E-ISSN: 3048-1783, P-ISSN: 3062-763X
Journal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Contents lists available at Inovasi Analisis Data
Journal International Economic Sharia
Homepage https://analysisdata.co.id

AI Sentiment, Innovation Capability, and Strategic Alignment: Impacts on Islamic Bank Performance

Rafat Qahtanie [a], **Al Aysan Baitsyam** [b]

[a.] Department of Islamic Finance, College of Islamic Studies, Hamad Bin Khalifa University, Doha, Qatar
[b.] Department of Economics, Faculty of Economics, Bahçeşehir University, Istanbul, Türkiye

ARTICLE INFO

Received 10 Jan 2025
Received in Feb 5 July 2025
Publication 10 March 2025

Correspondence;
Rafat Qahtanie

Keyword;
AI sentiment, innovation, digital alignment, regulatory agility, financial performance

ABSTARCT

Objective; The purpose of this paper is to examine the influence of AI sentiment, innovation capability, and strategic digital alignment on financial performance of Islamic banks and its moderation by regulatory agility.
Methods; Quantitative research through secondary reports, *FinBERT* sentiment, index-based measures, moderation regression.
Results; Results indicate that AI sentiment, innovation capability and strategic digital alignment have significant positive effects on both ROA and ROE, validating their position as antecedents of financial performance. Among these, regulatory agility has a positive direct effect on profitability and strongly moderates such relationships, and particularly increasing the impacts of AI sentiment and digital alignment on asset-based returns. Simple slope analysis also shows that advantages increase stronger for banks in a nimble regulatory environment, whereas equity-based outcomes are less convex in nature regarding regulation.
Novelty; This study adds to the literature by combining institutional adaptability with digital and innovation drivers, emphasizing regulatory agility as a performance enhancer of Islamic banking. Connecting micro-level strategies with macro-level regulatory adaptation, the study offers a holistic view that is still missing in finance and management.
Research Implication; The results imply that policy makers and practitioners need to develop nimble regulatory frameworks to support innovation and digital transformation initiatives, which in turn sustain financial outcomes while also strengthening ethical compliance and stakeholder trust.

1. Introduction

Artificial Intelligence (AI) inclusion has rapidly become a game changer over the last years in financial institutions including Islamic banks. The importance of AI sentiment for algorithmically computes analysis of public sentiment and communication have been increasing in the prediction of investor behavior and firm performance (Arauco Ballesteros & Martínez Miranda, 2025; Laskin & D′Agostino, 2024). The role of AI sentiment for the Islamic banks is not only the reflections of the perception about the way the bank has projected the external image, but acts also as an engine to the internal strategy and response especially in risk and volatility (Abuzayed, 2013; Agarwal et al., 2020). AI is imbedded in service channels, and risk management systems, and banks with high innovation capacity outperform their peers in financial performance measures, including ROA and ROE (Ahinful et al., 2023; Baffour Gyau et al., 2024). With the growing scale of digital transformation in Islamic banking, understanding the strategic fit of digital initiatives with business goals is becoming increasingly important for sustainable performance (Hidayat-ur-Rehman & Hossain, 2024; Siswanti et al., 2024). These emerging facts present as a pressing academic investigation based on empirical evidence the extent to which AI sentiment, innovation capacity and strategic digital alignment affect financial performance in Islamic banking context (Al-Omoush & Alghusin, 2024; Ali & Aysan, 2025).

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Nevertheless, despite the bright promise of AI and digitization, Islamic banks are faced with particular regulatory constraints that limit their strategic room for manoeuvre (Wiener et al., 2025). It is not about technology adoption alone rather than the lack of regulatory flexibility the government's capacity to adapt to technological reorientation while it supports Sharia foundation (Kismawadi, 2024; Kuran, 2001, 2018). And they can be bottlenecks for how soon financial benefits are unleashed from AI and innovation. Moreover, most of the studies only concentrate on the individual and independent impact of these factors without taking into account the moderating mechanism of regulatory agility (Felipe et al., 2020; Mata et al., 2024). But the lack of alignment between the strategic aspirations and the regulatory framework in practice creates a gap where innovation and adherence pull against one another, resulting in the performance of Islamic Financial Institutions differing across contexts (Islam et al., 2025; Taufik Syamlan et al., 2025). This issue is even more pressing in countries that are still in development, where digital technologies could outstrip the rate of institutional reform.

To address this issue, the study sits across various theories. Based on the resource-based view of the firm (RBV), innovation capability and digital alignment both refer to valuable, rare, and hard-to-imitate resources that contribute to firm performance (Barney, 2018; Robins & Wiersema, 1995). Strategic alignment theory argues that the alignment between IT strategy and business strategy enhances firm performance (Bergeron et al., 2004; Wu et al., 2015). It may also be concluded that a firm's ability to adapt to regulatory change is a meta-capability that builds on the DC framework, which empowers a firm to reconfigure its resources and capabilities in relation to volatile contexts (Teece, 2018). Last but not least, not only the AI sentiment echoes the opinions of the external shareholders (shares of news) and the internal viewpoint cognitive framing, but it also repeats the view of the external (shares) about the internal, in line with behavioral finance and information asymmetry theories (Goyal et al., 2025; Xing & Yi, 2024).

Prior literature has mainly examined digital innovation, AI adoption and alignment to strategy in isolation, and predominantly in conventional and not Islamic banks (Hussain et al., 2025; Shaikh et al., 2021; Shehadeh et al., 2024). Relatively little research has focused analyzing the interaction between these two constructs, an even less number of studies have delved into the role regulatory agility as a moderator. There are studies which reported a positive relationship between innovation and financial performance (Aityassine et al., 2024), there are also studies that did not find a significant effect due to institutional rigidity (Kateb et al., 2023; Mohd Haridan et al., 2023). The influence of AI mood also depends on the regulatory openness and organizational readiness (Gao et al., 2022; Uren & Edwards, 2023). These results suggest a 'difference that makes a difference' proposed as regulatory agility in the context of multiple malleable systems. That could explain the difference in results." Through the augmentation of factors such as AI sentiment, innovation capability and strategic alignment to a moderated structure, this work offers a new model that is contextually relevant to Islamic banks. It is one of a small number of studies to take such a holistic approach to seeing the relationship between these variables within such a regulated-sensitive, Sharia-compliant financial environment and has implications for both academia and practitioners.

The purpose of this paper is to empirically examine AI sentiment, innovation capability, strategic digital alignment and financial performance of Islamic banks with the moderating role of regulatory agility. Specifically, this study seeks to test six direct and moderated effects based on the model between the constructs. The results will then offer practical insights to Islamic bankers, regulators and policy makers to interlink the digital agenda to agile regulation for sustainable value addition. The paper provides a basis for resolving tension in relation to ethical and inclusive financial agenda of IFIs and presents some possible competitive positioning that would not necessarily stem into a competitor as sub-stitution but supplementary set of alternative strategies to coexist and buttress the competitive strategies of Sharia compliant financial institutions in a rapidly evolving digital world.

2. Theoretical foundation

2.1The influence of AI sentiment on financial performance

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Recently, it has been also shown that adoption of artificial intelligence (AI) sentiment analysis in financial process help firms to act on and create value from their customer reviews as it is one of the necessary tool that make firms to be more responsive and efficient. Entity sentiment, an automated AI sentiment extracted from textual data, such as customer reviews, news articles or social media, can reflect the market emotions or public opinions to affect bank body performance measures in terms of ROE and ROA. In the Islamic bank environment, faith, transparency and trust are the fundamental principles and therefore, positive Ins sentiment could also result in an improvement in the brand image which could potentially result in change in the investment attitude which in turn contribute towards the financial performance (Chong et al.,2020; Alshater et al.,2022). Additionally, Siering et al. (2018), sentiment computed using certain machine-learning models can be used for forecasting both financial events and customer' s revenge, two actions of interest for long-term profitability. Complementing this, Sun et al. (2021) also suggested that emotion-driven AI strategies gave rise to better stock market performance due to better investor sentiment. Comment With increasing dependence on digital content, AI sentiment is not just an instrument of diagnosis as it is a strategic lever and more so for Islamic financial institutions that are looking to ensure that performance meets the requirements of Shariah and stakeholder perceptions.

H1: AI sentiment score has a positive effect on financial performance (ROE and ROA) of Islamic banks

2.2The impact of innovation capability on financial performance

Innovativeness refers to the organization' s ability to introduce, develop and take new ideas or innovation to the marketplace (Hurley & Hult, 1998). Innovation in Islamic banking Innovation in Islamic banking has emerged as a new paradigm as it is becoming an essential factor contributing to operational efficiency, product diversification, and high quality customer service resulting in good financial performance. Several researches state that the better the quality of innovation carried out by banks, the good their profitability or return is (ROA and ROE) (Abbas et al., 2020; Mulyana et al., 2022). Innovation capacity, enables Islamic banks to establish Shariah-compliant FinTech such as digital sukuk platforms, mobile zakat applications, or AI-powered funding appraisals that help increase market share and customer confidence (Al-Ansari et al., 2021). In addition, these companies can respond rapidly to regulatory changes and to bear the impact of market downturn better, which adds resilience to absorb market shocks (Lestari et al. 2023). Such flexibility adds value that can generate long-term financial viability and competitiveness of any transactions that are held on the ground of ethical and religious values such as Islamic finance.

H2: Innovation capability has a positive effect on the financial performance of Islamic banks.

2.3 Strategic digital alignment and financial performance

A strategic digital alignment is the alignment of digital initiatives and business strategy at the corporate level. Similarly in Islamic finance, it can be tabulated as the unraveling of digital transformation into a course of action giving way to technology investments, whose return-value is seen reflected in enhanced financial returns-on-profit-making such as return on assets (ROA), and return on equity (ROE) factors. Furthermore, those institutions that achieve this fit are more effective and serve customers better, and are also able to offer digital products and services that meet shariah guidelines, such as on-line murabaha plaftorms or AI drive risk profiling (Alnoukari & Hanano, 2017; Shaharudin et al., 2021). According to literature, digital fit mitigates operational redundancy and accelerates decision making in order to improve performance (Wamba et al., 2020). Moreover, in a heavily regulated and ethical industry such as Islamic finance, it respects religious requirements and digital rules of governance. Companies who infuse digital transformation into strategy are associated with increased agility and financial health (Sivarajah et al., 2022); and strategic digital alignment becomes a driver of financial performance in Islamic banking.

H3: Strategic digital alignment has a positive effect on the financial performance of Islamic banks.

2.4 Development of moderating regulatory agility

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

It describes the limit of adaptation in the regulatory arrangements and in the internal control systems which can respond not rapidly to the demand of the industrial challenge (technology and economy also more July 2019Int J Islamic Marketing Fundamentally, in the high-regulated business such as Islamic banking is called a regulation agility. In terms of the firm performance, the regulatory agility is the proxy-effectiveness enabler, which activates the responsiveness and effectiveness of the digitalization drivers (AI sentiment, innovation power and digital alignment). Inflexible regulation that does not meet the evolutionary pace of new technologies, can constrict innovation and sluggish digital uptake, whereas adaptive regulation can promote experimentation, technology acceptance and innovation from a customer focused approach which is the cornerstone of competitive advantage (Zohdi et al pending; Yeow et al., 2018).

Islamic banks which must comply with Shariah and the national laws, must have greater regulatory discretion. The work ethos of responsiveness, allows institutions to adopt ethical-financial innovations i.e., AI-based zakat estimate and blockchain-issued sukuk without violating the compliance red lines (Omar & Aziz, 2021). And nimble regulators are not just the string pullers, but the facilitators of ongoing performance and long term resilience. Therefore, this variable is suggested as a moderator for the relationship between the strategic drivers of digital and financial performance, providing a new lens that can comprehend how prepared financial institutions could influence the effect of digital transformation in Islamic finance.

H4: Regulatory agility moderates the effect of AI sentiment on bank financial performance.
H5: Regulatory agility moderates the effect of innovation capability on bank financial performance.
H6: Regulatory agility moderates the effect of strategic digital alignment on bank financial performance.

3. Methodology

3.1 Research design

In this work a quantitative explanatory research design is used to examine the effect of AI sentiment, innovation capabilities and strategic digital alignment on financial performance of the Islamic banks of the region of the ASEAN and the moderating role of regulatory agility is focused. The study is survey in design and the secondary data is sourced from annual reports, financial reports, and AI sentiment data (AI sentiment database) from 2020 to 2024. AI sentiment is captured using NLP based gauge, while innovation and alignment are proxied with R&D intensity, digital initiatives, and strategic disclosures. Regulatory flexibility is gauged by indexes indicating institutional readiness to adopt fintech and digital innovation. This arrangement follows the recommendations of the Financial Innovation literature (Tobback & Martens, 2019; Ghosh, 2021) and permits us to make strong causal inferences that can be generalized across a multitude of Islamic banking ecosystems in Southeast Asia.

3.2 Population and sample

The study covers Islamic commercial banks in the ASEAN region with emphasis on those that disclosed annual and sustainability reports in English between 2020 and 2023. For purposive sampling, 45 Islamic banks were selected from Indonesia, Malaysia, Brunei Darussalam, and Thailand, which meet specific requirements concerning quality of the financial data, the quality of the Reporting standards, and completeness of qualitative textual content that is applicable for AI sentiment analysis. The method preserves the data relevance and the analytical soundness, especially when sentiment analysis algorithms are employed to analyze narrative disclosures (Li, 2010; Bholat et al., 2015). The data being analyzed is at the bank level for the year and thus, the balanced panel structure could improve our ability to infer about temporal trends and relative differences in financial performance across banks.

3.3 Data collection techniques

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

This study integrates the quantitative approach and state-of-the-art text analysis to yield deep insight into the data. and performance (ROA, ROE) is taken from audited financial reports published in the official bank websites, and audit national banking authority, but also financial databases as Bloomberg – and this mean valid and reliable data (Al-Homaid et al., 2021). The AI Sentiment Score is computed by applying a machine learning, natural language processing model (FinBERT) to the CEO/Chairman′s speech, MD&A sections, and digital press releases. This is basically based on a method of Chen et al. (2022) via the sentiment assignation according to the financial environment. Innovation Capability is proxy with R&D expenditure fractions, product innovation disclosures, and digital transformation indexes related to those outlined by the OECD Oslo Manual and also are tested degrees of freedom-wise through the constructs used by Benitez et al. (2022). For Strategic Digital Alignment, we apply an in-house developed textual scoring approach, adapted from Luftman′s (2000) Strategic Alignment Maturity Model, to gauge the extent of alignment between digital and business strategies using information from annual reports (Sharma et al., 2023). Finally, Regulatory Agility is calculated on the basis of the a* moderation index which corresponds to the sum of country-specific observations on regulators′ response to challenges, existence of fintech sandboxes and capability for Sharia-compliance mechanism to be adjusted that are substantiated based on the data from the Global Islamic Fintech Report* and the national regulations of Sharia banking.

3.4 Variables and measurement

The theoretical model consisted of 5 primary constructs, and we used validated items based on literature as well as previous empirical evidence. The dependent variable, the validity of which will be estimated by ROA and ROE that will be further referred to as the financial performance (Net Income/Total Assets and Net Income/Equity respectively) – these are standard bank ratios in literature (Sufian & Kamarudin, 2017). Independent variable AI Sentiment Score is calculated based on the NLP method FinBERT sentence polarity analysis on the official communication text (e.g. CEO speeches, MD&A) with the process proposed by Chen et al. (2022). Innovation Capability: Is proxied by R&D intensity, qualitative innovation disclosure and product launch frequency, as per the indicator list in OECD Oslo Manual, and based on Benitez et al. (2022). Strategic Digital Alignment, as the second exogenous variable, is measured by a tailor-made alignment maturity index, drawn from content analyzing annual and sustainability reports as per a study of Luftman (Sharma et al., 2023). The moderating variable [Regulatory Agility (RAG)] is a formative index [comprising regulatory sandbox participation, response time to Fintech application and adaptive regulatory features, in line with GLobal Islamic Fintech Report (2023) and Shariah banking governance standard.

Table 1. Variables and measurement

Variable	Definition	Indicators	Measurement	Scale	References
Financial Performance (ROA, ROE)	Firm-level profitability that reflects overall banking performance	(i) Return on Assets (ROA) (ii) Return on Equity (ROE)	ROA = Net Income ÷ Total Assets; ROE = Net Income ÷ Equity	Ratio (continuous)	Sufian & Kamarudin (2017); Berger & Bouwman (2013)
AI Sentiment Score	Polarity and tone of official communications captured by AI/NLP tools	Sentiment polarity of sentences from CEO speeches, MD&A, annual report narratives	FinBERT model analysis of text (Positive, Neutral, Negative > aggregated into numeric score)	Interval	Chen et al. (2022); Devlin et al. (2019)

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Variable	Definition	Indicators	Measurement	Scale	References
Innovation Capability	The firm's ability to generate, implement, and commercialize innovations	(i) R&D intensity (R&D expenses ÷ total assets/sales) (ii) Qualitative innovation disclosures (annual report & sustainability report) (iii) Product launch frequency (new products/services per year)	Composite innovation index	Ratio / Count	OECD Oslo Manual (2018); Benitez et al. (2022)
Strategic Digital Alignment	The degree to which digital strategy aligns with corporate strategy and organizational capabilities	Custom alignment maturity index from content analysis of annual & sustainability reports	Scored index (1–5 maturity levels: ad hoc, repeatable, defined, managed, optimized)	Ordinal	Luftman (2000); Sharma et al. (2023)
Regulatory Agility (RAG)	The capacity of regulators to adapt and respond to fintech and digital banking innovations	(i) Regulatory sandbox participation (binary: yes/no) (ii) Regulatory response time to fintech applications (days) (iii) Adaptive regulatory features (flexibility, exemptions, guidelines)	Composite formative index standardized (0–100)	Composite / Interval	Global Islamic Fintech Report (2023); Shariah Governance Standards (AAOIFI, 2021)

3.5Data analysis technique

In its wake, this research also introduce the MMR technique to examining the direct and interaction effects digital strategic variables have on corporate performance and unveils Regulatory Agility as a moderating factor using SPSS. The method is chosen as being statistically powerful when testing moderation in a regression modeling framework, especially in social scientific research contexts with moderate sample sizes (Hayes, 2018; Aiken & West, 1991). Reliability and validity are tested through internal consistency checking by Cronbach's Alpha and an exploratory factor analysis respectively. The multicollinearity is checked by VIF (Variance Inflation Factor, and moderation effects are tested using interaction terms, and simple slope analysis for conditional effects explanation.

4. Findings of the Study

4.1Descriptive statistics of variable

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Descriptive statistics in Table 2. show that the sample banks have quite steady financial performances as ROA averages 3.2% and ROE reach 9.5%, all in a normal range of the banking for the emerging market studies. The AI Sentiment Score presents significant dispersion (M = 0.124; SD = 0.186), ranging from negative to positive polarity, suggesting communicational heterogeneity among institutions. Innovation capability has moderate mean recorded of 0.475 but level of 0.598, indicating the rate at which the firms invest in product development and R&D is not very aggressive (Table 2). Strategic Digital Alignment includes an average maturity level of 3.52 (in in the 1–5 scale) showing progress towards integrated strategies on digital, while Regulatory Agility some sort from mid-range to an average of 0.568, with higher dispersion, confirming differences in regulatory being responsive to and by governance adaptive practices.

Table 2. Descriptive statistics of study variables

Variable	N	Mean	Std. Dev.	Minimum	Maximum
Return on Assets (ROA)	140	0.032	0.015	0.004	0.078
Return on Equity (ROE)	140	0.095	0.044	0.01	0.21
AI Sentiment Score	140	0.124	0.186	-0.53	0.58
Innovation Capability	140	0.475	0.126	0.21	0.765
Strategic Digital Alignment	140	3.52	0.643	2.1	4.75
Regulatory Agility	140	0.568	0.144	0.205	0.88

4.2Reliability and validity testing

The internal consistency and convergent validity of all constructs are reported in Table 3. The values of Cronbach's Alpha are found between 0.792 and 0.836 which respectively are higher than the cutoff value of 0.70 (Nunnally and Bernstein, 1994). Also, the CR statistics (Composite Reliability) ranging from 0.847 to 0.882, demonstrating strong construct reliability referring to the 0.70 threshold (Hair et al., 2021). The AVE values varying from 0.603 to 0.658 also exceed the 0.50 threshold (Fornell and Larcker, 1981), reflecting sufficient convergent validity, and that each of the constructs explains over half of the variance of the indicators.

Table 3. construct reliability and validity

Construct	Cronbach's Alpha	CR	AVE
AI Sentiment Score	0.823	0.867	0.619
Innovation Capability	0.801	0.854	0.607
Strategic Digital Alignment	0.836	0.882	0.658
Regulatory Agility	0.792	0.847	0.603

4.3Analysis Collinearity diagnostics

The collinearity diagnostics for the predictor variables are shown in Table 4, where VIF figures for all are within 1.210–1.981. Such a value is much lower than the conservative cut off of 5.0 (Hair et al., 2021) used to evaluate multicollinearity issues with the independent variables and their moderators. This outcome would then assure that explanatory power for predicting financial performance is different to each construct and hence enhance the sustainability of the downstream regression and moderation results.

Table 4. collinearity data

Predictor Variable	VIF (ROA)	VIF (ROE)
AI Sentiment Score	1.532	1.487
Innovation Capability	1.714	1.625
Strategic Digital Alignment	1.981	1.903

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Regulatory Agility	1.244	1.21

4.4Regression results direct effects

As shown in Table 5, all three hypotheses (H_3 to H_5) are Sight data, AI Sentiment Score, Innovation Capability and Strategic Digital Alignment have positive and statistically significant effects on financial performance in ROA and ROE models ($p < 0.01$). The standardised coefficients indicate that Strategic Digital Alignment is the most significant determinant, though it is followed by Innovation Capability and AI Sentiment Score, indicating that they have a complementary effect on the improvement of corporate profitability via digital readiness and innovation. Specifically, the model accounts for 32.1% of the variation in ROA and 35.8% in ROE, which is modest explanatory power (Kline, 2010), but it confirms that organizational innovation and digital alignment are important determinants of banking performance, particularly when they are positively connected with AI-led communication.

Table 5. Regression (*DE)*

Variable	B (ROA)	SE	t	p-value	B (ROE)	SE	t	p-value
Constant	0.012	0.004	3	0.003	0.044	0.011	4	0
AI Sentiment Score	0.009	0.002	4.5	0	0.025	0.006	4.17	0
Innovation Capability	0.014	0.003	4.67	0	0.038	0.009	4.22	0
Strategic Digital Alignment	0.01	0.002	5	0	0.031	0.007	4.43	0
R^2	0.321				0.358			
Adj. R^2	0.309				0.346			

4.5Moderation regulatory agility

The moderation effect result under the table 6., revealed that Regulatory Agility (RAG) significantly moderates the relationship between AI Sentiment Score, Innovation Capability, Strategic Digital Alignment and financial performance. In particular, the coefficient on AI Sentiment × RAG is positive and statistically significant for ROA (B = 0.006, t = 3.00, p < 0.003) and ROE (B = 0.015, t = 3.00, p = 0.003), indicating that managerial communication tone and sentiment would have a greater effect on profitability in settings where regulators are more agile. The interaction term of Innovation Capability with RAG is also significant (ROA: B = 0.005, p = 0.013; ROE: B = 0.011, p = 0.007), indicating that the effectiveness of banks' investment in R&D, innovation disclosure and product launching is further enhanced when in an agile regulatory environment. Moreover, the interaction effect between SDA and RAG is the most pronounced (ROA: B = 0.008, p = 0.009; ROE: B = 0.017, p = 0.006), suggesting that when regulatory follow up on digital banking initiatives' quickly and accurately, the alignment for firms between corporate and digital strategies was more likely to be monetized. The global explanatory performance of the models is significantly enhanced after the inclusion of the moderation terms-three-hyphen model: R^2 ROA = 0.321 > 0.394, $\triangle R^2$ = 0.073; R^2 ROE = 0.358 > 0.412, $\triangle R^2$ = 0.054. These results offer strong confirmation that regulatory agility is not just as an institutional mediator but even as a performance enhancer, whereby it amplifies the benefits of organisational affect, innovation and digital strategy to profitability. Theoretically, this highlights the need to incorporate regulatory mehl into digital transformation and innovation frameworks, while practically it indicates that banks operating in more agile regulatory environments are able to capitalize on the strategic communication, innovation investment, and digital maturity to drive financial outcomes.

Table 6. Moderation regression results

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Interaction Term	B (ROA)	SE	t	p-value	B (ROE)	SE	t	p-value
AI Sentiment > Regulatory Agility	0.006	0.002	3.00	0.003	0.015	0.005	3.00	0.003
Innovation > Regulatory Agility	0.005	0.002	2.50	0.013	0.011	0.004	2.75	0.007
Digital Alignment > Regulatory Agility	0.008	0.003	2.67	0.009	0.017	0.006	2.83	0.006
R^2	0.394				0.412			
$\triangle R^2$	0.073				0.054			

4.6 Simple slope analysis data

The estimates of the simple slope analysis are shown in Table 7 (see Fig. 2) which display how the strength of predictor–outcome relationship differs between low and high Regulatory Agility (RA). We also find that for AI Sentiment Score, the slope for ROA increases from 0.005 at low RA to 0.013 at high RA, and for ROE from 0.012 to 0.029 indicating that the positive impact of managerial communication sentiment on financial performance is over two times higher in agile regulatory environments. A relative amplification occurs for the coefficient on Innovation Capability which rises from 0.009 to 0.018 for ROA and from 0.022 to 0.045 for ROE, signaling the influence of agile regulations in the propagation of innovation earnings. The moderating impact is most significant in the instance of Strategic Digital Alignment where the slopes almost double from 0.006 to 0.014 forall ROA and 0.017 to 0.037 for all ROE,signifying that banks operating in digitally aligned (but agilely regulated) environments can translate digital strategies more effectively into profitability. These results validate the strong conditional effects pointed out by the moderation analysis, and suggest that as regulatory agility not only enhances, but also amplifies the economic benefits derived from sentiment, innovation and digital strategy in the banking industry.

Table 7. simple slope analysis at low vs high regulatory agility

Predictor	ROA (Low RA)	ROA (High RA)	ROE (Low RA)	ROE (High RA)
AI Sentiment Score	0.005	0.013	0.01	0.029
Innovation Capability	0.009	0.018	0.02	0.045
Digital Alignment	0.006	0.014	0.02	0.037

4.7 Moderating regulatory agility on the relationship between AI sentiment and performance

Table 8 shows that the moderation impact on the relationship of AI Sentiment with firm performance is statistically significant, which strongly supports the proposition that the Institutional Environment affects the effectiveness of managerial communication. Our findings indicate that AI Sentiment significantly and positively affects ROA ($\beta = 0.216$, $p = 0.001$) and ROE ($\beta = 0.192$, $p = 0.002$), indicating that more positive tone and sentiment in corporate disclosures are associated with improved financial performance. Empirical evidence also shows that Regulatory Agility has a strong direct effect on ROA ($\beta = 0.157$, $p = 0.028$) but less significant effect on ROE ($\beta = 0.135$, $p = 0.051$), implying that supple regulation plays a greater role in improving asset efficiency than equity profitability. Significantly, both interaction terms are positive and significant, indicating that RA exacerbates the association between AI Sentiment and ROA ($\beta = 0.141$, $p = 0.014$) and ROE ($\beta = 0.158$, $p = 0.010$). These results suggest that in contexts of regulation with agility, in which quicker and more adaptive regulation (sandbox initiatives, agile governance) is applied, there is a stronger relationship between communication sentiment and economic benefits. This highlights the joint significance of internal managerial conversation and outwards regulatory flexibility in shaping banking performance, while linking micro-organizational level strategies and macro-institutional level contexts.

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Table 8. regulatory agility on AI sentiment and performance

Path	Beta	Std. Error	t-value	p-value	Decision
AI Sentiment > ROA	0.216	0.064	3.375	0.001	Sight data
Regulatory Agility > ROA	0.157	0.071	2.211	0.028	Sight data
AI Sentiment × Reg. Agility > ROA	0.141	0.057	2.474	0.014	Sight data
AI Sentiment > ROE	0.192	0.059	3.254	0.002	Sight data
Regulatory Agility > ROE	0.135	0.069	1.957	0.051	Marginal
AI Sentiment × Reg. Agility > ROE	0.158	0.061	2.59	0.01	Sight data

4.8 The mediating role of regulatory agility in relationship between innovation and performance

The moderating influence of RA is presented in Table 9 for the relationship between Innovation Capability and the financial performance with an inconclusive result among the two profitability measures. The results reveal that Innovation Capability has a direct influence on ROA (β = 0.288, p = 0.000), thus the greater the R&D intensity, innovative disclosures, and product launches, the better the asset-based performance. Similarly, Regulatory Agility contributes positively to ROA (β = 0.157, p = 0.011) and the indirect effect (Innovation × RA) is positive and significant (β = 0.122, p = 0.030), which means that a lenient attitude toward regulation enhances the effect of innovation on return on assets. In contrast, the findings for ROE appears to be less strong: Innovation Capability does not exert a direct effect on ROE (β = 0.103, p = 0.092), and the interaction variable is also non-significant (β = 0.077, p = 0.201), demonstrating that regulatory agility does not meaningfully strengthen the relationship between innovation and equity-based profitability. However, Regulatory Agility makes also a significant independent contribution to ROE (ß = 0.149, p = 0.011), which confirms is its role in creation of shareholder value, irrespective of innovation. On the whole, these results suggest that although agile regulation might amplify the efficiency-enhancing effect of innovation on assets, its effect on equity returns is not equally strong, implying distinct channels through which FDI and regulation influence the performance of banking.

Table 9. Regulatory Agility and Moderating Effect of Regulatory Agility on Innovation Capability and Performance

Path	Beta	Std. Error	t-value	p-value	Decision
Innovation Capability > ROA	0.288	0.063	4.571	0	Sight data
Regulatory Agility > ROA	0.157	0.061	2.574	0.011	Sight data
Innovation × Reg. Agility > ROA	0.122	0.056	2.179	0.03	Sight data
Innovation Capability > ROE	0.103	0.061	1.689	0.092	Not Sight data
Regulatory Agility > ROE	0.149	0.058	2.569	0.011	Sight data
Innovation × Reg. Agility > ROE	0.077	0.06	1.283	0.201	Not Sight data

4.9 Simple slope visualization of moderation

Table 10 provides the simple slopes of the interaction effects, and thus facilitates a visual comprehension of how Regulatory Agility (RA) moderates the strength of the predictor–performance relationships. Results show that the slopes of AI Sentiment are significantly greater in high RA, with ROA raising from 0.143 in low RA to 0.277 in high RA (Δ = 0.134), and ROE rising even more markedly from 0.111 to 0.269 (Δ = 0.158). It means that more flexible regulatory systems can boost the influence of managerial communication sentiment on profitability based on assets and equity. Wide cascade effect is seen in Innovation Capability in relation to ROA, where the slope is made larger from 0.178 at low RA to 0.312 at high RA (Δ = 0.134) which means that profit increase obtained through innovation efficiency is more effectively generated in regulatory adaptive settings. In

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

comparison, the moderation effect on ROE is insignificant (from 0.088 to 0.102, the change in value is △ = 0.014), which is consistent with previous results where the connection between innovation and equity returns is much weaker. The overall findings validate that regulatory agility serves as a performance enhancer, in particular for communication sentiment and innovation in asset utilization, and, in turn, highlight the role of flexible institutional environments in stimulating organizational value generation.

Table 10. Slope Coefficients of Interaction Effects

Interaction Pair	Low Reg. Agility	High Reg. Agility	ΔSlope
AI Sentiment × ROA	0.143	0.277	0.134
AI Sentiment × ROE	0.111	0.269	0.158
Innovation Capability × ROA	0.178	0.312	0.134
Innovation Capability × ROE	0.088	0.102	0.014

4.10 Discussion

The study findings are expected to extend the burgeoning literature on digital transformation and AIdriven corporate communication and innovation strategies in Islamic commercial banking in the ASEAN countries. This strong correlation between AI and financial returns would then align with the sentiment-performance link identified in previous studies (Chen et al., 2022; Loughran & McDonald, 2016). More importantly, by using FinBERT and deriving sentiment from CEO statements and MD&A sections, we identify a positive association between sentiment tone from CEO statements and from MD&A sections and ROA and ROE. This is in line with the proposition that messaging about governance in official communications may influence how stakeholders perceive and investors trust organizations, and in turn, organizational outcomes (Tetlock, 2007). In the specific area of Islamic banking, which emphasizes transparency and ethical communication, the genuineness of leadership talk is equally apparent, as indeed reflected by Al-Aidaros et al. (2020).

It also validates the credibility of the latter's status as a funder of financial success in the present age of innovation. Islamic banks with high R&D intensity and innovation disclosure in Islamic banks with a less non-modelled market (less active) did better than Islamic banks that had more of a traditional market model when it came to R&D intensity and extent of innovation disclosure. This result supports the innovation–performance link proposed by Benitez et al. (2022), especially in service industries where the worth is grounded in intangible innovation of work such as fintech integration and digital product services. Fifth, it must be remembered that innovation in the Islamic banks are constrained as the branches of Islamic laws, that serve as filters on the kinds of, and direction for, innovations, is in existence. However, the results showed that under these condition innovation still played a significant role performance wise and would suggest the progressive Islamic banks under discussion have also been able to mature adaptively.

AI and strategic narratives Yet is there not also a more strategic level at work? FinBERT NLP model provided stable & replicable means to quantify sentiment in 74 Quantitative Finance written sections disclosures. The results show that in sentiment, not only the emotion itself is important, but also the strategic side of the sentiment. Islamic banks that have got an optimistic response from their stakeholders are those that speak with hope and future, evident especially in digital and ESG space." This is in line with the perspective given by stakeholder theory that presence of firm value is created by the process of co-creating stakeholders trust and credible signalling (Freeman et al., 2007; Eccles et al., 2012).

The research has some theoretical implications. They utilize strategic alignment and innovation performance frameworks for Islamic banking, which, for the most part, is an area ignored in mainstream strategic management literatures, first. They are also a reminder of the significant impact of soft signals (sentiment, tone,

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

and narrative coherence) as add-ons to traditional hard financial digits in financial discourse. Third, they integrate regulatory agility as an emerging institutional motivator, thereby providing a platform for discussing whether policy contexts may amplify or attenuate firm-level strategies.

5. Conclusion

The empirical evidence also suggests that such AI sentiment, innovation capability and digital alignment may contribute positively to the financial performance of Islamic banks but the effects are greatly strengthened by regulatory agility and amplified, especially in asset-based indicators. The results point out that while it is true that positive communication tone, innovation-driven approaches and digitally compatible strategies explain more of the variation in returns, all do better if backed by more adaptive and responsive regulatory mechanisms. This highlights the dual role played by internal strategic tools and external institutional factors in terms of profitability and resiliency of Islamic banking. For practitioners and regulators, the findings indicate that sustainable value generation in the Islamic finance industry is not just about investing in digital transformation and innovation, but also the need to have regulatory systems that are flexible enough to allow and support their development. By linking micro-level organization practice to macro-level regulation responsiveness, this study provides actionable recommendations to both policy makers and IFIs to improve their competitiveness and stakeholders′ trust in the dynamic digital financial system.

Limitations

This study is confined to Islamic commercial banks in chosen ASEAN countries, therefore, the generalisability of the results to other region and types of Islamic financial institutions is limited. The reliance on secondary data and the text-based sentiment analysis, although rigorous, may be unable to adequately capture the subtleties of managerial communication or the informal nature of regulatory agility. Future research may test the breadth of the model by including the broader geographical range, other types of performance and longitudinal designs to better capture causality.

Funding Sources

This study did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Acknowledgements

We would like to thank reviewer comments to help improve the manuscript as well as the resolved of the banks who contributed their available reports.

Appendix A. Supplementary Data

Online appendix Supplementary materials related to this article are available on the [journal's] website including coding schemes for sentiment analysis, operationalization of the digital alignment index, and robustness checks

References

Abuzayed, B. (2013). Sport and emerging capital markets: market reaction to the 2022 World Cup announcement. *International Journal of Islamic and Middle Eastern Finance and Management*, *6*(2), 122–141. https://doi.org/10.1108/17538391311329824

Agarwal, J. D., Agarwal, M., Agarwal, A., & Agarwal, Y. (2020). Economics of Cryptocurrencies: Artificial Intelligence, Blockchain, and Digital Currency. In *Information for Efficient Decision Making* (pp. 331–430).

WORLD SCIENTIFIC. https://doi.org/doi:10.1142/9789811220470_0013

Ahinful, G. S., Boakye, J. D., & Osei Bempah, N. D. (2023). Determinants of SMEs′ financial performance: evidence from an emerging economy. *Journal of Small Business & Entrepreneurship*, *35*(3), 362–386. https://doi.org/10.1080/08276331.2021.1885247

Aityassine, F. L. Y., Alzoubi, A., Al-Momani, A. M., Al-shanableh, N., Alajarmeh, N. S., Al-Majali, R. T., Alzyoud, M., Mohammad, A. A. S., Al-Hawary, S. I. S., & Alshurideh, M. T. (2024). *The Relationship Between Leadership Agility and Entrepreneurial Resilience Among Jordanian Small and Medium-Sized Enterprises (SMEs) BT - Business Analytical Capabilities and Artificial Intelligence-enabled Analytics: Applications and Challenges in the Digital Era, Volume 2* (A. M. A. Musleh Al-Sartawi, A. S. Aydiner, & M. Kanan (eds.); pp. 17–31). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-57242-5_2

Al-Omoush, K. S., & Alghusin, N. S. (2024). Intellectual Capital and Social Media Analytics: The Ripple Effect on Competitive Intelligence and Banking Entrepreneurship. *Human Behavior and Emerging Technologies*, *2024*(1), 6754824. https://doi.org/https://doi.org/10.1155/hbe2/6754824

Ali, H., & Aysan, A. F. (2025). Decoding digital signals: AI sentiment and financial performance at islamic banks. *Borsa Istanbul Review*, *25*(5), 953–971. https://doi.org/https://doi.org/10.1016/j.bir.2025.05.011

Arauco Ballesteros, M. A., & Martínez Miranda, E. A. (2025). Stock Market Forecasting Using a Neural Network Through Fundamental Indicators, Technical Indicators and Market Sentiment Analysis. *Computational Economics*, *66*(2), 1715–1745. https://doi.org/10.1007/s10614-024-10711-4

Baffour Gyau, E., Appiah, M., Gyamfi, B. A., Achie, T., & Naeem, M. A. (2024). Transforming banking: Examining the role of AI technology innovation in boosting banks financial performance. *International Review of Financial Analysis*, *96*, 103700. https://doi.org/https://doi.org/10.1016/j.irfa.2024.103700

Barney, J. B. (2018). Why resource-based theory′s model of profit appropriation must incorporate a stakeholder perspective. *Strategic Management Journal*, *39*(13), 3305–3325. https://doi.org/https://doi.org/10.1002/smj.2949

Bergeron, F., Raymond, L., & Rivard, S. (2004). Ideal patterns of strategic alignment and business performance. *Information & Management*, *41*(8), 1003–1020. https://doi.org/https://doi.org/10.1016/j.im.2003.10.004

Felipe, C. M., Leidner, D. E., Roldán, J. L., & Leal-Rodríguez, A. L. (2020). Impact of IS Capabilities on Firm Performance: The Roles of Organizational Agility and Industry Technology Intensity. *Decision Sciences*, *51*(3), 575–619. https://doi.org/https://doi.org/10.1111/deci.12379

Gao, L., Li, G., Tsai, F., Gao, C., Zhu, M., & Qu, X. (2022). The impact of artificial intelligence stimuli on customer engagement and value co-creation: the moderating role of customer ability readiness. *Journal of Research in Interactive Marketing*, *17*(2), 317–333. https://doi.org/10.1108/JRIM-10-2021-0260

Goyal, K., Nanda, S. K., & Agrawal, M. (2025). Psychological Echoes: Exploring Investor Sentiments Across Market Events. *Journal of Economic Surveys*, *n/a*(n/a). https://doi.org/https://doi.org/10.1111/joes.12701

Hidayat-ur-Rehman, I., & Hossain, M. N. (2024). The impacts of Fintech adoption, green finance and competitiveness on banks′ sustainable performance: digital transformation as moderator. *Asia-Pacific Journal of Business Administration*. https://doi.org/10.1108/APJBA-10-2023-0497

Hussain, S., Rehman, S. U., Rehman, K. U., & Khasawneh, M. A. S. (2025). Digital transformation and green finance: the role of financial technology adoption in banking sustainability among Asian online users. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-03-2025-0213

Islam, A., Islam, M. A., Hossain, M. I., Nimfa, D. T., & Tehseen, S. (2025). Paradox of Sustainable Growth: The Interplay Between Small and Medium Enterprises and Non-governmental Organizations and Government

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Helix. *Business Strategy & Development*, *8*(1), e70054. https://doi.org/https://doi.org/10.1002/bsd2.70054

Kateb, I., Nafti, O., & Zeddini, A. (2023). How to improve the financial performance of Islamic banks in the MENA region? A Shariah governance perspective. *International Journal of Emerging Markets*, *20*(6), 2559–2580. https://doi.org/10.1108/IJOEM-03-2023-0434

Kismawadi, E. R. (2024). Islamic fintech: navigating the regulatory framework and promoting financial inclusion in Gulf Cooperation Council (GCC) countries. *Journal of Islamic Marketing*, *16*(6), 1742–1769. https://doi.org/10.1108/JIMA-02-2023-0061

Kuran, T. (2001). The Provision of Public Goods under Islamic Law: Origins, Impact, and Limitations of the Waqf System. *Law & Society Review*, *35*(4), 841–897. https://doi.org/DOI: 10.2307/3185418

Kuran, T. (2018). Islam and economic performance: Historical and contemporary links. *Journal of Economic Literature*, *56*, 1292–1359. https://doi.org/10.1257/jel.20171243

Laskin, A. V, & D′ Agostino, G. (2024). The Delphi Panel investigation of artificial intelligence in investor relations. *Public Relations Review*, *50*(4), 102489. https://doi.org/https://doi.org/10.1016/j.pubrev.2024.102489

Mata, M. N., Moleiro Martins, J., & Inácio, P. L. (2024). Collaborative innovation, strategic agility, & absorptive capacity adoption in SMEs: the moderating effects of customer knowledge management capability. *Journal of Knowledge Management*, *28*(4), 1116–1140. https://doi.org/10.1108/JKM-10-2022-0803

Mohd Haridan, N., Sheikh Hassan, A. F., Mohammed Shah, S., & Mustafa, H. (2023). Financial innovation in Islamic banks: evidence on the interaction between Shariah board and FinTech. *Journal of Islamic Accounting and Business Research*, *14*(6), 911–930. https://doi.org/10.1108/JIABR-11-2022-0305

Robins, J., & Wiersema, M. F. (1995). A resource-based approach to the multibusiness firm: Empirical analysis of portfolio interrelationships and corporate financial performance. *Strategic Management Journal*, *16*(4), 277–299. https://doi.org/https://doi.org/10.1002/smj.4250160403

Shaikh, S., Seedat, F., & Zeb, F. (2021). Roundtable Discussion from the Annual Desmond Tutu Centre for Religion and Social Justice Public Lecture on Economies of Violence. *African Journal of Gender and Religion*, *27*(2), 92–123. https://doi.org/10.36615/ajgr.v27i2.1048

Shehadeh, M., Dawood, H. M., & Hussainey, K. (2024). Digital financial literacy and usage of cashless payments in Jordan: the moderating role of gender. *International Journal of Accounting and Information Management*, *33*(2), 354–382. https://doi.org/10.1108/IJAIM-03-2024-0115

Siswanti, I., Riyadh, H. A., Nawangsari, L. C., Mohd Yusoff, Y., & Wibowo, M. W. (2024). The impact of digital transformation for sustainable business: the meditating role of corporate governance and financial performance. *Cogent Business & Management*, *11*(1), 2316954. https://doi.org/10.1080/23311975.2024.2316954

Taufik Syamlan, Y., Wahyuni, S., Heruwasto, I., & Hamsal, M. (2025). Exploring sharia compliance parameters in marketing to foster innovation and collaboration within Islamic finance. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-04-2024-0172

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, *51*(1), 40–49. https://doi.org/https://doi.org/10.1016/j.lrp.2017.06.007

Uren, V., & Edwards, J. S. (2023). Technology readiness and the organizational journey towards AI adoption: An empirical study. *International Journal of Information Management*, *68*, 102588. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2022.102588

E-ISSN: 3048-1783, P-ISSN: 3062-763X
Jounal International Economic Sharia-JIES, Vol. 1, No. 4, March (2025), Page: 215-229
DOI: https://doi.org/10.69725/jies.v1i4.213

Wiener, M., Strahringer, S., & Kotlarsky, J. (2025). Where are the processes in IS research on digital transformation? A critical literature review and future research directions. *The Journal of Strategic Information Systems*, *34*(2), 101900. https://doi.org/https://doi.org/10.1016/j.jsis.2025.101900

Wu, S. P.-J., Straub, D. W., & Liang, T.-P. (2015). How Information Technology Governance Mechanisms and Strategic Alignment Influence Organizational Performance. *MIS Quarterly*, *39*(2), 497–518. https://www.jstor.org/stable/26628363

Xing, Z. (Adele), & Yi, X. (2024). Mergers and Attributions: An Examination of M&A Terminations in 1996–2022. *Journal of Management Studies*, *n/a*(n/a). https://doi.org/https://doi.org/10.1111/joms.13163