

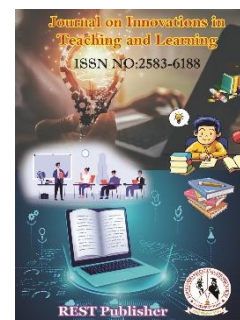
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Enhancing Financial Literacy through Digital Programs: A Comprehensive Guide using WASPAS Method

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Abstract: *Enhancing financial literacy through digital initiatives is a pivotal strategy in today's technology-driven world. These projects offer accessible and interactive education, utilizing technology to deliver content and empower individuals to effectively understand and manage finances. They encompass various tools such as mobile applications, online courses, and interactive simulations, catering to diverse learning styles and preferences across different demographics and professional levels. Covering topics ranging from budgeting, saving, investing to credit management, these programs often incorporate gamification elements to make learning engaging and motivate users to participate seriously in their financial education. Overall, digital initiatives for financial literacy play a crucial role in democratizing access to financial knowledge, equipping people with the skills required to navigate the complex financial landscape and make informed decisions to achieve financial well-being. Research in personal financial management is imperative to address the significant challenges individuals face, including financial struggles, debt accumulation, and poor decision-making. Such research contributes significantly to combating the widespread problem of financial illiteracy by identifying effective strategies and tools tailored to diverse levels of financial literacy among people. Moreover, digital projects offer scalability and accessibility, enabling wider outreach, especially to marginalized communities with limited access to traditional financial education resources. By designing, implementing, and evaluating digital initiatives, researchers can assess their impact on reaching and engaging with underserved populations, thereby enhancing financial inclusion and equity. The WASPAS (Weighted Aggregate Product Assessment) technique yields two significant contributions, particularly through the expertise-driven evaluation of a new technique and the freshly developed LNN WASPAS version, which incorporates numerous criteria selections, thereby enhancing the sector. Seven experts primarily evaluate this version based on nine criteria. Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program. Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes and Accessibility and Scalability. Analysis in WASPAS Using the method of digital financial literacy programs shows the result. For the mentoring program Got First Grade, the mobile app is ranked low.*

Keywords: *MCDM, Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program.*

1. INTRODUCTION

Digital financial literacy, particularly in India. Financial literacy, broadly speaking, encompasses Personal finance matters understanding and analyzing Perform, managing, and ability to communicating. Specifically, it involves skills necessary to make informed decisions regarding money and its management. In the digital age, financial literacy extends to understanding and utilizing online platforms for various financial transactions such as online shopping, digital payments, and online banking systems. The significance of digital financial literacy has been accentuated in India, notably following the government's demonetization initiative announced by the Prime Minister which aimed to eliminate black money and propel the country towards a cashless economy [1]. This move stimulated the adoption of digital financial services, leading to a surge in the usage of e-wallets and online transactions, particularly in urban and metropolitan areas. However, despite the advancements, there remains a stark digital financial divide in India, as revealed by the experiences post-demonetization. While there has been an expansion in access to digital banking services, Substantial in population Parts are still these Complete services

Required for use: Lack of digital literacy. This discrepancy underscores the need for improved education and awareness initiatives to bridge the gap and ensure that more people can effectively manage their finances in the digital realm [2]. In conclusion, enhancing digital financial literacy is imperative for India's journey towards a digital economy. This entails not only expanding access to digital banking but also ensuring that individuals possess the requisite knowledge and skills to utilize these services effectively. Financial Literacy (FL) Finance In developing content as an important factor Widely recognized. improving individuals' long-term financial security, according to researchers and practitioners. Practitioners focus on evaluating individuals' financial status and designing Very Useful Financial education counseling and planning initiatives [3]. By way of comparison, scholars endeavor to comprehend FL and finance Decision-making relationship and behavior, with the goal of forecasting and simulating forthcoming actions. People now have more options to manage risk and handle savings, investments, purchases, borrowing funds, and other financial activities because of the Evolution of the financial system new financial products, and the launch of services. However, to take full advantage of these possibilities, people must have the necessary financial skills to engage in the stock market knowledge and skills, Wise judgments and Fraud and abuse [4]. Thus, a knowledge of the types of financial goods and services that are available, comprehension of when to use them in their final days, and connection with delivery methods comprise the fundamental elements of financial literacy (FL). While there isn't a common definition or assessment technique for FL, practitioners and researchers usually gauge fundamental awareness, knowledge, and abilities. The recent COVID-19 epidemic and the explosive growth of financial services (DFS) mobile phones and electronic devices like Accessible through and is provided have expedited the evolution of financial technology, or "Fintech." Particularly during social distancing protocols and lockdowns, DFS provides easy-to-use, practical, reachable, and reasonably priced substitutes for conventional "brick and mortar" establishments [5]. The "fresh norm" for routine daily transactions is now cellular funds and digital wallets that are used while investing apps like Goldman and Acorns are gaining popularity, enabling individuals to conveniently purchase investments from their own homes or while on the go. These developments signify a transformative shift in personal financial management through digitization and financial technologies. The rise of digital technology and the expansion of e-commerce have the potential to reshape consumer behavior, altering patterns of saving, spending, and the scale of transactions. E-commerce extends beyond retail to encompass various financial services, such as loans, mortgages [6]. Despite the growth of financial technology (fintech), Indonesia still faces challenges in regulating digital financial services effectively. fitnah to ensure consumer and entrepreneur awareness. Integrating fintech into the broader financial ecosystem is crucial for enhancing financial services' value chain and achieving regulatory alignment. Fintech offers solutions across various financial sectors, including payment methods, savings, remittances, investments, trade, credit, insurance products, and support for small and medium enterprises (SMEs). However, the lack of regulatory control and preparedness poses behavioral challenges, underscoring in Digital Navigation Digital Financial Literacy (DFL) emphasis finance revolution [7]. DFL empowers consumers to make informed decisions about digital financial services, potentially reducing costs and enhancing access to financial resources. Insufficient DFL may lead to inadequate savings and higher costs in the long run, emphasizing the need for improved literacy to ensure long-term financial security. Exploratory research on the influence Savings of DFL and spending behaviors, in particular among millennials, essential Previous during inspections have examined financial literacy's impact on behavior, specific analyses of DFL and its measurement are scarce. Understanding how DFL affects financial decisions in the digital age is crucial for informing policy and promoting financial well-being in the digital era [8]. Financial markets are undergoing perpetual transformation, rendering investing easier and faster than ever before. In the intricate landscape of modern finance, individual or household participation is imperative. Yet, the rapid proliferation of complex financial instruments in retail markets presents a challenge, especially for financially disadvantaged individuals. The advent of Fitch firms has exacerbated this trend, ushering in a wave of convenience and accessibility to financial products for individuals and families alike. With just a smartphone and a Robot Invest account, users can swiftly select and monitor investment products, mirroring the ease of daily grocery shopping [9]. This financial landscape evolves, a pertinent question arises whether the users possess the capability to comprehend the features and risks associated with these products. The imperative for financial literacy becomes apparent in navigating the complexities of these financial products, particularly in the digital age where information is disseminated at unprecedented speeds. Decades of research have underscored the correlation between Financial literacy and Positive Finance Among the consequences, informed decisions authority for individuals to take digital platforms to provide financial education through emphasizing the urgency for improvement [10]. The emergence of digital technology and the rapid expansion of e-commerce have the potential to alter consumer behavior, impacting both savings and spending patterns across various media platforms and transaction values. E-commerce extends beyond traditional retail, encompassing a wide array of financial services such as loans, mortgages, and peer-to-peer lending, with Indonesia emerging as a significant market player in this sector within Southeast Asia. The trend towards e-commerce is expected to continue growing, with projections indicating that by 2023, approximately 75.3% of Indonesia's population will engage in digital transactions [11]. However, despite the significant growth in financial technology (fintech), Indonesia faces challenges due to weak regulatory frameworks, which may limit the benefits and increase risks

associated with digital finance. Efforts to enhance fintech connectivity across the financial services value chain, including conventional banking systems, are underway but remain incomplete. Fintech offerings span various financial products, including payment methods, savings, remittance, investment, and insurance solutions, catering to both consumers and small to medium-sized enterprises (SMEs) [12]. The adoption of fintech has the potential to revolutionize payment methods, influencing consumer spending behavior, as observed in countries like India and China. Moreover, the shift towards digital storage in financial institutions is altering saving behaviors, with a notable increase in the proportion of adults opting for digital storage over traditional methods. Improving digital financial literacy (DFL) is crucial to navigating the evolving landscape of digital finance responsibly. Enhanced DFL can mitigate excessive spending and facilitate greater access to digital storage options. Conversely, a lack of financial literacy may lead to suboptimal savings practices and higher long-term costs, highlighting the need for policymakers to prioritize DFL initiatives [13]. Enhancing financial literacy through digital programs has become increasingly essential in today's ever-evolving economic landscape. This comprehensive guide aims to delve into the significance of such initiatives and outline a roadmap for their implementation. With the advent of digital technology, there's been a paradigm shift in how financial education is delivered and consumed. Leveraging the power of digital platforms allows us to reach a wider audience, transcending geographical barriers and providing access to invaluable financial knowledge [14]. Financial literacy is more than just understanding how to balance a checkbook or create a budget. It encompasses a wide range of abilities and ideas, including planning for retiring, investing, managing finances, and saving. By offering comprehensive digital programs, for individual's necessary tools we can provide financial decisions throughout their lives. One of the primary advantages of digital financial literacy programs is their accessibility. Unlike traditional methods that may require attending in-person classes or workshops, digital programs can be accessed anytime, anywhere, from any internet-enabled device [15]. Those with hectic schedules or restricted mobility would especially benefit from this versatility allowing them to learn at their own pace and convenience. Moreover, digital programs can be tailored to suit the diverse needs and preferences of users. Through interactive modules, videos, quizzes, and real-life simulations, learners resonate with them with meaning in kind. For example, visual learners may prefer watching explanatory videos, while hands-on learners may benefit from interactive budgeting tools or investment simulations. Furthermore, digital programs have the advantage of being scalable and cost-effective. Once developed, they can be distributed to an unlimited number of users without incurring significant additional costs. This scalability makes it possible to reach large audiences efficiently, including underserved communities that may have limited access to traditional financial education resources [16].

2. METHODOLOGY

Interactive Online Modules: Interactive online modules, enriched with multimedia elements, quizzes, and simulations, offer dynamic learning experiences. These modules cater to diverse learning styles, providing instant feedback and allowing users to learn at their own pace. Through interactive exercises and ratings, users strengthen their understanding of complex concepts, leading to deeper knowledge retention.

Virtual Workshops: Virtual workshops, facilitated by experts, feature live discussions and presentations to foster engagement. Participants interact through facilitated activities, fostering knowledge sharing, capacity building, and networking. Without location restrictions, participants actively engage, ask questions, and collaborate, enhancing the learning experience and fostering a sense of community.

Mobile Applications: Mobile applications provide convenient access to educational resources via smartphones or tablets. With a user-friendly interface, users can monitor progress, take part in conversations, receive instructional content, and get notifications. Providing adaptability and accessibility, users can learn anytime, anywhere, making learning comfortable and adaptable to diverse audiences.

Community Forums: Community forums connect like-minded individuals to share knowledge, experiences, and collaborate. Participants ask questions, seek advice, and engage in discussions, fostering a supportive learning environment. These forums cultivate a sense of community, enabling users to learn from each other and build meaningful connections.

Mentoring Programs: Mentoring programs pair individuals with experienced mentors for personalized guidance and support. Mentors offer advice, share expertise, and help mentees overcome challenges to achieve their goals. Through structured guidance and personal interaction, mentoring programs facilitate growth, trust, and mutual respect, fostering continuous communication and relationship building.

Content Quality and Relevance: Ensuring users engage meaningfully with provided material, quality and relevance are pivotal aspects. High-caliber content must be precise, thoroughly researched, and transparent, aligning with user needs, interests, and learning objectives to enhance engagement and retention.

User Engagement and Interactivity: Fostering a dynamic learning atmosphere necessitates user engagement and interactivity, achieved through elements like quizzes, polls, simulations, and discussions. Such proactive

engagement encourages participation and enriches the learning process, promoting collaboration and significantly bolstering retention and comprehension.

Effectiveness and Learning Outcomes: The effectiveness of educational platforms or content is gauged by their ability to meet learning outcomes, encompassing knowledge acquisition, skill enhancement, and critical thinking. Through assessments like quizzes and assignments, evaluating outcomes helps identify areas for enhancement, aligning content with specific objectives to drive positive learning outcomes through continuous assessment.

Accessibility and Scalability: Accessibility and scalability are paramount for educational content to cater to diverse audiences and needs. Incorporating features like screen readers and adjustable font sizes ensures accessibility for users with disabilities, while scalability allows content to adapt and maintain quality without compromising performance, thereby broadening impact and reach. Prioritizing accessibility and scalability enhance the effectiveness and inclusivity of educational platforms, making them more impactful and accessible to a wider audience.

Method: The WASPASS (Weighted Aggregate Product Assessment) technique yields two significant contributions, particularly through the expertise-driven evaluation of a new technique and the freshly developed LNN WASPAS version, which incorporates numerous criteria selections, thereby enhancing the sector. Seven experts primarily evaluate this version based on nine criteria. Subsequently, following a sensitivity assessment, a version check is conducted. The results obtained through the LNN WASPAS model, along with the assessments, validate the effectiveness of the LNN extensions against the obtained results [17]. The WASPAS approach for criteria selection involves the calculation of expert weights for a new system. These weights are determined based on innovative strategies aimed at facilitating high-speed operations. Primary information activities are integral to the development of the IVIFS (Interval-Valued Intuitionistic Fuzzy Sets) methodology. In practice, expert weights are measured to refine the selection process [18]. WASPAS offers a method to determine weights and measurements by utilizing provider ratings, which are selected as indicators of performance. This is in line with contemporary literature, which employs mathematical modeling, ratio analysis, and Ash-related analysis, as well as the gray principle and qualitative attribute ordering. Integrated strategies are advocated for, with a focus on complex tactics, to ascertain the primary provider [19]. WASPASS incorporates the MCTM methodology, which amalgamates various strategies. It delineates two distinct fashion components, rendering it distinctive. However, its outcomes present a blend of results from diverse civilizations. Expert weights can be scaled or allocated using specific techniques in this context [20]. WASPAS adopts a prescriptive method to enhance the precision of estimation and refine the weighted composite properties. This approach is employed to evaluate the burgeoning demand for TUMS' ancillary health services, exploring potential outsourcing avenues. Techniques such as constructing or renovating buildings, or even establishing a suitable shopping center, are considered. Determining the optimal location is crucial in this process. Such a forward-thinking approach entails strategic foresight in decision-making, aligned with sustainable strategies. The Planning Committee (QSPM) has advocated for the utilization of WASPAS in incorporating various decision-making criteria into the process [21]. The Vaspas technique has been identified as highly robust, offering more precise decision-making compared to other methods. Recent research has underscored its effectiveness across various fields. In Europe, Vaspas, coupled with entropy techniques, has been proposed as a viable approach to address economic requirements. Furthermore, a hybrid model based on WASPAS has been suggested for procuring medium-scale construction projects [22]. The WASPAS methodology prioritizes selecting top-tier services and products within the segment, ensuring they are both competitively priced and meet timely delivery requirements. Evaluating providers allows for making informed decisions on selecting the best ones from the pool. However, formal validation from providers beyond their offerings can be challenging, especially concerning meeting targets. Consequently, choosing suitable suppliers becomes a critical challenge for agencies in navigating this process effectively [23]. The institution opts for WASPAS, coupled with IT2FS, to address multi-standard issues and solve associated problems. The technique is elaborated upon to tackle the selection problem of third-party logistics (3PL) providers within Segment Three. An illustrative example of the method is presented to elucidate its application. Section 4 provides the results of the technique to showcase its consistency, along with a sensitivity evaluation. Finally, implications arising from the findings are thoroughly discussed [24]. the WASPAS methodology, researchers conducted a study, taking into account location-specific needs, which were initially perceived as invalid. Furthermore, researchers recognized the necessity for additional techniques. They assessed various methods and techniques employed, acknowledging the inadequacy of previous research attempts to accurately describe the situation [25]. Check out a proposed MADM (Multi-Attribute Decision Making) method called Naujoji in Vilnius, Lithuania, for assessing six flats in the WASPAS framework. This method focuses on evaluating residences constructed with bricks in Vilnius, particularly for their heating requirements. Each replacement is scrutinized weekly, considering various attributes, and a referral fee is also levied based on these assessments [26]. The Vespa's F approach is utilized, where the total cost received is assessed numerically. However, determining the priority of the building material, especially brick, can pose challenges as the results may yield similar outcomes. Despite its limitations, this technique remains the preferred option. Nonetheless, its complexity makes it difficult for experts to provide accurate evaluations, leading to potential discrepancies in assessing the importance of materials. Consequently, this can result in

inaccuracies, particularly in scenarios with significant variations, thereby affecting the overall assessment process [27]. The precision of the WASPAS approach, particularly when utilizing the production version, is deemed more favorable compared to its conversion into the weighted sum version. Existing literature on the WASPAS technique emphasizes the significance of considering Ordered Fuzzy Numbers (OFNs) within the methodology, yet there's a dearth of studies that comprehensively aggregate these aspects [28]. The WASPAS technique, tailored for the rehabilitation of dilapidated houses, involves examinations and funding to rank options. This is achieved through expressing criterion importance and/or overall performance judgments and opinions in C language. These evaluations are then compared with those from other methods employing electricity [29]. The WASPAS technique is recognized as an efficient and effective Multiple Criteria Decision Making (MCDM) technique. Moreover, it has been further developed in various ambiguous contexts, such as Fermata's WASPAS method expanding with sets, providing a robust framework for assessing inexperienced manufacturing suppliers. Despite its sophistication, there's a notable absence of prior research on its application by experts [30]. Applications of the WASPAS method across diverse domains demonstrate its theoretical versatility. The iterative nature of its novel phases underscores its comprehensiveness and provides reasoning behind its approach. Furthermore, practical examples such as selecting a supplier of Polyvinyl Chloride illustrate the method's applicability and sustainability, which is discussed in detail alongside sensitivity assessments [31].

3. RESULTS AND DISCUSSION

TABLE 1. Digital Financial Literacy Programs

	Content Quality and Relevance	User Engagement and Interactivity	Effectiveness and Learning Outcomes	Accessibility and Scalability
Interactive Online Modules	60.35000	139.53000	55.69000	65.36000
Virtual Workshops	55.36000	142.97000	45.36000	75.36000
Mobile App	35.06000	122.58000	65.23000	35.65000
Community Forum	69.53000	128.28000	52.06000	65.23000
Mentorship Program	36.45000	186.41000	42.36000	56.36000

Table 1 shows the Digital Financial Literacy Programs Analysis using the WASPAS Method. Interactive Online Modules, Virtual Workshops, Mobile Apps, Community forums, and Mentorship Program are the Alternative and Evaluation Parameters in Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes, and Accessibility and Scalability it is also Data Value.

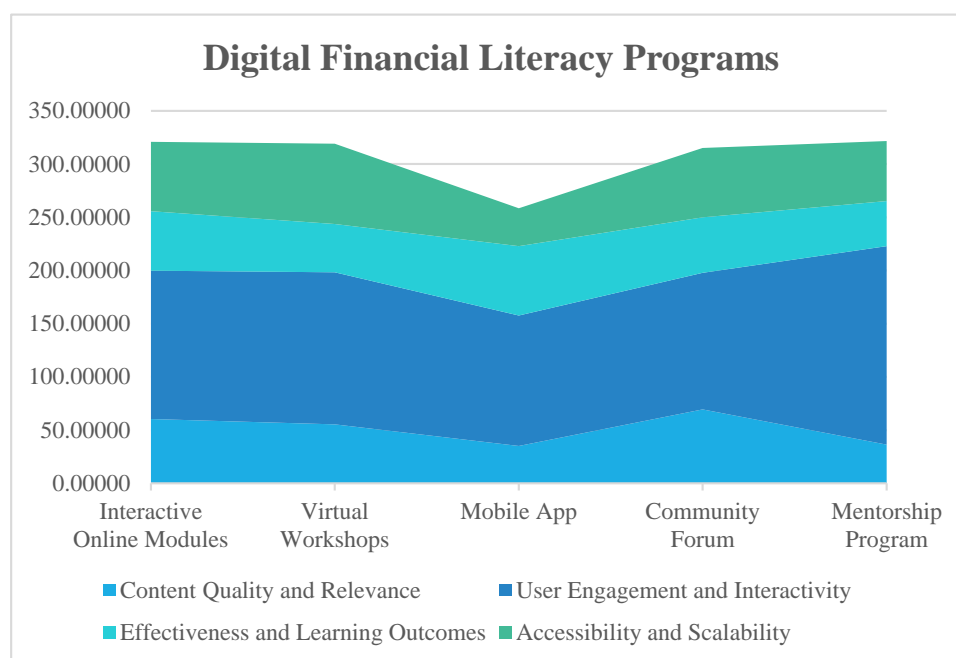


FIGURE 1. Digital Financial Literacy Programs

Figure 1 shows the Digital Financial Literacy Programs Analysis using the WASPAS Method. Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program are the Alternative and Evaluation Parameters in Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes and Accessibility and Scalability it is seen that Community Forum is showing Highest Value for Content Quality and Relevance and Mobile App is showing the lowest value. The Mentorship Program is showing the Highest Value for User Engagement and Interactivity and Mobile App is showing the lowest value. Mobile App shows the Highest Value for Effectiveness and Learning Outcomes and Mentorship Programs show the lowest value. Virtual Workshops show the Highest Value for Accessibility and Scalability and Mobile App is showing the lowest value.

TABLE 2. Performance value

0.86797	0.74851	0.76064	0.54544
0.79620	0.76697	0.93386	0.47306
0.50424	0.65758	0.64939	1.00000
1.00000	0.68816	0.81368	0.54653
0.52423	1.00000	1.00000	0.63254

Table 2 shows the performance value of the Digital Financial Literacy Programs using the WASPAS method; it is calculated by the value in the dataset divided by the maximum of the given value of the data set.

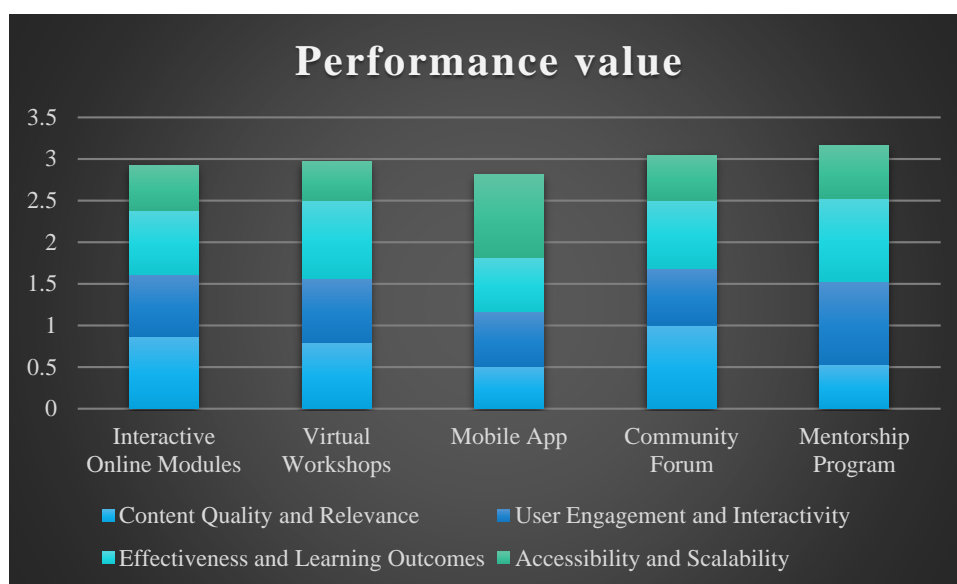


FIGURE 2. Performance value

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TABLE 3. Weights

0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25

Table 3 used for analysis Displays the weights all for analysis same for parameters We took the weight

TABLE 4. Weighted Normalized Decision Matrix

0.21699	0.18713	0.19016	0.13636
0.19905	0.19174	0.23347	0.11827
0.12606	0.16440	0.16235	0.25000
0.25000	0.17204	0.20342	0.13663
0.13106	0.25000	0.25000	0.15814

Table 4 shows the weighted normalization decision matrix; it is calculated by multiplying the weight and performance value in table 2 and table 3 Digital Financial Literacy Programs Analysis using the WASPAS Method. Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program is the Alternative and Evaluation Parameters in Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes and Accessibility and Scalability.

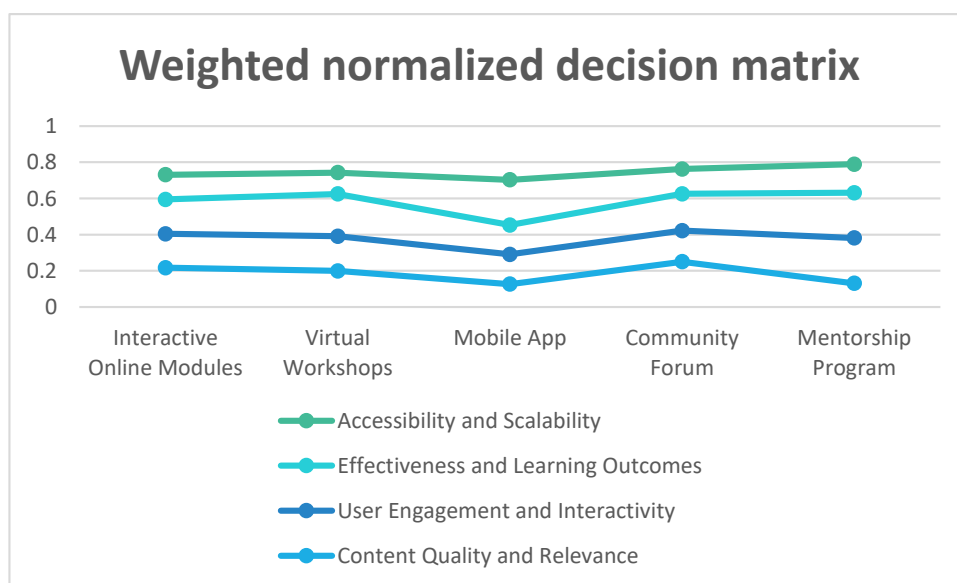
**FIGURE 3.** Weighted Normalized Decision Matrix

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TABLE 5. Weighted Normalized Decision Matrix

0.96522	0.93014	0.93389	0.85938
0.94462	0.93582	0.98304	0.82933
0.84267	0.90051	0.89769	1.00000
1.00000	0.91080	0.94976	0.85981
0.85091	1.00000	1.00000	0.89181

Table 5 shows the weighted normalization decision matrix; it is calculated by multiplying the weight and performance value in table 2 and table 3 Digital Financial Literacy Programs Analysis using the WASPAS Method. Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program is the Alternative and Evaluation Parameters in Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes and Accessibility and Scalability.

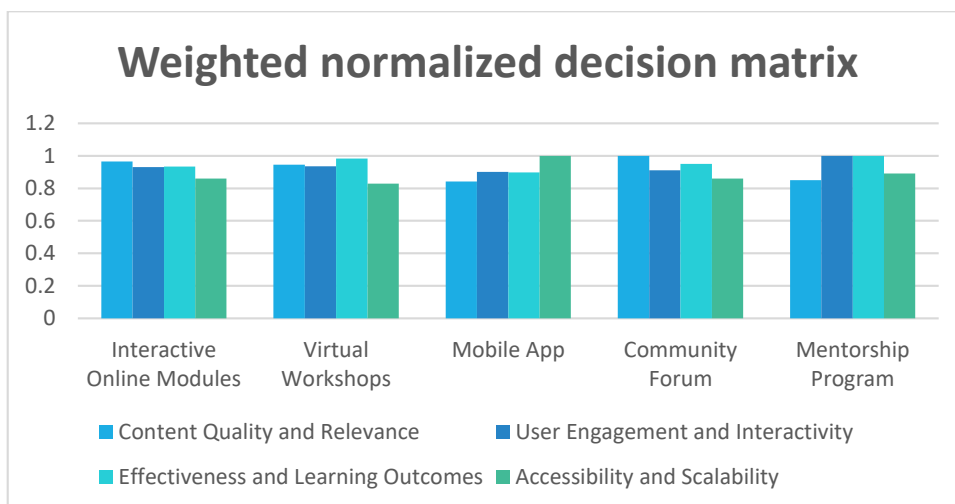


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TABLE 6. Preference Score, WASPAS Coefficient

Preference Score	WSM Weighted Sum Model	Preference Score	WPM Weighted Product Model	lambda	WASPAS Coefficient
0.73064		0.720539			0.72559
0.742523		0.720693			0.731608
0.702805		0.6812			0.692003
0.762091		0.74377			0.75293
0.789194		0.758846			0.77402

Table 6 The preference score for the Weighted Sum Model (WSM) is determined by adding up the values in each row of the weighted normalized decision matrix. Conversely, for the Weighted Product Model (WPM), the preference score is obtained by multiplying the values in each row of the weighted normalized decision matrix.

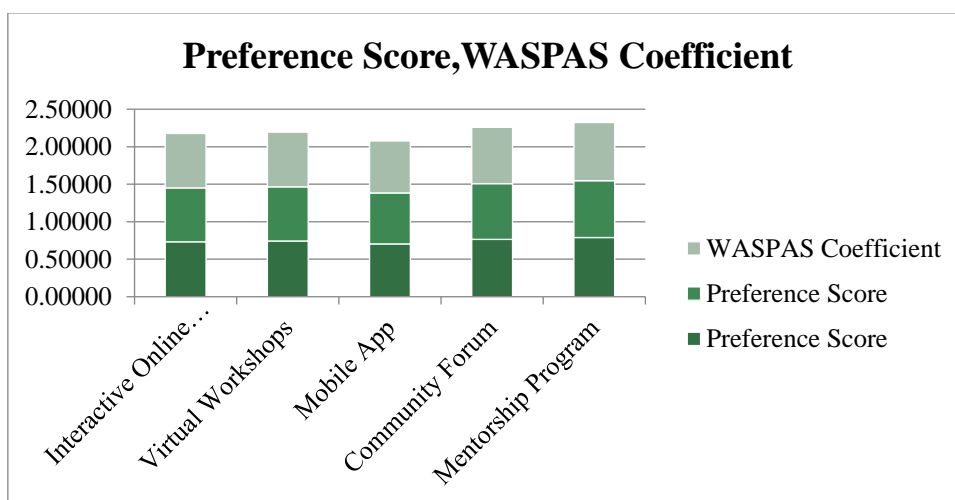


FIGURE 5. Preference Score, WASPAS Coefficient

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TABLE 7. Result of Digital Financial Literacy Programs

	Rank
Interactive Online Modules	4
Virtual Workshops	3
Mobile App	5
Community Forum	2
Mentorship Program	1

Table 7 Analysis in WASPAS Using the method of digital financial literacy programs shows the result. For the mentoring program Got First Grade, Whereas the mobile app is ranked low

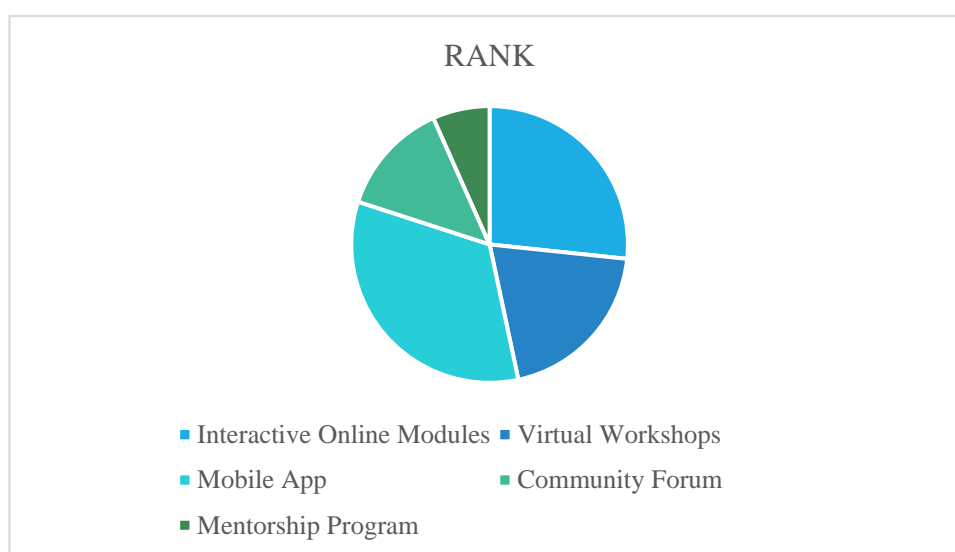


FIGURE 6. Shown the Rank

Figure 6 Analysis in WASPAS Using the method of digital financial literacy programs shows the result. For the mentoring program Got First Grade, Whereas the mobile app is ranked low

4. CONCLUSION

Enhancing financial literacy through digital initiatives is a pivotal strategy in today's technology-driven world. These projects offer accessible and interactive education, utilizing technology to deliver content and empower individuals to effectively understand and manage finances. They encompass various tools such as mobile applications, online courses, and interactive simulations, catering to diverse learning styles and preferences across different demographics and professional levels. Covering topics ranging from budgeting, saving, and investing to credit management, these programs often incorporate gamification elements to make learning engaging and motivate users to participate seriously in their financial education. Overall, digital initiatives for financial literacy play a crucial role in democratizing access to financial knowledge, equipping people with the skills required to navigate the complex financial landscape and make informed decisions to achieve financial well-being. Digital financial literacy, particularly in India. Financial literacy, broadly speaking, encompasses the personal finance matters of understanding and analyzing, managing, and ability to communicate. Specifically, it involves skills necessary to make informed decisions regarding money and its management. In the digital age, financial literacy extends to understanding and utilizing online platforms for various financial transactions such as online shopping, digital payments, and online banking systems. The significance of digital financial literacy has been accentuated in India, notably following the government's demonetization initiative announced by the Prime Minister which aimed to eliminate black money and propel the country towards a cashless economy. Interactive online modules, enriched with multimedia elements, quizzes, and simulations, offer dynamic learning experiences. These modules

cater to diverse learning styles, providing instant feedback and allowing users to learn at their own pace. Through interactive exercises and ratings, users strengthen their understanding of complex concepts, leading to deeper knowledge retention. The WASPASS (Weighted Aggregate Product Assessment) technique yields two significant contributions, particularly through the expertise-driven evaluation of a new technique and the freshly developed LNN WASPASS version, which incorporates numerous criteria selections, thereby enhancing the sector. Seven experts primarily evaluate this version based on nine criteria. Interactive Online Modules, Virtual Workshops, Mobile App, Community Forum and Mentorship Program. Content Quality and Relevance, User Engagement and Interactivity, Effectiveness and Learning Outcomes and Accessibility and Scalability. Analysis in WASPASS Using the method of digital financial literacy programs shows the result. The mentoring program got the top grade, whereas the mobile app is ranked low.

REFERENCES

- [1]. Prasad, Hanuman, Devendra Meghwal, and Vijay Dayama. "Digital financial literacy: A study of households of Udaipur." *Journal of Business and Management* 5 (2018): 23-32.
- [2]. Lyons, Angela C., and Josephine Kass-Hanna. "A methodological overview to define and measure "digital" financial literacy." *Financial Planning Review* 4, no. 2 (2021): e1113.
- [3]. Kass-Hanna, Josephine, Angela C. Lyons, and Fan Liu. "Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa." *Emerging Markets Review* 51 (2022): 100846.
- [4]. Setiawan, Maman, Nury Effendi, Teguh Santoso, Vera Intanie Dewi, and Militcyano Samuel Sapulette. "Digital financial literacy, current behavior of saving and spending and its future foresight." *Economics of Innovation and New Technology* 31, no. 4 (2022): 320-338.
- [5]. Li, Jian, and Alexis Meyer-Cirkel. "Promoting financial literacy through a digital platform: A pilot study in Luxembourg." *International journal of finance & economics* 26, no. 1 (2021): 73-87.
- [6]. Amagir, Aisa, Wim Groot, Henriëtte Maassen van den Brink, and Arie Wilschut. "A review of financial-literacy education programs for children and adolescents." *Citizenship, Social and Economics Education* 17, no. 1 (2018): 56-80.
- [7]. Liew, Teo-Piaw, Pei-Wen Lim, and Yew-Chui Liu. "Digital financial literacy: A case study of farmers from rural areas in Sarawak." *International Journal of Education and Pedagogy* 2, no. 4 (2020): 245-251.
- [8]. Kass-Hanna, Josephine, Angela C. Lyons, and Fan Liu. "Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa." *Emerging Markets Review* 51 (2022): 100846.
- [9]. Lyons, Angela C., and Josephine Kass-Hanna. "A multidimensional approach to defining and measuring financial literacy in the digital age." In *The Routledge handbook of financial literacy*, pp. 61-76. Routledge, 2021.
- [10]. Yin Yin, Khoo, Rohaila Yusof, and Yumiko Abe. "Integrating financial literacy into economics courses through digital tools: the Finlite app." *Journal of International Education in Business* 15, no. 2 (2022): 331-350.
- [11]. Firmansyah, Deri, and Dwinanto Priyo Susetyo. "Financial Behavior in the Digital Economy Era: Financial Literacy and Digital Literacy." *Jurnal Ekonomi Dan Bisnis Digital* 1, no. 4 (2022): 367-390.
- [12]. Hasan, Rashedul, Muhammad Ashfaq, Tamiza Parveen, and Ardi Gunardi. "Financial inclusion—does digital financial literacy matter for women entrepreneurs?." *International Journal of Social Economics* 50, no. 8 (2023): 1085-1104.
- [13]. Goyal, Kirti, and Satish Kumar. "Financial literacy: A systematic review and bibliometric analysis." *International Journal of Consumer Studies* 45, no. 1 (2021): 80-105.
- [14]. Panos, Georgios A., and John OS Wilson. "Financial literacy and responsible finance in the FinTech era: capabilities and challenges." *The European Journal of Finance* 26, no. 4-5 (2020): 297-301.
- [15]. Seldal, MM Naeser, and Ellen K. Nyhus. "Financial vulnerability, financial literacy, and the use of digital payment technologies." *Journal of Consumer Policy* 45, no. 2 (2022): 281-306.
- [16]. Hayati, Annur Fitri, and Rita Syofyan. "Analysis of student digital financial literacy in the era of industrial revolution 4.0." In *Seventh Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2021)*, pp. 180-184. Atlantis Press, 2021.
- [17]. Pamučar, Dragan, Siniša Sremac, Željko Stević, Goran Ćirović, and Dejan Tomić. "New multi-criteria LNN WASPASS model for evaluating the work of advisors in the transport of hazardous goods." *Neural Computing and Applications* 31, no. 9 (2019): 5045-5068.
- [18]. Mishra, Arunodaya Raj, and Pratibha Rani. "Interval-valued intuitionistic fuzzy WASPASS method: application in reservoir flood control management policy." *Group Decision and Negotiation* 27, no. 6 (2018): 1047-1078.
- [19]. Singh, Rohit Kumar, and Sachin Modgil. "Supplier selection using SWARA and WASPASS—a case study of Indian cement industry." *Measuring Business Excellence* (2020).
- [20]. Prajapati, Himanshu, Ravi Kant, and Ravi Shankar. "Prioritizing the solutions of reverse logistics implementation to mitigate its barriers: A hybrid modified SWARA and WASPASS approach." *Journal of Cleaner Production* 240 (2019): 118219.
- [21]. Lashgari, Shima, Jurgita Antuchevičienė, Alireza Delavari, and Omid Kheirkhah. "Using QSPM and WASPASS methods for determining outsourcing strategies." *Journal of Business Economics and Management* 15, no. 4 (2014): 729-743.

-
- [22]. Badalpur, Mohammadreza, and Ehsan Nurbakhsh. "An application of WASPAS method in risk qualitative analysis: A case study of a road construction project in Iran." *International Journal of Construction Management* 21, no. 9 (2021): 910-918.
- [23]. Ali, Jawad, Zia Bashir, and Tabasam Rashid. "WASPAS-based decision making methodology with unknown weight information under uncertain evaluations." *Expert Systems with Applications* 168 (2021): 114143.
- [24]. Vikrant Sharma, M. Ramachandran, Kurinjimalar Ramu, Chinnasami Sivaji "A Review on Material Selection for Small Wind Turbine Blades Using the WASPAS Method".
- [25]. Keshavarz Ghorabae, Mehdi, Maghsoud Amiri, Edmundas Kazimieras Zavadskas, and Jurgita Antuchevičienė. "Assessment of third-party logistics providers using a CRITIC–WASPAS approach with interval type-2 fuzzy sets." *Transport* 32, no. 1 (2017): 66-78.
- [26]. Mardani, Abbas, Mehrbakhsh Nilashi, Norhayati Zakuan, Nanthakumar Loganathan, Somayeh Soheilrad, Muhamad Zameri Mat Saman, and Othman Ibrahim. "A systematic review and meta-Analysis of SWARA and WASPAS methods: Theory and applications with recent fuzzy developments." *Applied Soft Computing* 57 (2017): 265-292.
- [27]. Zavadskas, E. K., D. Kalibatas, and D. Kalibatiene. "A multi-attribute assessment using WASPAS for choosing an optimal indoor environment." *Archives of Civil and Mechanical Engineering* 16, no. 1 (2016): 76-85.
- [28]. Raja, Chandrasekar, M. Ramachandran, Kurinjimalar Ramu, and Chinnasami Sivaji. "Dharumapuri District, Tamil Nadu, Groundwater Quality Status in relation to WASPAS System Pollution."
- [29]. Turskis, Zenonas, Nikolaj Goranin, Assel Nurusheva, and Seilkhan Boranbayev. "A fuzzy WASPAS-based approach to determine critical information infrastructures of EU sustainable development." *Sustainability* 11, no. 2 (2019): 424.
- [30]. Rudnik, Katarzyna, Grzegorz Bocewicz, Aneta Kucińska-Landwójtowicz, and Izabela D. Czabak-Górska. "Ordered fuzzy WASPAS method for selection of improvement projects." *Expert Systems with Applications* 169 (2021): 114471.
- [31]. Zavadskas, Edmundas Kazimieras, Jurgita Antuchevičienė, Seyed Hossein Razavi Hajiagha, and Shide Sadat Hashemi. "Extension of weighted aggregated sum product assessment with interval-valued intuitionistic fuzzy numbers (WASPAS-IVIF)." *Applied soft computing* 24 (2014): 1013-1021.
- [32]. Keshavarz-Ghorabae, Mehdi, Maghsoud Amiri, Mohammad Hashemi-Tabatabaei, Edmundas Kazimieras Zavadskas, and Arturas Kaklauskas. "A new decision-making approach based on Fermatean fuzzy sets and WASPAS for green construction supplier evaluation." *Mathematics* 8, no. 12 (2020): 2202.
- [33]. Stojić, Gordan, Željko Stević, Jurgita Antuchevičienė, Dragan Pamučar, and Marko Vasiljević. "A novel rough WASPAS approach for supplier selection in a company manufacturing PVC carpentry products." *Information* 9, no. 5 (2018): 121.