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Leveraging Financial Technology Entity into Sustainable Bank Performance through a Competitive Advantage

Steph Subanidja [1], Fangky Antoneus Sorongan [2*], Mercurius Broto Legowo [3]

[1] *Postgraduate School, Perbanas Institute, Jakarta, Indonesia.*

[2] *Faculty of Economics and Business, Perbanas Institute, Jakarta, Indonesia.*

[3] *Faculty of Information Technology, Perbanas Institute, Jakarta, Indonesia.*

Abstract

The study investigates the existence of a fintech entity that effect sustainable bank performance through competitive advantage and introduces a new fintech entity as an antecedent of competitive advantage and performance. Analysis of the causes of disturbance of the performance uses quantitative and qualitative approaches. The study uses 59 questionnaires returned from all 70 bank financial managers as a National Commercial Bank Association member. Five informants were selected from the Central Bank of Indonesia, the Financial Services Authority, the Indonesian Fintech Association, a bank business player, and the Commercial Bank Association Management. Using Partial Least Square, the results show that the fintech entity can drive sustainable bank performance, directly and indirectly, through competitive advantage. The existence of fintech is a dominant factor for achieving performance. From the informants, the results show that collaboration with a fintech entity is necessary and initially, the banks in running a business based on a perspective of experience. Moreover, Informants predicted that fintech and competitive conditions would significantly influence performance in the present and the future. Then, the implication is that fintech cannot be avoided but must be embraced as bank cooperation partners to sustain the performance.

Keywords:

Financial Technology;
Fintech;
Competitive Advantage;
Sustainable Bank Performance.

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1- Introduction

In 2021, the number of commercial banks in Indonesia will be 115 banks. Seventy of the banks (60.87%), as a National Commercial Bank Association member, are banks in the second category. Preliminary research at the Association informed that the existence of fintech entities is still understood from two perspectives: opportunities and threats. Some banks are worried about the existence of fintech, so the banks are worried that it will disrupt the bank's performance. Others welcome the existence of fintech entities. On the other hand, the level of competition among the banks is high enough. The question then arises, how is the sustainability of the bank's performance, if the bank's perception of the presence of fintech is divided into opportunities or threats, and the competition among the banks is relatively high? Due to the majority of the number of banks being commercial banks at level 2, the conditions of intense competition, and different perspectives on the existence of fintech entities, this research is urgent to answer the sustainability problem of the bank.

Study results of company performance are still an unfinished discussion [1]. Subanidja et al. (2020) mentioned that many variables influence firm performance [2]. Furthermore, Subanidja & Hadiwidjojo (2017) informed that quantitative

* **CONTACT**: f.sorongan@perbanas.id

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and qualitative approaches elaborated a method to determine the achievement of the performance [3]. Gap phenomenon occurs, through which variables, so that banks can obtain performance targets and are sustainable in the new era of Covid-19 Pandemic. The "normal new era" due to the Covid-19 pandemic has forced people to use internet-based technology to meet their needs, including banking transactions. The fintech entity manages purchases of products and services that banks initially handled during the pandemic. This condition forces banks to take advantage of banking technology in serving customers. Thus, it does not lie that the presence of fintech entities is predicted to affect the sustainability of bank performance. What is the attitude of banks in understanding the presence of fintech entities and the competition? The study elaborates three variables: fintech entity, competition, and sustainable bank performance, due to the existence of the fintech.

For facing the "new normal era", competition continues not only among the banks themselves but also competes with the existence of fintech. Next, Handfield et al. (2002) suggested that competition conditions change very rapidly [4]. Hansen and Wernerfelt (1989) found that technology, environmental, and human could indirectly influence organisational performance [5]. Hence, advances in technology are critical. Using a competitive advantage strategy, the organisation can maintain the competition against competitors [6]. However, Ferdinand (2003) mentioned that a sustained competitive advantage is more valuable than a competitive advantage, and a sustainable competitive advantage is appropriate for an organisation [7]. Furthermore, Porter (2008) emphasised that a generic strategy can achieve a competitive advantage: cost leadership, differentiation, and focus. Then, it will build a higher and sustainable performance [6]. Zahay and Griffin (2010) supported that the generic strategies are still essential to improving company performance [8].

Santos and Brito (2012) revealed that the firm's performance could be measured using quantitative and qualitative approaches [9]. On the Balanced Scorecard perspectives, Kaplan and Norton (1992) suggested measuring a company's performance through financial, customer, internal business, and learning and growth perspectives [10]. Although there is tight competition, financial performance still increases gradually. Karimi and Rafiee (2014) revealed that achievement in competitive advantage would affect organisational performance [11]. The question is, to what extent does the level of competitive advantage affect organisational performance? Navaretti et al. (2018) answered that banks should not try to drive fintech out of the business landscape but instead find out what aspects the banks should develop internally and what aspects the banks partner with fintech [12]. From the three variables: fintech, competitive advantage, and sustainable performance, the study aims to reveal whether fintech can be an antecedent of competitive advantage for the banks and whether fintech can drive sustainable bank performance. The study confirms the position of fintech entities to sustainable bank performance and how should banks respond to the existence of fintech.

2- Literature Review

2-1- Financial Technology

Many definitions of "fintech" are found, and it is still understood in various ways in several business areas and confusing to most people [13]. However, there are two terminologies: fintech as technology innovation inside a company and fintech as a different entity outside the company. The first terminology is that construct of fintech is a combination of "finance" and "information technology" [14, 15]. Moreover, Erosa (2017) and Wulan (2017) mentioned that fintech is related to e-commerce systems and money flow. The financial industry has long used much technology that is often called fintech [16, 17]. Fintech is a feature of businesses that grow financial products and services by relying more on information technology [18], and technology is the basis for innovative financial performance strategies [14]. Moreover, fintech services rely on information technology to develop financial products and services [18].

The second terminology is that fintech is outside a company and the fintech entity seems to disturb the banking sector [19]. However, when banking collaborates with fintech, the banking sector will take some advantages, and collaboration is necessary [2]. It means that the fintech is an outside entity of the bank. The study uses the second terminology due to the preliminary research that the fintech is another bank entity. Dehning and Stratopoulos (2003) stated that information technology's managerial skills are positively related to sustainable business performance but not sustainable competitiveness [20]. Moreover, Haseeb et al. (2019) explained that technological challenges significantly improve competitive advantage and sustainable organisational performance. Fintech is not the same as information technology, and the fintech and banks are different entities [21].

2-2- Competitive Advantage

There are several definitions regarding a competitive advantage. Porter (2008) mentioned that competitive advantage is the soul and spirit of company performance in a competitive market [6]. Moreover, there are three questions about competitive advantage: having low costs, differentiation advantage, or a successful focus strategy company strategy. Peteraf (1993) defined that competitive advantage as "sustained above-normal returns." [23]. Barney (1991) stated that competitive advantages occur when an industry or market implementation creates economic value [24]. Using Porter's concept of competitive advantage on performance, Banker et al. (2014) clarified that a cost leadership or a differentiation strategy is critical for achieving superior performance as a part of competitive advantage [25]. Parnell (2011) assumed that a company might achieve superior efficiency by creating cost leadership, differentiation, or focus strategy [26]. Moreover, Banker, Mashruwala, and Tripathy (2014) explained that cost leadership strategy is about a strategy of low costs and the best value, and differentiation strategy is an essential factor to create a product or service that will differ from competitors [25]. Then, focus strategy means that the company chooses specific products or small market segments. Parnell (2011) stated that competitive advantage dimensions: valuable, rare, imitable, and organisation are consequent antecedent variables [26]. Tan and Sousa (2015) informed that competitive advantage has an essential mediating role in the relationship between marketing capabilities and export performance [27].

2-3- Sustainable Bank Performance

There are many antecedents of a firm's performance [3]. Furthermore, Daneshvar and Ramesh (2012) mentioned that company performance is a picture of its success in turning resources into output [28]. Aras et al. (2010) measured company performance based on financial performance [29]. It indicates through return on assets and equity and performance measurements based on shareholder perspectives [30]. Al-Tamimi (2010) measured bank performance by return on assets and equity [31]. Nevertheless, Hahn and Powers (2010) mentioned that the performance was only measured using a return on assets [32]. Furthermore, Karim et al. (2011) explained that the performance could reflect turnover of fixed assets, return on investment, return on equity, net profit and operating profit, return on capital investment, and earnings per share [33]. However, Subanidja et al. (2016) argued that the effect of earnings management on company performance is only temporary, and not only for financial aspects but for all strategic aspects [34].

For a long time, the bank's performance in the Indonesian banking sector has been measured using capital adequacy, management, asset quality earnings, sensitivity, and liquidity dimensions. All of these dimensions are known as CAMELS [35]. However, most banks tended to use a balanced scorecard to measure their performance [36]. In comparison, Lu et al. (2018) elaborated that a sustainability balanced scorecard: learning and growth, internal business process, customer, and financial perspectives, a circle of the stages, can establish sustainable performance [37]. Aly and Mansour (2017) also argued that the scorecard model is suitable for evaluating sustainable performance [38].

2-4- Relationships between Variables

Dehning and Stratopoulos (2003) stated that managerial information technology skills positively relate to sustainable business performance, but not for information technology regarding sustainable competition [20]. Moreover, Haseeb et al. (2019) elaborated that social and technological challenges played significant roles in boosting sustainable competitive advantage and sustainable business performance [22]. Thus, fintech as a technological innovation affects the achievement of a company's performance. Mitrega (2012) found that the quality of customer relationships empirically is a mediating factor in the influence of network partners' knowledge and the quality of internal relationships on company performance [39]. Legowo et al. (2020) stated that fintech in the banking and financial sectors significantly impacts sustainable performance in the specific term [40]. Oly et al. (2009) suggested that fintech suppliers influence the relationship between market orientation and organisational performance in a mediating way [41]. Aras et al. (2010), and Teeratansirikool et al. (2013), examined the linkage between competitive strategy and company performance, and competitive advantage is an antecedent of sustainable performance [29, 43].

Anwar (2018) mentioned that the business model's innovation is an antecedent of firm performance, and competitive advantage, as a mediating variable, significantly affects the performance [44]. Nevertheless, Singh et al. (2018) stated that competitive advantage has a high effect on supply chain management practices, but it less understanding of matching the supply chain and the competitive advantage with company performance [45]. Cantele and Zardini (2018) elaborated that competitive advantage positively affects financial performance as a second-stage mediator [46]. In comparison, Khan et al. (2019) mentioned that competitive advantage's sustainability fully mediated the relationship between financial capability and financial performance and corporate social responsibility and performance [47]. In contrast, competitive advantage partially mediates the relationship between intellectual capital and performance. The generic strategy: cost leadership and differentiation affect positively competitive advantage and company performance [2].

Interviews with five informants: a bank director, a bank manager at the Central Bank, experts at the Financial Services Authority, the Indonesian FinTech Association, and the management of the Nasional Banks Association, illustrated that sustainable performance results from many factors and the existence of fintech entity are seen as a significant factor in achieving sustainable performance. Meanwhile, competitive advantage is understood differently. Competitive advantage can be the cause of sustainable performance and result from the technology applied by the bank. Then, the choice of cooperation with fintech entities is a necessity for banks in serving the customers. Several studies have mentioned the relationship between fintech, competitive advantage and company performance and fintech and competitive advantage as an antecedent of sustainable performance. Figure 1 shows the relationship as the research framework, and the framework uses fintech as a different bank entity.

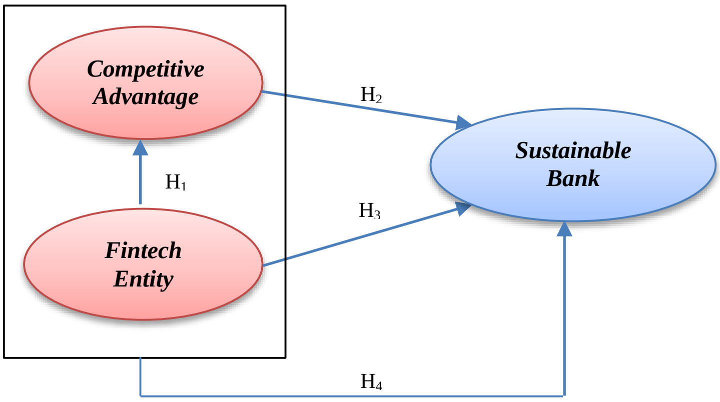

Figure 1. **Research Framework**

2-5- Development of Research Questions

Figure 1 states four hypotheses;

H1: Fintech affect a competitive advantage for banks.

H2: Fintech can be driving for sustainable bank performance.

H3: Competitive advantage can encourage sustainable bank performance.

H4: Fintech and competitive advantage affect sustainable bank performance.

Based on the hypotheses, the study investigates the effect of fintech on sustainable bank performance directly and indirectly through competitive advantage.

3- Research Methodology

The method of the study is mixed: qualitative and quantitative approaches. The qualitative approach uses interviews with five informants: (1) the Central Bank of Indonesia (BI) and (2) the Financial Services Authority (OJK) that have the authority to handle banks and financial institutions, (3) the Indonesian Fintech Association (APTECH), which handle fintech, (4) the most significant commercial bank business player selected in terms of asset, and (5) the Management of the Bank Association (Perbanas) that have an authority to manage the Association. The interview's results are for building and confirming the relationship between fintech entity, competitive advantage, and sustainable performance and for supporting or arguing the quantitative approach results. The quantitative method uses a causality approach among the three variables. There are 59 banks, with a certain criterium, of 70 commercial bank financial managers in the business activity level II in the central Jakarta offices. For collecting data, the study uses a closed questionnaire distributed by e-mail. The criterium is that the banks use a balanced scorecard to measure the performance, and the banks directly or indirectly collaborate with fintech entities.

In order to measure the variables, dimensions of a business driver, customer benefits, business partners represent a fintech entity and dimensions of cost leadership, focus, and differentiation explain competitive advantage. Meanwhile, the four perspectives in the balanced scorecard explain sustainable performance. Data analysing using smart-PLS. First of the analysis are the inner and outer test models to test the relationship between the three latent variables and the latent to the several manifest variables. The inner test uses the "R^2 and Q^2". The study uses several criteriums mentioned by Chin (1998) [48]. The R^2 of 0.67 was categorised as a high level, 0.33 as a medium level, and 0.19 as a weak relationship level. The second is an estimation of model parameters to test p-value and Q^2. The statistic test of p-value is less than 0.05, indicating that the indicator measures latent variables. The Q^2 measures how well the model and the estimated parameters produce observed values. The Q^2 is more than zero indicates that the model has predictive relevance, and less or equal zero indicates that the model has less predictive relevance. Furthermore, the outer test describes the relationship between the manifest and each latent variable which use validity, reliability, and Cronbach-Alpha value. The validity and reliability tests are to measure the latent variables and indicators in the dimensions. Whereas the Cronbach-Alpha value determines each dimension's reliability, and the cut-off value is 0.7.

Third, find a structural-model-equations based on a path diagram that shows the relationship among variables. Finally, the study mentions the hypothesis testing, then the results and discussion refer to the previous research and based on the informants' opinions.

4- Results

4-1- Test of an Inner and Outer Model

Table 1 indicates that, as the endogenous variable, the R^2 is 0.538. It means that the number is categorised in medium criteria. Besides, all Q^2 is positive. So, the research model follows the criteria, and the model is fit.

Table 1. Test of inner and outer model

Variable	Composite reliability	Cronbach's alpha	R square	Q square
Financial technology	0.922	0.902		0.595
Competitive advantage	0.900	0.875		0.477
Sustainable bank performance	0.916	0.894	0.538	0.542

Table 1 shows that the Composite Reliability value and Cronbach's Alpha are more than 0.70. Hence, the model is valid, and all variables are reliable. Table 2 shows the estimated measurement for the conceptual model.

Table 2. Estimated measurement model parameters

Variable-dimension	Indicator-dimension	Loading factor	p-value	t-value
Fintech -> Customer benefit		0.898	0.027	33.594
	X_{11} <-A customer benefit	0.710	0.041	17.211
	X_{12} <- Customer benefit	0.880	0.031	28.680
	X_{13} <- Customer benefit	0.892	0.028	31.746
Fintech-> Business domain		0.937	0.011	83.912
	X_{21} <- Business domain	0.909	0.019	47.920
	X_{22} <- Business domain	0.918	0.017	54.489
	X_{23} <- Business domain	0.678	0.063	10.812
Fintech-> Business partner		0.967	0.006	152.114
	X_{31} <- Business partner	0.818	0.047	17.524
	X_{32} <- Business partner	0.849	0.022	38.564
Competitive Advantage -> Cost leadership		0.902	0.037	24.488
	X_{41} <- Cost leadership	0.800	0.044	18.018
	X_{42} <- Cost leadership	0.707	0.062	11.453
	X_{43} <- Cost leadership	0.831	0.041	20.090
Competitive Advantage -> Differentiation		0.961	0.012	83.147
	X_{51} <- Differentiation	0.767	0.043	17.852
	X_{52} <- Differentiation	0.800	0.049	16.473
	X_{53} <- Differentiation	0.759	0.052	14.587
	X_{54} <- Differentiation	0.685	0.084	8.151
Competitive Advantage -> Focus		0.842	0.033	25.661
	X_{61} <- Focus	0.766	0.054	14.203
	X_{62} <- Focus	0.848	0.029	28.929
Performance -> Learning and growth		0.983	0.002	403.783
	Y_{11} <- Learning and growth	0.859	0.019	45.823
	Y_{12} <- Learning and growth	0.622	0.088	7.058
Performance -> Internal Business process		0.949	0.009	108.963
	Y_{21} <- Internal business process	0.680	0.078	8.756
	Y_{22} <- Internal business process	0.874	0.014	63.676
Performance -> Customer perspectives		0.869	0.015	56.677
	Y_{31} <- Customer perspectives	1.000	-	-
Performance -> Financial perspectives		0.956	0.007	131.817
	Y_{41} <- Financial perspectives	0.872	0.025	34.582
	Y_{42} <- Financial perspectives	0.763	0.050	15.282
	Y_{43} <- Financial perspectives	0.770	0.019	39.825

Table 2 shows that all p-values are less than 0.05 and indicate that the indicators are valid as a reflection or proxy of the three latent variables. Furthermore, to calculate the loading factor and measure the latent variables' coefficient, figure 2 shows the latent variables' path diagram.

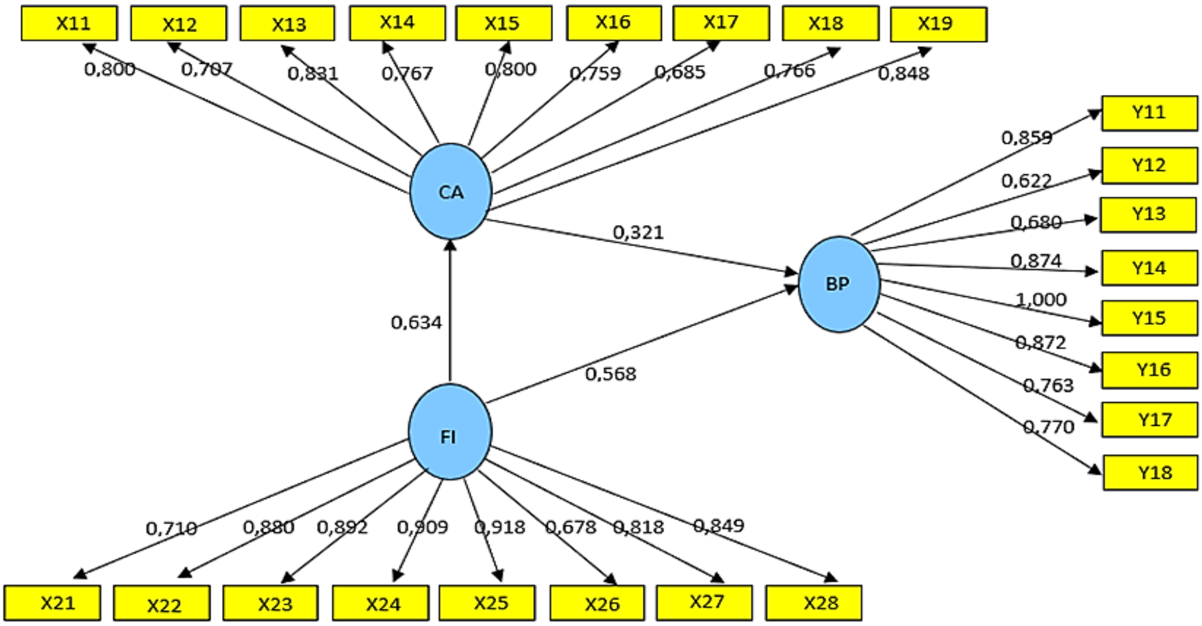

Figure 2. Path diagram of research model

The structural model equation based on the path diagram are:

$$Bank\ Business\ Performance\ =\ 0.568\ Fintech\ Entity\ +\ 0.321\ Competitive\ Advantage \quad (1)$$

$$Competitive\ Advantage\ =\ 0.634\ Fintech\ Entity \quad (2)$$

Figure 2 also shows that the direct effect of fintech on competitive advantage is the highest, followed by the effect of fintech entity on competitive advantage and the bank's performance. Besides, the indirect effect of fintech on a bank's performance through competitive advantage is smaller than the direct effect of fintech on the bank's performance. It means that fintech has a booster for both competitive advantage and the bank's performance, and fintech has a significant role in improving competitive advantage and the bank's performance.

4-2- Hypothesis Testing

Partially, the effect of competitive advantage on the bank's performance and the effect of financial technology on the bank's performance is in Table 3.

Table 3. Estimated measurement model parameters

Hypothesis	γ	SE(γ)	t	R^2	Conclusion
Fintech on competitive advantage	0.624	0.072	7.362	0.436	Accepted
Competitive advantage on performance	0.321	0.091	3.537*	0.159	Accepted
Fintech on performance	0.568	0.070	8.148*	0.379	Accepted

* *It means the significant level at $\alpha = 0.05$*

Partially, fintech has a more significant effect on performance than a competitive advantage and effect on competitive advantage. Simultaneously, Table 4 illustrates the result of hypothesis 4.

Table 4. Simultaneous hypothesis testing

Hypothesis	R^2	F	Conclusion
Fintech and competitive advantage simultaneously -> Performance	0.538	27.397*	Hypothesis 4 Accepted

* *It means significant level at $\alpha = 0.05$, F table =3.195*

Table 4 explains that 53.8 % of fintech and competitive advantage explain sustainable bank performance.

4-3- Research Finding

The result indicates that three aspects of fintech: customer benefit, business domain, and a business partner, have a more critical role in improving sustainable bank performance than a competitive advantage. The research results also show that the business partner has a higher level of influence than the business domain and customer benefits. So that business partner development: emphasise creating partnerships with customers to improve customer loyalty and create business networking with competent authorities, becomes the priority to support competitive advantage and sustainable banks performance.

Moreover, the result reveals that differentiation strategy has a more significant influence than cost and focus strategy. The development of a differentiation strategy should be the priority to be improved. The results are expected to be an alternative solution in improving banks' sustainability through efforts to collaborate with fintech. The fintech entity has a dominant factor directly influencing sustainable bank performance from the latent variables—meanwhile, the fintech also affects performance through competitive advantage. On the other hand, fintech entity effects directly and indirectly on sustainable bank performance.

5- Discussion

The result shows that fintech has the most significant effect on the bank's performance, in line with the research result by Munywoki (2016) [49]. Research finding also shows that technological innovation in finance has contributed to, and is positively associated with, a bank's profitability sector, especially in commercial banks. Furthermore, more efficient payment systems, one of fintech essence and adequate regulation, can be encouraged to improve financial performance and faster economic growth. The finding is also supported by [39, 41], that fintech influences company performance in general. Then, Muiruri and Ngari (2014) stated that the financial technologies adopted by some banks in Kenya, such as credit cards, mobile and internet banking services, and finance technology developments, have had a significant impact on banks' financial performance [50]. Besides, Muhammad et al. (2013) indicated that information and communication in Nigeria's banking industry, using appropriate technology, can increase equity as one of financial performance [51]. Then, in terms of a fintech entity, Subanidja et al. (2020) mentioned that a fintech entity is necessary, and collaboration with fintech entities is highly suggested [2].

Regarding competitive advantage, Kaliappen and Hilman (2014) and Teeratansirikool et al. (2013) examined a linkage between competitive strategy and company performance [42, 43]. As a mediating variable, [52]. Saeidi et al. (2016) [52] added the study from [53] that corporate social responsibility indirectly encourages company performance through competitive advantage. In detail, Thakor (2020) mentioned that trust would distinguish banks from their new competitors, and peer-to-peer lenders, as one part of fintech dimensions, will not replace banks immediately [54]. However, banks have capital constraints and borrowers who do not have adequate collateral to provide secured loans will take some market share away from banks.

Kamukama et al. (2017) stated that managerial competence indirectly affects financial performance through competitive advantage [55]. At the same time, Subanidja et al. (2020) mentioned that the generic strategy directly affects financial performance [2]. Overall, management competence and competitive advantage are strong predictors of commercial banks' financial performance. Competency and competitive advantage positively and significantly affect business performance, and competitive advantage is the mediating effect of entrepreneurial competency and business performance [56]. The balanced scorecard is a company performance [36], and a sustainability-balanced scorecard can establish sustainable performance [37]. Then, Aly and Mansour (2017) stated that the scorecard model is suitable for evaluating sustainable performance [38]. The study's result argues that collaboration with fintech entities as business partners, cost leadership, focus and differentiation affect sustainable bank performance through balanced scorecard criteria, and fintech is a dominant antecedent for creating sustainable bank performance.

The results of interviews from the informants show that the existence of fintech must be understood as the main driver in realising sustainable performance and the existence of fintech is a "force" for banks to continue to innovate or collaborate with fintech to improve services to customers. Moreover, the result states that banks need to work hand in hand to cooperate with fintech dynamically, although investment in information technology is not cheap.

Furthermore, informants mentioned that fintech entities also need to be welcomed, and collaboration with fintech entities is necessary. However, from the bank commissioner, cooperation with fintech entities needs to be carried out carefully. It must be according to the regulations, considering that not all fintech entities are official that have obtained permission from the authority. From the Fintech association's side, fintech entities are ready to collaborate with anyone in serving more accurately, quickly, cheaply, in a broader range. However, due to the existence of illegal fintech, it needs to be examined seriously.

Moreover, all informants thought that the key to maintaining sustainable bank performance is working together and hand in hand with the fintech entity. Besides, competitive advantage is understood to demonstrate bank business actors' innovation in achieving sustainable performance. In achieving and maintaining sustainable performance, all business processes must be within the corridors of applicable banking regulations and follow the banking business corridors.

6- Conclusion and Recommendations

The results indicate that leveraging fintech can be a driver and strengthen the competitive advantage and sustainable commercial banks performance. The findings also show that the direct effect of the fintech on the performance is greater than the indirect effect through competitive advantage. It means that commercial banks, with collaboration with fintech entities, can improve sustainable bank performance. On the other side, fintech also affects competitive advantage, and fintech is necessary to achieve a competitive advantage and sustainable performance. Then, collaboration with fintech entities is the dominant factor in achieving sustainable bank performance. The empirical study contributes that collaboration with fintech entities is an eligible and suitable choice as a booster to improve competitive advantage and sustainable bank performance. Besides, the utilisation of fintech is essential to get closer to the banks and their customers. For practical implications, the banks should manage customer benefits, business domain, and business partner by using fintech. Originality, the banks run the business more based on experiences perspective. It is the right choice but not enough without the fintech. Finally, in the present decade and the coming future, it has a significant implication that collaboration with fintech entities is necessary. Banks should hand in hand with fintech entities and must follow the government regulations.

7- Declarations

7-1- Author Contributions

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

7-2- Data Availability Statement

The data presented in the study collected data using a questionnaire with commercial bank managers at level II business activities in Jakarta, Indonesia.

7-3- Funding

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7-4- Acknowledgements

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7-5- Conflicts of Interest

The authors declare that there is no conflict of interests 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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