The Effect of Innovation on Increasing Business Performance of SMEs In Indonesia

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Abstract - The purpose of this study is to analyze the effect of innovation on SME business performance, which is motivated by the important role of SMEs in national economic growth should be accompanied by a significant increase in business performance. But in reality SME competitiveness is still low in the global market due to low innovation. This study uses an explanatory quantitative survey method. There are 231,181 SMEs in the manufacturing industry sector in West Java, Indonesia as a population with a sample of 346 respondents. Data collection uses a Likert scale 1-5 questionnaire. Data analysis using SEM. The analysis shows that innovation has a positive and significant effect on business performance. The implication of this research is that the performance of SME businesses can be improved through increased product innovation, process innovation, and distribution innovation.

Keywords: Innovation, Business Performance, Entrepreneurship, SMEs, Indonesia.
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1 Introduction

Small and Medium Enterprises (SMEs) in each country are always the focus of attention because of their great contribution to economic development, economic growth and job creation [1]

In the era of increasingly real and complex economic globalization, SMEs should be brave and ready to face the challenges of the global market and not only be concentrated in the local market [2]. The current potential of SMEs is not matched by the ability to improve performance and competitiveness in global markets, due to increasingly complex business problems such as the use of traditional technology, lack of capital, weak managerial aspects including decision making, low quality human resources, scale small businesses, lack of experience and limited financial access and low creativity and innovation of managers / owners, so they are less able to compete in local and global markets [3].

Likewise, the majority of SMEs in the processing industry sector in Indonesia are still concentrated in the local market, and are not ready to face competition in the global market. The growth of SMEs in the manufacturing industry sector is still constrained by various problems that hinder the success of SMEs businesses in Indonesia. SMEs products with minimal innovation with less developed production are feared to threaten business continuity. The difficulty of product marketing including the lack of market information, mastery of technology and networks has caused SMEs to not survive. This condition is strongly suspected to be triggered by the character of a weak entrepreneur, a managerial role that is not yet firm in managing the business as well as low innovation while the business environment continues to change [4], [5], [6], [7]. These weaknesses can have an impact on the unsuccessful implementation of entrepreneurship, while entrepreneurship is the result of discipline and the systematic process of applying creativity and innovation in meeting market needs and opportunities. The essence of entrepreneurship is the ability to create something new and different (create new and different) through creative thinking and innovative actions [8], [9].

Changes in the business environment are very fast, so innovation becomes important for the sustainability of the company. Innovation is an indicator of the success of winning the competition.

Innovation will bring the organization into a new dimension of performance and become important for all aspects of operations and work systems and processes, so that innovation is part of the culture of learning [8]. The ability to innovate is one of the most important characters of entrepreneurs [10]. Similarly, Craven and Piercy , 2009 that creativity and innovation have an important role for the growth of organizational performance in the global market [11]. [12].

Schumpeter, 1934 stated that innovation activities carried out continuously are the main source of long-term success of the company [13]. Artz et al, 2010 in their findings that a company's ability to produce innovation may be more important than ever before to improve performance and maintain competitive advantage because of the high level of competition and shorter product life cycles [14]. At present innovation has become the goal of all companies [15].

Several previous studies have shown that innovation has a positive effect on business performance [12], [15], [16], [17], [18],[19]. There are also some findings that indicate product innovation does not affect business performance[20], and not all indicators of innovation affect performance, where product innovation has no effect while process innovation, marketing innovation and organizational innovation affect performance [21]. The difference in findings of the relationship dimensions of innovation and performance is a gap for researchers to conduct further research.

Based on the above phenomenon, it is necessary to do further research on improving SMEs business performance through innovation. The purpose of this study is to analyze the effect of innovation on the business performance of SMEs processing industries in West Java, Indonesia.

2 Problem Formulation

The method used is Quantitative with the explanatory survey to test the conceptual model that describes the relationship between constructs of innovation and business performance. Business performance is measured by 4 indicators, namely: Financial Perspective (Y1), Customer Perspective (Y2), Internal Business Process Perspective (Y3) and Learning & Growth Perspective (Y4) [22], [23], [24], [25].

While innovation is measured using three indicators, namely: product innovation (X1), process innovation (X2), and distribution innovation (X3) [26],[27],[28],[29].

The research framework was built to determine the effect of innovation on business performance in reference to previous relevant research. The model proposed in this study is shown in Figure 1.

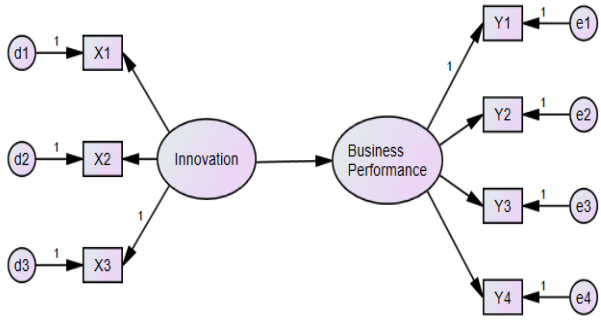

Fig.1. Proposed Research Framework

To determine the effect of innovation on business performance, the hypothesis developed is as follows:
H1: Innovation influences business performance

Data collection uses a Likert scale questionnaire 1-5. The population in this study were SMEs the manufacturing sector in West Java, Indonesia measuring 203.181, with proportional random sampling techniques, obtained sample size 346. The research questionnaire was tested first on 40 SMEs using Pearson Correlation (r> 0.50 and sign <0.05) and Cronbach's Alpha (0.971 and 0.726), all question items are valid and reliable. To test the effect of innovation on business performance, Structural Equation Modeling (SEM) AMOS is used.

3 Problem Solution

Profile of respondents who became the study sample can be seen in Table 1.

Table 1 shows that the majority of respondents were male (92%) with the most age (58%) between 46-55 years and had the most high school education (61%). Business ownership status, the majority of respondents (71%) as owners and managers and have been in business for at most between 16-20 years (35%). Most of the businesses run in the field of textiles and textile products are 54.62% with the most marketing area (37%) at the national level.

Table 1. Profile of Respondents

No	Profile of Respondents	Amount
1	**Gender**	
	a. Male	92%
	b. Female	8%
2	**Age of Respondents**	
	a. 25-35 years old	1%
	b. 36-45 years old	33%
	c. 46-55 years old	58%
	d. 56-65 years old	7%
	e. > 65 years old	1%
3	**Education**	
	a. Elementary school	9%
	b. Middle School	16%
	c. High school	61%
	d. Diploma and Bachelor Degree	14%
	e. Postgraduate	1%
4	**Business Ownership Status**	
	a. Owner	29%
	b. Owner and manager	71%
5	**The duration of running a business**	
	a. 5-10 years old	8%
	b. 11-15 years old	10%
	c. 16-20 years old	35%
	d. 21-25 years old	27%
	e. > 25 years old	20%
6	**Type of business**	
	a. Textiles and Textile Products (including batik, embroidered clothing)	54,62 %
	b. Leather Industry and Leather Goods (including bags, shoes, purses, sandals, belts, leather jackets)	35,84%
	c. Ceramics	7,51%
	d. Handy craft	1,73%
	e. Mendong Mat	0,30%
7	**Marketing area**	
	a. Local	32%
	b. Regional	25%
	c. National	37%
	d. International	6%

The innovation variables in this study were measured using three dimensions: product innovation, process innovation, and distribution innovation as explained in Table 2.

Table 2 shows that innovation in SMEs in the manufacturing sector in West Java, Indonesia tends to be low. The dimensions of product innovation are at a low level with a percentage gain of 75.15%. The low level of product innovation is due to the lack of unique product design carried out by 81.50% of respondents as well as the lack of renewal of products produced by 68.79% of respondents. The dimensions of process innovation are at a low level with a percentage of 80.68%. The low process innovation is due to the inefficient 88.15% of respondents in controlling inventory with business partners, also due to the reluctance of 67.24% of respondents to run production with business partners. The dimensions of distribution innovation are at a low level with a percentage of 67.48%. The low distribution innovation is due to the low frequency of online-based marketing use of 70.23% of respondents, there are also 65.03% of respondents who have not used digital marketing as a media for promotion and sales of their products.

Table 2. Respondents Response To Innovation

No	Dimension	% Frequency Score 1 2 3 4 5		Achievements Criteria
Product Innovation		**75,15**	**24,85**	Tends to be low
1	The degree of renewal of the product produced	68,79	31,21	Tends to be low
2	The level of uniqueness of product design is made	81,50	18,50	Tends to be low
Process Innovation		**80,68**	**19,32**	Tends to be low
3	Frequency of joint production	67,24	32,76	Tends to be low
4	The level of technological	85,26	14,74	Tends to be low
5	Level of resource use with business partners	82,08	17,98	Tends to be low
6	The level of inventory control with business partners	88,15	11,85	Tends to be low
Distribution Innovation		**67,48**	**32,52**	Tends to be low
7	The level of use of product distribution through retailers	69,65	30,35	Tends to be low
8	The level of use of online marketing	70,23	29,77	Tends to be low
9	Frequency of using marketing with business partners	65,03	34,97	Tends to be low
10	The level of use of digital marketing	65,03	34,97	Tends to be low
	Innovation	**74,44**	**25,56**	Tends to be low

Business performance is measured using four perspectives: financial perspective, customer perspective, internal business process perspective, and learning and growth perspective as described in Table 3.

Table 3 shows that business performance in SMEs in the manufacturing sector in West Java, Indonesia tends to be low. The financial perspective is at a low level with a percentage of 73.56%. This low dimension is due to the low sales growth of 73.70% of respondents and operating profit growth of 73.41% of respondents. The customer perspective has a growth that tends to be low with a percentage of 61.71%. This low dimension is due to the low ability of 67.92% of respondents to get new customers and the low ability of 55.49% of respondents to retain customers. The internal business process perspective tends to be low with a percentage of 68.80%. This low dimension is due to the inefficient 73.70% of respondents in running the company's operations. Likewise with product development where 63.9% of respondents did not

make product changes in the last 3 years. The learning and growth perspective is at a low level with a percentage of 66.61%. This low dimension is caused by the low of 76.87% of respondents related to changes in employee specific skills that have an impact on the low performance of 56.35% of respondents.

Table 3. Respondents Response to Business Performance

No	Dimension	% Frequency Score 1 2 3 4 5		Achievements Criteria
Financial Perspective		**73,56**	**26,44**	Tends to be low
1	Sales Growth Rate	73,70	26,30	Tends to be low
2	Operating Profit Growth Rate	73,41	26,59	Tends to be low
Customer Perspective		**61,71**	**38,29**	Tends to be low
3	Customer retention rate	55,49	44,51	Tends to be low
4	Customer acquisition rate	67,92	32,08	Tends to be low
Internal Business Process Perspective		**68,80**	**31,20**	Tends to be low
5	The level of efficiency in company operations	73,70	26,30	Tends to be low
6	The rate of change in product development	63,90	36,10	Tends to be low
Learning and Growth Perspective		**66,61**	**33,39**	Tends to be low
7	Level of change in employee specific skills	76,87	23,13	Tends to be low
8	Growth rate of employee performance	56,35	43,65	Tends to be low
Business Performance		**67,67**	**32,33**	Tends to be low

The results of the measurement model test for innovation and business performance are shown in Figure 2.

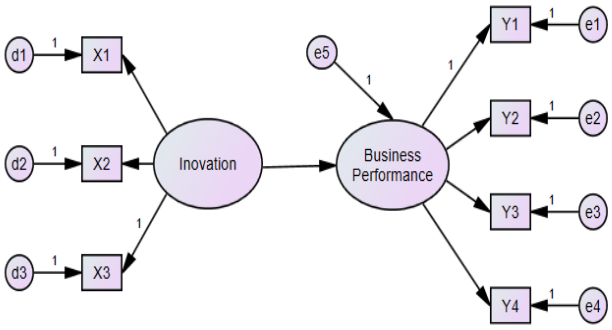

Fig.2. SEM Measurement Results

The test results of the measurement model of innovation and business performance in Table 4 show the value of loading factor (λ)> 0.5, the value of CR above 0.7 and VE above 0.5 so it can be concluded that innovation and business performance have validity and construct reliability the good one.

Table 4. Model of Measurement

Variable	Indicator	λ	λ²	e	CR	VE
Innovation	X1	1,003	1,006	-0,006	0,950	0,864
	X2	0,923	0,852	0,148		
	X3	0,856	0,733	0,267		
Business Performance	Y1	0,882	0,778	0,222	0,944	0,811
	Y2	0,754	0,569	0,431		
	Y3	0,882	0,778	0,222		
	Y4	1,059	1,121	-0,121		

λ= Loading Factor, e=error, CR=composite reliability, VE=variance extracted
Source: SEM AMOS Output

The normality test results in Table 5 note that not all indicators have a critical ratio of skewness values below 2.58, indicators Y1 and X2 have a critical ratio of skewness values above 2.58, meaning that not all variables observed are normally distributed. Similarly, the multivariate normality test gives the value c.r. (9,465) > 2.58 which shows that multivariate data is not normally distributed.

Table 5. Assesment of Normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
Y4	2,000	10,000	,203	1,542	-1,216	-4,618
Y3	2,000	10,000	,335	2,543	-1,078	-4,092
Y2	2,000	10,000	-,166	-1,263	-,857	-3,256
Y1	2,000	10,000	,523	3,974	-,976	-3,704
X1	2,000	10,000	,160	1,214	-,787	-2,989
X2	4,000	20,000	,401	3,048	-,773	-2,935
X3	4,000	20,000	-,070	-,533	-,907	-3,445
Multivariate					11,423	9,465

Testing of multivariate outliers is done by taking into account the value of Mahalanobis distance (d^2). Referring to Table 6, the maximum Mahalanobis distance (d^2) value (40.262) <X^2 (40.87) is known. Thus multivariate there are no cases of outliers in the data.

Table 6. Outliers Data

Mahalanobis distance (d^2)		
Max	Min	X^2
40,262	8,010	40,87

Multicollinearity evaluation can be seen through the Determinant of sample covariance matrix and Condition number. The determinant value is very small and the Condition number is greater than 1000, indicating an indication of multicollinearity or singularity problems so that the data cannot be used for research [31].

Referring to Table 7, it can be seen that the value of the Determinant of sample covariance matrix (3651,975)> 0 and Condition number (98,199)<1000, so it can be concluded there are no multicollinearity and singularity problems in the analyzed data.

Table 7. Multikolinieritas

Determinant of sample covariance matrix	*Condition number*
3651,975	98,199

Based on the assumption evaluation test results, it can be seen that the data distribution is not normal but multivariate there are no outliers in the data and the sample data sets empirically still meet the main statistical assumptions, namely there is no multicollinearity problem [30].

The test of the Goodness of Fit model in Table 8 shows that not all measures of the research model fit the data, but overall the research model is Fit, because GFI and AGFI ≥ 0.90, RMSEA ≤ 0.08, and NFI, CFI and TLI ≥ 0.90 [30].

Table 8. Goodness of Fit

No.	*Goodness of Fit Index*	*Cut-off Value*	Result	Evaluation
1	Significant Prob	≥ 0,05	0,000	Bad Fit
2	RMSEA	≤ 0,08	0,081	Good Fit
3	GFI	≥ 0,90	0,968	Good Fit
4	AGFI	≥ 0,90	0,930	Good Fit
5	RFI	≥ 0,90	0,969	Good Fit
6	IFI	≥ 0,90	0,987	Good Fit
7	TLI	≥ 0,90	0.978	Good Fit
8	CFI	≥ 0,90	0,987	Good Fit
9	NFI	≥ 0,90	0,981	Good Fit

Source: SEM AMOS Output

The research findings in Table 9, show the high and low business performance positively influenced by innovation, this can be seen from the value of the path coefficient (SRW)> 0. SRW value of 0.462 shows innovation has an effect of (0.4622 = 0.2134) on performance business which means 21.34% high and low variations that occur in business performance can be explained by innovation. The remaining 78.64% is the influence of other variables not explained in the model. The highest contribution of each dimension of innovation comes from product innovation (X1) of 99.7% and the lowest is contributed by distribution innovation (X3) of 86.1%. While the highest achievement of business performance comes from the learning perspective and growth of 91.3% and the lowest contributed by the customer's perspective of 75.7%. The test results show that innovation has a positive and significant effect on business performance.

Table 9. Regression Weights and Standardized Regression Weight

			RW	SRW	S.E.	C.R.	P
Business_ Performance	<---	Inovation	,267	,462	,031	8,555	***
X3	<---	Inovation	1,000	,861			
X2	<---	Inovation	1,071	,928	,041	25,905	***
X1	<---	Inovation	,612	,997	,021	29,269	***
Y1	<---	Business_ Performance	1,000	,884			
Y2	<---	Business_ Performance	,776	,757	,045	17,307	***
Y3	<---	Business_ Performance	,965	,865	,043	22,210	***
Y4	<---	Business_ Performance	1,048	,913	,044	23,868	***

The research findings show that innovation has a positive effect on business performance. The coefficient is positive, meaning that the higher the ideal innovation will be followed by increasing business performance. This finding in accordance with [16] highlights the relationship of innovation-performance in SMEs depending on the context: such as company age, type of innovation and culture that influence the impact of innovation on company performance. Innovation is an important factor because it leads to improvements in products, processes, making continuous progress that helps companies survive, allowing companies to grow faster, more efficiently and more profitably than not innovators [15]. Process innovation, marketing innovation and organizational innovation affect performance. While product innovation does not affect performance [21]. Product innovation and process innovation influence company performance significantly, where stronger influence comes from product innovation [19]. Past performance is a strong indicator of the results of innovation, so that future performance can be more predictable, innovation is an important factor that has an impact on improving performance [18].

These findings further strengthen the concept of innovation Schumpeter,1934 that to create economic growth needed innovators or entrepreneurs, namely people who are involved in the business world who have the enthusiasm and courage to apply new ideas into reality. The need for an innovation process that is consistent with the search for change and systematic analysis of potential innovators as a

source of social and economic transformation [8]. Innovation is the implementation of renewal and is important for all aspects of operations and work systems and processes that will bring the organization into a new dimension of performance.

Referring to the results of the research and discussion described above, it can be explained that improving business performance can be done through increased innovation. Thus the model of improving business performance (financial perspective, customer perspective, internal business process perspective, learning and growth perspective), can be determined through innovation (product innovation, process innovation, distribution innovation), which is increasing.

4 Conclusion

Innovation in SMEs in the manufacturing sector in West Java, Indonesia tends to be low, as well as the achievement of business performance at a level that tends to be low. Innovation has a positive influence on business performance. Innovation can explain variations that occur in business performance according to the research model. The low level of innovation and low business performance, if left unchecked will hinder the development of SMEs, chances are that SMEs will grow faster and have a smaller competitive advantage. To prevent adverse effects due to low innovation and business performance, SMEs players should continually improve indicators that are perceived low by respondents by increasing competitive advantage in product renewal, product uniqueness and technological renewal. The use of resources and inventory control with business partners, becomes important in the effort of effectiveness and efficiency. Likewise in product distribution by utilizing offline and online media.

This research is limited to innovation variables with three dimensions that affect business performance. Limitations in this study should be considered as opportunities for future research. (1) This study investigates five business fields from 24 business sectors in the manufacturing sector, therefore further research should not limit the scope of research; (2) This study uses the explanation survey method, while more in-depth exploratory research can explore the potential and opportunities of SMEs so as to obtain a comprehensive picture of the characteristics of SMEs in Indonesia; (3) This study only uses innovation as a predictor of business performance, the next research should add other constructs so that the most dominant constructs can influence business performance.

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