The Analysis of Crowdfunding Implementation as an Alternative Financing for Islamic Microfinance Institution

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Abstract. Islamic Microfinance Institutions (IMFIs) play a crucial role in delivering financial services to Micro, Small, and Medium Enterprises (MSMEs), thereby advancing financial inclusion and fostering economic empowerment. Despite their significance, IMFIs frequently encounter major constraints, particularly limited access to capital. In contrast, technological advancements have introduced innovative and efficient financing alternatives, most notably in the form of financial technology (fintech). This study investigates the potential for collaboration between IMFIs and fintech, with a particular emphasis on crowdfunding as a financing mechanism. It seeks to identify the benefits and opportunities, alongside the costs and risks, associated with the implementation of fintech-based crowdfunding as an alternative financing source for IMFIs. Adopting a critical review research paradigm and a mixed-method epistemological approach, the study employs two key methodologies: (1) the development of a typology outlining the benefits, opportunities, costs, and risks of collaboration; and (2) the application of the Analytic Network Process (ANP), using the typology as the foundation for model construction. Findings indicate that experts generally perceive the benefits and opportunities of such collaboration to outweigh the associated costs and risks. Notable advantages include enhanced access to capital and the cultivation of a more robust investment culture within IMFIs. On the other hand, key concerns include infrastructural limitations and the potential for capital loss. To mitigate these risks and maximize collaborative benefits, the study highlights the importance of strengthening institutional management across both IMFIs and fintech platforms.

Key words: ANP-BOCR, crowdfunding, fintech, IMFIs.

Abstrak. *Lembaga Keuangan Mikro Syariah (LKMS) memainkan peran penting dalam menyediakan layanan keuangan bagi Usaha Mikro, Kecil, dan Menengah (UMKM), sehingga mendorong inklusi keuangan dan pemberdayaan ekonomi. Meskipun memiliki peran strategis, LKMS kerap menghadapi berbagai kendala, terutama keterbatasan akses terhadap permodalan. Di sisi lain, kemajuan teknologi telah menghadirkan alternatif pembiayaan yang inovatif dan efisien, khususnya melalui teknologi finansial (fintek). Studi ini mengkaji potensi kolaborasi antara LKMS dan fintek, dengan fokus khusus pada mekanisme pembiayaan melalui skema urun dana* (crowdfunding). *Tujuannya adalah untuk mengidentifikasi manfaat dan peluang, serta biaya dan risiko, yang terkait dengan implementasi* crowdfunding *berbasis fintek sebagai sumber pembiayaan alternatif bagi LKMS. Dengan mengadopsi paradigma penelitian tinjauan kritis dan pendekatan epistemologis metode campuran, studi ini menggunakan dua pendekatan utama: (1) pengembangan tipologi yang menguraikan manfaat, peluang, biaya, dan risiko dari kolaborasi; dan (2) penerapan metode* Analytic Network Process (ANP), *yang modelnya dibangun berdasarkan hasil tipologi tersebut. Hasil penelitian menunjukkan bahwa para pakar umumnya menilai bahwa manfaat dan peluang dari kolaborasi ini lebih besar dibandingkan dengan biaya dan risikonya. Beberapa keuntungan utama meliputi peningkatan akses terhadap permodalan dan penguatan budaya investasi di lingkungan LKMS. Sementara itu, kekhawatiran utama mencakup keterbatasan infrastruktur dan potensi kerugian modal. Untuk mengatasi tantangan ini dan*

AL-MUZARA'AH Vol. 13 No. 1, 2025
(ISSN p: 2337-6333; e: 2615-7659)
DOI: 10.29244/jam.13.1.95-107
Received: 2 December 2024; 1st Revised: 10 June 2025; 2nd Revised: 13 June 2025; Accepted: 16 June 2025

mengoptimalkan manfaat kolaborasi, studi ini menekankan pentingnya penguatan tata kelola kelembagaan di kedua entitas, yakni LKMS dan fintek.

Kata Kunci: *ANP-BOCR,* crowdfunding, *fintek, LKMS.*

INTRODUCTION

Micro, small, and medium enterprises (MSMEs) serve as the backbone of sustainable economic growth, particularly in developing countries (Pedraza, 2021). According to World Bank (2021), micro, small, and medium enterprises (MSMEs) account for 95% of all businesses globally, contribute 35% to global GDP, and employ approximately 50% of the global workforce. Indonesia's MSME sector plays a vital role in the national economy, encompassing over 64.2 million enterprises, accounting for 61.9% of the GDP, and employing 97% of the workforce. Despite their significance, MSMEs continue to struggle with several issues, including limited access to financing, marketing difficulties, low competitiveness, and productivity challenges (Financial Service Authority, 2020). This underscores the urgent need for institutions capable of bridging this financing gap among them where Islamic Microfinance Institutions (IMFIs) has stand out as a potensial solution for MSMEs.

Beyond merely addressing capital shortages, IMFIs are widely recognized for their role in poverty alleviation, particularly through their support for MSME development (Obaidullah, 2008). By financing MSMEs, IMFIs contribute not only to job creation but also to broader socio-economic empowerment. However, IMFIs themselves face structural challenges—chief among them is limited capital, as highlighted by Ascarya (2014), Rusydiana and Devi (2013), and Judijanto and Mu'min (2024). This underscores the interconnection between MSMEs and IMFIs, asserting that the capital constraints faced by IMFIs directly limit their ability to fund MSMEs, thereby perpetuating the financing difficulties encountered by these enterprises.

Meanwhile, the rise of financial technology (fintech) offers new opportunities. According to Bank Indonesia (2017), the total transaction value of fintech activities in Indonesia reached USD 14.5 billion, accounting for 0.6% of global financial transactions. Bank Indonesia (2017) also reported a 78% increase in fintech user growth by 2016 compared to 2006. This surge has been driven by various fintech business models, including financing (17%), aggregators (13%), crowdfunding (8%), and personal finance planning (11%). The Indonesian Fintech Association attributes this growth to the country's rapidly expanding internet user base, with 54.7% of the population having internet access (Fintech Singapore, 2020).

In Indonesia, fintech operates through three primary models: financing, aggregators and crowdfunding. Pekmezovic and Walker (2016) identify crowdfunding as a viable mechanism for financing MSMEs. While Ascarya and Sakti (2022) argue that peer-to-peer (P2P) lending, P2P social platforms, and e-commerce-based P2P models are feasible for collaboration between IMFIs and MSMEs, this study focuses specifically on crowdfunding as the primary mechanism for partnership. It is posited that crowdfunding offers greater contractual flexibility compared to typical P2P lending, making it a more suitable model for MSME financing.

Moreover, the inclusion of crowdfunding as the centerpiece of this study represents a key contribution to literature. Unlike P2P lending, which often relies on fixed-debt models such as qard (benevolent loans), crowdfunding platforms can accommodate a variety of Islamic financial contracts, including *musyarakah*, *murabahah*, *mudharabah*, and *qard*. Cox and Nguyen (2018) further highlight the significant role of crowdfunding in enhancing the financial capacity and resilience of MSMEs in various contexts. Accordingly, this study aims to evaluate the benefits and opportunities, as well as the costs and risks, associated with implementing fintech-based crowdfunding as an alternative financing solution for IMFIs.

AL-MUZARA'AH Vol. 13 No. 1, 2025
(ISSN p: 2337-6333; e: 2615-7659)
DOI: 10.29244/jam.13.1.95-107

LITERATURE REVIEW

The Evolution of Financial Technology

Fintech is not a new concept in the financial sector. In the 1950s, credit cards emerged as the first technology-based financial service product, followed by the introduction of ATMs in the 1960s as a substitute for bank tellers and branch offices. During the 1970s and 1980s, traditional stock exchanges were replaced by electronic trading platforms, and banking systems became increasingly sophisticated with the advent of advanced data storage technologies. In the 1990s, web-based stock trading evolved into internet-based business models and e-commerce platforms, which were subsequently followed by the digitalization of financial services from the early 2000s to the present day (Desai, 2015).

Table 1 The evolution of fintech

1950s	1960s	1970s	1980s	1990s	2000s	Now
Credit cards to ease the burden of carrying cash	ATMs to replace tellers and branches	Electronic stock trading began on exchange trading floors	Rise of bank mainframe computers and more sophisticated data and record-keeping systems	The internet led to easier data transmission between financial institutions	Emergence of online payment and online brokers	Smarter financial services on big data analytics, cloud computing, AI, blockchain, and etc.

Source: Desai, 2015.

According to Indonesia Financial Service Authority (2020), fintech refers to organizations that offer innovative business models and technologies designed to enhance the delivery of financial services. The definition of fintech is not limited to startup companies (new market entrants), but also includes long-established financial service providers as well as non-financial firms, such as telecommunications companies and retail businesses.

The regulation of financial technology in Indonesia is governed by Bank Indonesia through Bank Indonesia Regulation (PBI) No. 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing, and by the Financial Services Authority Regulation (POJK) No.77/POJK.01/2016 concerning Information Technology-Based Lending Services. In addition, the regulation specific to sharia-compliant fintech is outlined in the fatwa issued by the Indonesian Ulama Council (MUI) No. 117/DSN-MUI/II/2018.

Models in Islamic Crowdfunding

According to Alonso (2015), crowdfunding is an application of the concept of raising funds through small to medium-sized contributions from a large number of people to finance a project or a small and medium-sized business. Based on this definition, crowdfunding can be understood as the use of relatively small amounts of money contributed by many individuals or organizations to fund a project, personal business, or other financial needs through a web-based online platform.

There are three key parties involved in a crowdfunding platform: the project owner (initiator), the supporter/backer (fund provider), and the platform provider (the entity that facilitates the platform). According to the World Bank, Islamic Development Bank and Islamic Research and Training Institute (2015), there are four commonly used models in Islamic crowdfunding, which are as follows:

1. Islamic Donation-Based Crowdfunding

   Islamic Donation-Based Crowdfunding is a model in which funders contribute funds to a project initiator for business or developmental activities without expecting any form of

AL-MUZARA'AH Vol. 13 No. 1, 2025
(ISSN p: 2337-6333; e: 2615-7659)
DOI: 10.29244/jam.13.1.95-107

compensation. According to Jenik et al. (2017), the donors provide financial support to a project purely for philanthropic reasons, without any expectation of return. This model closely aligns with the concept of *sadaqah* (charitable giving) in Islam.

2. Islamic Reward-Based Crowdfunding

   According to Jenik et al. (2017), in this model, funders provide financial support to the project initiator through a crowdfunding platform provider. In return, funders receive a token of appreciation, typically in the form of a product or service developed by the project initiator (usually a small or medium enterprise/SME). This reward-based crowdfunding model serves as an effective strategy for SMEs to market their products or services. Alonso (2015) notes that this model emphasizes social responsibility and community development. In some countries, this model has been successfully implemented by crowdfunding platforms, such as *Yomken* in Egypt, which funded over 300 projects within two years (Alonso, 2015).

3. Islamic Asset-Based Crowdfunding

   Islamic Asset-Based Crowdfunding involves funders providing funds or assets to a platform provider, who then purchases assets to be utilized by SMEs in their business operations. The SME can either buy or lease the asset. This model is commonly used by Islamic banks due to its relatively low risk. Contracts typically applied in this model include *murabahah* (cost-plus financing) and *ijarah* (leasing) (World Bank, Islamic Development Bank and Islamic Research and Training Institute, 2015).

4. Islamic Equity-Based Crowdfunding

   This model embodies one of the fundamental principles of Islamic finance by combining social interest with investment through a profit-and-loss sharing arrangement (World Bank, Islamic Development Bank and Islamic Research and Training Institute, 2015). The profit-sharing ratio in this model is typically determined based on the rating or scoring of the enterprise.

Islamic Crowdfunding, MSMEs, and Islamic Microfinance

Ahammed (2017), in his study, explores the concept of sharia-compliant crowdfunding as a viable solution to the financial challenges faced by micro, small, and medium enterprises (MSMEs). The research addresses the issue of limited financial support available to MSMEs and argues that Islamic crowdfunding can serve as an effective alternative funding mechanism. Utilizing a descriptive study approach, the research analyzes the extent to which crowdfunding practices align with sharia principles. The findings suggest that Islamic crowdfunding models are particularly suitable for supporting project development, especially for start-ups and businesses lacking access to conventional banking services.

Furthermore, the study highlights the significant potential of Islamic crowdfunding in financial sectors of countries with a predominantly Muslim population. A key strategy emphasized in the study is the establishment of a Sharia Supervisory Board to oversee the sources of funds and ensure that the financed projects or products are halal and compliant with Islamic teachings. The study concludes that Islamic crowdfunding not only provides an innovative financing solution but also offers a promising opportunity to enhance financial inclusion in Muslim-majority societies.

Microfinance institutions, such as Baitul Maal wat Tamwil (BMT), serve as an alternative source of capital for microenterprises to support their business development. With access to additional funding, micro-entrepreneurs are able to enhance their production capacity. However, a major challenge faced by most microfinance institutions (MFIs), particularly those operating with a social-oriented approach, lies in securing sustainable sources of funding (Ascarya, 2014). Through a platform-based crowdfunding system, Islamic Microfinance Institutions (IMFIs) have the potential to channel substantial financing to micro, small, and medium enterprises (MSMEs). Moreover, by utilizing financial technology (fintech), IMFIs can promote their members' projects or businesses to hundreds or even thousands of potential investors (Wahjono et al., 2015).

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(ISSN p: 2337-6333; e: 2615-7659)
DOI: 10.29244/jam.13.1.95-107

METHOD

This study adopts a critical review research paradigm supported by a mixed-method epistemology to analyze the benefits, opportunities, costs, and risks associated with utilizing crowdfunding as the foundation for collaboration between financial technology (fintech) platforms and Islamic Microfinance Institutions (IMFIs). To achieve this objective, the study employs a two-stage methodological approach.

The first stage involves developing a typology based on a comprehensive review of relevant literature concerning crowdfunding and IMFIs. This typology serves to identify key indicators that inform the subsequent analysis. In the second stage, the selected indicators are analyzed using the Analytic Network Process (ANP), a decision-making methodology originally introduced by Saaty and Vargas (2006). While the method initially focused on hierarchical structures, it has since evolved into a network-based model that captures interdependence among criteria.

ANP operates by utilizing scaling ratios derived from the eigenvectors of a positive pairwise comparison matrix, reflecting the subjective judgments and preferences of domain experts (Saaty and Vargas, 2012). These expert inputs are collected through two processes: (1) in-depth interviews, which are used to construct the ANP model framework; and (2) a structured survey, which quantifies expert preferences using scaling ratios. These ratios reveal the prioritization of elements within the model and are detailed in Table 2.

Table 2 Scaling ratio of ANP

1	2	3	4	5	6	7	8	9
Not essential/ relevant/ impactful		Less essential/relevant/ impactful		Essential/ relevant/ impactful		Very essential/ relevant/ impactful		Extremely essential/relevant/ impactful

Source: Saaty and Vargas, 2006.

Furthermore, this study applies to an advanced form of ANP known as ANP-BOCR, which explicitly incorporates four dimensions: Benefits, Opportunities, Costs, and Risks. The ANP-BOCR framework was introduced by Saaty and Vargas (2006) and classifies alternative model priorities into three evaluative conditions: Standard Condition – compares benefits against costs; Pessimistic Condition – compares benefits against both costs and risks; Realistic Condition – compares benefits and opportunities against costs and risks.

Among these, the realistic condition is the most widely used in ANP-BOCR applications. Within this framework, Saaty and Vargas (2006) propose two mathematical approaches for deriving final priorities: a negative approach, represented by Equation (1), and a positive approach, represented by Equation (2). Building on this, Emanuel and Cefalu (2002) introduced an additive negative formula (Equation 3), which they argue is more suitable for capturing long-term priorities. To gather expert opinions, the study categorizes respondents into four expert panels: (1) practitioners from both IMFIs and fintech sectors; (2) subject-matter experts in IMFIs and fintech; (3) fintech practitioners and experts; and (4) IMFI practitioners and experts. The collected data is processed and analyzed using Super Decisions software, which facilitates the application of the ANP-BOCR framework.

According to Saaty and Vargas (2006), there are several steps to synthesize each priority option from each criterion where:

$$\text{Net Value/ additive negative} = bB + oO - cC - rR \quad (1)$$

$$\text{Realistic/ multiplicative} = (BO/CR) \quad (2)$$

B or b stands for Benefit, O or o stand for Opportunity, C or c stands for cost, R or r stands for Risk. After the analysis phase, the next step was to validate the results with various IMFIs and fintech

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(ISSN p: 2337-6333; e: 2615-7659)
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experts to strengthen the integration model that will be built.

RESULTS AND DISCUSSION

The result of this study is divided into two parts. First parts are the results of typology analysis on the literature that specifically mentioned the benefit, opportunity, cost, and risks of IMFIs-Fintech based crowdfunding collaboration. The identified indicators are then utilized to construct the ANP model. Hence, the second part presents the results of ANP BOCR. The following discussion is the first part of the results which also present is Table 3.

Typology of Benefits IMFIs-Fintech based on crowdfunding collaboration

In this sub-section, it will expose the benefits of crowdfunding through fintech implementation as an alternative financing for IMFIs. There are at least five benefits of crowdfunding through fintech implementation as an alternative financing for IMFIs that constructed from relevant literature. First is financing access. This means that crowdfunding through fintech can benefit IMFIs lack of capital problem. Some study such as World Bank report (2013) and Wahjono et al. (2015), and clearly mention this criterion.

Second is efficient financial access. This means that crowdfunding through fintech can provide efficient source of capital for IMFIs. Several studies like World Bank report (2013), and Prinsha (2016) mention this criterion. Third is increasing the IMFIs profit. Through this criterion, it is argued that crowdfunding through fintech implementation as an alternative financing for IMFIs could increase IMFIs profit. This is becasue, the member of IMFIs will have plenty option to increase their finance to the IMFIs. If the members of IMFIs happen to be MSMEs, then it will also increase the potential to aggregate output of economic activities because it can create job opportunity. This scheme is mentioned by Fintech Indonesia (2016) and Zubair (2016).

Fourth is crowdfunding through fintech implementation as an alternative financing for IMFIs can improve better bureaucracy of IMFIs. This is because, when IMFIs and fintech collaborates, there will be adjustment in administration standard for IMFIs for instance IMFIs ought to be more transparent towards its customer. This criterion is proposed by Subagyo (2018). Fifth is standardize governance for IMFIs. Like the fourth criteria, it is argued that the collaboration between IMFIs and fintech bring a standardize governance for IMFIs, hence, it will benefit IMFIs particularly with regard to the governance aspect.

Typology of Opportunity IMFIs-Fintech Based on Crowdfunding Collaboration

This sub-section will elaborate the opportunity of crowdfunding through fintech implementation as an alternative financing for IMFIs. Like its benefit, there are at least five opportunities for IMFIs once they adopt crowdfunding through fintech as their alternative financing. First, the collaboration could improve investment culture for IMFIs. Traditionally, IMFIs is far from the investment because it focuses on the fund that sources from its member. But when IMFIs and fintech are collaborated, it will open the investment and investment culture for IMFIs so it will not only benefit the increase in IMFIs capital but aslo increase IMFIs opportunity to be more familiar with investment from third party. This indicator is mentioned in Ventura et al. (2015) and Indonesiea Financial Service Authority (2016).

Second is economic growth. It is undoubtedly true that the collaboration between IMFIs and fintech would increase aggregate economic output. This opportunity indicator mentioned by Ventura et al. (2015). Third is financial inclusion opportunity. Crowdfunding through fintech implementation as an alternative financing for IMFIs would open opportunity for MSMEs who can’t access finance through bank. This is because IMFIs become alternative financing for MSMEs. This opportunity is mentioned by Iman (2016) and Jenik et al. (2017).

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DOI: 10.29244/jam.13.1.95-107

Fourth is decreasing economic and business activities dependecy to banks. Like the third criteria, the fourth criteria allow businesess to access IMFIs finance. Hence economic and business actors can access their finance through IMFIs. This criterion is mentioned in Fehr and Hishigsuren (2006) and Firdaus and Kamello (2020). Fifth, crowdfunding through fintech implementation as an alternative financing for IMFIs will open opportunities for IMFIs to provide and facilitate product innovation. This includes the innovative contract with its member and business partners. This criterion is mentioned in Sa'diyah and Arifin (2014) and Nofinawati (2016).

Typology of Costs IMFIs-Fintech Based on Crowdfunding Collaboration

This sub-section will elaborate the cost of crowdfunding through fintech implementation as an alternative financing for IMFIs. Like its benefit and opportunity, there are at least five costs for IMFIs once they adopt crowdfunding through fintech as their alternative financing. First is limited infrastructure for IMFIs. With IMFIs who uses conventional platform and fintech who uses digital platforms, it is undoubtedly required to increase the infrastructure for crowdfunding through fintech implementation. This criterios is highlighted by Rusydiana and Devi (2013).

Second, this limited infrastructure will spark cost of infrastructure. Hence IMFIs must provide and account for the cost of infrastructure. This critical infrastructure requirement is highlighted in Nofinawati (2016). Third is time cost. This collaboration also impacts on the time cost of infrastructure to settle. This criterion is highlighted by during the interview with expert panel. Fourth is about the absence of regulation. The collaboration requires specific regulation that can create clear rule of the game for all parties involved. This cost criterion is highlighted in Ahammed (2017). Fifth like the fourth criterion is related to the regulation, which is lack of knowledge, particularly with Islamic financial contract. This is argued also by Ahammed (2017) as one of the costs that must be embraced by IMFIs if they consider adopting crowdfunding through fintech as their finance.

Typology of Risks IMFIs-Fintech Based on Crowdfunding Collaboration

In this sub-section, it will elaborate the risk of crowdfunding through fintech implementation as an alternative financing for IMFIs. There are at least five risks for IMFIs once they adopt crowdfunding through fintech as their alternative financing. First is loss of capital. The risk of loss of capital may causes by both IMFIs and fintech. This is because IMFIs and fintech is basically in different business but related business environment. For instance, IMFIs mostly for communal development while fintech mostly for investment. This risk criterion is mentioned by Sarda and Goel (2014), Prinsha (2016) and Jenik et al. (2017).

Second risk is cyber attack. As fintech relies on digital platform, hence the risk of cyber attack is verly likely. This risk criterion is mentioned by Prinsha (2016) and Jenik et al. (2017). Third is risk of fraud and money laundry. This risk very likely happened from the fintech platform. As mentioned by Ahammed (2017), the fintech is in digital platform hence the fund that collected through crowdfunding scheme is risky to the practice of fraud and money laundry. Fourth is decreasing in customer loyalty. This is because the IMFIs member usually based on community, where it usually determines by the closer relationship power towards its IMFIs' staff and institutions. Hence the collaborative effort for IMFIs to adopt crowdfunding through fintech as their financial sources is challenging. Finally, the last risk criterion is that IMFIs will lose its characteristics. It relates to the fourth indicators of risk as stated above where the IMFIs usually have a different characteristic than other financial institutions. Therefore, the collaboration between IMFIs and fintech will risk the true characteristics of IMFIs which tends towards the empowerment of the community.

Typology of Strategy IMFIs-Fintech Based on Crowdfunding Collaboration

In this sub-section, it will elaborate the strategy of crowdfunding through fintech implementation as an alternative financing for IMFIs. There are at least five strategies for IMFIs once they adopt crowdfunding through fintech as their alternative financing. The strategies include improving institutional management of both IMFIs and fintech, improving infrastructure, clear regulatory, clear

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(ISSN p: 2337-6333; e: 2615-7659)
DOI: 10.29244/jam.13.1.95-107

partnership, and dissemination.

Table 3 Identified strategic and BOCR to construct ANP model in the research of crowdfunding implementation as an alternative financing for Islamic Microfinance Institutions

No	BENEFIT	OPPORTUNITY	COST	RISK
1	Financing access (World Bank, 2013; Wahjono et al., 2015)	Improve investment culture for IMFIs (Ventura et al., 2015; Indonesia Financial Service Authority, 2016)	Limited infrastructure for IMFIs (Rusydiana and Devi, 2013)	Loss of Capital (Prinsha, 2016; Jenik et al., 2017; Sarda and Goel, 2014)
2	Efficient financial access (Prinsha, 2016; World Bank, 2013)	Economic growth (Ventura et al., 2015)	Cost of infrastructure (Nofinawati, 2016)	Cyber Attack (Prinsha, 2016; Jenik et al., 2017)
3	Increasing IMFIs' profit (Zubair, 2016; Fintech Indonesia, 2016)	Financial inclusion (Iman, 2016; Jenik et al., 2017)	Time cost of infrastructure (Included during the interview with expert panel)	Risky to the practice of fraud and money laundry (National Crime Agency, 2017)
4	Better bureaucracy of IMFIs (Subagyo, 2018)	Decreasing economic and business activities dependecy to banks (Fehr and Hishigsuren, 2006; Firdaus and Kamello, 2020)	Absence of regulation (Ahammed, 2017)	Decreasing in customer loyalty
5	Standardize governance for IMFIs	To provide and facilitate product innovation (Sa'diyah and Arifin, 2014; Nofinawati, 2016)	Lack of knowledge, particularly with Islamic financial contract (Ahammed, 2017)	IMFIs will lose its characteristics

STRATEGIES				
Improving institutional management of both IMFIs and fintech	Improving infrastrutcure	Clear regulation	Clear partnership	Dissemination

Source: Author, 2024.

The ANP Results and Discussion

Table 4 provides general results of ANP. It finds that most of respondents agree that there is a huge benefit for crowdfunding through fintech implementation as an alternative financing for IMFIs. It is evident that the Kendal W agreement resulted in high agreement among the experts of IMFIs and fintech, expert and practitioners of fintech, and experts and practitioners of IMFIs. Only the practioners of IMFIs and fintech who opined that there is a low benefit for IMFIs if they intend to use crowdfunding through fintech as their alternative financing.

Furthermore, experts of IMFIs and fintech, expert and practitioners of fintech, and experts and practitioners of IMFIs also show high agreement towards the opportunities of crowdfunding through fintech implementation as an alternative financing for IMFIs. Again, like the result of benefit, it finds that only the practioners of IMFIs and fintech who opined that there is a low opportunity for IMFIs if they intend to use crowdfunding through fintech as their alternative financing.

The most interesting part is that all the respondents opined that the risks to implementing crowdfunding through fintech implementation as an alternative financing for IMFIs is low. This result is important to both development of body of knowledge and the practical of IMFIs-Fintech collaboration. It is because it highlights the essential benefits and opportunities for IMFIs and fintech collaboration.

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(ISSN p: 2337-6333; e: 2615-7659)
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Table 4 General results of ANP with Kendal W Agreement in the research of the analysis of crowdfunding implementation as an alternative financing for Islamic Microfinance Institutions

	Practitioners of IMFIs and fintech		Expert of IMFIs and fintech		Expert and practitioner of fintech		Expert and practitioner of IMFIs	
Aspect	Kendal W Rater agreement	Meaning	Kendal W Rater agreement	Meaning	Kendal W Rater agreement	Meaning	Kendal W Rater agreement	Meaning
BOCR	0.436	High	0.288	High	0.228	Medium	0.452	High
Benefit	0.106	Low	0.244	High	0.538	High	0.25	High
Opportunity	0.104	Low	0.278	High	0.566	High	0.35	High
Cost	0.234	Medium	0.4	High	0.406	High	0.214	Medium
Risk	0.042	Very Low	0.072	Low	0.124	Medium	0.114	Low

Source: Author, 2024 (processed data).

In specific, among the benefits of crowdfunding through fintech implementation as an alternative financing for IMFIs indicators, it finds that in general both IMFIs and fintech respondents agree that the collaboration will give a better financing access for IMFIs. It is evident by the geomean of Kendal W agreement where financing access has been reached the higher score which indicates higher agreement. However, this study also finds that the IMFIs respondents opined that the collaboration between IMFIs and fintech will generate a greater impact to the standardize governance. Table 5 shows the results of benefit aspect of crowdfunding through fintech implementation as an alternative financing.

Table 5 The results of benefit aspect of crowdfunding through fintech implementation as an alternative financing

Benefit	IMFIs	FINTECH	GEOMEAN
Financing access	0.21153	**0.38271**	**0.34948**
Efficient financial access	0.18201	0.12207	0.12986
Increasing IMFIs' profit	0.09717	0.2058	0.15134
Better bureaucracy of IMFIs	0.18201	0.16734	0.18466
Standardize governance for IMFIs	**0.32727**	0.12207	0.18466

Source: Author, 2024 (processed data).

Furthermore, in relation to opportunities aspect of crowdfunding through fintech implementation as an alternative financing, it finds that both IMFIs and fintech respondets share an identical view. It is evident that the collaboration will generate a warmer investment culture. The ANP results confirm that both IMFIs and fintech respondents prioritize the investment culture as the main opportunities of IMFIs-fintech collaboration. Table 6 shows the results of opportunity aspect of crowdfunding through fintech implementation as an alternative financing.

Table 6 The results of opportunity aspect of crowdfunding through fintech implementation as an alternative financing

Opportunity	IMFIs	FINTECH	GEOMEAN
Improve investment culture for IMFIs	**0.27604**	**0.30738**	**0.32232**
Economic growth	0.19989	0.1076	0.1191
Financial inclusion	0.16209	0.18174	0.17839
To provide and facilitate product innovation	0.24042	0.13416	0.20973
Decreasing economic and business activities dependecy to banks	0.12155	0.26912	0.17047

Source: Author, 2024 (processed data).

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On the other hand, in relation to the cost of crowdfunding through fintech implementation as an alternative financing, it finds that in general both IMFIs and fintech respondents agree that the collaboration will cause a higher cost for insfrasctructure. It is evident by the geomean of Kendal W agreement where cost infrastructure has been reached the higher score which indicates higher agreement. However, this study also finds that the IMFIs respondents opined that the collaboration between IMFIs and fintech will generate a greater cost for IMFIs because it has limited infrastructure. Table 7 shows the results of cost aspect of crowdfunding through fintech implementation as an alternative financing.

Table 7 The results of cost aspect of crowdfunding through fintech implementation as an alternative financing

Cost	IMFIs	FINTECH	GEOMEAN
Limited infrastructure for IMFIs	**0.29133**	0.32015	0.30276
Absence of regulation	0.13099	0.10538	0.10011
Lack of knowledge, particularly with Islamic financial contract	0.11077	0.06757	0.09068
Cost of infrastructure	0.25398	**0.39495**	**0.34665**
Time cost of infrastructure	0.21293	0.11196	0.1598

Source: Author, 2024 (processed data).

Moreover, in relation to the risk of crowdfunding through fintech implementation as an alternative financing, it finds that in general both IMFIs and fintech respondents agree that there will always be a risk for loss of capital and cyber attack. It is evidenced by the Kendal W agreement where both loss of capital risk and cyber attack has been reached the higher score which indicates higher agreement. However, this study also finds that the IMFIs respondents opined that collaboration between IMFIs and fintech will generate a greater risk for IMFIs because its unique characteristics. The risk include decrease in customer loyalty and IMFIs will lose its characteristics. Table 8 shows the results of risk aspect of crowdfunding through fintech implementation as an alternative financing.

Table 8 The results of risk aspect of crowdfunding through fintech implementation as an alternative financing

Risk	IMFIs	FINTECH	GEOMEAN
Loss of Capital	0.20563	**0.26988**	**0.23351**
Cyber Attack	0.17036	**0.26988**	**0.23351**
Risky to the practice of fraud and money laundry	0.1248	0.22684	0.17052
Decreasing in customer loyalty	**0.2496**	0.11669	0.17052
IMFIs will lose its characteristics	**0.2496**	0.11669	0.19194

Source: Author, 2024 (processed data).

Finally, in relation to the strategies of crowdfunding through fintech implementation as an alternative financing, it finds that improving institutional management of both IMFIs and fintech. Table 9 shows the results of strategies aspect of crowdfunding through fintech implementation as an alternative financing.

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Table 9 The results of strategies aspect of crowdfunding through fintech implementation as an alternative financing

Alternatives BOCR	**B**	**O**	**C**	**R**	**bB+oO-cC-rR**	
	0.239	**0.434**	**0.089**	**0.239**	**Total**	**Normalized**
Improving institutional management of both IMFIs and fintech	1	1	1	1	0.345	0.366
Improving infrastructure	0.532	0.693	0.644	0.599	0.228	0.242
Clear regulation	0.255	0.357	0.340	0.318	0.110	0.116
Clear partnership scheme	0.619	0.632	0.784	0.666	0.194	0.206
Dissemination	0.532	0.357	0.644	0.666	0.066	0.070

Source: Author, 2024 (processed data).

There is a distinction between short-term and long-term strategic priority alternatives. In the short term, the primary factor to consider is infrastructure. When collaborating with crowdfunding platforms, Islamic Microfinance Institutions (IMFIs) require adequate infrastructure, such as network access, computers, and related facilities. In the long term, the main priority shifts to institutional management. For an IMFI to engage in partnerships with fintech platforms, it must ensure its management is sufficiently prepared. In the absence of clear regulations, IMFIs entering into such partnerships must establish well-defined cooperation agreements.

The findings further reveal that the second most important short-term strategic alternative is partnership, while in the long term, the second priority becomes infrastructure. For both the short- and long-term, regulation and public awareness (socialization) consistently rank as the fourth and fifth priorities, respectively. Given that the value of BO (Benefit Opportunity) exceeds that of CR (Cost Risk), it can be concluded that the implementation of crowdfunding holds significant potential as an alternative financing model for IMFIs.

CONCLUSION

Islamic Microfinance institutions (IMFIs) is a financial institution that contributes in chanelling financing to Micro Small Medium Enterprises (MSMEs). Also, the existence of IMFIs benefit financial inclusion and empower MSMEs. However, IMFIs oftenly faced a challenge which include limited in capital. On the other hand, the development of technology offers a new financing alternatives effectively and efficiently i.e., financial technology (fintech). This study argues that financing through technology particularly with crowrdfunding scheme is an opportunity to collaborate between IMFIs and fintech. Thereby, this study aims to idenitfy the benefits and opportunities as well as the cost and risk of crowdfunding through fintech implementation as an alternative financing for IMIFIs.

This study employs Analytic of Network Process (ANP) as the method. This study finds that benefits and opportunities of collaboration between IMFIs and fintech is preferred than its cost and risk according to the expert. Specifically, among the benefits and opportunities are capital access and improve investment culture for IMFIs. Meanwhile among the costs and risk are infrasrtucture and capital loss. Hence among the agreed strategies to tackle the cost and risk and to strengthen the benefits and opportunities is improving institutional management of both IMFIs and fintech.

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(ISSN p: 2337-6333; e: 2615-7659)
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