

## E-Mudharabah Management Information System Design with Cost Benefit Analysis Approach

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### ABSTRACT

The urgency of this research is to provide a solution to these challenges by introducing a technology-based system called e-Mudharabah, leveraging a Decision Support System (DSS) with the Cost Benefit Analysis (CBA) method. The aim of this research is to develop a digital platform that facilitates financing for MSMEs by using the CBA-based DSS to assess business feasibility and reduce the risks associated with the traditional Mudharabah scheme. The novelty of this research lies in the integration of modern technology with Islamic finance principles through the e-Mudharabah platform. Unlike conventional Mudharabah schemes, this platform introduces CBA and DSS to evaluate business feasibility, thus minimizing financial risks. The inclusion of consultants further enhances the process by providing guidance and support to both MSMEs and financiers, ensuring better decision-making and successful partnerships. The implications of this research are impactful for both Islamic financial institutions and MSMEs. The adoption of the e-Mudharabah platform can significantly reduce risks for financiers while improving access to capital for MSMEs. The platform also promotes transparency and fair cooperation in financial transactions, contributing to the sustainability of MSME growth in alignment with Islamic economic principles.

**Keywords:** e-Mudharabah, CBA, MSMEs.

### INTRODUCTION

The development of Micro, Small and Medium Enterprises (MSMEs) has the potential to increase employment and the number of businesses<sup>1</sup>. According

<sup>1</sup> Mardiana Andarwati and Galandaru Swalaganata, "Analysis of Promotional Media Selection Based on Modified Analytical Hierarchy Process (AHP) to Increase Halal Product Sales Volume," *IQTISHODUNA: Jurnal Ekonomi Islam* 12, no. 1 (2023): 1-16.

to Irawan<sup>2</sup> and Djajanto et al.<sup>3</sup> it is necessary to empower business partnerships between Micro, Small and Medium Enterprises (MSMEs) by developing partnerships in superior MSME products as regulated in PP No.44 of 1997<sup>4</sup>.

Basically, there are various financing schemes and partnerships offered by Conventional Banks or Islamic Based Bank to MSMEs. Some popular schemes include "*Kredit Usaha Rakyat (KUR)*", working capital loans, leasing financing, and investment loans. The advantage of these financing schemes is easier access for MSMEs to get the funds needed to grow their business<sup>5</sup>. Programs like "*Kredit Usaha Rakyat (KUR)*" usually have lower interest rates and more flexible terms, allowing MSMEs with limited capital to obtain financing. Leasing financing allows MSMEs to use productive assets without having to pay the cash price directly, which can help manage cash flow. On the other hand, venture capital, and crowdfunding schemes allow MSMEs to raise funds from small investors or lenders, diversifying their sources of financing<sup>6</sup>.

There are several Islamic financing alternatives that MSMEs can access to support their business growth. Islamic financing offers financial solutions that comply with Islamic economic principles, which prohibit usury (interest) and encourage fair cooperation between the parties involved. Mudharabah and Musyarakah are cooperative schemes based on profit and loss sharing<sup>7</sup>. In Mudharabah, investors (shahibul maal) provide the funds, while MSMEs (mudharib) provide the business and skills. Profits are shared as agreed, and losses are borne by the investor<sup>8</sup>. Meanwhile, Musyarakah involves the contribution of capital and effort from both parties, where profits and risks are also shared equally.

The Murabahah scheme allows MSMEs to obtain financing through a sale and purchase transaction. Banks or Islamic financial institutions buy the goods

<sup>2</sup> Ferry Irawan, "Pelatihan Melalui Web Seminar Dampak UU HPP Terhadap Pelaku UMKM Di Era Pandemi," *Pengmasku* 1, no. 1 (2021): 22–28.

<sup>3</sup> Ludfi Djajanto et al., "Pelatihan Pengembangan Produk Unggulan Dan Pemasaran On-Line Pada UMKM Pengolahan Pisang Di Desa Duwet: Leading Product Development and On-Line Marketing Training for Banana Processing SMEs in Duwet Village," in *SENTIMAS: Seminar Nasional Penelitian Dan Pengabdian Masyarakat*, 2022, 515–519.

<sup>4</sup> Rofi Rofaida, Asti Nur Aryanti, and Yoga Perdana, "Strategi Inovasi Pada Industri Kreatif Digital: Upaya Memperoleh Keunggulan Bersaing Pada Era Revolusi Industri 4.0," *Jurnal Manajemen Dan Keuangan* 8, no. 3 (2019): 402–414.

<sup>5</sup> Tulus T H Tambunan, "MSMEs and Access to Financing in a Developing Economy: The Indonesian Experience," in *Financial Entrepreneurship for Economic Growth in Emerging Nations* (IGI Global, 2018), 148–172.

<sup>6</sup> Raluca Maran, "Improving MSMEs' Access to Start-up Financing in ASEAN Countries" (2022).

<sup>7</sup> Prawitra Thalib et al., "5C Principles in Profit and Loss Sharing Financing on Baitul Maal Wattamwil as Islamic Micro Finance In Indonesia," *Substantive Justice International Journal of Law* 3, no. 2 (2020): 196–210.

<sup>8</sup> Farida Arianti, "Mudharabah Dalam Bank Syariah," *JURIS (Jurnal Ilmiah Syariah)* 10, no. 1 (2018); C A Latif, "Pembentukan Mudharabah Dan Pembiayaan Musyarakah Di Perbankan Syariah," *Jurnal Ilmu Akuntansi dan Bisnis Syariah (AKSY)* (2020), <http://journal.uinsgd.ac.id/index.php/aksy/article/view/7857>.

needed by MSMEs and resell them at a markup. Payment is made in installments, providing flexibility to MSMEs. Another alternative is Ijarah, a form of lease financing that allows MSMEs to use productive assets such as machinery or equipment without having to buy them<sup>9</sup>. The bank or Islamic financial institution purchases the asset and leases it to the MSME with regular rental payments. At the end of the period, the MSME can have the option to purchase the asset.

Salam and Qardhul Hasan are also Islamic financing options<sup>10</sup>. The Salam scheme is suitable for MSMEs in the agricultural sector, where banks finance the purchase of MSMEs' agricultural products with upfront payments. Meanwhile, Qardhul Hasan is a form of interest-free loan provided by banks or Islamic financial institutions to MSMEs, providing financial assistance without the burden of interest which is prohibited by Islam.

It is important for MSMEs to understand the specific structure and mechanics of each type of Islamic financing. MSMEs should understand the concepts, benefits, and liabilities associated with each option, and get advice from Islamic finance experts before deciding on the best option for their situation and business needs. On the other hand, various conventional financing schemes also have drawbacks that should be carefully considered. MSMEs need to consider factors such as periodic repayment obligations, higher interest rates, and reputational risks in choosing the financing scheme that best suits their business needs. With a good understanding of all the options available, MSMEs can make smart decisions to support their business growth and sustainability.

In recent years, there has been a significant increase in the use of Mudharabah financing scheme by Micro, Small and Medium Enterprises (MSMEs). This phenomenon is driven by several factors that provide an attraction for MSMEs to adopt this financing model. First, the Mudharabah scheme reflects Islamic economic principles that emphasize cooperation and sharing of risks and profits, in accordance with the values of justice and ethics<sup>11</sup>. Secondly, it offers flexibility in the sharing of business results between investors and MSMEs, which can be an incentive for MSMEs to improve their business quality. Moreover, as MSMEs often have limited equity capital, the Mudharabah scheme provides easier access to funds from investors who are interested in the growth potential of small businesses. Through this scheme, MSMEs can also access capital that may be difficult to obtain through other financing methods. All these factors encourage MSMEs to utilize Mudharabah financing schemes as a financially beneficial alternative that is in line with their values.

E-Mudharabah is a financial concept of Islamic sharia principles based on trust financing by applying digital platforms and information systems that

<sup>9</sup> Achsania Hendratmi et al., "The Role of Islamic Crowdfunding Mechanisms in Business and Business Development," *Global J. Bus. Soc. Sci. Review* 7, no. 1 (2019): 1-7.

<sup>10</sup> Hendratmi et al., "The Role of Islamic Crowdfunding Mechanisms in Business and Business Development."

<sup>11</sup> Ali Ikhwan, Aninda Muliani Harahap, and Atikah Zulfi Ayuni, "Aplikasi Pembiayaan Mudharabah Dan Murabahah Pada Baitul Maal Wat Tamwil Di Kota Tebing Tinggi Berbasis Android," *JISTech (Journal of Islamic Science and Technology)* 6, no. 2 (2021).

involve the partnership of shahib al-mal as a funder and mudharib as a business actor in every business<sup>12</sup>. The current phenomenon is limited access to capital with the basic administrative requirement in providing loans is financial statements<sup>13</sup>. Banks applying mudharabah capital have requirements in customer selection, namely having a track record of managing business, expertise, experience in the business being run, having promising business prospects, and supervising the management of funds<sup>14</sup>. Based on data from the Dinas Koperasi Jawa Timur (2023), the number of MSMEs in East Java is 9.78 million. The field of accommodation and provision of food and drink amounted to 819.4 thousand (17.74%). The number of MSMEs that utilize the mudharabah scheme currently has no exact data, either from the Dinas Koperasi Jawa Timur or BPS because the provision of mudharabah services is a right for MSMEs to capital providers, the majority of which are provided by Islamic Banks<sup>15</sup>. Based on research conducted by Nurul et al. (2021), Aminy & Fitriasari (2020), Kartiko & Rachmi (2021), MSME sectors that are not affected by the Covid-19 pandemic are accommodation and provision of food and beverages<sup>16</sup>. This can be seen from the Location Quotient analysis and Shift-Share analysis which also illustrates that the accommodation and food and beverage sector can survive in all conditions<sup>17</sup>. However, the mudharabah scheme has weaknesses, namely potential losses as an investor, limited supervision from Islamic banks, difficulty determining profit sharing and potential conflicts due to different interests<sup>18</sup>.

<sup>12</sup> Abbas Mirakhor, Zamir Iqbal, and Seyed Kazem Sadr, *Handbook of Ethics of Islamic Economics and Finance*, vol. 5 (Walter de Gruyter GmbH & Co KG, 2020).

<sup>13</sup> Lina Rifda Naufalin, "Tantangan Pengembangan Usaha Mikro Kecil Menengah (UMKM) Di Kabupaten Banyumas," *Jurnal Ekonomi, Bisnis, Dan Akuntansi* 22, no. 1 (2020): 95-102.

<sup>14</sup> Sofia Wandasi, "Analisis Penerapan Manajemen Risiko Pembiayaan Dalam Pengelolaan Pembiayaan Modal Kerja Pada PT. Bank Sumut Kantor Cabang Syariah Medan" (Universitas Islam Negeri Sumatera Utara, 2019).

<sup>15</sup> Nia Selvia, Hendrianto Hendrianto, and Rahman Arifin, "Analisis Peran Produk Pembiayaan Musyarakah Bank Syariah Indonesia Pada Perkembangan Usaha Mikro Kecil Menengah (Umkm) Di Kabupaten Rejang Lebong" (Institut Agama Islam Negeri Curup, 2023); DWIKO ADIYA, "Prosedur Pembiayaan Murabahah Pada Kredit Usaha Rakyat Mikro Ib Di Bank Syariah Indonesia Kc Palembang Sukodadi" (2022).

<sup>16</sup> Nurul Assidikiyah, Marseto Marseto, and Sishadiyati Sishadiyati, "Analisis Potensi Pertumbuhan Ekonomi Provinsi Jawa Timur (Sebelum Dan Saat Terjadi Pandemi Covid-19)," *Jambura Economic Education Journal* 3, no. 2 (2021): 102-115; Aisyah Aminy and Kartika Fitriyasi, "Analisis Dampak COVID-19 Bagi UMKM Di Jawa Timur," in *Seminar Nasional Official Statistics*, vol. 2020, 2020, 15-22; Nafis Dwi Kartiko and Ismi Fathia Rachmi, "Strategi Pemulihan Pandemi Covid-19 Bagi Sektor UMKM Di Indonesia," *Jurnal Syntax Transformation* 2, no. 05 (2021): 624-637.

<sup>17</sup> Maria Christina and Yuli Pratiwi, "Analisis Sektor Unggulan Dan Transformasi Struktural Di Provinsi Kalimantan Tengah 2010-2016," *Inovasi Pembangunan: Jurnal Kelitbang* 5, no. 03 (2017): 184-205.

<sup>18</sup> Odi Nur Arifah, "Analisis Pembiayaan Mudharabah Bermasalah Pada BMT Mitra Hasanah Semarang," *Jurnal Jurisprudence* 7, no. 1 (2017): 40-46; Murni Hayati, Dona Kurnia, and Efmi Maiyana, "Pengaruh Risiko Pembiayaan Mudharabah Dan Musyarakah Terhadap Profitabilitas Bank Syariah Bukopin," *Accounting Information System, Taxes and Auditing Journal (AISTA Journal)* 1, no. 1 (2022): 59-68.

This article offers a solution to Mudharabah financing schemes in the form of digital applications. Not only that, but this article also proposes an e-Mudharabah financing scheme by providing a Cost Benefit Analysis (CBA) approach to provide consideration to investors regarding the feasibility of MSMEs and whether the business is expected to return capital and provide optimal profit sharing. The primary aim of this article is to develop a comprehensive digital platform that facilitates a more transparent and efficient Mudharabah financing process, while minimizing risks for both MSMEs and investors through the integration of CBA-based Decision Support Systems (DSS). This approach will ensure that the financing process is not only accessible to a broader range of MSMEs but also aligned with Islamic financial principles.

## METHODS

This research uses a descriptive qualitative approach, focusing on providing a comprehensive narrative of the phenomena surrounding the development of the *e-Mudharabah* model with the Cost Benefit Analysis (CBA) approach. To strengthen the qualitative approach, this study incorporates a case study method, allowing for in-depth analysis of specific instances of MSMEs engaging with the Mudharabah financing model. This approach ensures a detailed examination of how the *e-Mudharabah* system could be applied in real-world scenarios, providing practical insights into its implementation.

Furthermore, this research employs a mixed-method approach by integrating qualitative data collection with elements of field research and expert interviews. The qualitative data is supplemented by a systematic literature review, which includes analysis of recent articles, books, and other relevant sources that support the development of the *e-Mudharabah* model. Additionally, the CBA method within the Decision Support System (DSS) framework is used to evaluate the feasibility and practicality of MSMEs receiving financing under the proposed scheme, providing a quantitative dimension that complements the qualitative findings.

By combining these methods, the study is able to offer both a broad theoretical understanding and practical applications, guiding the next steps for implementing *e-Mudharabah* within the MSME financing landscape.

## RESULT AND DISCUSSION

### Native Mudharabah

Mudharabah<sup>19</sup> is capital in the form of investment in Islamic economics that focuses on upholding reliability for the people (customers) who make transactions or make capital loans with fiqh or trust contracts compared to conventional banks that have an interest system or term deposit credit on each profit sharing.

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<sup>19</sup> Arianti, "Mudharabah Dalam Bank Syariah."

Mudharabah is one of the key concepts in Islamic economics used in Islamic banking and finance practices<sup>20</sup>. The concept involves cooperation between two parties, namely mudharib (capital manager) and rabb al-maal (capital owner), to generate profits. Basically, mudharabah is a form of partnership where one party provides the funds (rabb al-maal) while the other party provides the skills and effort (mudharib) to manage the capital.

In mudharabah, profit sharing is based on an initial agreement between the two parties. Profits are shared according to the previously agreed ratio or percentage, while losses are usually borne by the owner of the capital (rabb al-maal) in accordance with the amount of capital included. This concept underlines the principle of sharing risks and profits between the two parties<sup>21</sup>.

There are several ethical principles associated with mudharabah. The mudharib is expected to make a sincere effort to manage the capital carefully and prudently. The capital owner is also expected to give trust to the mudharib in the management of funds. In addition, both parties are expected to be transparent in various business aspects related to mudharabah.

However, while the concept of mudharabah has the potential to encourage fair and ethical economic collaboration, there are also potential conflicts that can arise regarding differences in business management and results. Therefore, there needs to be clear agreements and arrangements as well as effective dispute resolution mechanisms to maintain balance and avoid potential conflicts between the two parties. Overall, mudharabah is an Islamic economic concept that describes the cooperation between the capital owner and the capital manager in a business venture. The principles of fairness, cooperation and transparency underpin this concept, with the aim of creating a sustainable and fair economy in the Islamic view.

In Indonesia, the practice of mudharabah in Islamic banks refers to the principles of Islamic economics and the rules set by the Financial Services Authority (OJK) and the National Sharia Council - Indonesian Ulema Council (DSN-MUI). Here are some points about mudharabah practices in Indonesian Islamic banks<sup>22</sup>:

1. Mudharabah Products: Islamic banks in Indonesia offer mudharabah products to their customers. These may include savings, deposits, and mudharabah investment products. In these products, the customer

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<sup>20</sup> Attiea A Marie, Mohamed E Ibrahim, and Amjad D Al Nasser, "Effects of Financial and Non-Financial Performance Measures on Customers' Perceptions of Service Quality at Islamic Banks in UAE," *International Journal of Economics and Finance* 6, no. 10 (2014): 201-213.

<sup>21</sup> Hayati, Kurnia, and Maiyana, "Pengaruh Risiko Pembiayaan Mudharabah Dan Musyarakah Terhadap Profitabilitas Bank Syariah Bukopin."

<sup>22</sup> Ahmad Refki Saputra and Hastarini Dwi Atmanti, "Penerapan Pembiayaan Mudharabah Dan Pengaruhnya Terhadap Laba Perusahaan (Studi Pada PT. Bank Muamalat Indonesia Tbk.)," *Jurnal Ilmiah Ekonomi Islam* 9, no. 1 (2023); Zainul Arham, Ibnu Qoyim, and Soraya Sofianti, "Rancang Bangun Sistem Informasi Pembiayaan Mudharabah Skala Baitul Maal Wat Tamwil," in *Seminar Nasional Aplikasi Teknologi Informasi (SNATI)*, 2012.

becomes the capital owner (rabb al-maal) and the bank becomes the capital manager (mudharib).

2. Mudharabah Financing: Apart from deposit products, Islamic banks also offer mudharabah financing, where the bank as the capital owner provides funds to the customer or company as the capital manager. Profits from the financed business will be shared as agreed.
3. Profit Sharing: Profits in mudharabah practice are shared based on a pre-agreed ratio between the bank as the capital manager and the customer as the capital owner. This ratio may vary depending on the type of business, risk, and the agreement of both parties.
4. Principles of Fairness and Transparency: The practice of mudharabah in Indonesian Islamic banks is based on the principles of fairness and transparency. Banks are expected to manage capital prudently and report performance and business results to customers openly.
5. Risk and Management: One important aspect of mudharabah is the risk sharing between the two parties. If the financed business suffers a loss, the risk will be borne by the customer as the owner of the capital, while the bank as the capital manager will be compensated according to the agreement.
6. Contract and Agreement: Before carrying out mudharabah practices, Islamic banks and customers must bind themselves through clear contracts and agreements. This mudharabah agreement covers various aspects, including profit sharing, ratio, responsibilities, and others.
7. Supervision and Compliance: OJK and DSN-MUI have a role in supervising the practice of mudharabah and other Islamic financial products to ensure that Islamic banks operate in accordance with Islamic economic principles and applicable regulations.

### **Mudharabah among MSMEs**

In the context of Micro, Small and Medium Enterprises (MSMEs), the practice of mudharabah plays an important role as a financing model that can be in line with Islamic economic principles<sup>23</sup>. In the mudharabah scheme, MSME actors act as capital managers (mudharib), while investors or capital owners become the party that provides funds (rabb al-maal). MSMEs can utilize the funds provided by the capital owner to develop or expand their business. This provides an opportunity for MSMEs to obtain capital without having to pay interest, which is contrary to sharia principles.

Profit sharing in mudharabah<sup>24</sup> is usually determined through a ratio that has been previously agreed between MSMEs and capital owners. This ratio reflects the proportion of profit that each party will earn from the business. It is

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<sup>23</sup> Thalib et al., "5C Principles in Profit and Loss Sharing Financing on Baitul Maal Wattamwil as Islamic Micro Finance In Indonesia."

<sup>24</sup> Thalib et al., "5C Principles in Profit and Loss Sharing Financing on Baitul Maal Wattamwil as Islamic Micro Finance In Indonesia."

important to note that in this scheme, risks and profits are not only borne by one of the parties, but are shared according to the agreement that has been set. If the business suffers a loss, the capital owner as the party providing the funds will suffer a loss in accordance with its capital contribution, while the MSME will bear the loss due to the business it runs.

Transparency and open communication between MSMEs and capital owners are important elements in maintaining a successful partnership. Both parties need to regularly share information on business development, financial performance, and future plans. With good communication, the owner will have a better understanding of how the funds are being managed and how the business is running, while the MSME will feel supported and advised by the owner.

However, like all forms of cooperation, the practice of mudharabah also has potential risks and conflicts<sup>25</sup>. Therefore, a clear and comprehensive agreement between the two parties through a legal contract is a very important first step. In addition, careful supervision and management also need to be carried out to ensure that all aspects of the cooperation run in accordance with the agreed terms and objectives.

Overall, the mudharabah model can serve as an ethical and compliant financing alternative to Islamic economic principles for MSMEs. In a fair and sustainable economic environment, MSMEs can grow and thrive, while investors or capital owners also have the opportunity to invest in financially and socially profitable ventures.

### Cost Benefit Analysis

Decision Support System (DSS)<sup>26</sup> is a system designed to assist decision making by providing information, analysis, and other supporting tools. One type of analysis that is often used in DSS is Cost Benefit Analysis (CBA). CBA is a method used to evaluate projects, programs, or business decisions by comparing the expected benefits with the costs incurred.

The basic formula for calculating Cost Benefit Analysis (CBA) is to compare total net benefits to total costs. Here is the general formula for CBA

$$\text{Total Net Benefit} = \text{Total Benefit} - \text{Total Cost}$$

$$\text{Benefit-Cost Ratio (BCR)} = \text{Total Benefit} / \text{Total Cost}$$

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<sup>25</sup> Arifah, "Analisis Pembiayaan Mudharabah Bermasalah Pada BMT Mitra Hasanah Semarang."

<sup>26</sup> Edward J Mishan and Euston Quah, *Cost-Benefit Analysis* (Routledge, 2020); Richard Layard and Stephen Glaister, *Cost-Benefit Analysis* (Cambridge University Press, 1994); Edi Subiyantoro et al., "Analisis Pemilihan Media Promosi UMKM Untuk Meningkatkan Volume Penjualan Menggunakan Metode Analytical Hierarchy Process (AHP)," *Jurnal Teknologi dan Manajemen Informatika* 8, no. 1 (2022): 1-8.

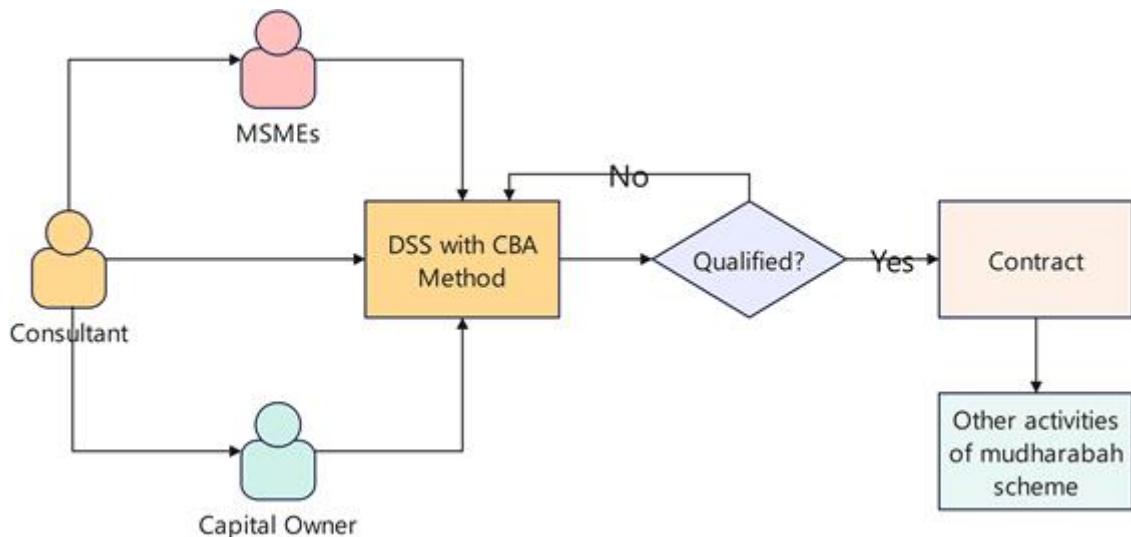
**Total Benefits:** The sum of all benefits expected from a project or decision within a defined time period. Benefits may include increased revenue, cost savings, or other positive impacts that can be measured in monetary value. **Total Cost:** The sum of all costs associated with a project or decision in the same time period. Costs include start-up costs, operational costs, maintenance costs, and others that can be measured in monetary value.

The Benefit-Cost Ratio (BCR) is an important measure in CBA as it helps in evaluating whether the expected benefits of the project exceed the costs incurred. If the BCR is greater than 1, it indicates that the net benefits of the project outweigh the costs, which is generally considered a positive indicator that the project is financially viable. CBA calculations can be more complex depending on the project being evaluated, including factors such as discount rates to calculate the present value of future benefits and costs, as well as sensitivity analysis to consider uncertainty in projected benefits and costs.

### **E-Mudharabah with CBA Approach**

Figure 1 explains the problem solving by conducting a process of applying for a mudharabah scheme loan, MSMEs or business actors who are not directly related to the bank as a provider of funds. Furthermore, feasibility considerations are carried out using the CBA method until it is eligible or not for a cooperation contract. The details of the proposed system are as follows

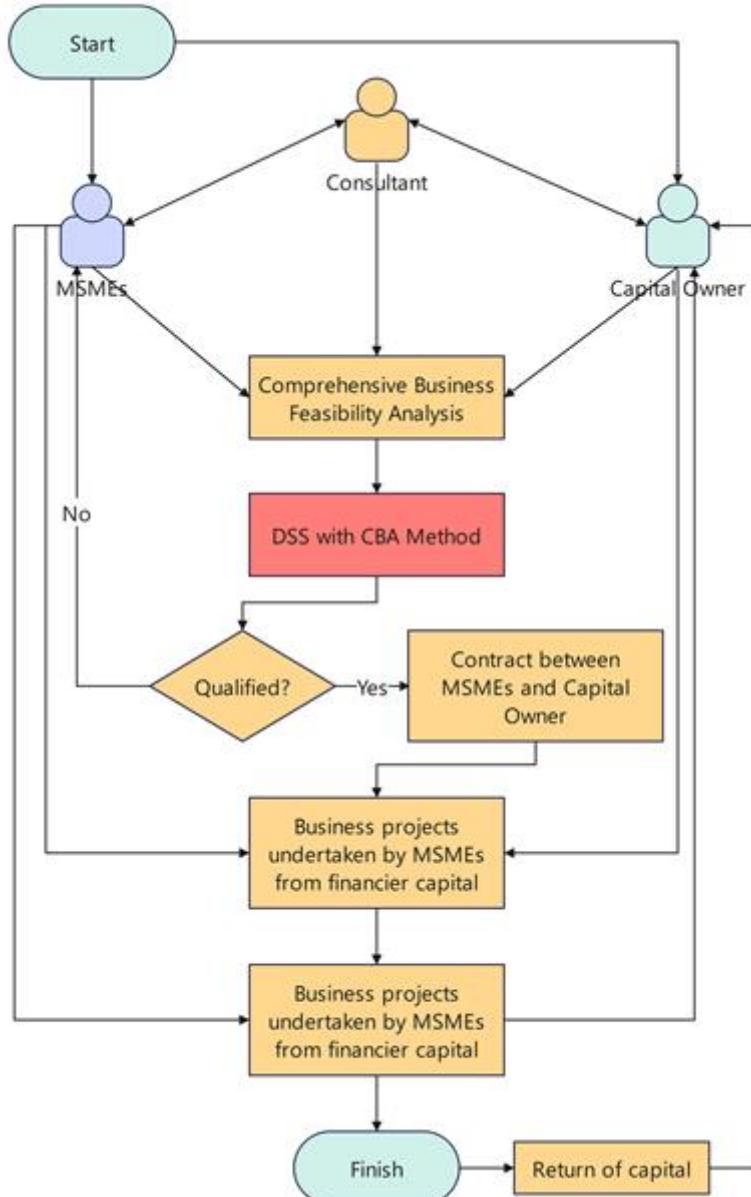
1. Built a technology-based system design: e-Mudharabah with Decision Support System (DSS) using Cost Benefit Analysis (CBA) method as shown in Figure 2.
2. Determining the feasibility of MSME capital based on the CBA method to minimize the risk of using the mudharabah scheme.
3. Make e-mudharabah position as a liaison or consultant who conducts partnerships with business owners and financiers.
4. The addition of the role of consultants to help businesses and financiers provide assistance until an agreement is reached to realize the mudharabah scheme.



**Figure 1.** Concept of Adding Consultant and DSS to Mudharabah Scheme.

The e-mudharabah process with the CBA approach as shown in Figure 2 is as follows:

1. The business owner needs capital and wishes to meet with the financier. The capital owner contacts the consultant for consultation regarding the business and the appropriate capital system.
2. Consultants and financiers also communicate with each other to find possible business owners who are suitable to be given capital under the mudharabah scheme.
3. The business owner together with the consultant and capital owner conducts a comprehensive business feasibility analysis. This is the basis for DSS using CBA.
4. If the DSS system recommends that the net benefits of the project are less than the costs or in other words, a loss is predicted, the application process will be rejected, and the system provides reasonable advice to the business owner.
5. If the DSS system recommends that the net benefits of the project outweigh the costs or in other words, it is predicted that there will be a profit, then the next process is to make an agreement between the capital owner and the business owner.
6. In the next stage, the business owner conducts business activities. The owner of the capital has the right to check the business. Whether the business is carried out in accordance with the agreement or not.
7. When entering into an agreement, there is a process of returning capital and sharing profits from the basic capital issued by the business owner. This makes both parties mutually beneficial.



**Figure 2.** E-Mudharabah Concept Design with CBA Method Approach.

Figure 2 also explains the CBA method to support the implementation of the e-mudharabah concept before the financing contract is executed by the capital owner (*shahib al-mal*) and the business owner (*mudharib*). The novelty details are as follows.

1. There is a consultant between the capital owner (*shahib al-mal*) and the business owner (*mudharib*). This is important because of the previous problem of many business owners (MSMEs) who are worried that the capital application will be rejected due to lack of administrative requirements. Consultants are those who are experts in the field of mudharabah.
2. Investors are no longer only Islamic banks or BMTs that apply loans with mudharabah schemes. Investors are in the form of MSMEs, individuals, and

other legal entities with the condition that they are able to carry out their obligations as capital providers (Arianti, F., 2018).

3. Utilizing a Decision Support System (DSS) because DSS is a computer program application used to improve decision-making capabilities. DSS is website-based and uses the CBA method as a consideration for capital providers in determining the feasibility analysis of whether creative economy MSMEs deserve to be given capital.
4. CBA is expected to be able to make a real contribution to simplify the process of borrowing capital with the concept of mudharabah, which will be called e-mudharabah because it will be systemized online.

## Discussion

The findings of this research reveal that the e-Mudharabah platform, when integrated with a Decision Support System (DSS) based on Cost Benefit Analysis (CBA), offers a viable solution for mitigating the risks associated with traditional Mudharabah schemes. The ability of the platform to assess the feasibility of MSMEs through CBA provides investors with a more structured and data-driven approach, reducing the uncertainty that typically surrounds profit-sharing agreements. This aligns with prior research that highlights the challenges in Mudharabah financing, but our findings suggest that the digital transformation of this scheme can significantly reduce those risks.

In contrast to conventional Mudharabah schemes that rely heavily on subjective assessments, the e-Mudharabah system introduces a level of objectivity through its CBA-based evaluation. This method allows investors to have clearer expectations regarding potential returns and losses. However, while the CBA method is effective in quantifying financial feasibility, it must be noted that certain qualitative factors, such as market conditions and business management skills, may still impact the outcomes. This indicates that while e-Mudharabah provides a significant improvement in risk management, it is not without its limitations.

The introduction of consultants into the Mudharabah scheme adds a further layer of support, as they can assist both MSMEs and investors in navigating the complexities of the financing process. The role of these consultants is critical, as they help balance the interests of both parties and ensure that the terms of the agreement are adhered to throughout the business cycle. This finding is significant, as it suggests that the success of e-Mudharabah not only depends on the technology but also on human intervention to mediate and guide both sides.

One important aspect to consider is the scalability of the e-Mudharabah platform. While the platform shows great potential for MSMEs in the creative economy of East Java, further research is needed to test its applicability in other regions and sectors. The platform's reliance on digital infrastructure could present challenges in areas with limited access to technology, which could limit

its reach. However, as digital literacy improves and access to technology expands, the e-Mudharabah platform could become a widely adopted solution for MSME financing across Indonesia.

In terms of implications for Islamic financial institutions, the e-Mudharabah platform represents a modern adaptation of Islamic financing principles. By incorporating DSS and CBA, the platform provides a transparent and systematic approach to profit-sharing that aligns with the ethical and cooperative values of Islamic finance. This not only strengthens the trust between MSMEs and investors but also promotes a sustainable and fair economic environment.

## CONCLUSION

This research set out to develop a digital platform, e-Mudharabah, designed to facilitate MSME financing while addressing the risks inherent in traditional Mudharabah schemes. Through the integration of a Cost Benefit Analysis (CBA)-based Decision Support System (DSS), the platform successfully provides a structured and data-driven method for assessing the feasibility of MSME business ventures. This aligns with the research objective of minimizing financial risks for investors while offering MSMEs a more accessible path to capital.

The introduction of consultants into the e-Mudharabah framework is another key finding that answers the need for enhanced support in ensuring balanced and transparent profit-sharing agreements. Consultants play a crucial role in bridging the gap between MSMEs and investors, offering guidance and resolving potential conflicts, thereby contributing to the success of the Mudharabah scheme.

The platform's ability to apply Islamic financing principles in a modern, technology-driven context provides an innovative solution that not only promotes sustainable business growth for MSMEs but also upholds the ethical standards of Islamic finance. By offering a digital, scalable, and transparent solution, this research addresses the primary challenges in Mudharabah financing and achieves the stated goal of improving the effectiveness and accessibility of this financing model for MSMEs. E-Mudharabah represents a significant advancement in the field of Islamic finance by integrating modern decision-making tools to minimize risks, support MSME development, and foster trust between business owners and financiers. Further research is encouraged to test its scalability and applicability in broader contexts, but as it stands, this platform provides a promising path forward for both MSMEs and Islamic financial institutions.

### Author's Contribution

Mardiana Andarwati, Galandaru Swalaganata: Contribute to formulating study ideas, collecting data, processing data, and interpreting data.

Aditya Galih Sulaksono, Faruq Ahmad Futaqi: Contributing to writing systematics, study methods, analyzing interpretation results, the language proofread.

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### **Declaration of Competing Interest**

The author declares that there is no conflict of interest.

### **Ethical Approval**

Ethical approval No patient-identifying parts in this paper were used or known to the authors. Therefore, no ethical approval was requested.

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