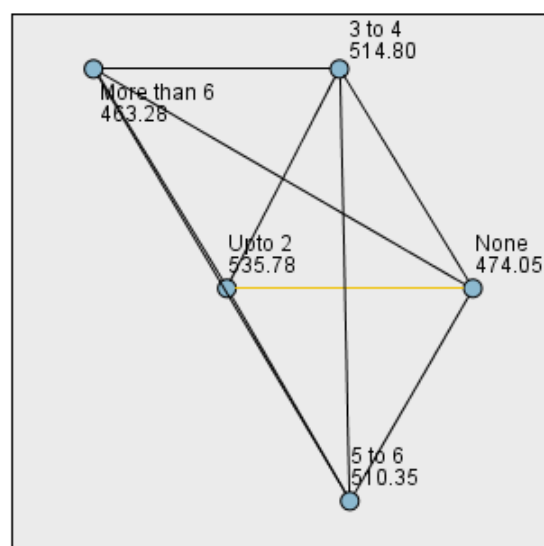
Figure 4. 29 Multiple Comparison – Financial Attitude and No of Dependent in Family

The pairwise comparison results for NDF (Number of Dependents in Family) indicate several statistically significant differences, showing that dependent family size has a noticeable influence on the measured behaviour. The most consistent differences involve the “5 to 6 dependents” group. Respondents with 5–6 dependents differ significantly from those with 3 to 4 dependents (Adj. Sig. = .006) and Up to 2 dependents (Adj. Sig. = .001), with the 5–6 group showing substantially lower average ranks. This suggests that households with a moderate number of dependents (3 to 4 or up to 2 dependents) exhibit stronger or more favourable financial behaviours than households with 5–6 dependents.

Additional significant differences are found between the None group and both 3 to 4 dependents (Adj. Sig. = .006) and Up to 2 dependents (Adj. Sig. = .000). In both cases, households with no dependents have significantly lower ranks, indicating weaker financial behaviours compared to those with dependents. All other comparisons show adjusted significance values above .05, meaning no statistically meaningful differences exist among the remaining groups. Notably, comparisons such as More than 6 vs all other categories, and 3 to 4 vs Up to 2, show no significant variation, suggesting similar behaviour among these groups.

Multiple Comparisons for Financial Behaviour:

Pairwise Comparisons of NDF



Each node shows the sample average rank of NDF.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
More than 6-None	10.765	60.108	.179	.858	1.000
More than 6-5 to 6	47.068	66.941	.703	.482	1.000
More than 6-3 to 4	51.515	61.497	.838	.402	1.000
More than 6-Upto 2	72.498	59.665	1.215	.224	1.000
None-5 to 6	-36.302	34.787	-1.044	.297	1.000
None-3 to 4	-40.750	22.605	-1.803	.071	.714
None-Upto 2	-61.733	16.999	-3.632	.000	.003
5 to 6-3 to 4	4.447	37.135	.120	.905	1.000
5 to 6-Upto 2	25.430	34.015	.748	.455	1.000
3 to 4-Upto 2	20.983	21.398	.981	.327	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 30 Financial Behaviour and No. of Dependent in Family

The pairwise comparisons for NDF (Number of Dependents in Family) reveal that almost all dependent-size groups show no statistically significant differences, except for one meaningful comparison. The only significant difference occurs between the “None” group and the “Up to 2 dependents” group, with an adjusted significance value of .003, indicating a reliable and notable difference in average ranks. Specifically, respondents with no dependents have significantly lower ranks compared to those with up to two dependents, suggesting that having at least some dependents is associated with stronger or more responsible financial behaviour.

All other comparisons—including More than 6 vs None, More than 6 vs 5–6, More than 6 vs 3–4, More than 6 vs Up to 2, None vs 5–6, None vs 3–4, 5–6 vs 3–4, 5–6 vs Up to 2, and 3–4 vs Up to 2—have adjusted significance values well above .05, indicating no meaningful statistical differences among these groups. Even comparisons showing borderline raw significance (e.g., None vs 3–4) become non-significant after correction, confirming that the observed differences are not strong enough to be reliable.

Monthly Income:

H0: there is no significant difference among monthly income categories regarding financial literacy in terms of financial awareness, attitude and behaviour

H1: there is significant difference among monthly income categories regarding financial literacy in terms of financial awareness, attitude and behaviour

Ranks				
	Monthly Income	N	Mean Rank	Test Statistics
Financial Product Awareness	Up to Rs. 10,000	278	648.90	121.273 (0.000)
	Rs. 10,001 to Rs. 25,000	300	499.36	
	Rs. 25,001 to Rs. 40,000	163	416.88	
	Rs. 40,001 to Rs. 60,000	147	508.50	
	More than Rs. 60,000	132	362.18	
	Total	1020		
Financial Attitude	Up to Rs. 10,000	278	557.15	23.902 (0.000)
	Rs. 10,001 to Rs. 25,000	300	458.48	
	Rs. 25,001 to Rs. 40,000	163	487.14	
	Rs. 40,001 to Rs. 60,000	147	518.58	

	More than Rs. 60,000	132	550.33	
	Total	1020		
Financial Behaviour	Up to Rs. 10,000	278	495.29	3.784 (0.436)
	Rs. 10,001 to Rs. 25,000	300	510.12	
	Rs. 25,001 to Rs. 40,000	163	501.63	
	Rs. 40,001 to Rs. 60,000	147	525.26	
	More than Rs. 60,000	132	537.91	
	Total	1020		

Table 4. 80 Rank Analysis of Financial Literacy and Monthly Income

The Kruskal–Wallis Test results based on monthly income reveal significant variations in Financial Product Awareness and Financial Attitude, but not in Financial Behaviour, among respondents belonging to different income groups.

For Financial Product Awareness, the mean ranks display a clear pattern of variation across income levels. Respondents earning up to ₹10,000 per month have the highest mean rank (648.90), followed by those earning ₹40,001–₹60,000 (508.50), ₹10,001–₹25,000 (499.36), ₹25,001–₹40,000 (416.88), and more than ₹60,000 (362.18). The test statistic of 121.273 with a p-value of 0.000 (less than 0.05) indicates a highly significant difference among income groups. This suggests that individuals in the lowest income category show greater awareness of financial products, possibly due to participation in government-led financial inclusion schemes, microfinance programs, or savings initiatives designed for low-income households.

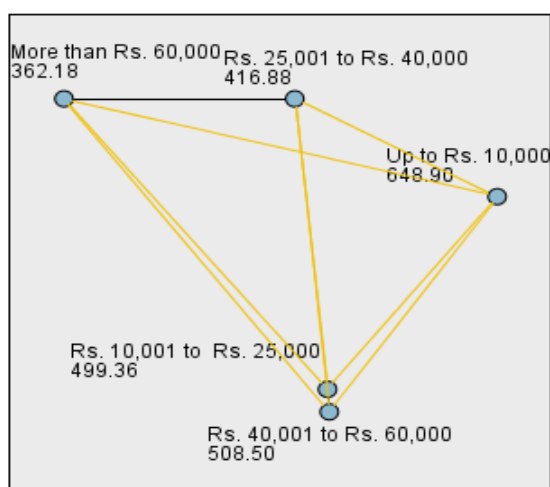
For Financial Attitude, the mean ranks also vary significantly, though in a different pattern. The highest mean ranks are observed among respondents earning more than ₹60,000 (550.33) and up to ₹10,000 (557.15), while those in the middle-income categories — ₹10,001–₹25,000 (458.48) and ₹25,001–₹40,000 (487.14) — show comparatively lower ranks. The test statistic of 23.902 with a p-value of 0.000 (less than 0.05) confirms a significant difference. This indicates that both high- and low-income groups display stronger financial attitudes, albeit for different reasons — higher-income individuals may have more confidence and resources for financial planning, while lower-income groups may exhibit caution and positive attitudes toward saving due to limited resources and risk aversion.

In contrast, Financial Behaviour shows minimal differences across income categories. The mean ranks range narrowly between 495.29 (up to ₹10,000) and 537.91 (more than ₹60,000). The test statistic value of 3.784 with a p-value of 0.436 (greater than 0.05) suggests that these differences are not statistically significant. This means that income level does not have a major impact on financial

behaviour, implying that individuals across all income levels may engage similarly in financial practices like budgeting, spending, and saving.

Multiple Comparisons for Financial Product Awareness:

Pairwise Comparisons of MI



Each node shows the sample average rank of MI.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
More than Rs. 60,000-Rs. 25,001 to Rs. 40,000	54.702	33.108	1.652	.098	.985
More than Rs. 60,000-Rs. 10,001 to Rs. 25,000	137.180	29.532	4.645	.000	.000
More than Rs. 60,000-Rs. 40,001 to Rs. 60,000	146.319	33.905	4.316	.000	.000
More than Rs. 60,000-Up to Rs. 10,000	286.723	29.887	9.594	.000	.000
Rs. 25,001 to Rs. 40,000-Rs. 10,001 to Rs. 25,000	82.478	27.513	2.998	.003	.027
Rs. 25,001 to Rs. 40,000-Rs. 40,001 to Rs. 60,000	-91.616	32.161	-2.849	.004	.044
Rs. 25,001 to Rs. 40,000-Up to Rs. 10,000	232.021	27.894	8.318	.000	.000
Rs. 10,001 to Rs. 25,000-Rs. 40,001 to Rs. 60,000	-9.138	28.467	-.321	.748	1.000
Rs. 10,001 to Rs. 25,000-Up to Rs. 10,000	149.543	23.539	6.353	.000	.000
Rs. 40,001 to Rs. 60,000-Up to Rs. 10,000	140.404	28.835	4.869	.000	.000

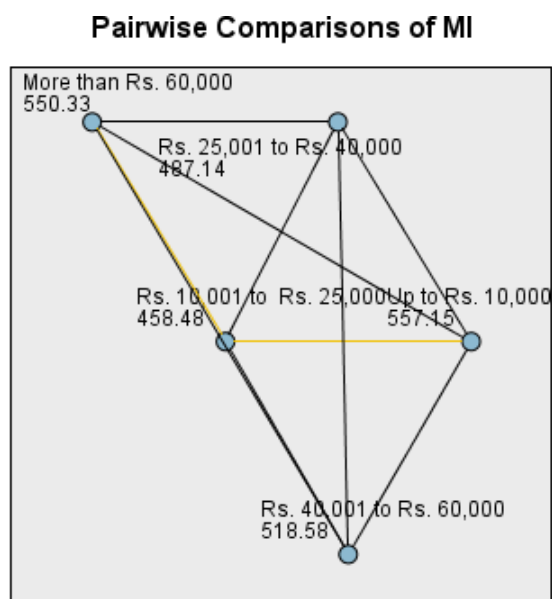
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 31 Financial Product Awareness and Monthly Income

The multiple comparisons for Monthly Income (MI) show clear and consistent differences across several income groups, indicating that monthly income level strongly influences the measured financial behaviour. The most striking pattern is that individuals earning Up to Rs. 10,000 consistently show significantly higher average ranks compared to every other income group. This is supported by highly significant adjusted p-values (all .000) when comparing “Up to Rs. 10,000” with More than Rs. 60,000, Rs. 40,001–60,000, Rs. 25,001–40,000, and Rs. 10,001–25,000. These results suggest that lower-income respondents demonstrate distinctly different—and stronger—patterns of financial behaviour compared to all higher-income categories.

Another set of significant differences arises between More than Rs. 60,000 and several other groups. Specifically, “More than Rs. 60,000” differs significantly from Rs. 10,001–25,000, Rs. 40,001–60,000, and Up to Rs. 10,000 (all Adj. Sig. = .000), showing that the highest-income group consistently exhibits the lowest average ranks. This indicates that individuals in the highest income category display notably weaker financial behaviour. There are also meaningful differences between Rs. 25,001–40,000 and other groups. This income bracket differs significantly from Rs. 10,001–25,000 (Adj. Sig. = .027), Rs. 40,001–60,000 (Adj. Sig. = .044), and Up to Rs. 10,000 (Adj. Sig. = .000). These findings position the Rs. 25,001–40,000 group in the middle, behaving differently from both lower- and higher-income ranges.

Multiple Comparisons for Financial Attitude:



Each node shows the sample average rank of MI.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Rs. 10,001 to Rs. 25,000-Rs. 25,001 to Rs. 40,000	-28.658	26.139	-1.096	.273	1.000
Rs. 10,001 to Rs. 25,000-Rs. 40,001 to Rs. 60,000	-60.098	27.045	-2.222	.026	.263
Rs. 10,001 to Rs. 25,000-More than Rs. 60,000	-91.850	28.057	-3.274	.001	.011
Rs. 10,001 to Rs. 25,000-Up to Rs. 10,000	98.671	22.363	4.412	.000	.000
Rs. 25,001 to Rs. 40,000-Rs. 40,001 to Rs. 60,000	-31.440	30.555	-1.029	.303	1.000
Rs. 25,001 to Rs. 40,000-More than Rs. 60,000	-63.192	31.455	-2.009	.045	.445
Rs. 25,001 to Rs. 40,000-Up to Rs. 10,000	70.013	26.501	2.642	.008	.082
Rs. 40,001 to Rs. 60,000-More than Rs. 60,000	-31.751	32.211	-.986	.324	1.000
Rs. 40,001 to Rs. 60,000-Up to Rs. 10,000	38.573	27.395	1.408	.159	1.000
More than Rs. 60,000-Up to Rs. 10,000	6.822	28.395	.240	.810	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4. 32 Multiple Comparison – Financial Attitude and Monthly Income

The pairwise comparison results for Monthly Income (MI) show that only a few income groups differ significantly from one another after applying adjusted significance levels. The most meaningful and reliable difference is found between the income group Rs. 10,001 to Rs. 25,000 and More than Rs. 60,000, where the adjusted significance value is .011, indicating that individuals in the higher income category have significantly lower average ranks than those in the Rs. 10,001–25,000 category. This suggests a notable contrast in financial behaviour, with the lower-middle income group demonstrating stronger or more favourable patterns compared to the highest income bracket.

Another important finding is that the comparison between Rs. 10,001 to Rs. 25,000 and Up to Rs. 10,000 is highly significant (Adj. Sig. = .000), indicating that respondents with incomes up to Rs. 10,000 show substantially higher average ranks than those earning between Rs. 10,001–25,000. This highlights that the lowest income group displays distinctly different—likely stronger—behaviour than several higher income categories. All other comparisons, including those involving Rs. 25,001 to Rs. 40,000, Rs. 40,001 to Rs. 60,000, and More than Rs. 60,000 with various other groups, show adjusted significance values greater than .05, meaning these differences are not statistically meaningful. Several raw p-values are below .05 (e.g., Rs. 25,001–40,000 vs More than Rs. 60,000; Rs. 25,001–40,000 vs Up to Rs. 10,000), but these lose significance after adjustment, indicating that the differences are not strong enough to be considered reliable.

CHAPTER 5

FINDINGS,

CONCLUSION AND

RECOMMENDATION

5. FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Findings

Demographic Profile:

- The majority of respondents are relatively young, with most falling between 18 to 45 years of age. The largest group is 18–30 years, followed closely by 31–45 years, indicating that the study reflects mainly the perspectives of young and middle-aged individuals. Older age groups are minimally represented.
- Most respondents are married, forming nearly two-thirds of the sample, while a smaller proportion is unmarried. This suggests that family responsibilities and household decision-making may influence the behaviors and choices of the majority.
- The respondents are largely well-educated, with nearly equal proportions having completed graduation and post-graduation. A smaller segment has education below higher secondary level, indicating that the sample is predominantly composed of individuals with higher educational qualifications.
- The majority of respondents are employees, representing more than three-fourths of the sample. Students and business/professionals form smaller portions, while retirees constitute a very small segment. This shows that the study primarily captures the perspectives of working professionals.
- Respondents are spread across five districts, with Surat having the largest representation, followed by Valsad and Navsari. Bharuch and Tapi have smaller but equal representation. This distribution ensures regional diversity in the sample.
- A greater proportion of respondents are from semi-urban areas, while urban respondents form a smaller but significant portion. This indicates that the study reflects perspectives from both moderately urbanized and fully urban regions.
- Most respondents are engaged in full-time employment, with smaller groups working part-time, self-employed, or both. This highlights that the sample mainly comprises individuals with stable employment.
- Most families have two earning members, indicating dual-income households, followed by families with three earning members. Smaller segments include families with one or more than three earners. This shows that most respondents belong to financially active households.

- A majority of respondents have up to two dependents, while a significant portion has none. Larger families with three or more dependents represent a smaller fraction. This indicates that most households have manageable dependent responsibilities.
- The sample reflects a range of income levels, with the largest groups in the lower and lower-middle income brackets (up to Rs. 25,000). Higher income brackets have smaller representation, suggesting that the majority of respondents are from modest to middle-income groups.
- Most respondents are aware of investment options, indicating a reasonably high level of financial literacy. However, a smaller portion is unaware or uncertain, highlighting the need for further financial education.
- A majority of respondents have invested in financial products, suggesting active participation in financial planning and wealth management. A significant minority, however, has not invested, possibly due to risk aversion or lack of knowledge.
- Most respondents invest a relatively small portion of their income, with up to 10% being the most common. Few respondents allocate larger shares, and a notable group does not invest at all, indicating cautious investment behavior and limited risk-taking.

The respondents are largely young, educated, and employed, predominantly from semi-urban areas and married households. Most come from dual-income families with few dependents, earn modest to middle-range incomes, and have a reasonable awareness of investment options. While the majority have invested in financial products, they typically allocate a small portion of their income, reflecting conservative financial behavior. The sample demonstrates a mix of financial literacy, employment stability, and moderate risk-taking tendencies, providing a comprehensive perspective on investment behavior and related socio-economic characteristics.

Awareness Level:

- The findings highlighted that bank fixed deposits are a well-known financial instrument for most respondents, indicating strong awareness and potential acceptance of this low-risk investment option.
- Many respondents are familiar with PPF and pension fund schemes, awareness is less widespread and less intense compared to more commonly known instruments like bank fixed deposits, highlighting potential opportunities for financial education and awareness programs.
- Post Office savings schemes enjoy moderate popularity and awareness, though there is room to enhance understanding among less informed individuals.
- Mutual funds are reasonably well-known, there remains scope to increase awareness and understanding among those with only basic or no knowledge.
- Further it was found that life insurance policies are widely recognized, though there is still scope to improve awareness among less informed individuals.
- The government securities are not widely recognized or well-understood by respondents, highlighting the need for increased financial education in this area.
- Awareness of stock market investments is relatively low compared to more common financial instruments, highlighting the need for targeted education and awareness initiatives.

Financial Attitude

- Further looking to the results show for each attitude statement, a large number of respondents lean toward spending rather than saving, as 50.6% agreed or completely agreed with the statement. Around one-third (35.7%) remained neutral, while only a small portion disagreed. This indicates a generally spending-oriented financial attitude among respondents.
- The majority of respondents display a positive attitude toward financial risk-taking, with 54.5% agreeing or completely agreeing. About one-fourth remained neutral, and only 20.3% disagreed. This suggests a relatively high level of risk tolerance and confidence in investment decisions.
- Responses reveal mixed views, with 33.7% neutral and 35.7% agreeing or completely agreeing. Meanwhile, 30.6% disagreed or completely disagreed. This shows that while many respondents value spending, there remains a significant segment that prefers saving and financial restraint.

- A majority of respondents (55.6%) agreed or completely agreed, indicating satisfaction with their financial condition. About 23.9% remained neutral, and only a small group expressed dissatisfaction. This points to a generally positive perception of personal financial well-being.
- Nearly half of respondents (49.9%) were neutral, while 28.3% agreed or completely agreed. About 21.9% disagreed. This suggests that while some respondents manage their finances closely, many exhibit moderate or passive financial monitoring behavior.
- Over half (52.5%) of respondents expressed neutrality, while 27% agreed or completely agreed that finances limit their activities. Around 20.5% disagreed. This implies that although some feel financially restricted, many neither strongly agree nor disagree, showing mixed perceptions of financial freedom.
- Most respondents (57.3%) were neutral, and 27.3% agreed or completely agreed. About 15.5% disagreed. This indicates that long-term financial goal-setting is not a strong habit among respondents, with many showing uncertainty or lack of active planning.
- Nearly half (49.9%) of respondents agreed or completely agreed, showing trust in the banking system. Around 35.7% were neutral, and 14.4% disagreed. This suggests that while confidence in banks is relatively strong, a significant portion remains uncertain or skeptical.
- More than half of the respondents (55.3%) agreed or completely agreed, indicating that debt is a major concern for many. About 24.1% were neutral, and only 20.6% disagreed. This points to a prevalent sense of financial burden among participants.
- A majority of respondents (54.8%) remained neutral, while 33.5% agreed or completely agreed, and 11.8% disagreed. This shows that although some recognize the moral obligation to repay debts, many exhibit a neutral or indifferent attitude toward financial responsibility.

Financial Behaviour

- The majority of respondents (76.4%) often or always worry about meeting their daily living expenses, indicating widespread financial stress and limited financial comfort. Only a small fraction rarely or never experience such concern. Overall, the findings suggest that many respondents face difficulties in maintaining consistent financial stability for routine expenses.
- A significant majority (78.6%) reported that finances often or always control their lives, revealing a high level of financial dependence and constraint in decision-making. Very few respondents felt free from financial control. This indicates that financial pressure is a dominant factor influencing lifestyle and personal choices.

- Most respondents (95.4%) stated that they sometimes or often think about affordability before making purchases, showing moderate financial awareness. However, only a small number (0.8%) always consider affordability, suggesting that while most respondents are cautious spenders, their financial discipline may not be consistent.
- A majority (80.4%) of respondents reported that they often or always have money left after covering monthly expenses, reflecting good budgeting and financial management practices. Very few participants rarely or never have money left, indicating a generally stable financial condition among most respondents.
- Most respondents (75.3%) reported that they often or always pay their bills on time, suggesting strong financial discipline and a responsible attitude toward meeting obligations. Only a small group (2.2%) reported rarely or never doing so, indicating that delayed payments are uncommon among respondents.
- An overwhelming majority (95.9%) admitted to sometimes or often sharing sensitive banking information with close friends, highlighting a major lapse in financial privacy and security awareness. This risky behavior indicates the need for education on the importance of maintaining confidentiality in financial matters.
- Most respondents (66.2%) often or always verify whether an online financial provider is regulated, showing a generally cautious and informed approach to online financial transactions. About one-third (33.2%) sometimes do so, suggesting moderate but inconsistent awareness of regulatory safety.
- A large proportion of respondents (97.8%) sometimes or often share personal financial information online, revealing poor financial privacy practices. This behavior increases vulnerability to fraud and scams, emphasizing the need for stronger digital literacy and awareness regarding online financial safety.
- A significant majority (74%) often or always purchase unnecessary goods and services, indicating impulsive spending tendencies. Only a few respondents exhibit disciplined spending habits. Overall, the findings point toward a high prevalence of non-essential consumption and weak financial self-control among respondents.

Financial Numeracy

The overall findings from the financial numeracy section reveal that while a portion of respondents demonstrates a basic understanding of fundamental financial concepts, **a large segment lacks**

adequate financial literacy, particularly in areas related to interest, inflation, and investment risk. Overall, the financial numeracy levels among respondents are **moderate to low**, with noticeable weaknesses in understanding **compound interest, inflation, risk diversification, and bond pricing**.

1. Interest Calculation (Savings Growth):

When asked about the effect of a 2% annual interest rate over five years, **59.5%** of respondents correctly identified that the amount would be **more than Rs. 102**, indicating some understanding of simple interest growth. However, **40.5%** either gave incorrect answers or did not know, reflecting a limited grasp of the concept of interest accumulation over time.

2. Investment Risk (Stocks vs. Mutual Funds):

In the question comparing the safety of a single company's stock to that of a mutual fund, only **51.4%** correctly answered "**False**," showing a slightly better-than-average understanding that **diversification reduces investment risk**. Yet, **48.6%** incorrectly believed individual stocks are safer, suggesting confusion about risk management principles in investing.

3. Time Value of Money (Inheritance Scenario):

When presented with a situation comparing immediate and delayed inheritance, only **38.2%** correctly recognized that **receiving money earlier** makes one richer due to the time value of money. A large proportion (**38%**) admitted "**Don't know**," indicating weak comprehension of how time affects the value of money.

4. Inflation Effect on Purchasing Power:

Regarding income and price doubling; only **32.4%** of respondents correctly understood that purchasing power remains **the same**, while the rest either misunderstood the concept or were unsure. This suggests a poor understanding of **inflation's neutralizing effect** on real income.

5. Interest Rate and Bond Price Relationship:

Only **23.2%** correctly identified that **bond prices fall when interest rates rise**, showing a significant knowledge gap in **financial market dynamics**. The majority either responded incorrectly or selected "**Don't know**" (**40.7%**), emphasizing a lack of familiarity with basic investment principles.

Relationship between Financial Literacy and Financial Behaviour

Table Title	Overall Findings
Construct Reliability and Validity	All constructs demonstrated strong internal consistency. Cronbach's alpha and composite reliability exceeded 0.70 for all constructs, indicating high reliability. AVE values were above 0.50, confirming convergent validity. Financial Literacy (AVE = 0.747) and Financial Attitude (AVE = 0.719) displayed the highest convergent validity, ensuring that the measurement model is both reliable and valid.
Discriminant Validity (HTMT Ratio)	The HTMT analysis confirmed good discriminant validity for most constructs. All HTMT values were below 0.85, except between Financial Behaviour and Financial Literacy (1.067), while overall discriminant validity is acceptable.
R-Square	The R-square (0.855) and adjusted R-square (0.855) values for Financial Literacy indicate that 85.5% of its variance is explained by Financial Attitude, Financial Behaviour, and Financial Product Awareness. This demonstrates strong predictive accuracy and model stability, reflecting substantial explanatory power.
f-Square	The f-square analysis reveals that Financial Behaviour (4.789) has a very large effect on Financial Literacy, Financial Attitude (0.058) has a small effect, and Financial Product Awareness (0.001) has a negligible effect. Hence, Financial Behaviour is the most influential predictor of Financial Literacy.
Path Coefficients	The path results show that Financial Behaviour ($\beta = 0.885$, $p = 0.000$) and Financial Attitude ($\beta = 0.100$, $p = 0.000$) significantly and positively affect Financial Literacy, while Financial Product Awareness ($\beta = 0.011$, $p = 0.375$) has no significant impact. This highlights the critical role of behavioural and attitudinal factors in enhancing financial literacy.

Differences in Demographic Profile regarding Financial Numeracy:

Financial Numeracy and Current Working Status:

Self-employed respondents have the highest financial numeracy (mean rank = 603.51), followed by those engaged in both part-time and self-employment (560.06). Part-time (497.36) and full-time

employees (495.73) show comparatively lower financial numeracy. The differences are statistically significant (Test statistic = 15.929, $p = 0.001$), indicating that employment type influences financial numeracy, with self-employment associated with higher financial skills.

Financial Numeracy and Number of Earning Members in the Family:

Respondents from families with two earning members have the highest financial numeracy (536.82), while those with one (483.77), three (480.38), or more than three (482.11) earning members have lower scores. The differences are statistically significant (Test statistic = 9.180, $p = 0.027$), suggesting that having two earning members in a family is positively associated with stronger financial numeracy.

Financial Numeracy and Number of Dependents in the Family:

Respondents from families with 5 to 6 dependents demonstrate the highest financial numeracy (621.42), followed by those with up to 2 dependents (533.92). Respondents with 3 to 4 dependents (492.87) and no dependents (472.15) show moderate financial numeracy, whereas families with more than 6 dependents have the lowest scores (409.88). The differences are significant (Test statistic = 18.829, $p = 0.001$), indicating that the number of dependents affects financial numeracy, with very high or very low dependent counts associated with weaker financial skills.

Financial Numeracy and Monthly Income:

Respondents earning Rs. 25,001–40,000 have the highest financial numeracy (583.27), followed by those earning more than Rs. 60,000 (549.28) and Rs. 10,001–25,000 (516.49). Lower financial numeracy is observed among those earning up to Rs. 10,000 (469.63) and Rs. 40,001–60,000 (460.06). The differences are statistically significant (Test statistic = 22.573, $p = 0.000$), highlighting that income level is meaningfully associated with financial numeracy, with mid-income groups showing stronger skills.

Differences in Demographic Profile regarding Financial Literacy:

- Financial Product Awareness differs significantly between urban and semi-urban respondents, while Financial Attitude and Financial Behaviour remain statistically similar across both groups.
- Marital status does not have a significant impact on Financial Product Awareness, Financial Attitude, or Financial Behaviour among respondents. Both married and unmarried individuals exhibit similar levels of financial understanding, outlook, and behavioural practices.

- Age does not significantly influence Financial Product Awareness, Financial Attitude, or Financial Behaviour. Although minor variations exist, they are not strong enough to be statistically meaningful. This suggests that financial understanding, attitudes, and behaviours remain relatively consistent across different age groups in the sample.
- Education level has a significant effect on Financial Product Awareness and Financial Attitude, but no significant effect on Financial Behaviour. Respondents with lower education levels exhibit higher awareness and stronger financial attitudes compared to their more highly educated counterparts, possibly reflecting differences in financial priorities and real-life financial experiences.
- Occupation significantly influences Financial Product Awareness but does not have a significant impact on Financial Attitude or Financial Behaviour. Employees tend to be more financially aware due to their active participation in formal financial systems, whereas other groups such as students and retired individuals exhibit relatively lower awareness.
- District significantly influences all three financial dimensions — awareness, attitude, and behaviour. Respondents from Bharuch and Surat exhibit higher financial awareness and positive attitudes, likely due to higher economic activity and access to financial services, while Valsad and Navsari display lower levels, suggesting a need for enhanced financial education and inclusion programs in these areas.
- Current working status significantly affects Financial Product Awareness but does not significantly influence Financial Attitude or Financial Behaviour. Individuals engaged in part-time or full-time employment tend to have higher awareness of financial products, reflecting the structured financial exposure associated with their work environments.
- The number of earning members does not significantly impact Financial Product Awareness, it does influence Financial Attitude and Financial Behaviour. Families with two or three earning members tend to show stronger financial attitudes and better financial behaviours, highlighting the positive role of shared income responsibility in promoting sound financial practices.
- The number of dependents significantly influences all three financial dimensions — awareness, attitude, and behaviour. Respondents with a moderate number of dependents (up to 4) tend to exhibit higher financial awareness, more positive financial attitudes, and more responsible financial behaviours, whereas those with very few or too many dependents display relatively lower financial engagement, likely due to differing financial pressures and responsibilities.

- The monthly income significantly affects Financial Product Awareness and Financial Attitude but not Financial Behaviour. Low-income respondents tend to have greater awareness due to financial inclusion initiatives, while both low- and high-income groups exhibit stronger financial attitudes.

5.2 Conclusion:

The study focuses on assessing the level of financial literacy and numeracy among working women in South Gujarat, recognizing that despite women's significant role in household financial decision-making and economic development, many face challenges due to limited financial knowledge, low confidence, and socio-economic constraints. Drawing on prior evidence that highlights women's cautious investment behavior and gaps in financial awareness, the research adopts a descriptive research design to examine financial knowledge, attitude, behavior, and their interrelationships, along with the influence of demographic and socio-economic factors. Primary data were collected through a structured questionnaire administered both online and offline to 1,020 working women across five districts—Surat, Bharuch, Tapi, Navsari, and Valsad—using a multistage sampling approach, while secondary data were sourced from books, journals, reports, and prior studies. The study formulates multiple hypotheses to test the impact of financial attitude, behavior, and awareness on financial literacy and to identify differences across demographic categories. By providing region-specific empirical evidence, the research aims to support policymakers, educators, and institutions in designing targeted financial education and empowerment programs, thereby strengthening financial confidence, independence, and overall economic well-being of working women in South Gujarat.

The findings of this study lead to the conclusion that financial literacy among working women in South Gujarat is shaped by a complex interaction of awareness, attitude, behaviour, numeracy, and demographic factors, with behavioural aspects playing the most decisive role. Although the respondents are largely young, educated, employed, and part of economically active households, their overall financial literacy cannot be considered strong, particularly when evaluated through financial numeracy and real-life financial practices. The study reveals that while awareness of traditional and low-risk financial instruments such as bank deposits, life insurance, PPF, and post office schemes is reasonably high, knowledge of advanced and market-linked instruments such as mutual funds, government securities, bonds, and stock markets remains limited. This restricted awareness is further reflected in conservative investment patterns, where most women invest only a small proportion of their income and show reluctance toward riskier but potentially rewarding financial avenues.

A major contribution of the study lies in establishing that financial behaviour has a very large and statistically significant impact on financial literacy, far outweighing the influence of financial attitude and financial product awareness. This indicates that knowing about financial products alone does not translate into higher literacy unless supported by disciplined financial practices such as budgeting, timely bill payments, controlled spending, saving habits, and informed decision-making. Although many respondents demonstrate responsible behaviours like paying bills on time and having surplus money after monthly expenses, the prevalence of financial stress, impulsive spending, weak long-term goal planning, and excessive concern about daily expenses points to fragile financial security. Particularly alarming are the findings related to digital financial behaviour, where a vast majority of respondents admit to sharing sensitive financial and personal information online or with acquaintances, exposing them to fraud and cyber risks and highlighting serious gaps in digital financial literacy.

The analysis of financial numeracy further reinforces these concerns, as a substantial proportion of respondents struggle with fundamental concepts such as compound interest, inflation, time value of money, diversification, and the inverse relationship between interest rates and bond prices. These weaknesses suggest that even educated and employed women may lack the analytical skills required to evaluate financial products effectively, manage long-term investments, and protect their purchasing power over time. Demographic comparisons reveal that employment type, income level, district, and family structure significantly influence financial numeracy and literacy dimensions, with self-employed women, mid-income earners, and respondents from economically active districts like Surat and Bharuch generally exhibiting stronger financial understanding. In contrast, age and marital status show minimal influence, indicating that financial capability gaps persist across life stages and family arrangements.

Overall, the study concludes that enhancing financial literacy among working women in South Gujarat requires a shift from awareness-focused initiatives to comprehensive, behaviour-oriented financial education that strengthens numeracy, promotes responsible spending and saving habits, improves long-term financial planning, and builds strong digital financial safety practices. The evidence strongly supports the need for targeted, region-specific interventions by policymakers, educational institutions, employers, and financial service providers to empower working women not only as earners but as confident, informed, and secure financial decision-makers. By addressing behavioural and numeracy gaps alongside awareness, such initiatives can significantly contribute to women's financial independence, household stability, and broader economic development in the region.

5.3 Suggestions:

Based on the findings of the study, it is strongly suggested that financial literacy initiatives for working women in South Gujarat should move beyond basic awareness programs and focus more intensively on improving financial behaviour and numeracy skills.

1. Since financial behaviour emerged as the most influential determinant of financial literacy, targeted training should emphasize practical money management skills such as budgeting, expense tracking, disciplined saving, debt management, and goal-based financial planning. Workshops and short-term certification programs that use real-life financial scenarios rather than theoretical content would help women translate knowledge into everyday financial practices.
2. The study also highlights significant gaps in financial numeracy, particularly in understanding compound interest, inflation, time value of money, diversification, and bond–interest rate relationships. Therefore, it is recommended that numeracy-based financial education modules be introduced through workplaces, self-help groups, and community centers. These modules should use simple language, illustrations, and interactive tools to strengthen analytical thinking and improve women’s ability to evaluate long-term financial consequences and investment risks.
3. Given the widespread risky digital financial behaviour observed—such as sharing sensitive banking and personal information online—there is an urgent need for focused digital financial literacy and cyber-safety programs. Financial institutions, employers, and government agencies should conduct awareness campaigns on safe digital practices, fraud prevention, password security, and regulated online financial platforms, especially as digital transactions continue to increase.
4. The findings also indicate regional disparities, with districts such as Valsad and Navsari showing relatively lower levels of financial awareness and positive financial attitudes. Hence, district-specific financial inclusion and education initiatives should be implemented, prioritizing regions with lower financial engagement. Collaboration between local banks, NGOs, educational institutions, and government bodies can ensure better outreach and contextual relevance.
5. Since income level, occupation, and number of dependents significantly influence financial literacy dimensions, customized programs should be designed for different income groups and employment categories. For example, low- and middle-income working women may benefit from programs on emergency funds, insurance planning, and controlled consumption, while self-

employed women may require advanced training on investment diversification and retirement planning.

CHAPTER 6

BIBILIOGRAPHY

6. BIBLIOGRAPHY

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List of Publication:

Research Paper Publication	Name of Journal	ISSN No.	Listed in (UGC Care/Scopus)	Website Link
Determining Financial Literacy and Numeracy Among Working Women in South Gujarat Region.	Educational Administration: Theory and Practice	2148-2403	Scopus	https://kuey.net/index.php/kueylarticlelview/971817405
Financial Literacy and Numeracy among working women in Surat City of Gujarat State	Rabindra Bharati University Journal of Economics	0975-802X	UGC Care	https://rbu.ac.in/home/pagell2

7. ANNEXURE

Questionnaire

I, Pranjal Desai, Research Scholar at Gujarat Technological University undertake the research with objective to measure the financial literacy and Numeracy among working women of South Gujarat Region. I request you to spare some time and fill in this questionnaire. Your responses will be kept highly confidential. Thank you.

Demographic Information:

Age (Years):

- | | |
|----------------------------------|---------------------------------------|
| ☐ 18 - 30 | ☐ 31 – 45 |
| ☐ 46 - 60 | ☐ More than 60 |

Marital Status:

- | | |
|------------------------------------|----------------------------------|
| ☐ Unmarried | ☐ Married |
|------------------------------------|----------------------------------|

Education Level:

- | | |
|--|-------------------------------------|
| ☐ Below HSC | ☐ Graduation |
| ☐ Post-Graduation | |

Occupation:

- | | |
|--|-----------------------------------|
| ☐ Student | ☐ Employee |
| ☐ Business / Profession | ☐ Retired |

Area:

- | | |
|--------------------------------|-------------------------------------|
| ☐ Urban | ☐ Semi Urban |
| ☐ Rural | |

Current Working Status:

- | | |
|--|--|
| ☐ Part time Job | ☐ Self Employed |
| ☐ Full Time Job | ☐ Part Time and Self Employed |

No of Earning Members in Family:

- ☐ 1 ☐ 2
☐ 3 ☐ More than 3

No of Dependent in Family:

- ☐ Up to 2 ☐ 3 – 4
☐ 5 – 6 ☐ More than 6

Monthly Income: (In Rupees)

- ☐ Up to 15,000 ☐ 45,001 – 60,000
☐ 15,001 – 30,000 ☐ 60,001 – 75,000
☐ 30,001 – 45,000 ☐ More than 75,000

Are you aware about the Investment Options available to you?

- ☐ Yes ☐ No ☐ May Be

Do you invest your money in Financial Product?

- ☐ Yes ☐ No

If Yes, How much do you invest from your monthly Income?

- ☐ up to 10% ☐ 10% - 20%
☐ 20% - 30% ☐ 30% - 40%
☐ More than 40%

Rate the following statements of according to how much you are agree or Disagree on the scale (1 = Completely Disagree to 5 = completely agree) – **Financial Awareness**

Sr.	Statements	1	2	3	4	5
1.	Banks and financial institutions pay you fixed interest on the money you deposit in a savings account.					

2	Bank Fixed Deposits provide higher interest rate than normal saving account.					
3	Public Provident fund has lock in period of 15 Years.					
4	Post office savings account required minimum opening balance of Rs 500.					
5	A Pension Fund is managed by government agencies.					
6	Return on Mutual fund is not fixed.					
7	Debentures are fixed income securities					
8	Bonds are issued by Government.					
9	Life Insurance provides financial protection to beneficiaries in the event of the policyholder's death.					
10	Demate account is required to trade in stock.					
11	I am fully aware about plastic cards.					
12	Agricultural product are traded in Commodity Market					
13	I understand all the features of FinTech Product (Eg.: Google Pay)					

Rate the following statements of financial attitude and Behaviour according to how much you are agree or Disagree on the scale (1 = Completely Disagree to 5 = completely agree) – **Financial Attitude**

Sr.	Statements	1	2	3	4	5
1.	I find it more satisfying to spend money than to save it for the long term.					
2.	I am prepared to risk some of my own money when saving or making an investment.					
3.	Money is there to be spent.					
4.	I am satisfied with my present financial situation.					
5.	I keep a close personal watch on my financial affairs					
6.	My financial situation limits my ability to do the things that are important to me.					
7.	I set long term financial goals and strive to achieve them					
8	I believe that money in a bank will be safe even if the bank fails					

9	I have too much debt right now					
10	If I borrow money, I have a responsibility to pay it back					

How often would you say that this statement applies to you? (1 = never, 2 = never, 3 = sometimes, 4 = often, 5 = always) - Financial Behavior

Sr.	Statements	1	2	3	4	5
1.	I tend to worry about paying my normal living expenses					
2.	My finances control my life					
3.	Before I buy something I carefully consider whether I can afford it					
4.	I have money left over at the end of the month					
5.	I pay my bills on time.					
6.	I share the passwords and PINs of my bank account with my close friends					
7.	Before buying a financial product online I check if the provider is regulated in my country.					
8	I share information about my personal finances publicly online (e.g. on social media)					
9	I buy goods and services that I do not need					

Financial Numeracy:

Rate the following statements according to how much you agree or Disagree on the scale (1 = Completely Disagree to 5 = completely agree)

Sr.	Statements	1	2	3	4	5
1.	Supposing you have Rs 500 in saving account and the interest rate is 3% per year. After 5 years, the money in your saving account would be more than Rs 500.					
2.	A value of Rupee 1 today is greater than tomorrow.					
3.	If your income has doubled in current year, and prices of all goods (Day to Day Consumable) have doubled too than you would be able to buy less goods than today.					
4.	If Interest Rise then Bond price will also rise.					

5.	Buying a single company's stock usually provides safer return than a stock mutual fund.					
----	---	--	--	--	--	--

Financial Numeracy Score:

Supposing you have Rs 100 in saving account and the interest rate is 2% per year. After 5 years, the money in your saving account would be.____?

- () More than Rs. 102 () Exactly Rs. 102
 () Less than Rs 102 () Don't Know

Buying a single company's stock usually provides safer return than a stock mutual fund

- () True () False

Presume that you inherit Rs 10,000 today (2019) and your sister inherits Rs 10,000 three years later in 2022. The richer person is:

- () You () Your Sister
 () You both are equally Rich () Don't Know

Suppose that in the year 2022, your income has doubled, and prices of all goods (Day to Day Consumable) have doubled too. In 2022, with this income you would be able to buy:

- () More than Today () The Same
 () Less than Today () Don't Know

If interest rate rise, typically what happen to bond price

- () It will Fall () It will stay same
 () It will rise () Don't Know

