

Customer-based Business Model for Digital Start-up Sustainability

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Abstract—Digital startup enterprises have a high rate of failure. One of the reasons for failure is a not working business model due to the lack of customer involvement in the company. Then aim of this study is to identify the effect of customer participation, business model, and sustainable performance on startup enterprises. This study is organized in 2018 through a one shoot cross section. The study's unit of analysis is digital-based startup enterprises in Indonesia, with 100 founder(s) or the manager(s) of the enterprises as the unit of observation. The analysis is done through regression-based path analytic. The result of this study shows that customer participation has an influence on business model, business model has an influence on sustainable performance, and customer participation has an influence on sustainable performance through business model. The implication of this study is the importance of developing business model and involving the customers in the enterprise to support the sustainability of digital startup enterprises in Indonesia.

Keywords—business model; customer participation; sustainable performance; digital; start-up

I. INTRODUCTION

The growth of Internet has driven the creations of new businesses related to the digital world—termed as digital startup. Following Blank, a startup is an organization still searching for its form and appropriate business model to acquire a measurable and reliable business model [1].

Startup enterprises have a high rate of failure. According to one of the startup incubators in Indonesia, Bandung Techno Park, the level of failure for startup enterprises is as high as 80% [2]. Based on the data from CB Insight, business model is one of the main causes for a startup's failure [3]. Meanwhile, a good quality business model can prompt for the sustainability of an enterprise [4].

Based on the data from Bandung Techno Park, as much as 75% of startups experience deficit in revenue, offer undesirable product for the customers, since they are not involved in the development of the product [2]. Customer involvement helps to create higher value [5] and is related to the formation of business model [6]. Based on such phenomenon, then this study examines and provides a better understanding on the

relationships of customer participation, business model, and sustainable performance on digital startup in Indonesia.

This article is organized as the following: first, it reviews the relevant literatures and develops the theoretical framework and hypotheses. Second, the study explains the research method and data collection method. Third, it presents the data analyses and discussions. Fourth, forms the conclusions and implications of this study.

II. THEORETICAL FRAMEWORK AND HYPOTHESES

Customer participation is the customer activity or customer involvement [5,7]. The form of involvement is linked with the role of the customers of a business model [8] in the creation of a product [7,9]. The customer participation dimension used in this research is customer participation as informant and co-developer [7]. The researcher in this study also adds the dimension of co-marketer, as network source [10].

Business model is a business framework that explains how a business works [11-12] and on the value delivery to the customers [12-15]. The business model dimension used in this study is the efficiency-based and novelty-based business model [16].

Sustainable performance is an effort to maintain the business sustainability. It also explains sustainability either from the financial or non-financial side and aims to maintain for future sustainability [17-18]. The sustainable performance dimensions used in this study are cost and cost reduction, sales and profit margin, risk and risk reduction, attractiveness as employer, and innovative capabilities [4].

There are some factors that can influence. Following Schaltegger, Lüdeke-Freund, and Hansen, sustainable performance is influenced by business model [4]. Further, Redis [19] and Teeratansirikool [20] argue that one of the most influential business model components on performance is revenue stream. Besides, sustainable performance is also influenced by customer participation [7,9,21]. Customer participation assists the enterprise to yield value sustainability, either from the economical side or social [9, 21].

Customer participation also has an effect in driving the change of business model [6]. The usage of customer's role in business model assists enterprises in identifying customer's needs [9]. Customer participation provides the benefit for both vendor and sellers, and assists vendors to create value for the customers [5]. Based on previous studies, then the hypotheses for this study are the following:

- H1: Customer participation has a significant influence on business model of startups in Indonesia.
- H2: Business model has a significant influence on sustainable performance of digital startups in Indonesia.
- H3: Customer participation has a significant influence on sustainable performance of digital startups in Indonesia.
- H4: Customer participation has a significant influence on sustainable performance through business model of digital startups in Indonesia.

III. METHODOLOGY

This study uses the quantitative approach with path analytic and regression. There are 3 formed paths, so the minimum samples used are 20 times larger than the total paths. The number of samples who filled in the online questionnaire is 100 CEOs/Managers or founders of digital startup enterprises in Indonesia. This study involves various enterprises with the following limitations: the enterprise is less than 5 years old, with a revenue of less than 5 billion Rupiah, and develops or sells technology supported products. The result of the survey was analyzed with validity and reliability tests, correlation, regression, and path analysis.

IV. RESULT

The majority of respondents is below the age of 30 (63.0 percent) and they are at the C-level (52.0 percent). A total of 42.0 percent of the enterprises used as the samples is a digital startup enterprise that has a revenue of Rp. 300 million - Rp. 2.5 billion and 60.0 percent are the enterprises that have BtoC model of customers.

TABLE I. PROFILE OF RESPONDENTS AND THEIR ENTERPRISES

Groups		n	%
Respondent's profile			
Gender	Male	81	81.0
	Female	19	19.0
Age	≤ 30 years old	63	63.0
	31 - 40 years old	34	34.0
	> 40 years old	3	3.0
Respondent's job position	Founder/co-founder	25	25.0
	C-level	52	48.0
	Executive	23	23.0
Firm characteristics			
Customer model	Business to business	30	30.0
	Business to customer	60	60.0
	Customer to customer	10	10.0
Revenue	≤ Rp.300 million	37	37.0
	Rp.300 million - Rp. 2.5 billion	42	42.0
	Rp. 2.5 billion - Rp. 5 billion	21	21.0

Reliability is shown through the Cronbach's Alpha coefficient. The alpha value for each variable is presented in Table 3. a construct or variable is reliable if it gives the Cronbach Alpha value of more than 0.60 [22]. Therefore, it can be said that all three variables are reliable to use. Meanwhile, the validity test for each of the question items was done through Pearson correlation calculation and all items are shown to be valid since the Pearson correlation value is higher than the r-table.

The hypotheses testing uses multiple regression based path analytic with IBM SPSS version 20.0. the use of regression requires the assumption on the data related to the distribution. Two conditions were fulfilled. First, the VIF value for all variables were 1.427, since the value <10 then it was concluded that there is no multicollinearity disturbance [23]. Second, based on the data presented on Table 2, the kurtosis and skewness calculations were on within the range of -2 through 2, then it was concluded that the data follow the normal distribution [24].

TABLE II. DESCRIPTIVE STATISTICS

Descriptive Statistics				
	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
X1	-1.018	.241	1.519	.478
X2	-.726	.241	1.306	.478
Y	-.299	.241	.740	.478

TABLE III. RELIABILITY SCORES FOR VARIABLES

Variable	No. of items	Alpha Value
Customer participation	9	.786
Business model	6	.763
Sustainable Performance	17	.860

TABLE IV. PATH COEFFICIENTS AND T-VALUE FOR THE MODELS

Impact of	Path coefficients	t-value
H1: Customer participation on business model	0.547**	6.472
H2: Business model on sustainable performance	0.597**	9.671
H3: Customer participation on sustainable performance	0.375**	6.075
H4: Customer participation on sustainable performance through business model	-	5.338

Note: **sig < 0.01

TABLE V. SIMULTANEOUS TEST

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	21.858	2	10.929	139.00	.000 ^b
Residual	7.627	97	.079		
Total	29.485	99			

The result for the regression calculation can be seen on Table 4 and the path visualization is presented in Figure 1. On H1, H2, and H3 the t-value calculation for each path was greater if compared to the t-table of 1.985 (df = 97). Thus, it can be concluded that H1, H2, and H3 were accepted since the

t-calculation > t-table. H4 Testing was done by using Sobel Test to identify the influence of business model intervening, it yields t-value of 5.338 and t-table of 1.985. The t-value > t-table value, then it is concluded that there was an influence of business model mediation [25] or in other words, H4 was accepted. Simultaneous testing was done by calculating the F-value, and it yields a value of 139.0 and significant (sig 0.000). Thus, it can be said that the customer participation and business model variables have simultaneous influence on sustainable performance.

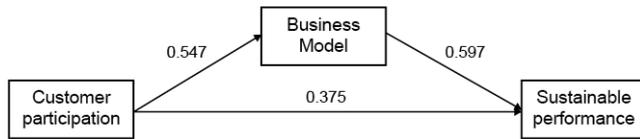


Fig. 1. Research finding.

An indirect relationship was calculated through multiplying the contributing path coefficient. The indirect relationship between customer participation and sustainable performance through business model (0.327) was calculated by multiplying customer participation coefficient to business model (0.547) and business model to sustainable performance (0.597). The total influence (0.702) was the additional sum of direct influence (0.375) and indirect (0.327).

V. DISCUSSION AND CONCLUSION

The results of this study show are the following: 1) customer participation has a significant influence on business model; 2) business model has a significant influence on sustainable performance; 3) customer participation has a significant influence on business model; 4) customer participation has a significant influence on sustainable performance through business model. This study strengthens the results of previous customer participation and sustainable performance studies [4,15,17,26].

This results in novelty, in which it places business model as intervening between customer participation and sustainable performance. The result shows there is a significant influence of customer participation and sustainable performance though business model, although the direct influence between customer participation and sustainable performance was slightly greater than the indirect influence through the intervening business model. The result shows that the customers can serve for a role in an enterprise either directly or indirectly. Therefore, a customer participation in digital startup enterprises can be widely and diversely implemented. Based on the results and empirical facts of this study, it can be concluded that digital startup enterprises in Indonesia have benefitted from business model and customer participation to achieve sustainable performance, but have not utilized customer participation well enough as a reference in the formation of business model. Therefore, the customers' involvement in the business process of the enterprises is not optimal, sporadic, and its effectiveness is difficult to measure. Ideally, digital startup enterprises must have a business model that can facilitate customers' involvement in the enterprise to achieve business sustainability.

The findings of this study can be utilize as a reference for further studies in developing the knowledge related to customer participation, business model, and sustainable performance. This study has the following limitations, i.e. the use of small samples and the limitation of theoretical review. Future researchers are expected to be able to study innovation as the support for customer participation in forming business model to achieve sustainable performance.

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