

Bridging Sustainable Bank Performance through Fintech and Enacted Norms

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Abstract

Since the launch of green banking, the Government Authority still needs to accommodate enacted norms and fintech in measuring sustainable bank performance. Empirically, this study aims to reveal the impact of variables and business drivers on sustainable bank performance. This research uses a quantitative approach through path analysis. By analysing 70 out of 78 bank managers or directors who are members of the National Banking Association as respondents, this study states that business drivers, fintech, and enacted norms encourage sustainable bank performance improvement. In addition, fintech and enacted norms are suitable as moderating and exogenous variables for sustainable bank performance, but the variables are not endogenous variables for business drivers. The originality of this research is that enacted norms and fintech are the moderating variables in realising bank sustainability. The research suggests that enacted norms should be one of the new dimensions in measuring bank sustainability, and the existence of fintech could be an integral part of realising sustainable bank performance.

Keywords:

Business Drivers;
Fintech;
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Sustainable Bank Performance.

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1- Introduction

At least for decades, the diction of "sustainability" has been discussed in various forums, including the meaning of the word, its dimensions, measurements, benefits, and the impact of sustainability on life. Sustainability is the ability to sustain, which consists of the three bottom lines: profit, people, and planet [1]. There are many discussions regarding the dimensions, benefits, and impacts. On the other hand, there are many broad discussions regarding the impact of fintech and business drivers on a bank's performance. However, the enacted norms for sustainable bank performance still need to be a dimension for achieving sustainable performance.

The enacted norms regarding sustainable bank performance have yet to be measured. Whereas the environment, as a dimension of sustainability development, positively impacts bank stability [2]. The suspicion that arises is that there are no specific regulations that force banks to accommodate the bottom line. In more detail, stability includes financial stability as a moderating variable in banking regulations for sustainable bank performance [3]. Who plays a role in realising sustainable bank performance? Khairunnesaa et al. (2021) stated that the Central Bank plays a central role in the green financial system by implementing various green policies and their sizes as outlined in regulations [4]. The facts show that the authority still needs regulations to measure whether a bank has implemented a green banking policy.

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Sustainability in business and in banking, which became known as Environmental, Social, and Governance (ESG), is a popular topic among researchers and business and banking practitioners [5]. The ESG is snowballing in its discussion [6]. Even so, the reputational risk of low ESG implementation has better financial performance [7]. The social debate about ESG and the role of banks in progress towards bank sustainability is urgent. Policymakers and regulators are enriching it by realising the goals of a sustainable economic system [6]. Then, regulations for bank soundness, quality management, and monitoring become more critical to increasing bank productivity, and stricter regulations positively impact efficiency [8]. Furthermore, ESG regulations are essential and demand that global regulations play a more concrete role in developing standards aligned with ESG, especially regarding environmental sustainability [9].

Next, the environmental factor contributes positively to sustainable bank performance, not only from the regulatory side but also from the bank. Nevertheless, Nosratabadi et al. (2020) argued that no framework exists for evaluating a sustainable bank business model [10]. Furthermore, da Silva Inácio and Delai (2022) elaborated that the banking sector has a fundamental role in promoting sustainable development, but there still needs to be a consensus on what banking sustainability means [11]. Although there is no sustainable bank business model or consensus, Subanidja et al. (2022) offered a causal relationship model between antecedents, moderating, and intervening variables on sustainable bank performance [12]. The variables are business drivers, fintech, and regulations as antecedents of sustainable bank performance. This research reveals the conceptual model empirically by elevating regulation to become an enacted norm, fintech, and business drivers on performance. The originality of this research is the offer of enacted norms and fintech dimensions as moderating, intervening, and exogenous variables in triggering and realising sustainable banking.

Moreover, the urgency of this research is that realising sustainable bank performance through enacted norms and fintech is valuable as a booster for sustainable performance. Moreover, this research's originality is the presence of enacted norms as an exogenous, moderating, and intervening variable for sustainable bank performance. Based on the research framework of Subanidja et al. (2022), this study empirically analyses the model regarding the validity, reliability, position, and impact of business drivers, fintech, and enacted norms on sustainable bank performance [12]. The research will be a driving force for the implementation of green banking.

2- Literature Review

Many sustainable dictionaries in business relate to bank business operations, such as financial inclusion, financial literacy, and energy efficiency, and banks focus more on the corporate social responsibility dimension than how a bank tries to manage an environment and build green products and services [13]. Concerning the concept of sustainability, although not linked explicitly to sustainable bank performance, Xu et al. (2021) and Liu et al. (2021) stated that corporate social responsibility and fintech are drivers or exogenous variables for financial performance. Nevertheless, fintech was also a moderating variable for performance [14, 15]. Furthermore, Al-Dmor et al. (2021) revealed that knowledge management was an exogenous variable for bank performance and fintech was a moderating variable [16]. Legowo et al. (2020) outlined that fintech in banks can encourage positive results for sustainable bank performance [17]. Nevertheless, Meiling et al. (2021) expressly suspected a link between fintech and sustainable bank performance improvement and financial performance improvement [18].

During the COVID-19 pandemic, technological innovation in the banking and financial sectors was able to bridge consumer constraints in transactions. Even the Indonesian Government's banks, several Rural Credit Banks, and Sharia-based banks grew positively in online transactions. The increase in online transactions increased bank fee-based income, as Haseeb et al. (2019) stated that industry 4.0 and social and technological changes can improve sustainable bank performance [19]. However, what are the factors that can affect sustainable bank performance? Subanidja et al. (2022) argued that there are many antecedents of bank performance, including the fintech variable, and offer regulation as an intervening variable and moderating business drivers for sustainable bank performance [12]. Likewise, fintech is an intervening and moderating variable for the influence of business drivers on sustainable bank performance. Then, Nicolăescu et al. (2015) outlined that business patterns correlate with sustainable development [20]. Moreover, Haseeb et al. (2019) stated that big data, the internet, and intelligent business are crucial to achieving sustainable performance [21]. Specifically, Fernando et al. (2019) stated that (1) eco-innovations, (2) service innovation, (3) value creation, and (4) barriers to new entry can drive sustainable business performance [5]. Specifically concerning social change and technology, Haseeb et al. (2019) also stated that social and technological challenges are dominant factors in driving sustainable business performance [22].

Next, concerning the role of government, Birkin et al. (2009) argued that in achieving sustainable business performance, collaboration with the government through regulations is a necessity [23]. Other factors affect sustainable business performance, such as local wisdom [24], local knowledge, capabilities, and competence for innovation [25], corporate social responsibility [26], and the creativity of business patterns, ideas, business execution, talents, and funding opportunities [27]. Furthermore, Khoo & Tan (2002) generally stated that business frameworks help systematically drive sustainable business performance [28].

Moreover, fintech, business models, and the use of technology encouraged financial performance [29] through digitalisation [29-32], the use of fintech platforms [33], and the utilisation of information technology [34]. However, sometimes the existence of fintech outside the banking sector is felt to interfere with the bank itself [32]. On the other hand, the existence of fintech encourages banks to collaborate with fintech to get several benefits [35]. Furthermore, information technology is the driving force for business sectors [36], and fintech, in particular, is tacit and explicit knowledge to boost firm performance globally [37]. Finally, business drivers and healthy financial indicators are indicators of good business operations [38].

In addition, regarding business drivers, Avkiran (1997) stated that business drivers, as exogenous variables, can predict business performance [39]. Then, Yenyurt et al. (2019) argued that business drivers consist of technology, innovation, and capability resources [40]. Tura et al. (2019) generally elaborated that the economic, social, political, and corporate environments are business drivers [41]. Furthermore, Pucihar et al. (2019) mentioned that innovation and environment are also business drivers [42], and regulation and external business drivers are the keys to achieving sustainable business performance and regulation. Therefore, many dimensions of business drivers impact sustainable performance, consisting of external and internal environments.

What is the condition of sustainable bank performance in Indonesia? There is a programme in the Indonesian banking industry regarding sustainability in banking performance, namely green banking. However, there are no enacted norms, and fintech as a sustainable bank performance measurement. Concerning green banking and lending activities by banks, Safitri et al. (2019) stated that only a few conventional and Sharia banks care about environmental issues in bank loan requirements. However, there are no banks' names and numbers in their research.

Further research stated that only six banks—BCA., BRI., BNI 46, Mandiri Bank for conventional banks, and BSI. Bank for Islamic banks—implemented loan requirements relating to environmental issues [44, 45]. However, in terms of implementation, green banking still needs to be clarified, and the rules still need to be rigged. The rules and the implementation are (1) administrative patterns, (2) associative patterns, (3) incentive patterns, and (4) evaluative patterns, and provisions in the laws and regulations that explicitly regulate the obligations of a bank, including environmental management and protection [44].

Based on the arguments that so many antecedents affect the performance of sustainable banks, this research follows up on the research conducted by Subanidja et al. (2022) by empirically testing 78 (seventy-eight) members of banks of the Association of National Banks. Figure 1 is the research framework [12]. In Figure 1, business drivers represent various types of antecedents. Meanwhile, enacted norms describe, more specifically, the regulations.

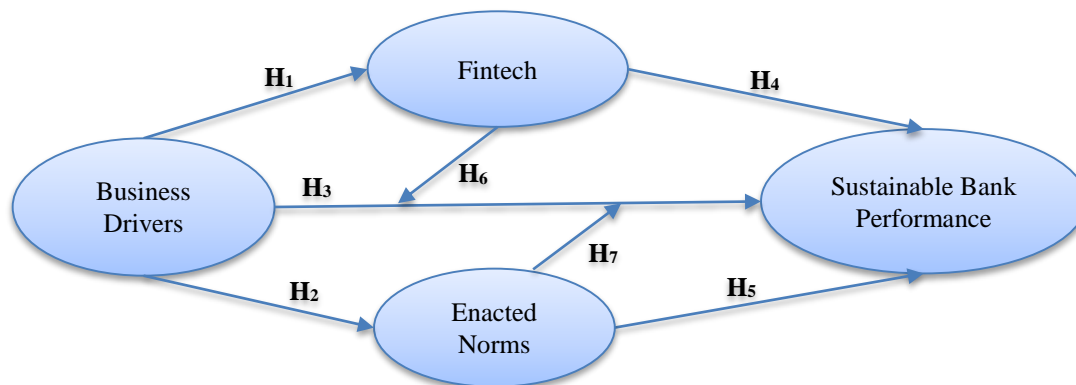


Figure 1. Research framework

Based on the figure 1, this research shows causality relationships through seven hypotheses:

- H1.** Business drivers have a positive and significant effect on fintech;
- H2.** Business drivers have a positive and significant effect on enacted norms;
- H3.** Business drivers have a positive and significant effect on sustainable bank performance;
- H4.** Fintech has a positive and significant on sustainable bank performance;
- H5.** Enacted norms have a positive and significant effect on sustainable bank performance;
- H6.** Fintech strengthens the effect of business drivers on sustainable bank performance;
- H7.** Enacted strengthens the effect of business drivers on sustainable bank performance.

3- Research Methodology

This research is a quantitative study, with the unit of analysis being individuals as managers or directors at a bank member of the Association of National Banks in Indonesia. There are 78 (seventy-eight) banks of the association for population research. The sample for this research is one manager or director of each bank. Data collection uses a questionnaire that contains questions related to four variables: business drivers, fintech, enacted norms, and sustainable bank performance. The five dimensions represent the business driver variable; five represent the fintech variable; seven describe the enacted norms variable; and five describe the sustainable bank performance variable. The distribution of the questionnaires uses the email addresses of the bank's head office. One manager or bank director who knows comprehensively and competently about the four variables responds to the questionnaire. The questionnaire contains questions about the respondent's profile and the dimensions of each variable. Respondents' answers to the dimension questions on a Likert scale with five choices from strongly disagree to agree strongly. The association secretariat helped distribute the questionnaires to the bank's head offices.

Then, the respondent answers the questions in the questionnaire and sends the answer via the Google Documents application. The data analysis process in this study consists of four stages: preparation, descriptive analysis, data quality testing, and hypothesis testing. In the first stage, only respondents who answered all the questions became research data. At the stage of descriptive analysis, this research describes the respondent's profile. Using path analysis with Smart-PLS software methods to analyse the quality of data, use reliability and validity tests. Partial Least Square (PLS) is a variant based on structural equation analysis that can simultaneously test the measurement and structural models. The measurement model uses a test of validity and reliability. At the same time, at the last stage, the structural model uses a causality test. The validity test uses loading factors and average variance extracted (AVE), and the reliability test uses Chronbach's alpha and composite reliability. In addition, the causality test uses a determination coefficient.

4- Results and Discussion

The results of this study illustrate that in the distribution of 78 respondents, two respondents answered the questionnaire incompletely. Therefore, there are 70 managers or directors as respondents who are eligible to proceed with the research data. Regarding the profile of the respondents, the study reveals that there are 52 managers and 18 directors; 61 manager and director respondents worked for more than ten years at their bank; 56 respondents have a master's degree level education; 70 respondents have competency certifications in their respective fields; and all respondents have a risk management certification at various levels.

The quality of the data is a requirement for further analysis. Validity and reliability tests show that the data is qualified. Figure 2 shows the convergent validity test using loading factors.

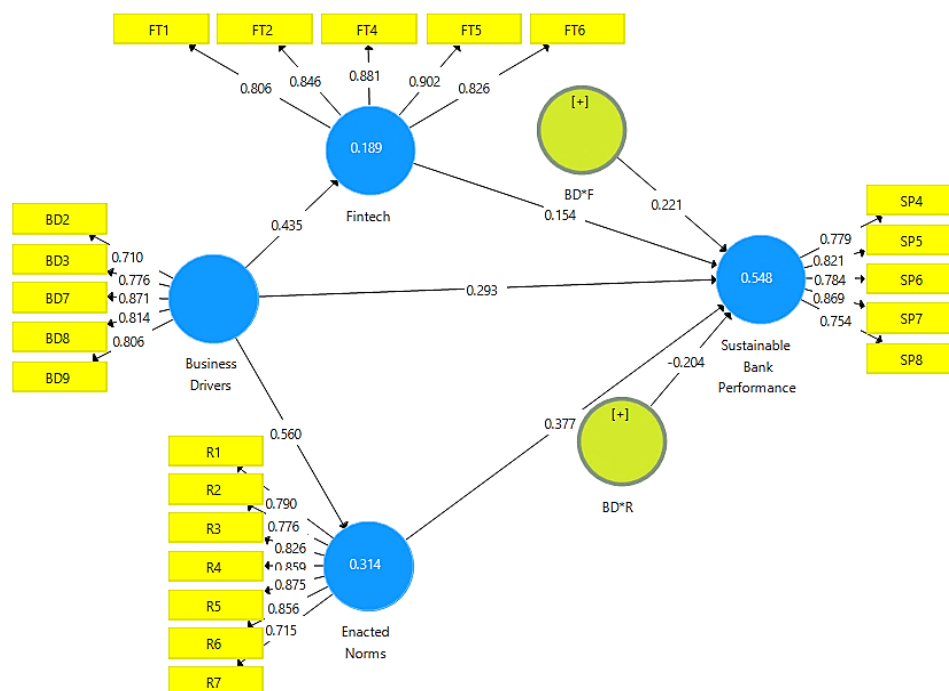


Figure 2. Loading Factors of Convergent Validity Test

Figure 2 shows that all loading factors in each dimension are higher than 0.7. The lowest loading factor is 0.710 for business drivers, 0.715 for enacted norms, 0.806 for fintech, and 0.754 for sustainable bank performance. The convergent validity test is seen from the loading factor value and uses the Average Variance Extracted (AVE) value, which is a cut-off at or higher than 0.5. Table 1 illustrates the result of the convergent validity test as seen from the AVE value.

Table 1. Convergent Validity Test

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
BD*F	1.000	1.000	1.000	1.000
BD*R	1.000	1.000	1.000	1.000
Business Drivers	0.855	0.864	0.897	0.635
Enacted Norms	0.915	0.918	0.933	0.665
Fintech	0.906	0.913	0.930	0.728
Sustainable Bank Performance	0.862	0.867	0.900	0.644

Table 1 shows that all values of the average variance extracted are higher than 0.5; therefore, the data from 70 respondents is valid. Furthermore, the reliability test is a test to determine the quality of data using the values of Cronbach's alpha and composite reliability. Table 1 shows that the value of Cronbach Alpha and composite reliability is more than 0.60 as a cut-off, so the data is reliable.

In order to test the feasibility of the research model, the coefficient of determination can describe the feasibility level of the model. This test uses the value of R Square (R^2). The value of the coefficient of determination is between 0 and 1. Furthermore, the small R^2 value means that the ability of the exogenous variables to explain the variation in the endogenous variable is minimal. The values of R^2 close to 1 mean that the exogenous variables provide almost all the information that can predict the endogenous variation.

The result of the coefficient test shows that the R square value is 0.548. Therefore, the exogenous variables, business drivers, enacted norms, and fintech explain the endogenous variable, sustainable bank performance, while the rest, 45.2% of other variables, explain the performance.

Hypothesis testing uses the probability value and the t-statistic. The p-value with an alpha level of 5% is less than 0.05 for probability values. Then, the t-table value for alpha 5% is 1.96, so the criterion for accepting the hypothesis is when the t-statistic is more significant than the t-table.

Table 2. The Probability Testing

Variable	T Statistics (O/STDEV)	P Values
Business Drivers → Enacted Norms	11.826	0.063
Business Drivers → Fintech	7.228	0.072
Business Drivers → Sustainable Bank Performance	4.068	0.000
Enacted Norms → Sustainable Bank Performance	5.561	0.000
Fintech → Sustainable Bank Performance	2.342	0.020
Business Drivers → Fintech → Sustainable Bank Performance	2.525	0.012
Business Drivers → Enacted Norms → Sustainable Bank Performance	3.081	0.002

Table 2 informs the p-values of the three exogenous variables on the endogenous variable—the effect of business drivers on enacted norms, fintech, and sustainable bank performance shows three empirical results. First, the p-value of the business drivers on enacted norms is higher than 0.05, and the t-table value is > 1.96 , so the business drivers have no effect on enacted norms. Second, the p-value of the business driver variable in fintech is more than 0.05. This p-value is 0.072, which is higher than 0.05, although the t-table value is > 1.96 , so the business drivers significantly affect fintech. Third, the p-value of the business drivers is less than 0.05. This value is smaller than 0.05, and the t-table value is > 1.96 , so business drivers significantly affect sustainable bank performance.

The effect of enacted norms and fintech on sustainable bank performance shows that, first, the p-value of enacted is less than 0.05 and the t-table value is > 1.96 , so enacted norms have a significant effect on Sustainable Bank Performance. Second, the p-value of the fintech variable is 0.020. This value is less than 0.05, and the t-table value is > 1.96 , so fintech significantly affects sustainable bank performance.

Furthermore, the effect of business drivers on sustainable bank performance through fintech elaborates that the p-value is 0.012. This value is less than 0.05, and the t-table value is > 1.96 , so fintech strengthens and significantly affects the relationship between business drivers and sustainable bank performance. In addition, the p-value of the business driver variable through enacted norms is 0.002. This value is less than 0.05, and the t-table value is > 1.96 , so enacted norms strengthen and significantly affect the relationship between business drivers and sustainable bank performance.

The analysis results also show several research findings that can inspire further research. The research model illustrates that three exogenous variables affect the endogenous variable. The results of this study indicate that business

drivers, fintech, and enacted norms have a positive and significant impact on the performance of sustainable banks. However, two of the three variables are not endogenous to the business driver variable. In comparison, Subanidja et al. (2022) stated that business drivers are an exogenous variable for fintech, enacted norms, and sustainable bank performance [35].

Then, this study found that fintech is an eligible exogenous and moderating variable for sustainable bank performance. However, the fintech variable is not an endogenous variable for business drivers. Furthermore, this study underlines that fintech strengthens the influence of business drivers on sustainable bank performance. These findings are consistent in that fintech is a driver or an exogenous variable for financial performance and a moderating variable for sustainable performance [14–17]. Specifically, this research result shows that fintech affects performance, and fintech strengthens the impact of business drivers on sustainable bank performance.

Next, concerning enacted norms, this variable is also an exogenous variable for sustainable bank performance and a moderating variable for business drivers, but not an endogenous variable for business drivers. The result elaborates that enacted norms positively and significantly affect sustainable bank performance. These enacted norms are written and enforced for all banks to support and care for the environment. Thus, the banking sector must enforce the norms regarding what is allowed and what is not, what is good and not, and what is right and wrong to support, maintain, and develop the triple bottom line: people, profit, and planet. This result is in line with the fact that green banking needs to develop through specific regulations regarding environmental management and protection [44]. Moreover, Pucihar et al. (2019) revealed that environment protection is a business driver [42], and regulation and external business drivers are the keys to achieving sustainable business performance [43].

From fintech and enacted norms variables, the enacted norms have a more substantial role than fintech in encouraging sustainable bank performance improvement. However, this research needs to reach respondents' arguments as to why enacted norms have a more substantial role in improving the performance of sustainable banks. Even so, most banks still focus on achieving profit, followed by human development, and finally, concern for the environment. This result reinforces research findings that the banking sector must accommodate specific regulations regarding environment protection and sustainability [44], and enacted norms as a form of regulation are crucial in achieving bank performance sustainability [43].

Enacted norms are standard work guidelines for employees and organisational leaders in their daily activities. This research also underlines that employees in the banking sector need to understand and care for their environment better. These employees and leaders better understand corporate social responsibility and conventional daily activities. From the customer's perspective, this research also reveals that bank employee norms are more prominent than the values of achieving bank profits and participating in social activities. So far, the norms applied regarding the concept of bank sustainability have not been regulated or have not become a benchmark for sustainable bank performance.

5- Conclusion

This research concludes that business drivers positively and significantly affect sustainable bank performance. The organisation's internal environment significantly contributes to sustainable bank performance. However, the macro environment, namely regulations, still needs to support sustainable bank performance. Business drivers have no significant positive correlation with the existence of fintech. Nevertheless, fintech strengthens the influence of business drivers on sustainable bank performance.

Furthermore, fintech has a significant positive effect on sustainable bank performance. The position of the fintech variable in this study is more appropriate as a moderating variable than as an intervening variable. On the other hand, fintech can be an exogenous variable for sustainable bank performance.

Then, enacted norms in the framework of this research are intervening and moderating variables on sustainable bank performance. The research results show that business drivers are not exogenous variables for the enacted norm variable. However, enacted norms are exogenous and moderating variables for sustainable bank performance. These enacted norms have a dominant influence on achieving sustainable bank performance. Furthermore, the enacted norms variable also strengthens the influence of business drivers on sustainable bank performance. Thus, business-driving variables, namely fintech and enacted norms, can be exogenous variables for sustainable bank performance. In contrast, fintech and enacted norms can be exogenous and moderating variables for sustainable bank performance, but not as intervening variables between business drivers and sustainable bank performance.

Next, this research suggests that enacted norms are essential to achieving sustainable performance. The norms are a crucial and inseparable part of assessing sustainable bank performance. Finally, this study recommends that fintech in the banking sector must become a part of banking operations for measuring sustainable bank performance, and enacted norms need to be part of measurement for sustainable bank performance immediately. Enacted norms for sustainable bank performance are much more workable than the government's call to implement and run green banking.

6- Declarations

6-1-Author Contributions

Conceptualisation, S.S.; methodology, F.A.S. and M.B.L.; formal analysis, M.B.L.; writing—original draft preparation, F.A.S.; writing—review and editing, S.S., F.A.S., and M.B.L.; supervision, S.S. All authors have read and agreed to the published version of the manuscript.

6-2-Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6-3-Funding

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6-5-Institutional Review Board Statement

Not applicable.

6-6-Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

6-7-Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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