

## **Empowering Indian Students Through Android Based Financial Literacy: A Theoretical Approach**

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### **Abstract**

In the digital transformation era, the intersection of financial literacy education and technological innovation presents a dynamic approach to equipping Indian students with essential life skills. The main aim of this paper is to explore the theoretical framework and practical implications of harnessing Android-based platforms to empower Indian students with financial literacy knowledge. With India's growing youth population and increasing smartphone penetration, Android-based learning provides an accessible and engaging avenue for delivering tailored financial education. By fostering a deep understanding of financial concepts, encouraging practical application, and promoting responsible financial behaviours, this paper advocates for the potential of Android-based financial literacy education to contribute significantly to the economic well-being and empowerment of Indian students. As India navigates a rapidly changing economic landscape, this paper emphasizes the importance of preparing the next generation with the skills they need to navigate financial complexities confidently. Through this intersection of education and technology, the article envisions a future where Indian students are equipped to make informed financial decisions, positively impacting their lives and contributing to the nation's progress.

**Keywords:** Financial education, Financial literacy education, Money management and Technological innovation.

### **1. Introduction**

Financial education is an essential aspect of our lives that helps us manage our finances efficiently. With the increasing use of mobile devices, mobile-based financial education has become a popular option for students in India. This paper highlights the importance of financial literacy education in India to help individuals manage their finances intelligently and prepare for their future. The article emphasizes the need for financial literacy education to be implemented as early as possible through financial education, formal education, and non-formal education, with full support from the government. Financial literacy is an essential skill for every individual, but unfortunately, the Indian education system does not emphasize financial education as a part of the curriculum. As mobile usage is increasing in India, mobile-based financial literacy education can effectively teach students the importance of financial planning and money management. According to a report by the Internet and Mobile Association of India, the number of smartphone users in India was estimated to reach over one billion in 2023, as per Statista.

There are already several mobile-based financial literacy apps available in India, such as:

**Paytm Money:** The Paytm Money app offers users various financial planning tools and investment options. Paytm Money allows users to invest in mutual funds and manage their investments.

The Money View app offers budget tracking and expense management features. It also provides information on investment options such as mutual funds, fixed deposits, and gold.

**My Money Sage:** This app offers personalized financial advice and insights based on our financial goals and spending patterns. It helps users track expenses, set budgets, and plan for their financial future.

**ET Money:** Developed by the Economic Times, this app provides a comprehensive platform for managing investments, tracking expenses, and understanding various financial concepts.

**Walnut:** Walnut is a personal finance management app that automatically tracks your expenses and provides insights into your spending patterns. It also allows us to set savings goals and track progress.

**Fisdrom:** Fisdrom is an app that provides investment advice and helps users make informed decisions about mutual funds. It considers risk tolerance and financial goals to suggest suitable investment options.

**Piggy:** Piggy is an app that aims to simplify the investment process by providing information about various investment options and tools to track and manage investments.

**Wizely:** Wizely is designed to promote savings and financial discipline. It offers features like goal-based savings, expense tracking, and insights into spending habits.

**Scripbox:** While initially known for helping users invest in mutual funds, Scripbox also offers educational resources to improve financial literacy.

**Dhani App:** It is a one-stop-shop for all our financial needs. Dhani Wallet allows us to open an instant demat/trading account, take out personal loans, and manage all our payments.

By introducing mobile-based financial literacy education, students can learn about budgeting, saving, investing, and other economic concepts engagingly and interactively. This mobile-based financial education can help students develop good financial habits from a young age and prepare them for a financially secure future.

In today's interconnected and technologically driven world, financial literacy has emerged as an essential life skill, particularly for the younger generation. The widespread availability of smartphones and the increasing popularity of mobile applications present a unique opportunity to impart financial education in an engaging and accessible manner. This paper introduces a comprehensive theoretical framework aimed at harnessing the potential of Android-based applications to empower Indian students with financial literacy, thus enhancing their economic well-being and prospects.

According to the **World Bank**, financial literacy is critical in promoting individual economic stability and overall societal development (**World Bank, 2014**). With its youthful population and rapid technological advancement, India is positioned to leverage innovative education delivery methods. As smartphones become ubiquitous and digital literacy rises, incorporating financial education into mobile applications aligns with the preferences and habits of the digital-native generation (**Kantar IMRB, 2017**).

The theoretical framework presented in this paper draws upon the combined effect of three key elements: financial education principles, effective pedagogical strategies, and the capabilities of Android app development. By combining these components, the framework aims to create a holistic and impactful learning experience that resonates with Indian students.

As the Reserve Bank of India (RBI) underscores, financial education is instrumental in cultivating responsible financial behaviour and informed decision-making (Reserve Bank of India, 2020). This framework embraces this sentiment by tailoring financial curriculum content to address India's unique economic challenges and cultural dynamics. The framework also incorporates active learning and

gamification principles, supported by studies that demonstrate their effectiveness in enhancing engagement and knowledge retention (Gros, 2007; Hamari et al., 2014).

The mobile application medium, particularly on the Android platform, provides an immersive and interactive channel for financial education. The framework acknowledges the significance of this medium in catering to diverse learning styles and preferences, as studies highlight the impact of multimedia integration on comprehension and learning outcomes (Mayer, 2009). In an era where data security and privacy are paramount, this framework also emphasizes incorporating robust security measures to safeguard users' sensitive financial information (PWC, 2019).

Empowering Indian students through Android-based financial literacy education holds significant importance in the context of the country's socioeconomic development and the changing landscape of education. As the Indian economy continues to grow and evolve, equipping the younger generation with essential financial skills becomes crucial for their well-being and the nation's economic progress.

- **Economic Empowerment:** Financial literacy education empowers individuals to make informed financial decisions, improving financial outcomes. According to the National Strategy for Financial Education by the Reserve Bank of India, enhancing financial literacy contributes to economic empowerment and sustainable development (Reserve Bank of India, 2020).
- **Lifetime Impact:** The knowledge gained through financial literacy education has a lasting impact on individuals throughout their lives. A study by Klapper et al. (2013) found that basic financial literacy positively influences saving behaviour and retirement planning.
- **Digital Native Engagement:** The digital-native nature of Indian youth makes Android-based education particularly effective. According to Kantar IMRB's report (2017), mobile internet usage among Indian students is widespread, creating educational content accessible and engaging on this platform.
- **Accessible and Scalable Learning:** Android-based financial literacy education allows for easy scalability and broader reach. As highlighted by the World Bank's Global Financial Development Report (2014), technology-enabled financial education initiatives can reach a larger audience, addressing the challenge of delivering education to remote areas.
- **Real-world Application:** An Android-based approach can incorporate simulations and interactive tools that mimic real-world financial scenarios. Research by Gros (2007) emphasizes that such experiential learning enhances comprehension and application of economic concepts.
- **Adapting to Changing Financial Landscape:** India's financial landscape is evolving rapidly with the growth of digital payments and online banking. An Android-based program can dynamically adapt to these changes and ensure students are prepared for modern financial practices.
- **Entrepreneurship and Innovation:** Financial literacy fosters entrepreneurial spirit and innovation. Educated students are more likely to effectively manage resources, plan budgets, and access credit for entrepreneurial ventures (World Bank, 2014).
- **Inclusion and Equity:** An Android-based platform can bridge the accessibility gap, making financial education available to diverse students. This aligns with the inclusive goals outlined in the National Strategy for Financial Education (Reserve Bank of India, 2020).

Financial literacy is understanding and applying various financial concepts, skills, and knowledge necessary to make informed and effective decisions about personal finances, money management, budgeting, investing, and other financial matters (OECD/INFE (2016).

Financial literacy education refers to the systematic process of imparting knowledge, skills, and understanding of financial concepts to individuals, enabling them to make informed and effective decisions about their finances and economic well-being (Chen, H., & Volpe, R. P. (1998).

Android-based learning holds significant potential in the Indian context, where the proliferation of smartphones and the increasing adoption of digital technologies are reshaping the educational

landscape. This section introduces the concept of Android-based learning within the Indian context, emphasizing its relevance and impact.

In India, where access to quality education remains challenging for most students, the widespread use of smartphones offers a unique opportunity to democratize learning. Android-based learning leverages the familiarity of Android devices to provide accessible and flexible educational experiences that can bridge gaps in education accessibility and quality.

As highlighted in the "Digital India" initiative by the Government of India, digital technologies, including Android-based platforms, have the potential to transform education delivery, making it more inclusive and engaging (Government of India, 2015). The initiative recognizes that leveraging technology is essential to meet India's vast population's diverse and evolving learning needs.

The availability of affordable Android smartphones has enabled a significant portion of the population, including those in rural and remote areas, to access online content and educational resources. According to the Telecom Regulatory Authority of India (TRAI) (2019), the number of wireless subscribers in India exceeded one billion, signifying the massive reach of mobile technology.

Research by Kantar IMRB (2017) indicates that mobile internet usage is prevalent among Indian students, making Android-based learning a suitable and effective platform for delivering educational content. The study reveals that students often use smartphones to access educational resources and online learning materials.

Furthermore, Android devices' interactivity and multimedia capabilities align well with India's diverse learning styles and preferences. A study by Bhattacharya et al. (2019) suggests that incorporating multimedia elements in educational apps positively impacts learning outcomes and engagement among Indian students.

## **2. Literature Review**

The comprehensive review of this paper includes previous research findings on financial literacy education, financial literacy theory, and the implementation of financial literacy education in various countries. The literature survey provides a foundation for the importance of incorporating financial literacy education into the curriculum and the benefits of financial literacy education for individuals and society. As per previous literature, we found some references to mobile-based financial education for Indian students.

- "Money Smart" by the Reserve Bank of India: - The Reserve Bank of India has developed a mobile-based financial education game called "Money Smart," available in English and Hindi. The game is designed to teach financial concepts such as budgeting, saving, and investing in a fun and interactive way.
- "Dhan ki Baat "by HDFC Bank: -HDFC Bank's "Dhan ki baat "is a mobile-based financial education platform that provides free access to financial literacy videos, interactive quizzes, and other educational resources. The forum covers topics such as banking, credit, and investments.

Some references discuss the benefits of mobile-based financial literacy education for Indian students.

"Mobile Phone-Based Financial education for youth in India" by Dharani Burra, Renuka Sane, and Ajay Shah (2018). This study examines the effectiveness of a mobile-based financial education program for young people in India. The study found that the program successfully increased financial knowledge and promoted positive financial behaviours among the participants.

"The role of mobile phones in financial education in India "by Akshay Sharma (2018). This article discusses the potential of mobile phones for delivering financial education to students in India. The

paper argues that mobile phones can help overcome barriers to traditional financial education, such as accessibility and cost.

"Financial literacy & education in India" by Suchismita Tarafdar and Joydeep Bhattacharya (2020). This paper provides an overview of financial literacy and education in India, including mobile-based education's role. The paper argues that mobile-based education can effectively improve financial literacy in India, especially among students from disadvantaged backgrounds.

"Mobile financial education for rural women in India" by S. Srinivasan and S.A. Ansari (2017). This study examines the effectiveness of a mobile-based financial education program for rural women in India. The study found that the program successfully improved financial knowledge and promoted positive financial behaviours among the participants.

Ashok Kumar and Ajay Kumar (2021) examine the impact of a mobile-based financial education program on financial inclusion in India. The study found that the program successfully increased financial knowledge and promoted financial inclusion among the participants.

The study "Opportunities and challenges" by Kalpana Sahoo and Pramod Kumar Jena explores the potential of mobile-based financial literacy education for rural youth in India and discusses its associated challenges and opportunities. As per this study Mobile apps as a tool for learning "by Swati Dhamija and Dimple Khatri.

As per Matthew Darling and Josh Martin, the study examines the effectiveness of mobile phones for delivering financial education and provides insight into the best practices for designing mobile-based financial literacy programs.

Evidence from Rural India "by Renuka Sane and Susan Thomas examines the relationship between financial literacy and mobile banking adoption in rural India and suggests that mobile-based financial literacy education can increase the adoption of mobile banking services.

A Case Study in India "by Caren Grown and Rachel Moussie examines the effectiveness of a mobile-based financial education program for youth in India and provides insights into the design and implementation of similar programs.

### 3. Methodology

The present study employs a qualitative methodology to establish a conceptual framework that underscores the significance of integrating financial literacy education into the curriculum and introduces innovative models of financial literacy education development. This paper extends its exploration by delving into several referenced findings, drawing from past researchers' discoveries and investigations. The aim is to create a conceptual map that elucidates the significance of integrating financial literacy education into the Indian school & college curriculum and presents a model for shaping financial literacy education.

Country	Framework	Responsible institutions	Functions	References
United States	Consumer protection framework	Consumer Financial Protection Bureau (CFPB)	The US government agency provides resources and tools to improve financial literacy & make informed financial	<a href="https://www.consumerfinance.gov/consumer-tools/educator-tools/adult-financial-education/">https://www.consumerfinance.gov/consumer-tools/educator-tools/adult-financial-education/</a>

			decisions.	
Canada	Financial consumer protection framework	Financial Consumer Agency of Canada (FCAC):	The FCAC is responsible for protecting the rights & interests of consumers of financial products & services.	<a href="https://www.canada.ca/en/financial-consumer-agency/services/financial-literacy.html">https://www.canada.ca/en/financial-consumer-agency/services/financial-literacy.html</a>
United Kingdom	Financial capability outcome framework	Money Advice Service	It is a government-funded organization that provides free and unbiased financial advice and information to improve financial literacy among UK citizens.	<a href="https://www.moneyadviceservice.org.uk/en/corporate/financial-capability">https://www.moneyadviceservice.org.uk/en/corporate/financial-capability</a>
Australia	ASIC's regulatory framework	Australian Securities and Investments Commission (ASIC)	ASIC is the regulatory agency responsible for promoting financial literacy and consumer protection in Australia. It offers resources and tools to improve Australians' understanding of financial matters.	<a href="https://www.moneysmart.gov.au/">https://www.moneysmart.gov.au/</a>
Singapore	Monetary policy framework	Monetary Authority of Singapore (MAS):	The MAS is Singapore's central bank and financial regulatory authority. It promotes financial literacy through programs like the MoneySense initiative, which provides resources and	<a href="https://www.moneysense.gov.sg/">https://www.moneysense.gov.sg/</a>



			education to improve financial knowledge.	
India	National Strategy for Financial Education (NSFE)	Reserve Bank of India (RBI):	The RBI is India's central banking institution, and it takes a proactive role in promoting financial literacy and consumer education. The RBI's National Strategy for Financial Education (NSFE) outlines its commitment to enhancing financial literacy nationwide.	<a href="https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&amp;ID=992">https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&amp;ID=992</a>

#### 4. Results and Discussion

Empowering Indian students through Android-based financial literacy education not only addresses the immediate needs of individuals but also contributes to the country's long-term economic growth and social progress. By leveraging technology to provide accessible, engaging, and relevant financial education, India can nurture a financially savvy generation capable of making prudent decisions and positively impacting their lives and the nation.

Android-based learning is poised to revolutionize education in India by harnessing the power of digital technology and smartphones. This approach addresses the challenges of accessibility, inclusivity, and engagement, making quality education more attainable for learners across the country.

The proposed theoretical framework strives to bridge the gap between traditional financial education methods and the evolving needs of Indian students in the digital age. By capitalizing on the power of Android-based applications, this approach aspires to empower students with the knowledge, skills, and confidence to navigate the complexities of personal finance. Through this fusion of education and technology, India can pave the way for a financially literate generation contributing to the nation's economic growth and prosperity.

The contributions of this paper are that it highlights the importance of financial literacy education in building personal financial management skills among students and provides a theoretical approach to the development of financial literacy education models and strategies that can be adjusted to the needs, facilities, culture, and technological development to be more effective.

The practical implications of this paper are that financial literacy education should be incorporated into the curriculum as early as possible through financial education, formal education, and informal education, with full support from the government. The paper also suggests that financial literacy education needs to be adjusted to the needs, facilities, culture, and technological development to be more effective. Developing android-based financial literacy education, such as educational games,

web, or e-module, is one of the models that can be developed. The paper provides recommendations for future research to develop models, strategies, and designs for financial literacy education to determine the validity and effectiveness of financial education.

The limitations of this paper are essential to note that the findings and recommendations of this paper are based on a theoretical approach and literature survey. Therefore, further empirical research is needed to validate the effectiveness of financial literacy education models and strategies proposed in this paper. Additionally, the article focuses on the context of India, and the findings and recommendations may not be generalizable to other countries or regions.

### **Future work suggested**

The future works suggested in this paper are to conduct further research on developing models, strategies, and designs for financial literacy education to determine the validity and effectiveness of financial education. It is suggested that mobile apps can be an effective tool for learning financial literacy. The paper also presents increasing financial literacy education for business owners or their employees as a potential area for future research. The article also recommends that research be developed on developing models, strategies, and designs for financial literacy education to determine the validity and effectiveness of financial education.

## **5. Conclusion**

This study concludes that mobile-based financial literacy education can effectively improve financial knowledge and promote positive financial behaviours among Indian students, as financial literacy education is essential for every country and is a global problem. The level of financial literacy among students in India is still relatively low, and financial literacy education in universities plays a vital role in forming the understanding and implementation of student financial literacy. Financial literacy for students can be increased through financial education, and one of the models of financial literacy education development that can be developed is android-based financial literacy education, such as educational games, web, or e-modules.

Additionally, the theoretical approach of empowering Indian students through Android-based financial literacy education presents a promising avenue for fostering informed decision-making, economic independence, and lifelong financial well-being among the youth of India. As outlined throughout this study, the amalgamation of financial education principles, pedagogical strategies, and the dynamic capabilities of Android technology offers a comprehensive framework that addresses the unique challenges and opportunities within the Indian context.

Integrating financial literacy education into the Android platform resonates with the preferences and habits of a digitally adept generation that relies on smartphones for various aspects of life. By leveraging the accessibility and convenience of Android devices, this approach provides a means to reach a diverse range of students, including those in remote or underserved areas, thereby contributing to the vision of inclusive education outlined in national policies.

As India experiences shifts in financial practices, embracing digital payments, and witnessing the emergence of new investment opportunities, the role of financial literacy becomes even more critical. An Android-based approach offers the agility to keep pace with these changes, ensuring that students are equipped to navigate the nuances of modern financial systems.

It is crucial to acknowledge that the success of this theoretical approach cruxes on collaboration among stakeholders, including educational institutions, policymakers, app developers, and financial experts. Regular updates to content, close monitoring of user engagement, and incorporating user feedback will be vital for its sustained impact.



In addition, empowering Indian students through Android-based financial literacy education transcends traditional learning boundaries, offering a transformative tool that enables the nation's youth to make informed, responsible, and impactful financial decisions. As the program evolves and matures, it has the potential to contribute to the economic well-being of individuals and the overall growth and stability of India's economy. This theoretical approach reflects a step toward realizing the vision of a financially literate and empowered Indian youth, equipped to shape their financial destinies, and contribute positively to society.

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