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

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TITLE:

A study on Financial Literacy and Numeracy among Working women of South Gujarat Region

ABSTRACT:

Financial literacy and numeracy play a crucial role in shaping the financial well-being and decision-making abilities of working women. This study aimed to assess the level of financial literacy and financial numeracy among working women in the South Gujarat region and to examine the relationship between financial knowledge, financial attitude, and financial behaviour. Primary data was collected from 1,020 working women across selected districts of South Gujarat using a structured questionnaire administered in Gujarati and English. Exploratory factor analysis identified three key dimensions of financial literacy, namely financial product awareness, financial attitude, and financial behaviour. Financial numeracy was assessed using questions related to compounding interest, stock risk, time value of money, inflation, and bond valuation, which revealed a moderate overall level of numeracy among respondents. Structural Equation Modelling (SEM) was employed to examine the relationships among the constructs, and the results indicated that financial attitude and financial behaviour have a significant impact on overall financial literacy, while financial product awareness plays a supporting role. Demographic analysis showed variations in financial literacy and numeracy across age, occupation, income, and education groups, though these differences were not uniformly significant. The findings suggest that although working women exhibit reasonable awareness of traditional financial products, gaps persist in advanced financial concepts and numeracy skills. The study concludes that improving financial education, particularly in areas of numeracy and investment-related decision-making, can enhance financial independence and long-term financial security among working women in South Gujarat. The Structural Equation Model (SEM) results further revealed that financial attitude and financial behaviour have a significant and positive influence on financial literacy among working women. Financial behaviour emerged as the strongest predictor, indicating that practical money management habits play a crucial role in enhancing financial literacy levels. Financial product awareness also showed a meaningful contribution, indirectly strengthening financial literacy through improved attitudes and behaviours. Overall, the SEM confirmed a well-fitted model establishing clear causal relationships among the constructs.

BRIEF DESCRIPTION ON THE STATE OF THE ART OF THE RESEARCH TOPIC

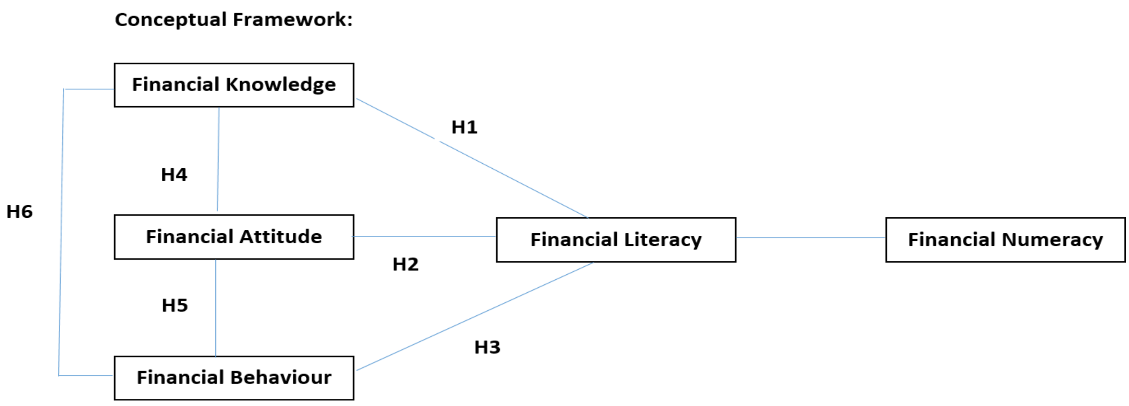
In recent years, the issue of financial literacy and numeracy among working women in India, particularly in the South Gujarat region, has gained increasing academic and policy attention. Traditionally, women's financial roles were largely confined to household budgeting, savings, and the use of basic financial products such as bank deposits, post office schemes, and life insurance. However, rising levels of education, urbanization, and workforce participation have significantly expanded women's exposure to formal financial systems and decision-making responsibilities. As a result, working women today play a more active role in managing income, savings, and investments, making financial literacy and numeracy critical components of their economic empowerment.

Contemporary research highlights that although working women exhibit reasonable awareness of conventional financial products, their understanding of complex financial concepts—such as time value of money, inflation, risk–return trade-offs, and bond valuation—remains limited. Financial numeracy, which involves the ability to interpret numerical financial information and apply it in real-life decisions, has emerged as a key challenge. Studies indicate that inadequate numeracy often restricts women's ability to evaluate investment alternatives, compare financial products, and plan effectively for long-term goals such as retirement and wealth creation.

Behavioral finance literature further emphasizes that financial attitudes and behaviors strongly influence literacy outcomes. Working women often display cautious financial behavior, prioritizing security and liquidity, while showing hesitation toward advanced financial instruments. Social influence, dependence on family members for financial decisions, and limited confidence in personal financial skills continue to shape financial behavior. Empirical studies using factor analysis and Structural Equation Modeling (SEM) reveal that financial attitude and financial behaviour have a significant positive impact on overall financial literacy, while financial product awareness acts as a foundational driver.

Recent regional studies in South Gujarat confirm that demographic variables such as age, income, and education show varying but limited influence on financial literacy and numeracy levels. Instead, psychological and behavioral factors play a more decisive role. Despite increased access to financial services and digital platforms, gaps persist in numerical understanding and informed financial decision-making. Thus, the current state of research reflects a transitional phase in which working women are increasingly engaged with financial systems but still require targeted financial education and numeracy-focused interventions to achieve long-term financial independence and economic security.

Conceptual Framework:



DEFINITION OF PROBLEM:

In recent years, working women in India have increasingly taken active roles in managing personal and household finances. With higher education levels, workforce participation, and access to financial services, women are no longer limited to traditional domestic responsibilities. Financial literacy and numeracy have therefore become essential skills for effective financial planning and decision-making. Despite this progress, many working women still face difficulties in understanding financial concepts and applying numerical skills to evaluate savings, investments, and long-term financial goals. Variations in financial attitude and financial behaviour further influence their financial capability. In addition, demographic factors such as age, education, income, and occupation may affect the level of financial literacy and numeracy among women. The present study addresses this issue by examining the level of financial literacy and numeracy among working women in the South Gujarat region and analysing the relationship between these factors and selected demographic variables. The findings aim to highlight existing gaps and provide insights for improving women's financial awareness, confidence, and economic independence.

OBJECTIVES OF RESEARCH:

- 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.

SCOPE OF THE STUDY:

The scope of the present study defines the boundaries within which the research on financial literacy and numeracy among working women in the South Gujarat region has been carried out. The study aims to assess the level of financial literacy and financial numeracy among working women and to examine the influence of financial product awareness, financial attitude, and financial behaviour on their overall financial capability. It also seeks to analyze the relationship between financial literacy, numeracy, and selected demographic variables such as age, education, income, occupation, and area of residence.

From an academic perspective, the study contributes to the existing literature on financial literacy by providing region-specific empirical evidence from South Gujarat, where focused research on working women's financial literacy and numeracy remains limited. The findings enhance understanding of how behavioural and attitudinal factors interact with numerical financial skills and offer a foundation for future research in related areas.

From a practitioner's perspective, the study is valuable for financial educators, policymakers, employers, and financial institutions. The insights can assist in designing targeted financial education and numeracy enhancement programs tailored to working women. Additionally, the study supports efforts to promote informed financial decision-making, economic independence, and long-term financial security among working women.

ORIGINAL CONTRIBUTION BY THESIS:

The present study makes significant original contributions to the field of financial literacy and numeracy research, with a specific focus on working women in the South Gujarat region. Unlike earlier studies that examined broader populations or different geographical contexts, this research uniquely investigates the levels of financial literacy and financial numeracy among working women across selected districts of South Gujarat. The study identifies and empirically examines key dimensions of financial literacy—financial product awareness, financial attitude, and financial behaviour—along with core components of financial numeracy such as compounding interest, stock risk, time value of money, inflation, and bond valuation, which together explain variations in women's financial capability.

By employing advanced statistical techniques including exploratory factor analysis, reliability testing, and Structural Equation Modelling (SEM), the study develops and validates a comprehensive model explaining the relationships among financial literacy, product awareness, attitude, and behaviour. Furthermore, the research provides new insights by analysing the association between these constructs and demographic variables, revealing that behavioural and attitudinal factors exert a stronger influence on financial literacy than demographic characteristics such as age, income, and education.

From a practical perspective, the study offers valuable implications for financial educators, policymakers, employers, and financial institutions by highlighting areas where targeted financial education and numeracy enhancement are needed. The findings support the design of focused financial literacy programs and interventions aimed at strengthening informed financial decision-making, promoting economic independence, and improving long-term financial security among working women in South Gujarat.

RESEARCH METHODOLOGY:

Hypothesis of Study:

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.

Research Design:

Descriptive research design has been used in this research to achieve objectives of the study.

Data Collection Method:

Primary Sources:

Primary Data has been collected using Structured Questionnaire of working women in South Gujarat Region.

Secondary Data:

For the present study, secondary data was gathered from a wide range of sources, including publications of central, state, and local government bodies, as well as books, research journals, magazines, theses, and other relevant academic and institutional documents.

Population:

For the purpose of the research, major districts of South Gujarat—namely Surat, Bharuch, Navsari, Valsad, and Tapi—were selected based on their economic growth, level of workforce participation among women, and convenience in data collection.

Sample Size:

Data had been Collected from 1020 Working women of South Gujarat.

Sample Plan:

Sample Unit: Sample unit refers to a singular value within a sample data base. For present research the sampling unit had been considered as Working Women.

Sampling Method: Nonprobability convenience sampling method had been used.

Sampling Area: In South Gujarat region, the district had been considered for research are Surat, Tapi, Bharuch, Navsari and Valsad based on their decade growth and convince to collect the data.

Tools & Techniques for Data Analysis:

- Frequency Analysis
- One Sample Chi Square
- Exploratory Factor Analysis
- Structural Equation Model
- Kruskal Wallis Test
- Mann Whitney U Test

Statistical Soft-Ware had been used 1.

- Microsoft Excel
- IBM SPSS 21.0
- PLS

Limitation of Study:

The study is limited to working women in the South Gujarat region, and hence the findings cannot be generalized beyond this group. Being cross-sectional in nature, the research captures financial literacy and numeracy at a single point in time and does not reflect changes over time. Additionally, the study considers only selected variables related to financial literacy, numeracy, attitude, and behaviour, while other factors such as emotional intelligence, social norms, and cultural influences were not included. The use of self-reported data may also involve response bias.

RESULT OF STUDY:

Demographic Profile:

- The majority of respondents (88.8%) fall within the 18–45 years age group, with 45.6% in the 18–30 years category and 43.2% in the 31–45 years category, indicating that the study mainly represents young and middle-aged women, while only 11.2% are above 45 years.
- Most respondents are married (62.9%), while 37.1% are unmarried, suggesting that family responsibilities may influence the financial behaviour of a large portion of the sample.
- The respondents are predominantly well-educated, with 42.5% being graduates and 42.7% post-graduates, while only 14.7% have education below the higher secondary level.
- A large majority of respondents are employees (76.5%), followed by students (12.7%) and business/professionals (9.3%), with retirees forming only 1.5%, indicating dominance of working professionals in the study.
- District-wise distribution shows the highest representation from Surat (29.4%), followed by Valsad (20.6%), Navsari (19.8%), and equal representation from Bharuch and Tapi (15.1% each), ensuring regional diversity.
- Area-wise, 60.5% of respondents belong to semi-urban areas, while 39.5% are from urban regions, reflecting a balanced regional spread.
- Most respondents are engaged in full-time employment (70.4%), while 15.8% work part-time and 12.9% are self-employed, indicating stable employment among the majority.
- The majority of respondents belong to households with two earning members (52.4%), followed by three earning members (23.8%), reflecting financially active family structures.
- Nearly half of the respondents (45.8%) have up to two dependents, while 31.6% have no dependents, indicating manageable dependency levels for most households.

- Income distribution shows that 56.7% of respondents earn up to ₹25,000 per month, 16.0% earn between ₹25,001–₹40,000, and only 27.3% earn above ₹40,000, highlighting a concentration in lower- and middle-income groups.
- A majority of respondents (61.8%) are aware of investment options, while 22.3% are not aware and 16.0% remain uncertain, indicating scope for financial education.
- Most respondents (65.7%) have invested in financial products, while 34.3% have not, reflecting moderate participation in financial markets.
- Regarding the portion of income invested, 34.5% invest up to 10% of their income, 23.7% invest 10–20%, while 21.5% do not invest at all, indicating generally cautious investment behaviour.

Financial Numeracy:

The overall findings from the financial numeracy assessment indicate that while a segment of respondents demonstrates a basic understanding of fundamental financial concepts, the overall level of financial numeracy remains moderate to low, with notable gaps in key areas such as interest calculation, inflation, investment risk, and bond pricing. Although 59.5% of respondents correctly identified that savings would grow beyond ₹102 at a 2% annual interest rate over five years, a substantial 40.5% either answered incorrectly or were unsure, reflecting limited understanding of interest accumulation. In terms of investment risk, only 51.4% correctly recognized that mutual funds are generally safer than individual stocks due to diversification, while 48.6% showed confusion regarding risk management. Understanding of the time value of money was particularly weak, as only 38.2% correctly identified the advantage of receiving money earlier, and 38% admitted a lack of knowledge. Similarly, awareness of inflation was limited, with just 32.4% understanding that doubling of income and prices leaves purchasing power unchanged. The weakest area was the relationship between interest rates and bond prices, where only 23.2% correctly identified that bond prices fall when interest rates rise, and a large proportion either responded incorrectly or selected "Don't know."

Differences in Demographic Profile regarding Financial Numeracy:

The analysis shows that financial numeracy among respondents varies significantly across different demographic and economic characteristics. Self-employed individuals demonstrate higher financial numeracy compared to part-time and full-time employees, indicating that employment type plays an important role in developing financial skills ($p = 0.001$). Respondents from families with two earning members exhibit stronger financial numeracy than those with fewer or more earning members, highlighting the positive influence of balanced household income structures ($p = 0.027$). Financial numeracy also differs significantly based on the number of dependents, with moderate dependency levels associated with better numeracy, while very high or no dependents correspond to weaker financial skills ($p = 0.001$). Additionally, income level shows a significant relationship with financial numeracy, as respondents from mid-income groups display higher numeracy compared to lower- and higher-income groups ($p = 0.000$). Overall, the findings confirm that employment status, household earning structure, dependency ratio, and income level collectively influence financial numeracy.

Differences in Demographic Profile regarding Financial Literacy:

The results show that financial product awareness varies significantly across several demographic factors, while financial attitude and behaviour are less affected. Urban–semi-urban location, education, occupation, working status, district, number of dependents, and income significantly influence financial product awareness. District and number of dependents also have a significant impact on financial attitude and financial behaviour. In contrast, age and marital status do not significantly affect any dimension of financial literacy. Overall, regional and household characteristics play a stronger role in shaping financial literacy than personal demographic factors such as age or marital status.

Structural Equation Modeling (SEM):

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.

ACHIEVEMENT WITH RESPECT TO OBJECTIVES:

Research Objective	Statistical Tool Used	Major Findings
To measure the level of financial literacy and numeracy among working women in South Gujarat	Frequency Analysis, Lusardi's score card.	The overall level of financial literacy and numeracy among working women is **moderate to low**. While most respondents are aware of basic and low-risk instruments such as bank deposits, life insurance, PPF, and post office schemes, knowledge of advanced products like mutual funds, government securities, bonds, and stock markets is limited. Financial numeracy results show weaknesses in understanding compound interest, inflation, time value of money, diversification, and bond pricing, indicating gaps in analytical financial skills.
To find out the determinants of financial literacy among working women	Factor Analysis	Financial Behaviour is the strongest determinant of financial literacy (f^2 = 4.789), followed by Financial Attitude (small effect), while Financial Product Awareness has a negligible effect. Path analysis confirms that Financial Behaviour and Financial Attitude have a significant positive impact on financial literacy, whereas Financial Product Awareness does not significantly influence financial literacy.
To examine the relationship between demographic and socio-economic factors with financial numeracy.	Kruskal–Wallis Test Mann – Whitney U Test	Education, occupation, district, income level, number of dependents, and current working status significantly influence dimensions of financial literacy and numeracy. District-wide differences are prominent, with respondents from Surat and Bharuch showing higher awareness and positive attitudes. Age and marital status do not show a significant

		influence on financial awareness, attitude, or behaviour
To examine the relationship between demographic and socio-economic factors with financial Literacy.	Kruskal–Wallis Test Mann – Whitney U Test	
To measure the impact of financial knowledge, attitude, and behaviour on financial literacy	Structural Equation Modeling (SEM)	Financial Behaviour (β = 0.885, p = 0.000) and Financial Attitude (β = 0.100, p = 0.000) significantly and positively influence financial literacy. Financial Product Awareness (β = 0.011, p = 0.375) has no significant impact. The model explains **85.5%** of the variance in financial literacy, demonstrating strong explanatory power.

CONCLUSION:

This study examines the level of financial literacy and numeracy among working women in South Gujarat, highlighting challenges such as limited financial knowledge, low confidence, and socio-economic constraints. Using a descriptive research design, primary data were collected from 1,020 respondents across five districts through a structured questionnaire. The findings reveal that while awareness of basic financial products like bank deposits and insurance is relatively high, knowledge of advanced investment options remains limited, resulting in conservative investment behaviour.

The study concludes that financial behaviour has the strongest influence on financial literacy, more than attitude or awareness. Although many women follow basic financial practices, gaps exist in long-term planning, numeracy skills, and digital financial safety. Overall, the research emphasizes the need for behaviour-focused and region-specific financial education programs to enhance financial independence and economic well-being among working women.

PUBLICATIONS:

Desai, P. N., & Meman, M. U. (2025). Determining Financial Literacy and Numeracy Among Working Women in South Gujarat Region. Educational Administration Theory and Practice., 5093-5098.

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