

AI SYSTEMS AND METHODS IN GENERATING SOCIAL PROFILE OF SUSTAINABLE ENTREPRENEURSHIP VALUE MODEL IN ISLAMIC FINTECH ORGANISATIONS

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Abstract: *As Malaysia strives for a more sustainable future, the case for developing values to facilitate entrepreneurship better becomes more compelling. One of the lessons learned was from Fintech organizations. Their goals and outcomes in Shariah and Non-Shariah Fintech solution offerings have yet to be determined. The Sustainable Entrepreneurship Values (SEV) is developed using an artificial intelligence system that allows prescription, forecasting, prediction, and recommendation. The SEV model examines the action of Fintech organizations to create value in promoting sustainable, inclusive, and socially beneficial outcomes. The system offers better access to a wider variety of data, increased computing power, greater demand for improvements in efficiency, and economic growth. Providing an all-inclusive solution encourages Islamic Fintech organizations to reconsider the difficulties in achieving their goals, particularly social inclusivity (sadaqah, waqf, and zakat services). The outcome is to generate the SEV model, which adds value to the objectives of the Madani Framework on economy, finance, and communities; the Islamic Hub 2.0; and SDG8 on decent work and economic growth. The output provides the co-creation of value generated by the supportive ecosystem with ongoing innovation, with 14 sub-sectors of Fintech contributing to the co-creation of SEV values applicable to the Malaysian Education Policy on Industry 4.0. As a result, the SEV model explains sustainable entrepreneurship values that act as game changers for organizations.*

Keywords: sustainable entrepreneurship values model, artificial intelligence, social inclusion, Malaysia.

1. Introduction

In this paper, the Sustainable Entrepreneurship Values (SEV) model, applied through AI, can potentially address the unique challenges faced by Islamic Fintech organizations, promoting sustainable, inclusive, and socially beneficial outcomes.

In general, Sustainable Entrepreneurship (SE) is an entrepreneurial action mechanism for the sustainability of nature and ecosystems while generating economic and non-economic benefits to investors, entrepreneurs, and societies, Patzlelt and Shepherd (2011). The “role of entrepreneurial action linked to the concept of opportunity recognition is fundamental in the

pursuit of sustainability and development” (Pacheco et al., 2010; Patzelt & Shepherd, 2011). SE is the process of that involve the discovery, creation, or exploitation of future entrepreneurial opportunities by entrepreneurs (Pinkse & Groot, 2015; Shepherd & Patzelt, 2011) that contribute to sustainability by generating social and environmental benefits for others in society (Cohen & Winn, 2007; Venkataraman, 2019).

As the SE linked to the entrepreneurship process of opportunity recognition concept (Nicolopoulou, Karatas-Ozkan, Janssen, and Jermier, 2016), sustainable entrepreneurs could help to resolve environmental degradation and improve quality of life for consumers, communities, and the natural environment by developing new technologies and business models (Schaltegger & Wagner, 2011) and deliver what the next-generation needs (Pojasek, 2017). Besides that, Hoogendoorn et al. (2019) defines SE as “an enterprise that start a business to serve self-interests and collective interests by addressing unmet social and environment needs”.

Despite the foregoing, definition of SE has been concentrated on the entrepreneurial process (Belz & Binder, 2017). The process begins when resourceful entrepreneurs identify specific ecological or social problems, recognize opportunities to solve them and develop Triple Bottom Line (TBL) solutions that can be introduced to the market (Belz & Binder, 2017). This process is usually triggered by the motivation of entrepreneurs about the benefits and emotions of non-economics which is compassionate to support the well-being of others creating a shared vision between the founders, enterprises and their members (Farny & Binder, 2021).

2. Methodology

The methodology of this paper is to conduct a literature review and it is aimed to explore and analyze the current state of AI systems and methods used to develop sustainable entrepreneurship value and to generate social profiles among those sustainable Islamic Fintech organizations. The review aims to identify the existing research, methodologies, and gaps in literature to provide a comprehensive understanding of this topic in particular in the emerging economies.

The literature review focuses on academic articles, conference papers, and reports published in peer-reviewed journals and reputable conferences. The timeframe for the literature search was from the earliest available literature up until the date of the review. A set of relevant keywords were identified based on the research objective. These keywords include terms related to AI systems, social profiling, sustainable Islamic Fintech, and emerging economies. Several databases were utilized to ensure comprehensive coverage of the literature. These include, but are not limited to, IEEE Xplore, ACM Digital Library, Scopus, Web of Science, and Google Scholar.

The selection of articles was based on their relevance to the research objective. Only peer-reviewed articles and conference papers that directly address the use of AI systems and methods in generating social profiles of sustainable Islamic Fintech organizations in emerging economies were included. Relevant data from the selected articles will be extracted, including the authors, publication year, research methodology, AI techniques employed, emerging economies considered, and key findings. The extracted data was analyzed thematically to identify common themes, trends, and research gaps. Patterns and relationships within the literature will be identified to provide a comprehensive overview of the topic. Relevant keywords were identified through brainstorming and a thorough review of existing literature

in the field. This step ensures the inclusion of key terms related to AI systems, social profiling, sustainable Islamic Fintech, and emerging economies.

3. Literature Review

This paper begins with an exploration of a literature review for sustainable entrepreneurship values, artificial intelligence in business, fintech and its role in economic and social sustainability, and the unique challenges and opportunities presented by Islamic fintech. Here is a brief literature review.

Sustainable Entrepreneurship. Patzelt and Shepherd (2011) define sustainable entrepreneurship as the discovery and exploitation of economic opportunities through the generation of market disequilibria that initiate the transformation of a sector or an industry towards an environmentally and socially more sustainable state. Kasim and Che Azman (2023) further delved into the values that sustainable entrepreneurship brought and its impact on society and the environment, providing a useful framework for understanding the role that sustainable entrepreneurship can play in promoting a more inclusive future.

Artificial Intelligence in Business. Rabbani, Khan and Thalassinou, (2020) explore FinTech, blockchain and Islamic finance, where AI and technological advancements are driving economic growth. They argue that these advancements offer opportunities for businesses to improve efficiency and productivity. This work provides an interesting perspective on the role of AI in business, which can be applied to the Fintech sector, Reyes-Mercado (2021).

Fintech and Sustainability. Lerner, Seru, Short, and Sun, (2020) are in line with Othman, Alhabshi, Kassim, and Sharofiddin (2020) and argue that Fintech has the potential to disrupt traditional banking and financial services. Salim, Abojeib, and Abdul Hamid (2020) argued Lerner et al., (2020) who suggested that Fintech can promote financial inclusion, a key component of social sustainability. The work of Obaidullah (2021) and Mohd Haridan, Sheikh Hassan, Mohammed Shah, and Mustafa, (2023) also offer a comprehensive overview of the Fintech sector and its potential for promoting sustainable outcomes.

Islamic Fintech. Islamic Fintech is a relatively new field, and there are few scholarly works on the topic. However, Jamil and Seman (2019); Khattak, Anwar, and Clauss (2021); Li and Xu (2021) who explored the challenges and opportunities presented by Islamic Fintech and argued that while Islamic Fintech faces unique challenges, it also has the potential to promote financial inclusion and social sustainability, Lee and Shin (2018).

3.1 Artificial Intelligence (AI) within the context of Islamic Fintech

In order to explore the systems and methods of artificial intelligence (AI) being utilized within the context of Islamic Fintech organizations and its potential for promoting social inclusivity, it's important to review the literature in several key areas: AI in decision-making, Islamic principles in business and finance, and the use of AI in Islamic Fintech. Next is a brief literature review on these topics.

3.2 AI in Decision-Making

Artificial Intelligence systems have been increasingly used in business contexts for various purposes, such as prediction, recommendation, forecasting, and prescription. Ali,

Salman Yaacob, Zaini, and Abdullah (2020) discuss how AI can be used to facilitate decision-making in businesses. Syed, Khan, Rabbani and Thalassinis, (2020) argue that AI can help to reduce uncertainty and increase efficiency, which can be particularly useful in complex sectors like Fintech.

3.3 Islamic Principles in Business and Finance

Islamic finance is grounded on principles that promote social inclusivity and fairness. Ja'afar, (2022), and Mahfudz (2022) examine the social implications of Islamic finance and explores the concept of zakat, sadaqah, and waqf as mechanisms for promoting social inclusivity. This work provides a useful framework for understanding the social objectives of Islamic Fintech organizations as coined in the work of Nor and Hashim, (2020); Razak, Dali, Dhillon, and Manaf, (2021).

3.4 AI in Islamic Fintech

In the context of Islamic Fintech, AI can be a powerful tool for achieving social objectives. Ali, Salman, Yaacob, Zaini and Abdullah (2020, Jul) discuss how AI can be used to improve the efficiency and effectiveness of zakat, sadaqah, and waqf management. They argue that AI can help to ensure that these resources are allocated in an optimal way, promoting social inclusivity. The Sustainable Entrepreneurship Values (SEV) model, powered by AI, can provide an all-inclusive solution for Islamic Fintech organizations. It can facilitate decision-making, promote efficiency Selim (2020), and ensure the effective management of zakat, sadaqah, and waqf, thereby promoting social inclusivity, Todorof (2018). AI can generate a social profile of Islamic Fintech organizations based on their objectives to serve social causes, environmental issues, economic agenda, and poverty in Malaysia through the following methods:

Data Collection and Processing: AI can gather and process large amounts of data from multiple sources. This data may include information from companies' mission statements, social media posts, press releases, and other public communications, Abdullahi and Othman, (2021). It can also include transactional data, user data, and feedback from users of Fintech services. According to Syed, Khan, Rabbani, and Thalassinis, (2020), using Natural Language Processing (NLP), AI can analyze this text-based data to identify keywords and themes related to social causes, environmental issues, economic issues, and poverty alleviation Aderemi and Ishak, (2022).

Profiling and Benchmarking: Based on the processed data, AI can create a profile for each Fintech organization, highlighting their focus areas and initiatives, Sa'ad, Ahmad, and Saleh (2019). The AI can also benchmark the organizations against each other based on their commitment to sustainability and social causes. This can help identify best practices and areas for improvement.

Prediction and Forecasting: AI can use historical data and trends to forecast future behaviors of these organizations Rabbani, Khan, and Thalassinis (2020). For example, it can predict which types of initiatives an organization is likely to focus on in the future based on their past activities.

Recommendation: By analyzing the data, the AI could suggest potential actions that could strengthen the social impact of these organizations Reyes-Mercado (2021). These

recommendations could cover a wide range of areas, such as new services to offer, partnerships to form, or changes to business practices.

In the context of the 14 Fintech sub-sectors in Malaysia, AI can profile each sub-sector based on their respective sustainable entrepreneurship missions, Wang, Sadiq, Khan, and Wang, (2021). It can help identify which sub-sectors are leading the way in terms of social impact, and which ones have opportunities for improvement. This profiling can provide valuable insights for policymakers, investors, and the organizations themselves, Wang, Liu, Kang, and Zheng, (2018).

4. Discussion

Based on the literature review, relevant factors that have been identified as significant in the context of sustainable entrepreneurship value model in Malaysia were extracted. These factors may include, but are not limited to, environmental sustainability, social responsibility, economic impact, innovation, stakeholder engagement, and governance. In addition to the identified factors, the Sustainable Entrepreneurship Value (SEV) Model incorporates value dimensions that are essential to sustainable entrepreneurship. These dimensions include economic value, environmental value, social value, and ethical value. The integration of these dimensions provides a holistic perspective on the value creation process in sustainable entrepreneurship.

Organizations that balance SEV are called sustainable organizations. They act as agents of change (Hesselbarth & Schaltegger, 2014). Therefore, the posture of SEVs engagement consistent with entrepreneurial orientation must be maintained over time by following the current changes (Covin & Slevin, 1991; Covin & Lumpkin, 2011). This is because previous entrepreneurial actions could strengthen the future entrepreneurial actions (Haynie, Shepherd, Mosakowski, & Earley, 2010). Based on the above statement, Shepherd and Patzelt (2011) also support that SEV balancing depends on the organizational resources that must be addressed simultaneously over time. While SEV model helps to explain the act of how Fintech organizations conduct their business to achieve economic, social, and environmental objectives. In turn, these organizations offer potentiality and significantly contribute to the objectives of the Madani Framework, the Islamic Hub 2.0, and the eighth Sustainable Development Goal (SDG8) on decent work and economic growth. The contributions are described below:

4.1 Sustainable Entrepreneurship and the Madani Framework

The Madani Framework emphasizes the importance of empowerment, justice, and balance in economic and social endeavors. Sustainable entrepreneurship aligns with these principles by prioritizing social and environmental outcomes alongside profitability. In their work, Kasim and Che Azman (2023) discuss the potential of sustainable entrepreneurship to contribute to societal and environmental objectives. They argue that by focusing on triple-bottom-line outcomes (i.e., people, planet, profit), entrepreneurs can drive economic development while also promoting social justice and environmental sustainability. This aligns with the principles of the Madani Framework.

4.2 Sustainable Entrepreneurship and the Islamic Hub 2.0

The Islamic Hub 2.0 aims to promote the development of Islamic finance and digital economy. Sustainable entrepreneurship can contribute to this objective by promoting the use of digital technologies to achieve sustainable outcomes. For instance, Lerner et al., (2021) discuss how digital technologies can be used to promote social finance in the Islamic context. Li and Xu (2021) argue that through digital platforms, it is possible to deliver financial services in a way that is more efficient, inclusive, and sustainable.

4.3 Sustainable Entrepreneurship and SDG8

SDG8 emphasizes the importance of decent work and economic growth. Sustainable entrepreneurship can contribute to this goal by creating jobs that are not only economically viable but also socially and environmentally beneficial. In the work of Oladapo, Hamoudah, Alam, Olaopa, and Muda (2022), they discuss how sustainable entrepreneurship can contribute to the creation of "green jobs" that promote environmental sustainability. According to Reza-Gharehbagh, Arisian, Hafezalkotob, and Makui (2022) they argue that by prioritizing sustainability in their business practices, entrepreneurs can stimulate economic growth while also promoting decent work and environmental sustainability.

5. Conclusion

The SEV model examines the action of Fintech organizations to create value in promoting sustainable, inclusive, and socially beneficial outcomes. The system offers better access to a wider variety of data, increased computing power, greater demand for improvements in efficiency, and economic growth. Providing an all-inclusive solution encourages Islamic Fintech organizations to reconsider the difficulties in achieving their goals, particularly social inclusivity (sadaqah, waqf, and zakat services). The outcome is to generate the SEV model, which adds value to the objectives of the Madani Framework on economy, finance, and communities; the Islamic Hub 2.0; and SDG8 on decent work and economic growth. The output provides the co-creation of value generated by the supportive ecosystem with ongoing innovation, with 14 sub-sectors of Fintech contributing to the co-creation of SEV values applicable to the Malaysian Education Policy on Industry 4.0. As a result, the SEV model explains sustainable entrepreneurship values that act as game changers for organizations. In conclusion, sustainable entrepreneurship aligns with and can add value to the objectives of the Madani Framework, the Islamic Hub 2.0, and SDG8. By focusing on triple-bottom-line outcomes, entrepreneurs can drive economic development while also promoting social justice, environmental sustainability, and decent work.

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