

# Reliability Analysis on Digital Literacy Skills, Digital Financial Inclusion and Socio-Economic Development Among B40 in Selangor

Naily Irdina Iman Mohammad Nazim<sup>1</sup>, Shamila Mohamed Shuhidan<sup>1\*</sup>, Husain Hashim<sup>1</sup>, Mohammad Fazli Baharuddin<sup>1</sup>, Yunus Winoto<sup>2</sup>, Mohd Saiful Rahman<sup>3</sup>

<sup>1</sup>Faculty of Information Science, Universiti Teknologi MARA Selangor Branch, Puncak Perdana Campus, 40150 Shah Alam, Selangor, Malaysia

<sup>2</sup>Faculty of Communication Science Universitas Padjadjaran, Kabupaten Sumedang, Jawa Barat 45363, Indonesia

<sup>3</sup>Tuxuri Sdn. Bhd. Unit 3-12-09, UBP Tower 3, UOA Business Park, No 1, Jalan Pengaturcara U1/51A, Section U1, 40150 Shah Alam, Selangor, Malaysia

Corresponding Authors' Email Address: [shamila@uitm.edu.my](mailto:shamila@uitm.edu.my)

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## ABSTRACT

This study aims to examine the validity of metrics used to evaluate the digital literacy skills, digital financial inclusion, and socio-economic development of the B40 group in Selangor. This study looks at how these variables relate to one another and how interdependent they are. The questionnaire consists of six sections, including demographics, ICT skills, socio-economic development, digital literacy, digital financial inclusion, challenges and suggestions. The B40 groups in Selangor are intended to be included in the sample. A 56-item questionnaire was created after the literature was reviewed. The instrument was examined by a group of subject-matter experts to guarantee the validity, reliability, and normalcy of the results. Thirty respondents participated in a pilot study that was also carried out. Data was analyzed using statistical software. The results of the analysis show that there are no anomalies in the data and that the instrument is reliable.

## INTRODUCTION

In recent years, technological advancements have transformed various aspects of human life, with digital transformation reshaping societies at an unprecedented pace. As highlighted by Surianarayanan (2019), digital transformation involves integrating digital technologies into all facets of operations, influencing people, technology, systems, and processes. This rapid evolution has redefined traditional practices in communication, education, commerce, and governance, fostering a society that thrives on digital connectivity. A key outcome of this transformation is the growing emphasis on digital literacy, which encompasses the skills and mindsets needed to access, evaluate, and utilize digital information effectively (Baron, 2019; Julien, 2019).

Digital literacy, once defined by basic computer use, has evolved alongside technological advancements to include complex interactions facilitated by modern tools such as smartphones and cloud-based applications (Hicks et al., 2019). As a critical competency in today's digital age, digital literacy is essential for participation in the information society. It serves as a bridge for marginalized groups, such as Malaysia's B40, to access digital financial services that can reduce poverty and create economic opportunities (Tsouli, 2022). This connection underscores the significance of initiatives like #SayaDigital, which aim to equip B40 families with essential digital competencies to thrive in a digital economy (Annuar, 2023).

Financial inclusion, particularly digital financial inclusion, plays a pivotal role in reducing poverty and fostering equitable economic growth. By leveraging technology, it ensures marginalized groups such as the B40 have access to financial services, enabling them to overcome barriers related to income disparities and limited opportunities (Bruine de Bruin & Slovic, 2021; Kaya, 2021). Research indicates that digital financial inclusion not only stimulates entrepreneurial activities but also mitigates income inequality and enhances productivity. In Malaysia, policies like the Financial Inclusion Framework 2023-2026 highlight the need to reduce protection gaps for disadvantaged groups by promoting financial literacy and digital adoption (Romeli, 2023). These efforts align with the broader goals of the United Nations' Sustainable Development Goals (SDGs), particularly in eradicating poverty and fostering sustainable socio-economic development for vulnerable populations. However, a significant challenge remains as many B40 communities still lack sufficient digital literacy skills, making it difficult for them to understand, assess, and benefit from digital technologies, thereby limiting their full participation in digital financial systems. This leads to the research objective, to investigate the reliability of constructs related to digital literacy skills, digital financial inclusion, and socio-economic development among B40 groups in Selangor.

## **LITERATURE REVIEW**

### **B40 Perspective**

The Bottom 40% (B40) income group in Malaysia represents households with monthly incomes below RM4,850 and faces significant challenges in meeting basic needs (Department of Statistics Malaysia, 2020). This socio-economic category underscores the urgency of addressing income disparities and implementing targeted measures to combat poverty. Research emphasizes the importance of strengthening community networks and improving access to education, work opportunities, and standard of living as part of multidimensional poverty alleviation efforts (Amin & Zolkifeli, 2018; Rahman et al., 2021). Furthermore, addressing the B40 group's low digital literacy, limited financial knowledge, and health challenges is vital for crafting interventions that can effectively uplift this segment of the population.

### **Digital Literacy Gap among B40 Groups**

The fact that many B40 communities remain largely unfamiliar with the specifics of digital literacy skills presents a significant barrier to unlocking the full potential of technology. Despite the rapid advancement of digital tools and platforms, a considerable portion of the B40 group in Malaysia faces a deep digital divide that restricts their ability to access, understand, and

effectively use these technologies. This lack of digital literacy goes beyond simply knowing how to use a device, it encompasses the ability to navigate digital platforms for tasks like online banking, e-commerce, education, and accessing government services. The situation is exacerbated by the limited availability of resources, such as affordable internet connectivity and devices, and a lack of proper training in digital skills. As a result, these communities are excluded from opportunities that could empower them to improve their socio-economic standing. It is crucial to address this issue by focusing on providing adequate digital literacy education, access to necessary tools, and training that would enable B40 families to understand and harness digital technologies effectively. By bridging this gap, digital equity can be realized, ensuring that all communities, especially B40, can benefit from technological advancements and optimize their potential for social and economic mobility. Without this shift, the digital divide will continue to perpetuate existing inequalities, limiting the opportunities available to marginalized groups and hindering their participation in the increasingly digital economy.

### **Digital Tools and Literacy as Drivers of Socio-Economic Growth**

The research framework plays a crucial role in supporting or refuting the hypothesis of a study, as it provides a clear theoretical basis for understanding the problem at hand. In the context of the B40 group, technological advancements have demonstrated a positive relationship between digital tools and household income, expenditure, and wealth (Zhang & Wang, 2022). The adoption of digital technologies has been shown to improve economic stability by facilitating new business opportunities, expanding markets, and offering access to financial services, which in turn reduces poverty. The use of digital platforms in entrepreneurial ventures, for instance, not only fosters individual business growth but aligns with national goals to enhance economic advancement through digital entrepreneurship as outlined in Malaysia's National Entrepreneurship Policy of 2030. Digital tools, especially in rural areas, have proven to elevate per capita income by 3.05% with just a 1% increase in digital application levels (Zhang & Wang, 2022), which underscores the tangible benefits of digital integration in driving socio-economic improvements.

Cognitive development in children from low-income households, particularly those in the B40 group, is affected by limited digital literacy skills and the broader challenges of poverty. While digital literacy levels are moderately developed among the B40 population, enhanced digital learning could stimulate cognitive growth and improve problem-solving abilities (Shafizan et al., 2022). The socio-economic factors such as parental education, attitudes, and family financial support further compound the cognitive deficits experienced by children in these households (Li et al., 2020). Addressing these gaps requires comprehensive, integrated strategies to not only improve digital literacy but also to consider the broader socio-economic context in which these children live. Digital financial inclusion is key to enhancing the economic opportunities of marginalized communities, such as the B40 group. Financial literacy is essential for individuals to make effective use of digital financial tools and services, which are crucial for economic mobility (Ishfaq et al., 2024; Martini et al., 2022). Studies highlight the importance of digital financial services in enabling access to capital for entrepreneurship and reducing poverty, especially in emerging markets (Kusumawati et al., 2022; Liu et al., 2022). The COVID-19 crisis has further demonstrated the role of fintech in empowering marginalized groups by filling gaps in financial service access (Othman et al., 2023). Bridging the digital divide and increasing access

to digital literacy and financial education is vital for fostering greater inclusion and sustainable socio-economic development. By improving financial literacy and access to digital financial services, these communities can unlock new economic opportunities and enhance their quality of life.

## METHODOLOGY

A comprehensive 56-item questionnaire was designed based on an extensive literature review to capture the perspectives of the B40 group in Selangor on digital literacy and financial inclusion. To ensure the clarity and relevance of the items, the questionnaire was reviewed by four subject-matter experts in fields related to digital literacy, financial inclusion, and socio-economic development. The experts provided valuable feedback, suggesting improvements in phrasing, the use of more precise language, and the inclusion of examples to enhance respondents' understanding of the questions. Incorporating these suggestions, the questionnaire was revised to improve clarity and relevance. Subsequently, a pilot test was conducted with 30 respondents from the B40 group to assess whether the questions were clearly understood and free from ambiguity. The data collected from the pilot test were analyzed using SPSS version 26, and Cronbach's alpha was applied to evaluate the reliability of the scale, ensuring its effectiveness for the main study.

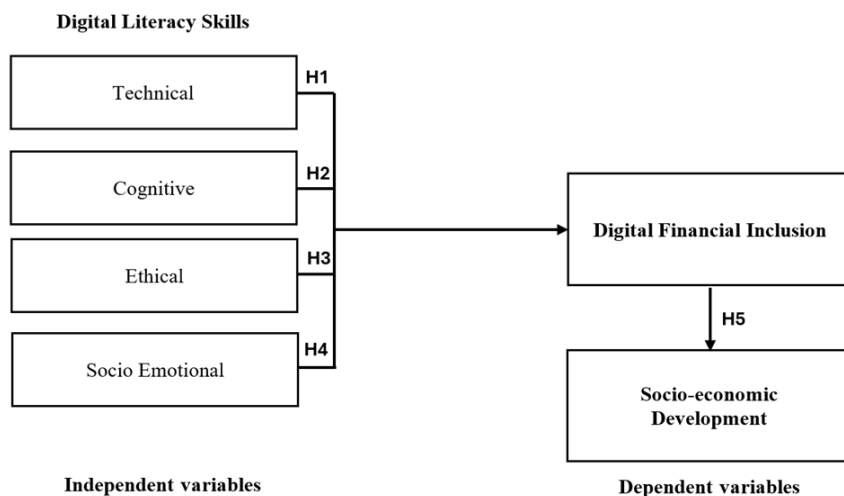


Figure 1: Research Framework

Figure 1 shows on the research framework that aims to explore the relationship between digital literacy skills, digital financial inclusion, and socio-economic development, specifically among the B40 groups in Selangor. Digital literacy skills, as the independent variables, are categorized into four dimensions: technical, cognitive, ethical, and socio-emotional. Digital financial inclusion, the first dependent variable, involves access to and effective use of digital financial services, which are essential for bridging financial gaps. Socio-economic development, the second dependent variable, refers to improvements in living standards and economic opportunities driven by greater financial inclusion. This framework is built on five key hypotheses. The first four hypotheses (H1-H4) investigate the significance of various dimensions of digital literacy skills that are technical, cognitive, ethical, and socio-emotional. In which

focuses on promoting digital financial inclusion within this socio-economic group. The technical dimension examines the ability of individuals to use digital tools and platforms effectively, while the cognitive dimension focuses on their capacity to understand, evaluate, and apply digital financial information. The ethical dimension addresses responsible and secure behavior in the digital space, ensuring trust and safety in financial transactions, whereas the socio-emotional dimension highlights the role of interpersonal and emotional skills in navigating digital environments. The fifth hypothesis (H5) delves into the critical link between digital financial inclusion and socio-economic development, emphasizing how access to and usage of digital financial services can drive economic growth and improve living standards for the B40 groups. Overall, the study seeks to establish how enhancing digital literacy skills across these dimensions can lead to increased financial inclusion and ultimately contribute to the socio-economic upliftment of disadvantaged communities in Selangor.

## FINDINGS AND DISCUSSION

The questionnaire underwent thorough review by four experts in the field of information science to ensure its validity and identify potential issues. The panel consisted of two senior academicians holding PhDs and two fintech professionals from Tuxuri Sdn Bhd. Their feedback emphasized the need for more precise and specific response options, the refinement of language to improve clarity, and the inclusion of examples to facilitate respondents' comprehension of the questions. These insights were instrumental in enhancing the quality of the questionnaire, with all relevant suggestions and comments incorporated through appropriate revisions.

To further validate the instrument, a pilot study was conducted with 30 participants, and the collected data were analyzed using SPSS version 26. This process ensured that the questionnaire items were clear, unambiguous, and easily understood by respondents. The reliability of the questionnaire was assessed using Cronbach's alpha, which evaluated the internal consistency of the items within each scale.

The questionnaire was finalized into six sections. The first section comprised ten items related to demographic information. The second section included seven items measuring ICT skills. The third section focused on socio-economic development and consisted of six items. The fourth section addressed digital literacy, comprising 24 items distributed across four dimensions: technical, cognitive, ethical, and socio-emotional skills. The fifth section contained seven items measuring digital financial inclusion. Finally, the sixth section featured two open-ended questions, allowing respondents to provide subjective responses. This comprehensive structure ensured a robust framework for data collection and analysis in the study.

*Table 1: Values of the Cronbach's Alpha for Each Item in the Instruments*

Variables	Number of Items	Cronbach's Alpha
Socio-Economic Development	6	0.944
Digital Literacy Skills		
• Technical Skills	6	0.967
• Cognitive Skills	6	0.954
• Ethical Skills	6	0.936
• Socio-Emotional Skills	6	0.968
Digital Financial Inclusion	7	0.969

As demonstrated in table 1, Cronbach's alpha coefficients were used to determine the reliability and internal consistency of the scales employed in the study. All factors had Cronbach's alpha values greater than 0.8, suggesting that the reliability level was appropriate and acceptable. According to the SPSS analysis results, the overall consistency, or Cronbach's Alpha values, of all 56 items for each dimension contained in the instrument was between 0.936 and 0.969. The Cronbach's alpha for Socio-Economic Development was 0.944, indicating very high internal consistency among the six items used to measure this variable. For Digital Literacy Skills, each subcategory showed high reliability, with alpha values ranging from 0.936 for Ethical Skills to 0.968 for Socio-Emotional Skills. Finally, Digital Financial Inclusion achieved a Cronbach's alpha of 0.969, indicating the highest level of internal consistency among the variables. This result implies that, particularly at this point of the investigation, the overall index of the scale's internal consistency within the instrument is reliable with no unexpected abnormalities found in the data.

## CONCLUSION

This study provides valuable insights into the relationship between digital literacy skills, digital financial inclusion, and socio-economic development among the B40 group in Selangor. The findings confirm the reliability and validity of the research instrument, demonstrating strong internal consistency across all dimensions measured. With Cronbach's alpha values exceeding 0.8, the results indicate that the questionnaire is a robust tool for assessing digital literacy competencies, financial inclusion, and their impact on economic well-being. The study underscores the crucial role of digital literacy in enhancing financial inclusion and socio-economic opportunities for marginalized communities. Specifically, it highlights the importance of technical, cognitive, ethical, and socio-emotional digital skills in enabling effective use of digital financial services. The findings suggest that individuals with higher digital literacy levels are better equipped to navigate digital financial platforms, leading to greater economic participation and improved living standards.

Moreover, the research reaffirms that digital financial inclusion serves as a key driver of socio-economic development, providing the B40 group with access to essential financial services that promote economic stability and upward mobility. The positive correlation between digital financial literacy and socio-economic progress aligns with national and global efforts to bridge digital and financial gaps for disadvantaged populations. Moving forward, policymakers and stakeholders should prioritize targeted interventions to enhance digital literacy education and expand financial access for the B40 group. Investments in training programs, infrastructure, and policy frameworks can further bridge the digital divide, fostering inclusive growth and sustainable development. Future research could explore additional socio-economic factors influencing digital adoption and assess the long-term impact of digital financial inclusion initiatives. In conclusion, strengthening digital literacy and financial inclusion among the B40 group in Selangor is a vital strategy for reducing inequality and empowering communities. By equipping individuals with essential digital competencies, this study contributes to the broader goal of fostering a digitally inclusive and economically resilient society.

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