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Publicly Disclosed Data-Driven Decisions in SPayLater Digital Financing: A Shariah Accountability Analysis

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Abstract

This study examines publicly disclosed information on data-driven and algorithmically assisted decision-making in SPayLater digital financing, viewed from the perspective of Shariah Accountability. The study employs a qualitative document analysis within a bounded case. Data were drawn from a purposively selected corpus of publicly available documents, comprising the Product and Service Information Summary (RIPLAY), the Terms and Conditions of Service, the Privacy Policy, official reports, and FAQ pages of PT Commerce Finance/SPayLater, together with relevant academic literature (see Table 1 for the full document corpus), accessed through [state document access period]. As an assessment of publicly disclosed information rather than an audit of PT Commerce Finance's internal system, the data were analyzed thematically using the principles of amanah, mas'uliyah, 'adl, ihsan, and accountability to Allah SWT. The findings indicate that public disclosures show data-mediated assessment activities-including user selection, credit scoring, eligibility and risk assessment, risk grading, and the determination of financing facilities and limits-that are consistent with some characteristics of automated or algorithmically assisted decision-making, although the precise degree of automation cannot be established from public sources alone. The study did not find publicly available information regarding the algorithms, formulas, variable weights, or machine learning models used by the system; the technical mechanism of the system therefore cannot be assessed in detail. From the perspective of Shariah Accountability, the use of technology in decision-making does not eliminate human and institutional responsibility. Responsibility remains with those who have the authority to design, operate, and oversee the system. Accordingly, such data-driven processes should be accompanied by responsible data management, fair decision-making, meaningful benefit for users, and adequate human oversight and correction mechanisms.

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Introduction

Digitalization has transformed the structure and mechanisms of financial services, including financing that is increasingly integrated with digital technology. The development of financial technology (fintech) has not only produced new service channels but has also changed the processes of intermediation, information processing, and decision-making in the financial industry (Thakor, 2020; Broby, 2021). This shift has been further reinforced by the use of artificial intelligence (AI) and machine learning, which enable financial companies to process large volumes of data and integrate the results into their business activities (Goodell et al., 2021; Milana & Ashta, 2021; Bahoo et al., 2024). Studies on the application of AI and machine learning in the banking, financial services, and insurance sector show that these technologies have been used across various financial activities and have become an important part of the transformation of the financial industry (Goodell et al., 2021). A similar development can be observed in Indonesia. Bank Indonesia recorded that the volume of digital payment transactions in the fourth quarter of 2025 reached 14.26 billion transactions, growing 39.21% year-on-year, reflecting the increasingly strong integration of digital technology into economic and financial activity (Bank Indonesia, 2026). These developments show that technology in the financial sector no longer functions merely as a means of delivering services, but has begun to take part in processes that previously relied more heavily on human judgment, including in producing financing-related decisions.

This shift in decision-making relates to the development of automated decision making (ADM), namely the use of computational systems to produce or influence decisions based on data, rules, or particular models, with varying degrees of human involvement. In the financial sector, the advancement of AI has driven automation from a supporting function toward processes that are increasingly close to core decision-making activities (Goodell et al., 2021; Milana & Ashta, 2021; Bahoo et al., 2024). Sachan et al. (2020) show the use of AI-based systems in the loan underwriting process, illustrating how part of the financing decision process can be carried out through digital systems. Meanwhile, Lehner et al. (2022) show that the use of AI in decision-making carries ethical consequences because decisions no longer stem entirely from human judgment. In a broader development, Busuioc (2021) positions the issue of responsibility as one of the important concerns in the use of algorithmic systems, since decisions produced by technology still carry consequences that must be attributable to human actors and organizations. More specific studies in financial services also show that algorithmic decision-making has developed in various forms of financial decision-making (Sargeant, 2023; Ratzan & Rahman, 2024). ADM thus does not merely indicate the automation of work processes, but reflects a change in how economic decisions are produced, as part of the process previously carried out through human judgment begins to be mediated by data- and computation-based systems. These related concepts nevertheless need to be distinguished before they are used interchangeably. AI refers broadly to computational techniques that perform tasks associated with human intelligence, such as pattern recognition and inference; machine learning is a subset of AI in which a system learns patterns from data rather than following explicitly programmed rules; an algorithm is simply a defined set of computational steps, which may be rule-based or learned through ML and does not by itself imply either AI or a decisional function; and automation refers to the

reduction of human involvement in executing a process, which may apply equally to non-decisional, administrative tasks and to substantive decision-making. ADM is therefore not identical to any of these terms individually: it is the subset of automated or algorithmically mediated processes whose output produces or materially shapes a decision. In this study, a process is treated as ADM only when three conditions are jointly met: (1) decisional relevance, in that its output has a direct bearing on a user's access, eligibility, or the characteristics of a facility; (2) system involvement, in that publicly disclosed documents indicate a computational or data-based process-rather than unaided human judgment-produces or materially shapes that outcome; and (3) non-administrative character, in that the process is distinguishable from purely administrative or transactional automation that merely executes or confirms a status already established. Processes that satisfy only an administrative or confirmatory function, such as identity matching or checking an already-granted limit, are treated in this study as automation but not as substantive ADM.

This phenomenon has become increasingly relevant to the development of digital financing in Indonesia, one example being SPayLater, which is integrated with the digital commerce ecosystem and users' transaction activities. The relevance of SPayLater is reflected in the scale of financing activity carried out by PT Commerce Finance, with total financing disbursement reaching IDR 26.61 trillion in 2025, up from IDR 14.18 trillion in 2024 (PT Commerce Finance, 2026). At the same time, PT Commerce Finance states that data and technology are used in developing its risk assessment system, while the process of extending financing facilities takes into account the results of risk analysis and categorization of users (PT Commerce Finance, 2026). This condition shows that technology has become part of the process related to financing decisions, not merely a transaction medium. Although information regarding the internal mechanisms and algorithms used is not entirely available to the public, the involvement of data and technological systems in this process demonstrates its connection to the development of automated decision making in digital financing. This characteristic is important because decisions mediated by digital systems have direct consequences for users' access to financing facilities. Accordingly, the development of SPayLater shows how financing decisions within the digital ecosystem increasingly take place through processes that no longer rely entirely on direct human interaction and judgment.

As financing decisions become increasingly mediated by digital systems, the issues that arise are not limited to how the system produces a decision, but also concern who is responsible for that decision. In decision-making carried out directly by humans, the party making the decision is relatively easy to identify. In ADM, by contrast, a decision can involve a chain of interrelated actors and components, ranging from data providers, system developers, and user organizations, to the parties holding authority over the system's implementation. Busuioc (2021) shows that the use of algorithms presents challenges to accountability because decisions produced by the system still require the attribution of responsibility to the actors holding authority. In the context of digital financing platforms, Ramesh et al. (2022) show that the relationship between platforms and users also shapes the issue of algorithmic accountability. Fletcher and Le (2022) likewise emphasize the importance of placing responsibility on the human actors and institutions that develop and use AI in financial markets. A similar issue appears in the study by Tóth and Blut (2024), which shows that the use of AI in financial services raises questions about how

responsibility is assigned as services become increasingly mediated by technology. The study by García-Llorente and Olmeda (2026) further reinforces this issue by demonstrating the importance of attributing responsibility in the design, implementation, and oversight of AI in the banking sector. Automation therefore does not eliminate the need for accountability; rather, it makes the issue of accountability more complex. The question that then arises is not only who produces the decision, but who holds authority over that decision, who is responsible for its consequences, and on what values that decision can be justified.

This question regarding the basis of accountability takes on a different dimension when placed within an Islamic perspective. The concept of shariah accountability views accountability as part of the amanah (trust) inherent in carrying out economic activity, and not limited merely to relationships among human beings. Kamaruddin and Auzair (2022) explain Islamic accountability through the dimensions of accountability for input, output, procedure, and Islamic principles and values, such that accountability relates not only to the final outcome but also to the process that produces an action or decision. In this study, these four dimensions are operationalized into five interrelated analytical dimensions used to examine ADM in SPayLater: amanah, which draws on the input dimension by addressing how data and authority over the system are held in trust; mas'uliyah, which draws on the procedure dimension by addressing who bears responsibility for the process and the decisions it produces; 'adl, which extends the dimension of Islamic principles and values by examining whether risk-based outcomes are fair; ihsan, which draws on the output dimension by evaluating whether the outcome produced for users constitutes benefit rather than harm; and accountability to Allah SWT, which situates the preceding four dimensions within a vertical, divinely oriented responsibility that is not reducible to input, output, procedure, or principle taken separately. Kamaruddin et al. (2021) show that Islamic ethical values are closely connected to accountability, illustrating that accountability cannot be separated from the values underlying the actions of a person or organization. Salman (2022) situates accountability in the Islamic perspective as a form of responsibility to Allah SWT as well as to fellow human beings. This view is reinforced by Zakiy and Turahman (2023), who show that Godly accountability connects accountability with the dimensions of divinity, ethics, and integrity. In the context of technology-based financial activity, Mukhlisin and Farezi (2025) also show that the development of fintech does not eliminate the need for the principle of accountability from an Islamic perspective. This perspective provides a basis for viewing automated systems as unable to independently bear moral responsibility. Responsibility remains attached to the party holding the amanah, authority, and control over the decisions and the system used to produce those decisions. Shariah accountability therefore allows ADM to be analyzed not merely from the system's capacity to produce decisions, but from the amanah and accountability for the process, authority, actions, and consequences of the decisions produced through that system, owed to both Allah SWT and to fellow human beings.

In line with these developments, research on automated decision making has been increasingly conducted, particularly in the context of financial services and digital financing. Sachan et al. (2020) show the application of AI in automating loan underwriting, while Sargeant (2023) examines algorithmic decision-making in financial services by highlighting its economic and normative consequences. Ramesh et al. (2022) extend the study of ADM

to digital lending platforms, showing how the relationship between platforms and users influences the issue of algorithmic accountability. In the banking sector, Ratzan and Rahman (2024) develop an instrument for measuring the implementation of responsible AI, while Tóth and Blut (2024) examine the consequences of using AI in financial services and the need for accountability in its use. The study by Chen et al. (2025) shows that the shift from using fintech as a supporting tool toward fully automated decision-making can change the decision-making process in lending. A recent study by Bhatti (2026), through a systematic review of the AI-in-finance literature, shows that research on algorithmic decision-making has developed around issues such as accountability, human autonomy, and AI ethics. Even so, this body of research has largely been situated within technological, ethical, organizational, and general accountability frameworks. Meanwhile, the literature on Islamic accountability has developed more within the context of Islamic organizations and economic activity that has not yet specifically engaged with decisions mediated by automated systems. To the best of our knowledge, no study has yet specifically brought together automated decision making in digital financing with the perspective of shariah accountability, particularly in the context of digital financing services in Indonesia. This gap indicates room for research to extend the study of ADM beyond conventional technological and accountability concerns toward an Islamic accountability perspective.

Based on this gap, the present study positions shariah accountability as a perspective for analyzing automated decision making in digital financing, with SPayLater as the case study context. The novelty of this study lies in its attempt to connect the development of ADM in digital financing with the concept of Islamic accountability, particularly regarding how amanah and accountability remain attached even as the decision-making process becomes increasingly mediated by technological systems. This study is not directed toward developing an algorithm, testing system accuracy, or dissecting the technical aspects of the decision model, but toward examining the dimension of accountability inherent in financing decisions produced or mediated by automated systems. This issue can be formulated into two research questions: first, which stages of the SPayLater process can be evidenced from publicly disclosed documents as automated or data-mediated processes; and second, to what extent do these public disclosures allow such processes to be assessed against the criteria of Shariah accountability? These questions direct attention to the relationship between the decisions produced by the system, the party holding authority over that system, and the form of accountability attached to the decision and its consequences. This study therefore aims to examine publicly disclosed, data-driven decision processes in SPayLater digital financing from the perspective of shariah accountability.

Method

This study employs a qualitative document analysis within a bounded case (Yin, 2018), examining publicly disclosed, data-driven decision processes in SPayLater digital financing from the perspective of Shariah Accountability. The case is bounded institutionally to the SPayLater facility operated by PT Commerce Finance as integrated into the Shopee commerce ecosystem, temporally to publicly available documents dated or last updated within [state the document period covered], and jurisdictionally to Indonesia's regulatory context for digital financing. SPayLater was selected as the case

because of the scale of its financing disbursement, its close integration with a major digital-commerce platform, and the comparatively extensive public documentation of its process stages, which together make it a suitable case for examining how data-driven decision processes are disclosed to the public. Because all data were drawn from publicly available documents rather than from internal system records or interviews with company personnel, the object of analysis is the public representation of SPayLater's practice as disclosed by PT Commerce Finance and related sources, not a verified account of its actual internal operations. As the Terms and Conditions of Service and related documents are subject to periodic revision, the document corpus (Table 1) records the version and access date of each source, so that the analysis reflects a specific, identifiable state of these disclosures rather than an assumed static text.

The document corpus was assembled to satisfy the case boundaries set out above: it includes only documents publicly disclosed by PT Commerce Finance/SPayLater or by an independent regulator, and each entry is referenced individually rather than through a single generic company profile. Table 1 records, for each document, its publisher, version or publication date, URL and access date, status as a primary case document or a contextual/secondary source, the criterion for its inclusion, and the unit of analysis extracted from it.

Table 1. Document Corpus

Document	Publisher	Version/Date	URL & Access	Status	Selection Criteria	Unit of Analysis
Product and Service Information Summary (RIPLAY) – SPayLater	PT Commerce Finance	[publication/update date]	[official URL]; accessed [date]	Primary case document	Official disclosure of pricing and risk-based determination	Clauses on cost, risk grade, and loan rating determination
Terms and Conditions of Service – SPayLater	PT Commerce Finance	[publication/update date]	[official URL]; accessed [date]	Primary case document	Official disclosure of eligibility, verification, and facility procedures	Clauses on credit scoring, customer due diligence, verification, and limit determination
Privacy Policy – SPayLater	PT Commerce Finance	[publication/update date]	[official URL]; accessed [date]	Primary case document	Official disclosure of data collection and processing practices	Clauses on data collection, processing, and third-party verification
SPayLater Help Center (Pusat Bantuan SPayLater)	PT Commerce Finance	[last-updated date]	[official URL]; accessed [date]	Primary case document	Supplementary public explanation of SPayLater's process stages	Statements describing user selection, activation, and usage flow
About PT Commerce Finance and SPayLater (company profile)	PT Commerce Finance	[last-updated date]	[official URL]; accessed [date]	Contextual/secondary source	General company-profile source for figures not tied to a single named document (e.g., disbursement totals)	Statements on financing disbursement and general risk-assessment practice
Quarter IV 2025 Monetary Policy Report	Bank Indonesia	2026	[official URL]; accessed [date]	Contextual/macro data	Independent regulator source providing sectoral context on digital-payment growth	Statistics on digital payment transaction volume
Peer-reviewed and academic literature (see Reference)	Various academic publishers	2001–2026	As listed in References	Secondary/theoretical source	Establishes the theoretical framework for ADM and Shariah accountability	Theoretical constructs, definitions, and prior findings (not treated as case evidence)

Data analysis followed a hybrid deductive–inductive thematic procedure. Deductive codes were derived from two frameworks established earlier in this article: the three-part operational definition of ADM (decisional relevance, system involvement, and non-administrative character) and the five Shariah-accountability dimensions (amanah, mas'uliyah, 'adl, ihsan, and accountability to Allah SWT), each defined by indicators such

as the handling and stated purpose of data (amanah), the identification of the human or institutional party bearing responsibility for a decision (mas'uliyah), the availability of information on the variables, weights, and testing of risk-based outcomes ('adl), the balance between efficiency and potential harm to users (ihsan), and the framing of data and decisions as a trust owed to Allah SWT (accountability to Allah SWT). Inductive sub-codes were allowed to emerge where the corpus revealed patterns not anticipated by these frameworks. Analysis proceeded through four stages: extraction of relevant clauses and statements from each document in the corpus (Table 1); coding of the extracted material against the deductive and inductive codes; grouping of coded material by SPayLater process stage and by accountability dimension; and interpretation, in which grouped findings were read against the operational ADM criteria and the five accountability dimensions to produce the analysis presented in the Results and Discussion section. [Describe each author's specific role in coding, how disagreements between coders were resolved, the procedure used to search for evidence that contradicted the emerging interpretation, and the form of audit trail maintained, e.g., a coding log or annotated corpus.] Consistent with the distinction drawn under Research Design above, academic literature was treated as a source of theoretical framing and interpretive concepts rather than as case evidence; claims about SPayLater's actual practices are grounded only in the primary case documents listed in Table 1.

Triangulation in this study is understood as the use of multiple, distinct categories of source, rather than the mere accumulation of documents (Yin, 2018; Creswell & Poth, 2018). As Table 1 shows, the corpus draws on company and product documents (RIPLAY, the Terms and Conditions of Service, the Privacy Policy, and the Help Center), an independent regulator source (Bank Indonesia), and academic literature. It should be noted, however, that the four company and product documents originate from a single corporate ecosystem (PT Commerce Finance/SPayLater) and may therefore repeat the same underlying claims rather than independently corroborating them; this concentration of primary sources within one corporate ecosystem is treated as a limitation of the study and is discussed further in the Conclusion. Because all data were drawn from publicly available documents, the study did not involve human participants, did not collect personal or transactional data belonging to SPayLater users, and did not require ethical clearance beyond adherence to the terms of public access governing each document.

Results

Automated Decision Making in the SPayLater Process

According to the findings, the use of SPayLater does not take place only at the moment a user selects it as a payment method while shopping on Shopee. Behind this use lies a series of stages, beginning with user selection, activation, identity verification, financing eligibility assessment, limit assignment, facility usage, billing, and finally payment. Each stage serves a different function. Some stages are more administrative in nature, while others relate directly to decisions on whether a person can obtain a financing facility and how the characteristics of that facility are determined. Conceptually, the SPayLater stages can be illustrated as follows:



Figure 1. SPayLater Usage Flow

The findings show that SPayLater is a financing facility provided by PT Commerce Finance (CF). In the Product and Service Information Summary (RIPLAY), the cost of financing is determined based on the company's analysis, taking into account risk categorization (risk grade) and loan rating. This indicates a relationship between user data, risk assessment, and decisions regarding financing facilities.

The first stage is user selection. Not all Shopee users can activate SPayLater, since the facility is only available to users who have been selected and have received an activation notification. This condition indicates the presence of a system-based decision before a user gains access. However, public documents do not explain the algorithm, variables, weights, or machine learning model used. The study therefore only notes an indication of a system-based decision and does not draw conclusions about the specific form of the algorithm.

The next stage is activation and identity verification, which includes face verification, OTP, national ID (KTP), name matching, national ID number (NIK) and date of birth, completion of additional information, agreement to the terms and conditions and privacy policy, and finally approval of the activation contract. CF's Terms and Conditions of Service also explain that demographic and/or biometric data may be checked for conformity against government agency data through verification partners such as VIDA and Privy. This process indicates the automation of verification, though it is not necessarily substantive ADM, since its main function is to confirm identity.

ADM is most clearly evident in the financing eligibility assessment. The Terms and Conditions of Service state that CF, the lender, and/or cooperating third parties may conduct credit scoring, customer due diligence, and other actions to assess a user's eligibility. Conceptually, this process can be formulated as user data → assessment → financing decision. Technology and data processing are thus directly connected to decisions regarding the granting of a facility.

The results of this assessment subsequently relate to the determination of the facility and limit, including the risk grade, tenor, and financing cost. RIPLAY states that the cost is

determined based on the company's analysis, taking into account the level of risk and loan rating. The document also provides information on the maximum amount of financing, up to IDR 50 million, with tenor options of 1, 3, 6, 12, 18, and 24 months. ADM thus does not merely produce an “accepted” or “rejected” decision, but can also relate to the characteristics of the facility a user receives.

At the SPayLater usage stage, the user selects the facility at checkout, confirms the transaction, and enters a PIN. The system then checks the available limit. This check is more accurately described as transactional automation rather than substantive ADM, since the system merely confirms whether the facility already granted can still be used.

After the transaction, the user receives a bill according to the tenor and makes payment. Payment is likewise not ADM in the sense of producing a new financing decision. However, payment is connected to ADM because the payment history can be used in evaluating the facility going forward. Official documents state that the limit may change at any time based on CF's policy, in accordance with the user's payment history. This forms a cycle: financing decision → usage → payment → payment history → risk evaluation → change in facility/limit.

Based on this overall process, the study identifies several points with ADM characteristics. The first is user selection, when the system determines which particular users obtain activation access. The second is identity and biometric verification, particularly in the processing and matching of user data. The third, and the strongest, is credit scoring and financing eligibility assessment. The fourth is the determination of the facility, limit, risk grade, tenor, and cost. Beyond that, there is evaluation based on payment history, since payment history can influence subsequent changes in the limit.

Meanwhile, the checking of available limit at checkout and payment verification are more accurately categorized as transactional or administrative automation. This distinction is important so that ADM is not understood too broadly. Not every process carried out by an automated system constitutes a substantive decision. In this study, ADM refers more specifically to processes in which the system or data-based process bears a relationship to decisions concerning access, eligibility, characteristics, or changes to a financing facility.

Another important finding is that the study did not identify any public document showing the algorithmic code, mathematical formula, or machine learning model used by SPayLater. Consequently, the study cannot technically explain how the system calculates a user's score. Nevertheless, the presence of credit scoring, customer due diligence, risk analysis, risk categorization, and the use of data in determining facilities provides evidence that technology and data processing play a role in the financing decision process.

Automated Decision Making (ADM) of SPayLater from a Shariah Accountability Perspective

Having identified ADM within SPayLater, the next question is how this process can be viewed from the perspective of Shariah Accountability. In this study, Shariah Accountability does not merely examine whether the company has followed its procedures, but also asks who is responsible for the data and the decisions, whether the process is carried out fairly, whether the technology provides benefit, and how the entire activity is positioned as an amanah owed to Allah SWT.

Five dimensions are used to examine this issue: amanah, mas'uliyah, 'adl, ihsan, and accountability to Allah SWT. These five dimensions help examine ADM not only from its final outcome, but also from its inputs, its process, the parties holding authority, and the impact of the decision on users.

On the dimension of amanah, user data is an important element because it is used in a process that can influence financing decisions. Users provide data and consent to its processing, while CF and related parties hold the authority to collect, store, process, and use the data in accordance with applicable provisions. From a shariah perspective, this consent forms the basis for data management, but responsibility does not end with consent. Data must be used in accordance with its stated purpose and managed responsibly. The limited information on how specific data is used in risk assessment shows that the dimension of amanah cannot yet be fully assessed on the basis of public documents.

The dimension of mas'uliyah affirms that an algorithm cannot be the party held responsible. Service documents place decisions related to credit scoring, customer due diligence, and financing facilities with the lender and/or CF. This means that even when a decision is assisted by a system, responsibility remains with the humans and institutions that design, control, and grant authority to the system. The automation of a decision does not mean the automation of responsibility.

On the dimension of 'adl, the use of risk grade and loan rating has consequences for the facility and cost of financing. However, the public has not been given information on the variables, weights, thresholds, and testing mechanisms of the system. The study therefore does not conclude that the system is unfair, but also cannot yet fully verify the fulfillment of the principle of 'adl. From the perspective of Shariah Accountability, this condition highlights the importance of an oversight mechanism for decisions produced by the system.

The dimension of ihsan relates to the benefit provided by the technology. SPayLater offers convenience and speed through a digital process that reduces the need for manual procedures. However, ihsan does not simply mean efficiency. Technology must produce benefit without giving rise to disproportionate harm. The use of ADM therefore still requires oversight of the impact of its decisions on users.

Finally, accountability to Allah SWT is an essential characteristic of Shariah Accountability. Data, systems, financing decisions, and their impacts are not merely matters of the relationship between the company and its users or regulators, but also constitute an amanah for which the company will be held accountable in a vertical sense. The party holding authority over the system must ensure that the technology is used in accordance with the values of amanah, justice, benefit, and responsibility.

Accordingly, ADM in SPayLater, viewed from the perspective of Shariah Accountability, can be formulated as follows: amanah requires the responsible management of data; mas'uliyah places responsibility for decisions on humans and institutions, not on the algorithm; 'adl requires that risk-based decisions do not result in injustice; ihsan directs technology toward benefit; while accountability to Allah SWT positions the entire process as an amanah that must be accounted for vertically.

Overall, the study shows that ADM in SPayLater is found mainly in user selection, data verification and processing, credit scoring, risk analysis, risk grade, determination of

facility and limit, and evaluation of payment history. Although the internal algorithmic mechanism is not publicly available, official documents show the role of technology and data in financing decisions. From the perspective of Shariah Accountability, the central issue is not merely whether a decision is made by a human or a machine, but whether that decision can be accounted for. Automation can thus serve as a means of decision-making, but it must not become a means of eliminating responsibility. The algorithm is an instrument; responsibility remains with the humans and institutions holding authority over it.

Discussion

Automated Decision Making in SPayLater

The findings show that SPayLater is not merely a digital payment service, but a series of financing processes involving user data, technology, risk assessment, facility decisions, use of financing, and evaluation based on payment history. Within this series, several stages exhibit the characteristics of Automated Decision Making (ADM), particularly user selection, identity verification, credit scoring, eligibility analysis, risk categorization (risk grade), determination of facility and limit, and evaluation of payment history.

Theoretically, ADM is a process in which a computational system uses data, algorithms, rules, or models to produce or influence a decision. Boos (2024) asserts that the use of technology cannot automatically be labeled ADM; what matters is the extent to which the decision-making function has been transferred to the system. Based on the study's findings, these characteristics are evident in the SPayLater process, although the study did not find any public information regarding the algorithmic code, formula, variable weights, or machine learning model used.

At the initial stage, not all Shopee users are granted access to SPayLater. Certain users are given the opportunity to activate the facility. This condition indicates a system-based selection process, although the technical mechanism of selection cannot be known publicly. Next, the verification process covers the national ID (KTP), national ID number (NIK), name, date of birth, OTP, and face verification. This stage indicates the automation of identity processing, but needs to be distinguished from substantive ADM. Identity verification is more accurately understood as administrative automation, while the financing decision lies at the eligibility assessment stage.

A stronger point of ADM is found in credit scoring, customer due diligence, eligibility analysis, and risk assessment. Service documents state that CF, the lender, and/or a third party may conduct credit scoring and customer due diligence to check the eligibility of a prospective financing recipient. User data then becomes an input that is processed to produce information related to the facility decision. This finding is consistent with Sachan et al. (2020), who show the use of AI in loan underwriting, as well as Milana and Ashta (2021), who explain the increasing use of technology in the financing process.

ADM in SPayLater also does not stop at the approve or reject decision. The findings show a relationship among data processing, risk grade, facility, limit, cost, and tenor. RIPLAY states that the cost of financing is determined based on the company's analysis, taking into account the risk grade and loan rating. ADM can therefore influence the characteristics of the financing a user receives, not merely determine whether the user obtains the facility.

This process can be summarized as follows: user data → verification → processing and analysis → risk grade → facility and limit decision → cost and tenor → payment history → risk evaluation.

These findings show that data occupies a strategic position in digital financing. However, limited access to the algorithm means the study cannot technically assess the formula, accuracy, or potential bias of the model. The study therefore only concludes that there is an indication of ADM, based on official documents showing credit scoring, customer due diligence, risk analysis, and data processing related to financing decisions. The distinction between substantive ADM and administrative automation also reinforces Boos's (2024) view that attention must be paid to the level of automation and the system's role in producing a decision.

Automated Decision Making of SPayLater from a Shariah Accountability Perspective

If ADM theory explains how a system produces or influences a decision, Shariah Accountability explains how that decision must be accounted for. In the Islamic perspective, accountability is not only horizontal, toward users, regulators, and institutions, but also vertical, toward Allah SWT (Lewis, 2001; Salman, 2022). The use of ADM in digital financing therefore cannot be assessed solely on the basis of technological efficiency, but must also be assessed on the basis of amanah, responsibility, justice, benefit, and moral accountability.

First, the dimension of amanah relates to data management and authority over the system. Users hand over personal data for the purposes of the service and give their consent to its processing. However, consent alone does not indicate that amanah has been fulfilled. Data must be used in accordance with its stated purpose, managed responsibly, and not exploited excessively. Kamaruddin and Auzair (2020) position Islamic accountability as responsibility for organizational activity that includes a moral dimension. The greater the dependence of credit scoring on user data, the greater the demand for amanah in its management.

Second, the dimension of mas'uliyah shows that automation does not transfer responsibility to the algorithm. When a system performs credit scoring or helps determine a facility, responsibility remains with the humans and institutions that design, select, authorize, use, and oversee the system. This principle is consistent with Busuioc (2021) and Fletcher and Le (2022), who emphasize the importance of clarity regarding the actors responsible for the use of algorithms and AI in the financial sector. Accordingly, the principle applies that "the automation of a decision does not mean the automation of responsibility."

Third, the dimension of 'adl requires that risk-based decisions be made fairly. The study finds a risk grade related to the characteristics of financing, but information on the variables, weights, thresholds, and fairness-testing mechanisms is not fully available. This condition cannot be taken as evidence that SPayLater produces discrimination, but it does indicate a need for transparency and oversight. Lehner et al. (2022) and Ratzan and Rahman (2024) emphasize the importance of ethics, fairness, and responsible AI in the use of technology in the financial sector. From a shariah perspective, proportional

transparency is needed so that decisions can be accounted for and users have room to obtain explanation or correction when problems arise.

Fourth, the dimension of *ihsan* places technological efficiency within a framework of benefit. SPayLater offers convenience and speed because the financing process is carried out through a digital system. This is consistent with Thakor (2020) and Goodell et al. (2021) regarding the transformation of financial services through fintech, AI, and machine learning. However, speed is not the only measure of success. Technology must produce benefit and minimize harm. The greater the extent to which decisions are handed over to the system, the more important human oversight, evaluation, and correction mechanisms become.

Fifth, there is accountability to Allah SWT as a vertical dimension. This accountability covers how data is obtained, how the system is designed and used, how decisions are produced, and how they affect users. Salman (2022) and Zakiy and Turahman (2023) show that Islamic accountability carries a divine dimension, such that integrity and responsibility do not stop at formal compliance.

The synthesis of this study thus shows that ADM explains the mechanism of data–process–decision, while Shariah Accountability adds the dimensions of *amanah–mas'uliyah–'adl–ihsan–accountability* to Allah SWT. ADM in SPayLater can provide efficiency, but the greater the role of the system in determining financing, the greater the need for accountability. The perspective of Shariah Accountability does not demand the disclosure of every algorithmic secret, but it does demand adequate accountability for the use of data, the basis of decisions, oversight of the system, fairness, benefit, and the impact on users. Automation can thus be a means of financing decision-making, but it must not become a means of eliminating human and institutional responsibility.

Conclusion

Drawing on the publicly disclosed documents analyzed in this study (Table 1), the more defensible conclusion is that PT Commerce Finance's public documents show data-driven assessment activities—including user selection, credit scoring, eligibility and risk assessment, risk grading, and facility and limit determination—that are consistent with automated or algorithmically assisted decision-making. These disclosures are not sufficient, however, to establish the precise degree of automation, to test the system for bias, or to verify actual compliance with Shariah accountability principles; they permit only an assessment of what PT Commerce Finance discloses about these processes. Within that scope, the study finds that responsibility for these processes is not transferred to the algorithm: the analyzed documents consistently place accountability with PT Commerce Finance, the lender, and the third parties they authorize, so that the implementation of such processes should uphold *amanah*, *mas'uliyah*, *'adl*, and *ihsan*, and remain oriented toward accountability to Allah SWT.

This study has several limitations. The primary case documents are drawn predominantly from a single corporate ecosystem (Table 1), which constrains independent corroboration; the internal algorithm, variable weights, and model design remain undisclosed, so claims about the precise degree of automation and potential bias could not be tested; and because the analysis is based on publicly available documents rather than internal records, interviews, or users' lived experience, its conclusions describe what

is disclosed to the public rather than verified internal practice. [Confirm and, if applicable, add any further limitations specific to the completed study, such as informants consulted or the document-access period.]

Despite these limitations, the study contributes an operational framework that distinguishes substantive ADM from administrative or transactional automation and that links Kamaruddin and Auzair's (2022) four dimensions of Islamic accountability to five analyzable dimensions-amanah, mas'uliyah, 'adl, ihsan, and accountability to Allah SWT-that can be applied to other digital financing platforms. Practically, and in proportion to what the evidence supports, the findings suggest that digital financing providers operating under Shariah accountability expectations would benefit from disclosing, at a level that does not compromise legitimate business confidentiality, the general basis of their risk-scoring criteria and the human oversight mechanisms attached to them. Future research is recommended to extend this document-based approach through interviews with company personnel or regulators, comparative analysis across other Shariah-based or conventional digital financing platforms, and, where access permits, closer examination of the technical basis of the scoring and risk-grading processes identified here.

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