

Developing an Artificial Intelligence Enabled Model to Enhance the Efficiency of Financial Decision Making for the Working Women in India

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Abstract

Artificial Intelligence (AI) has emerged as a transformative force in personal finance, offering tailored insights into budgeting, investing, debt management, and retirement planning. This study investigates how AI-powered financial tools assist working women in India, who face unique barriers such as gender pay disparities, limited access to financial services, and low financial literacy. Drawing on survey data from 120 respondents, the research highlights adoption patterns, challenges, and perceptions of AI-driven financial platforms. Findings indicate that younger, full-time working women form the majority of AI adopters, with budgeting apps and robo-advisors being the most used tools. However, trust issues, security concerns, and preference for human advisors remain significant barriers. The study concludes that AI can play a crucial role in reducing the gender gap in financial literacy and investment confidence, provided transparency, inclusivity, and hybrid AI-human advisory models are developed.

Keywords: *Artificial intelligence; financial literacy; working women; gender gap; robo-advisors; financial inclusion*

1. Introduction

Working women in India face multi-dimensional financial challenges including unequal pay, limited access to formal financial services, and interruptions in careers due to caregiving responsibilities (ILO, 2022; NCAER, 2021). These challenges often result in reduced savings, lower investment confidence, and restricted financial independence (Standard Chartered, 2020).

AI-powered tools—such as robo-advisors, budgeting apps, and AI-based credit scoring—have the potential to democratize financial services by providing **personalized recommendations**, reducing dependency on manual advisory, and enhancing financial literacy (PwC India, 2021).

This study explores **how AI enhances working women's financial decision-making**, the adoption barriers, and the pathways through which AI can reduce gender disparities in financial participation.

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2. Literature Review

- **Financial Literacy & Empowerment:** Asandimitra et al. (2019) demonstrate that digital tools strengthen women's investment decision-making.
- **Bias in AI:** Teodorescu et al. (2021) caution that AI systems may reinforce gender inequality unless designed inclusively.
- **AI & Financial Inclusion:** Rafiq & Sohail (2023) and Adeoye et al. (2024) highlight AI's role in improving financial accessibility for underserved groups.
- **Behavioral Bias Mitigation:** Sugathan & Kumar (2024) find that AI reduces gendered behavioral biases in investment confidence.
- **Indian Context:** Gupta et al. (2024) show fintech improves access to digital finance among women; Rodríguez-Guevara et al. (2025) propose AI risk models for female entrepreneurs.

Together, this literature establishes AI as both an opportunity and a risk: it can empower women financially but may perpetuate bias if not carefully designed.

3. Research Methodology

- **Design:** Descriptive and exploratory
- **Primary Data:** Survey (120 working women, structured questionnaire with 9 items) + Interviews
- **Secondary Data:** Reports and scholarly papers on AI in finance and gender inclusion
- **Sampling:** Convenience sampling
- **Demographics:** 75% respondents aged 18–34; 75% employed full-/part-time; 25% self-employed/freelance/unemployed
- **Analysis:** Descriptive statistics + thematic analysis

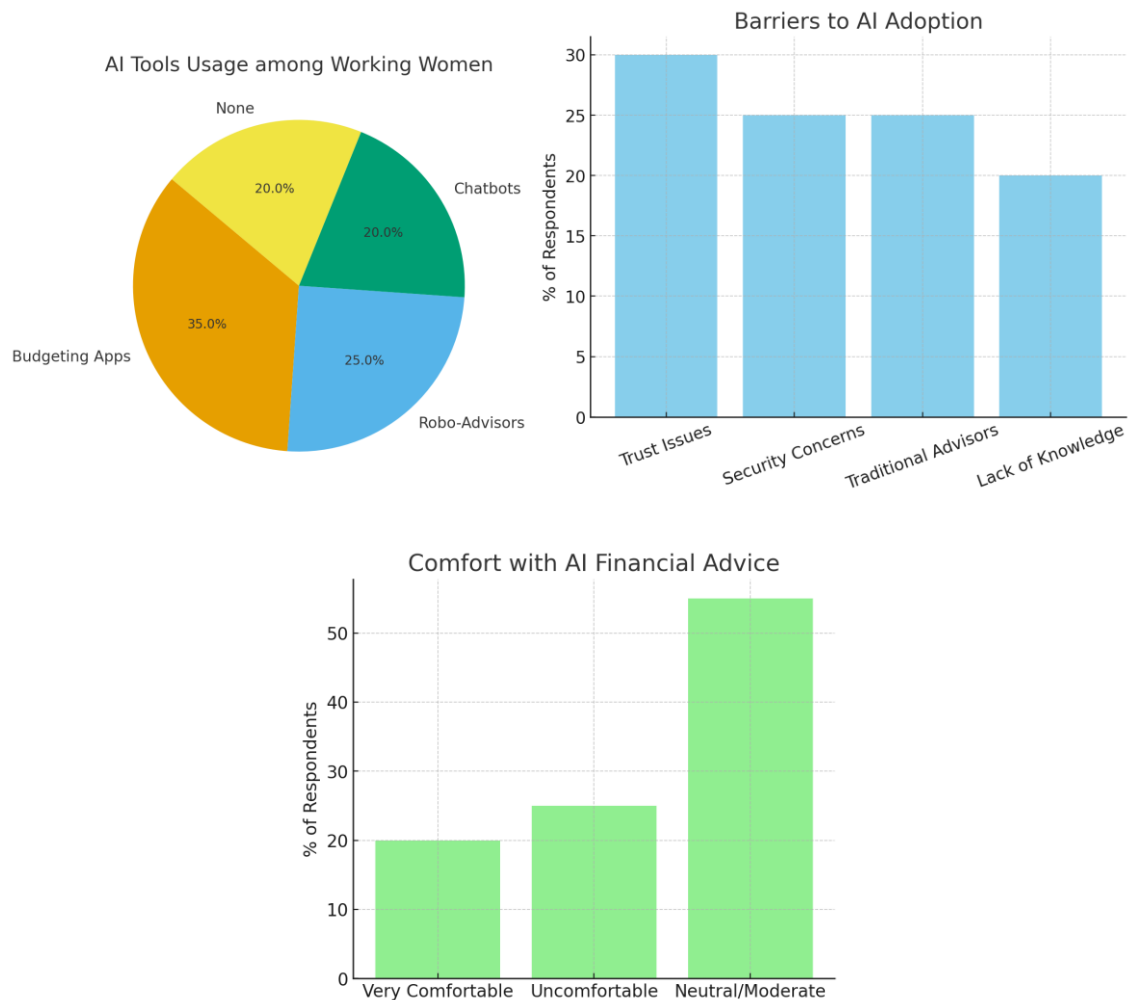
4. Data Analysis and Results

Table 1. Demographic Profile of Respondents

Category	Percentage (%)
Age 18–34	75
Age 35+	25
Full-time employment	50
Part-time employment	25
Self-employed/Freelance	20
Not employed	5

Table 2. Key Findings of the Study

Variable/Indicator	Results (%)
Independent Decision-Making	50% frequently decide independently
Familiarity with AI	20% high, 60% moderate, 20% none
Tools Used	Budgeting apps 35%, Robo-advisors 25%, Chatbots 20%, None 20%
Comfort with AI	20% very comfortable, 25% uncomfortable, majority neutral
Barriers	Trust issues 30%, Security concerns 25%, Traditional advisors 25%, Lack of knowledge 20%
Effectiveness	40% effective, 35% skeptical
Future Intentions	40% open to adoption, 35% undecided, 25% prefer humans
Gender Gap Reduction Belief	45% agree, 35% unsure, 20% disagree



5. Discussion

Findings confirm that AI empowers young, urban women in budgeting and investments, reflecting increased autonomy. However, **trust and transparency deficits** hinder adoption. This resonates with *algorithm aversion* literature (Verdict & Stradi, 2024).

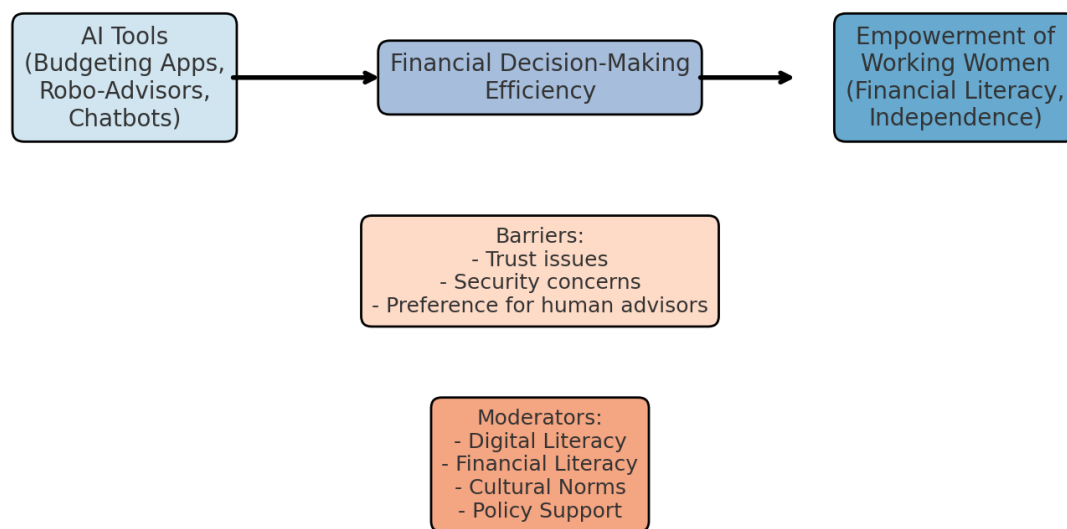
The Indian context adds layers: despite fintech penetration (Gupta et al., 2024), **cultural reliance on traditional advisors** persists. Respondents show openness to **AI-human hybrid advisory**, aligning with Teodorescu et al. (2021) who advocate for fairness and human-AI collaboration.

Policy implications: AI tools should be aligned with India's *Digital India* and *Financial Inclusion* agendas to bridge gender gaps.

6. Conceptual Framework

AI-Enabled Financial Decision Model for Working Women

This model positions AI as a **catalyst for empowerment**, not a replacement for human advisory.



7. Conclusion

This study demonstrates that Artificial Intelligence has the potential to act as a **game-changer in empowering working women in India** to make more effective financial decisions. By providing personalized budgeting tools, automated investment advice, and real-time risk assessments, AI is not merely a technological tool but a pathway toward bridging entrenched gender gaps in financial literacy and inclusion. The findings reveal that while younger women and those in structured employment are early adopters, skepticism around trust, security, and lack of awareness continues to limit widespread usage.

The study affirms global evidence that AI can democratize finance and reduce behavioral biases, but in the Indian context, **cultural reliance on traditional advisors, low digital literacy, and systemic barriers amplify adoption challenges**. This indicates that AI will be most impactful when developed as a **hybrid model—where human expertise complements AI-driven insights**, ensuring transparency, fairness, and trust.

For policymakers and practitioners, the implications are clear: targeted financial literacy programs, strong cybersecurity safeguards, and gender-sensitive algorithmic designs are crucial to maximize AI's benefits. If such measures are institutionalized, AI can evolve from being just a digital tool to becoming an **inclusive financial partner**—helping women achieve independence, confidence, and resilience in their financial journeys.

In essence, AI is not only about efficiency in decision-making; it is about **empowerment, equity, and sustainable economic participation**. With the right frameworks, AI-enabled finance can accelerate India's progress toward gender-balanced growth and long-term financial stability for women.

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