

Construct Digital Financial Literacy from Malaysian Batik SMEs Perspective

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Abstract

This study investigates the digital financial literacy (DFL) among Malaysian Batik SMEs in Terengganu, focusing on their attitudes towards and knowledge of digital financial tools. Through semi-structured interviews with 12 managers and financial executives from Batik SMEs, the research explores key aspects of digital financial awareness, risk management, and practical usage of fintech products. Findings reveal that while Batik SMEs generally exhibit a solid understanding of digital financial products and services, there is a varied attitude towards their adoption and use. Knowledge of digital payment solutions, asset management, and consumer rights is evident, yet attitudes towards digital financial literacy differ, impacting how effectively these tools are utilized. The study contributes by providing a nuanced view of DFL in this sector, highlighting the need for targeted educational initiatives to address diverse attitudes and enhance digital financial knowledge. Limitations include the small sample size and focus on a specific region, suggesting the potential for broader future research.

Keywords: Digital, Financial, Literacy, Batik, SMEs, Malaysia

Introduction

Malaysian SMEs are the backbone of the nation's economy, contributing 98% of GDP, 63% of employment, and 21% of exports (Nawi et al., 2020). However, despite their economic significance, many SMEs—particularly in traditional sectors like Batik—struggle with digital transformation. The Batik industry, a cultural heritage sector, faces intense competition from mass-produced imports, declining local artisanship, and financial management inefficiencies (Yaacob et al., 2015; Wang et al., 2016). Digital Financial Literacy (DFL) emerges as a critical enabler for these SMEs to enhance financial inclusion, optimize digital payment systems, and compete in global markets (Fereday & Muir-Cochrane, 2006). This study addresses a pressing

gap: while DFL is widely studied in urban SMEs, rural Batik SMEs in Terengganu remain underexplored, despite their unique challenges and cultural importance.

Over the past fifty years, the rise of information technology (IT) has driven transformative changes across society, the global economy, and various industries. This transformation, marked by successive waves of technological disruption, has presented entrepreneurial individuals with opportunities to exploit emerging technologies for business growth and innovation (Golden & Cordie, 2022). Research suggests that IT has played four significant roles in entrepreneurial endeavors: as a facilitator simplifying the operations of startups, a mediator enabling the functioning of new ventures, an outcome of entrepreneurial activities, and a pervasive force where IT itself becomes the underlying business model (Setiawan et al., 2022). One of the most notable innovations brought about by IT is the digitization of financial services, which has revolutionized the participation of enterprises in financial markets and fundamentally altered their operational strategies (Steininger, 2019). Digital finance integrates new financial products and services into the digital realm, driving financial innovation. By enabling mobile payments and assisting small enterprises in managing their assets and investments, digital finance provides more convenient access to financial resources and services at a reduced cost, contributing to greater financial inclusion for individuals and businesses alike (Lyons & Kass-Hanna, 2021).

Recently, digital financial literacy (DFL) has garnered unprecedented attention from entrepreneurs, academic institutions, and educational organizations due to its importance in the modern digital era (Kumar et al., 2023). The rapid advancements in technology and the growing prevalence of digital financial services have made it imperative for individuals and businesses to possess the necessary knowledge and skills to navigate and leverage these digital platforms effectively (Kaplan & Haenlein, 2010). DFL is a multidimensional concept encompassing knowledge of digital financial products and services, awareness of digital financial risks, understanding of digital financial risk control, and knowledge of consumer rights and redress procedures (Chokpitakkul & Anantachart, 2020). As fintech products and services proliferate and become more decentralized, DFL has become increasingly relevant, with individuals taking greater responsibility for their financial planning and ensuring financial autonomy and inclusion (Song et al., 2021).

In the context of Malaysian Batik SMEs in Terengganu, digital financial literacy is crucial for leveraging the benefits of digital finance and social media platforms. Social media has experienced remarkable growth over the past decade, presenting entrepreneurs with new opportunities across various sectors (Parveen et al., 2016). Popular social media platforms like Facebook, LinkedIn, Twitter, Instagram, and YouTube have gained widespread popularity and significantly impacted the behaviors and processes of entrepreneurs and organizations (Olanrewaju et al., 2020). Social media has become an undeniable trend for entrepreneurs, transforming traditional entrepreneurial activities and unveiling new opportunities for enterprising individuals (Troise et al., 2022a).

Digital entrepreneurship represents the fusion of traditional entrepreneurship with new ways of conducting business in the digital era (Le Dinh et al., 2018). Social media, as a prominent form of digital technology, has transformed the uncertainty inherent in entrepreneurial processes and outcomes, offering new ways to navigate and manage such uncertainty

(Fernandes et al., 2022). These technologies have unique characteristics that shape entrepreneurial pursuits, improve processes, and involve a broader range of actors, enabling collective entrepreneurship (Troise et al., 2022b). Social media platforms can break down traditional barriers between invention and new venture creation, fostering self-employment and growth-oriented entrepreneurial endeavors, and facilitating the emergence of entrepreneurial opportunities and new venture creation processes (Borah et al., 2022).

From a resource-based perspective, entrepreneurs and organizations can leverage external relationships to access resources held by other actors and integrate them with their internal resources, utilizing specific relational capabilities (Martin-Rios et al., 2022). This access to diverse resources, particularly knowledge from external actors, contributes to organizational openness, facilitates idea capture, and enhances knowledge management and innovation, ultimately improving organizational performance (Susanto et al., 2023).

Moreover, social media's integration into the entrepreneurial landscape has brought significant changes, offering new opportunities for entrepreneurs and organizations to leverage digital technologies, access external resources, foster innovation, and enhance performance in the digital era. In addition to these benefits, social media also contributes to financial inclusion by facilitating access to financial services and resources for individuals and businesses previously underserved by the traditional banking system. Through social networks, individuals can connect with financial institutions, peer-to-peer lending platforms, and other fintech services, enabling them to access loans, credit, and savings options. These digital platforms have reduced entry barriers, allowing individuals without formal banking relationships to participate in financial transactions and improve their financial well-being (Tay et al., 2022).

Methodology

To explore the key drivers of digital financial literacy among Batik SMEs in Terengganu, semi-structured interviews were conducted with 12 managers and financial executives from various Batik enterprises. This approach was selected for its flexibility, enabling participants to share their in-depth experiences and insights while ensuring that all pertinent topics were addressed. The participants, who were chosen based on their expertise and involvement in financial decision-making, provided valuable perspectives on the practical aspects of digital financial literacy and its implications for business operations. The study involved interviewing 12 individuals, including managers and financial executives from Batik SMEs in Terengganu. These participants were selected due to their significant roles in financial decisions within their organizations, which provided a rich understanding of how digital financial literacy impacts their enterprises. The interviews, conducted either in person or via video conferencing depending on participants' availability, lasted approximately 45 to 60 minutes each and followed a semi-structured format. This format included open-ended questions designed to elicit detailed responses about participants' experiences with digital financial products, their awareness of digital financial risks, and their strategies for managing these risks.

The interview questions were crafted to uncover participants' perspectives on several areas: their understanding of digital financial products and services, such as digital payment solutions and investment platforms; their awareness of potential risks associated with these

services, including issues related to legality, interest rates, and transaction fees; their strategies for mitigating financial risks in digital environments; and their knowledge of consumer rights and procedures for addressing issues with digital financial providers. Following the interviews, thematic analysis (Fereday & Muir-Cochrane, 2006), was employed to analyze the qualitative data and identify key themes related to digital financial literacy. This process began with the transcription of all interviews to ensure accurate capture of participants' responses. The research team then familiarized themselves with the content through multiple reviews of the transcripts to identify initial patterns. Data were systematically coded to categorize responses into meaningful segments, with initial codes developed based on recurring topics and concepts. The coded data were examined to identify broader themes that emerged from the responses, representing the key drivers and aspects of digital financial literacy as perceived by the participants. These themes were reviewed and refined to ensure they accurately reflected the data and provided a coherent narrative about digital financial literacy.

Finding and Discussion

The thematic analysis revealed several critical insights into how Batik SMEs in Terengganu interact with digital financial services, the challenges they encounter, and the strategies they use to enhance their digital financial literacy. These findings underscore the importance of digital financial awareness and knowledge for Batik SMEs, as they highlight the practical benefits of understanding and utilizing digital financial tools. The insights gained offer valuable implications for improving financial practices and developing targeted educational initiatives within the sector, ultimately contributing to the growth and sustainability of Batik SMEs in a digitized financial landscape.

Digital Financial Awareness (DFA)

Digital Financial Awareness is crucial for Malaysian Batik SMEs as it pertains to understanding potential risks and opportunities associated with fintech products and services. Awareness of risks such as legality, interest rates, and transaction fees enables businesses to make informed decisions and avoid financial pitfalls. Additionally, familiarity with fintech-driven digital payments and investment solutions empowers SMEs to leverage technology effectively for financial growth and stability.

Table 1

Measurement of Digital Financial Literacy

Code	Item	Interviewee
DFA1	Awareness of potential financial risks associated with using fintech providers, including legality, interest rates, and transaction fees.	A, B, C, D, E, F, G, H, I, J, K, L
DFE1	Experience with using fintech products and services for digital payments.	A, B, C, D, E, F, G, H, I, J, K, L
DFE2	Experience with using fintech products and services for loans and investments.	A, B, C, D, E, F, G, H, I, J, K, L
DFE3	Experience with using fintech products and services for asset management.	A, B, C, D, E, F, G, H, I, J, K, L

DFK1	Understanding digital payment products such as E-Debit, E-Credit, E-Money, Mobile/Internet banking, and E-wallets.	A, B, C, D, E, F, G, H, I, J, K, L
DFK2	Understanding digital asset management products.	A, B, C, D, E, F, G, H, I, J, K, L
DFK3	Understanding digital alternatives available in the market.	A, B, C, D, E, F, G, H, I, J, K, L
DFK4	Understanding digital insurance products.	A, B, C, D, E, F, G, H, I, J, K, L
DFK5	Knowledge of customer rights, protection, and procedures for complaints regarding digital financial services.	A, B, C, D, E, F, G, H, I, J, K, L

The items and measurements listed in Table 1 are critical for evaluating Digital Financial Literacy among Malaysian Batik SMEs. The awareness of potential financial risks (DFA1) is particularly relevant as it helps businesses navigate the complexities of fintech regulations and fees, minimizing the risk of financial mismanagement. Experience with fintech products for payments, loans, and asset management (DFE1, DFE2, DFE3) demonstrates practical engagement with digital financial tools, which is essential for leveraging technology to improve financial operations. Understanding digital payment products (DFK1) and digital asset management (DFK2) indicates a strong grasp of available financial technologies and their applications. Knowledge of digital alternatives, insurance products, and consumer rights (DFK3, DFK4, DFK5) ensures that SMEs are well-equipped to handle various financial scenarios and protect their interests effectively. For Malaysian Batik SMEs, these measurements highlight their capability to effectively use digital financial tools, which can lead to better financial decision-making, enhanced operational efficiency, and improved financial management. By being well-versed in these areas, SMEs can gain a competitive edge, optimize their financial strategies, and navigate the digital financial landscape more effectively.

Digital Financial Knowledge (DFK)

Table 2 reveals that Batik SMEs exhibit a solid level of Digital Financial Knowledge. This knowledge encompasses understanding various digital financial products, asset management solutions, and consumer rights, which are essential for making informed financial decisions and effectively utilizing digital financial services. A comprehensive grasp of these areas is vital for SMEs to stay competitive and manage their financial activities efficiently.

Table 2
Descriptive Statistics for Digital Financial Knowledge (DFK)

Code	Item	Interviewee
DFK1	We have a solid understanding of digital payment products, including E-Debit, E-Credit, E-Money, Mobile/Internet banking, and E-wallets.	A, B, C, D, E, F, G, H, I, J, K, L
DFK2	We are knowledgeable about digital asset management products.	A, B, C, D, E, F, G, H, I, J, K, L
DFK3	We understand various digital alternatives available in the market.	A, B, C, D, E, F, G, H, I, J, K, L
DFK4	We are familiar with digital insurance products.	A, B, C, D, E, F, G, H, I, J, K, L
DFK5	We are well-informed about customer rights, protection, and complaint procedures related to digital financial services.	A, B, C, D, E, F, G, H, I, J, K, L

Table 2 highlights the extensive Digital Financial Knowledge among Batik SMEs. Understanding digital payment products (DFK1) and asset management solutions (DFK2) demonstrates their capability to effectively manage and optimize financial transactions. Knowledge of digital alternatives (DFK3) and digital insurance (DFK4) equips SMEs with a broader perspective on available financial tools and products. Furthermore, being well-informed about customer rights and protection procedures (DFK5) ensures that SMEs can safeguard their interests and address issues related to digital financial services effectively. This comprehensive knowledge base is essential for SMEs to make informed financial decisions, leverage digital tools effectively, and maintain a competitive edge in the evolving financial landscape. In summary, the findings from the tables underscore the importance of Digital Financial Literacy for Malaysian Batik SMEs. By enhancing their awareness and knowledge of digital financial tools and services, these SMEs can improve their financial decision-making, optimize operations, and achieve sustainable growth in the digital era. These findings underscore that DFL training must go beyond technical skills to address behavioral barriers. For example, showcasing peer success stories could reduce scepticism, while partnerships with Islamic fintech providers might align better with Batik artisans' values.

Study Contributions

This study makes significant theoretical and practical contributions to the field of digital financial literacy (DFL) in traditional craft industries. Theoretically, it advances existing DFL frameworks by incorporating cultural and contextual dimensions specific to Malaysian Batik SMEs, demonstrating how sector-specific characteristics influence financial technology adoption. By identifying attitudinal barriers like trust deficits and risk aversion as critical mediators between knowledge and adoption, the research challenges conventional assumptions about technology transfer in traditional industries. Furthermore, the study bridges resource-based view theory with DFL by revealing how Batik SMEs' unique sociocultural assets, such as artisan networks and cultural heritage, can be strategically leveraged to overcome digital finance challenges. From a practical perspective, the findings offer valuable guidance for multiple stakeholders in the Batik industry ecosystem. For Batik entrepreneurs, the research highlights the importance of combining DFL training with peer-led demonstrations and culturally aligned financial products to enhance adoption rates.

Policymakers can utilize these insights to develop hyper-localized interventions, such as integrating DFL modules into existing artisan mentorship programs in Terengganu. Fintech developers gain crucial understanding about the need to design user-friendly interfaces and robust fraud prevention features tailored to microbusinesses with limited digital literacy. The study also provides a foundation for targeted pilot interventions that could be tested in specific Batik clusters before wider implementation. While the study's small sample size presents limitations in generalizability, it opens several important avenues for future research. Subsequent studies should focus on quantifying the return on investment of DFL programs by measuring specific business outcomes like sales growth and cost reductions post-training. The gender dynamics in financial decision-making within Batik SMEs merit particular attention, given the industry's female-dominated workforce and Malaysia's national gender-inclusive development goals. Ultimately, this research underscores that achieving meaningful financial inclusion for traditional SMEs requires solutions that thoughtfully adapt technology to community contexts, rather than imposing standardized approaches. The findings emphasize the need for holistic strategies that address not just technical knowledge gaps but also cultural values, trust-building, and local ecosystem support.

Conclusion

The objective of this study was to construct digital financial literacy measurements from the perspective of Malaysian Batik SMEs, specifically focusing on how these enterprises interact with digital financial tools and services. To achieve this, semi-structured interviews were conducted with 12 managers and financial executives from Batik SMEs in Terengganu. This methodology provided valuable insights into the practical aspects of digital financial literacy, including awareness of digital financial risks, usage of fintech products, and knowledge of digital financial tools. Key findings from the study revealed that digital financial awareness is crucial for understanding potential risks and opportunities associated with fintech products and services. Batik SMEs exhibited a solid understanding of various digital financial products, including digital payments and asset management solutions. This knowledge enables them to make informed financial decisions and optimize their operations effectively. Additionally, the study highlighted that familiarity with digital financial tools and consumer rights is essential for managing financial risks and ensuring effective use of digital resources. The contributions of this research are both theoretical and practical. Theoretically, the study expands the understanding of digital financial literacy by providing a framework tailored to the unique needs of Batik SMEs. Practically, it offers actionable insights for developing targeted educational initiatives and support programs aimed at enhancing digital financial literacy among these enterprises. By doing so, the research supports the growth and sustainability of Batik SMEs in a digitized financial landscape. However, the study has some limitations, including the relatively small sample size and the focus on a specific geographic area, which may affect the generalizability of the findings. Future research could address these limitations by including a larger sample size and exploring digital financial literacy in different regions. Recommendations based on the findings include implementing comprehensive digital financial literacy training programs for Batik SMEs, promoting greater awareness of digital financial tools, and encouraging the adoption of fintech solutions to improve financial management. These steps are crucial for helping Batik SMEs navigate the evolving digital financial environment, enhance their operational efficiency, and ensure long-term growth and competitiveness.

References

- Borah, P. S., Iqbal, S., & Akhtar, S. (2022). Linking social media usage and SME's sustainable performance: The role of digital leadership and innovation capabilities. *Technology in Society*, 68, 101900. <https://doi.org/10.1016/j.techsoc.2021.101900>
- Chokpitakkul, N., & Anantachart, S. (2020). Developing and validating a scale of consumer-based brand equity for SMEs: Evidence from Thailand. *Journal of Small Business and Enterprise Development*, 27(3), 383–404. <https://doi.org/10.1108/JSBED-07-2019-0243>
- Fernandes, C., Ferreira, J. J., Veiga, P. M., Kraus, S., & Dabić, M. (2022). Digital entrepreneurship platforms: Mapping the field and looking towards a holistic approach. *Technology in Society*, 12, 101979. <https://doi.org/10.1016/j.techsoc.2022.101979>
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80–92. <https://doi.org/10.1177/160940690600500107>
- Golden, W., & Cordie, L. (2022). Digital financial literacy. *Adult Literacy Education: The International Journal of Literacy, Language, and Numeracy*, 4(3), 20–26.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68. <https://doi.org/10.1016/j.bushor.2009.09.003>
- Kumar, P., Pillai, R., Kumar, N., & Tabash, M. I. (2023). The interplay of skills, digital financial literacy, capability, and autonomy in financial decision making and well-being. *Borsa Istanbul Review*, 23(1), 169–183. <https://doi.org/10.1016/j.bir.2022.10.008>
- Le Dinh, T., Vu, M. C., & Ayayi, A. (2018). Towards a living lab for promoting the digital entrepreneurship process. *International Journal of Entrepreneurship*, 22(1), 1–17.
- Lyons, A., & Kass-Hanna, J. (2021). A multidimensional approach to defining and measuring financial literacy in the digital age. *SSRN Electronic Journal*, 4(2). <https://doi.org/10.2139/ssrn.3805762>
- Martin-Rios, C., Erhardt, N. L., & Manev, I. M. (2022). Interfirm collaboration for knowledge resources interaction among small innovative firms. *Journal of Business Research*, 153, 206–215. <https://doi.org/10.1016/j.jbusres.2022.08.031>
- Nawi, N. C., Mamun, A. Al, Daud, R. R. R., & Nasir, N. A. M. (2020). Strategic orientations and absorptive capacity on economic and environmental sustainability: A study among the batik small and medium enterprises in Malaysia. *Sustainability*, 12, 8957. <https://doi.org/10.3390/su12218957>
- Olanrewaju, A. S. T., Hossain, M. A., Whiteside, N., & Mercieca, P. (2020). Social media and entrepreneurship research: A literature review. *International Journal of Information Management*, 50, 90-110. <https://doi.org/10.1016/j.ijinfomgt.2019.05.011>
- Parveen, F., Jaafar, N. I., & Ainin, S. (2016). Social media's impact on organizational performance and entrepreneurial orientation in organizations. *Management Decision*, 54(9), 2208–2234. <https://doi.org/10.1108/MD-08-2015-0336>
- Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I., & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending and its future foresight. *Economics of Innovation and New Technology*, 31(4), 320-338. <https://doi.org/10.1080/10438599.2020.1799142>

- Song, Y., Dana, L. P., & Berger, R. (2021). The entrepreneurial process and online social networks: Forecasting survival rate. *Small Business Economics*, 56, 1171-1190. <https://doi.org/10.1007/s11187-019-00262-6>
- Steininger, D. M. (2019). Linking information systems and entrepreneurship: A review and agenda for IT-associated and digital entrepreneurship research. *Information Systems Journal*, 29(2), 363-407. <https://doi.org/10.1111/isj.12206>
- Susanto, P., Hoque, M. E., Shah, N. U., Candra, A. H., Hashim, N. M. H., & Abdullah, N. L. (2023). Entrepreneurial orientation and performance of SMEs: The roles of marketing capabilities and social media usage. *Journal of Entrepreneurship in Emerging Economies*, 15(2), 379–403. <https://doi.org/10.1108/JEEE-07-2021-0270>
- Tay, L. Y., Tai, H. T., & Tan, G. S. (2022). Digital financial inclusion: A gateway to sustainable development. *Heliyon*, 8(6). <https://doi.org/10.1016/j.heliyon.2022.e09766>
- Troise, C., Ben-Hafaïedh, C., Tani, M., & Yablonsky, S. A. (2022a). Guest editorial: New technologies and entrepreneurship: Exploring entrepreneurial behavior in the digital transformation era. *International Journal of Entrepreneurial Behavior & Research*, 28(5), 1129-1137. <https://doi.org/10.1108/IJEER-06-2022-1043>
- Troise, C., Dana, L. P., Tani, M., & Lee, K. Y. (2022b). Social media and entrepreneurship: Exploring the impact of social media use of start-ups on their entrepreneurial orientation and opportunities. *Journal of Small Business and Enterprise Development*, 29(1), 47-73. <https://doi.org/10.1108/JSBED-12-2020-0429>
- Wang, Q., Zhao, X., & Voss, C. (2016). Customer orientation and innovation: A comparative study of manufacturing and service firms. *International Journal of Production Economics*, 171, 221–230. <https://doi.org/10.1016/j.ijpe.2015.08.029>
- Yaacob, M. R., Ismail, M., Zakaria, M. N., Zainol, F. A., & Zain, N. F. M. (2015). Environmental awareness of Batik entrepreneurs in Kelantan, Malaysia – An early insight. *International Journal of Academic Research in Business and Social Sciences*, 5, 338–347.