

# Effect of Manager Competency on Innovation in Small and Medium Enterprises

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**Abstract—** This research was conducted to determine the relationship between managers' competency towards innovation in small and medium enterprises. The method used in this study was descriptive with a quantitative assessment. The unit of analysis in this study was small and medium businesses in Bandung Regency using the simple random sampling method to get the number of respondents as many as 100 small and medium businesses. Analysis of the data used was the validity test and reliability test. The program to test data analysis is SPSS 23 and Lisrel 8.8. The results of this study are expected to have a positive impact on managers' competency towards innovation in small and medium enterprises, in accordance with previous researchers.

**Keywords—** Small and medium enterprises, Manager competency, Innovation

## I. INTRODUCTION

Entrepreneurship at this time an important role in the economy of a country, where economic competition requires every entrepreneur to compete with the number of products from abroad. Because entrepreneurship is considered an engine of global economic development, the need to create people and organizations with an entrepreneurial mindset and competence is more pressing than ever before [1]. Entrepreneurs are required to make innovations to improve competitiveness among other entrepreneurs. The SMEs in Bandung Regency are one of the regions that produce quite a lot of products that are in great demand, but to survive in the competition there need to be various innovations in their products, supported by manager's competence to decide and be supported by these innovations [2]. This is useful to be an illustration for every entrepreneur who will increase business development [3].

In previous studies, innovation is influenced by 47% of the total variance of managerial competence in the company [4]. Competency-based management and use of online social networks help shape employee attitudes, behaviors and skills, build employee commitment, and contribution to creating new ideas at work [5]. IT capabilities, KM capabilities, and environmental dynamism were discovered to be important drivers of innovation ambitivity, future research could consider other potential factors such as organizational culture, leadership, and open innovation [6]. Related to the managerial field, this studio about Idrogenet shows that, even in fickle discussions such as the Innovation Community, the managerial role must be clearly defined and the task responsibilities are well individualized [7]. Personnel in the organization, therefore, must be determined by themselves by

learning new knowledge about business to gain a competitive advantage and survive in the world of competition [8]. Knowledge development is seen as very important and networks are built in collaboration with other business units placed in different locations or by participating in training programs outside the organization. [9]. In this study develops research on manager competence and innovation in small and medium entrepreneurs.

This study aims to understand the competence of managers in small and medium-sized businesses, so as to increase the competitiveness of entrepreneurs in building innovation in larger companies. This study used descriptive analysis methods and verification of path models supported by SPSS 23 and Lisrel 8.8 programs. Martinez-conesa, P. Soto-acosta, and E. G. Carayannis stated that SMEs need to be aware that there is a growing trend towards opening innovation strategies and that the successful implementation of innovation depends very much on the ability of the company to manage the ability of managers' knowledge and rapid response to market changes [10].

## II. METHOD

The basic method applied in this study was descriptive method of analysis and verification method of analysis which is a method that focuses on solving problems that occur in the present and the actual [11]. The unit of analysis in this study is small and medium enterprises in Bandung Regency using a simple random sampling method. Analysis of the data used is the validity test, reliability test, and path test. Programs to test data analysis are SPSS 23 and Lisrel 8.8 to see the effect of manager competence on innovation.

Descriptive research is conducted to provide a more detailed description of a phenomenon. The final results of this study usually contain typologies or patterns of phenomena under discussion.

Formula 1. Descriptive Criteria Formulas

$$Total\ Score = \frac{Actual\ score}{Ideal\ score} \times 100\%$$

Information :

Actual Score = Answer from all respondents in the questionnaire.  
 Ideal score = Score or highest weight / assumed to choose the answer with the highest score.  
 Total score = Overall score

Table I is designed to find out the amount of value.

TABLE I. DESCRIPTIVE CRITERIA SCORE

No	Score	Criteria
1	20.00%-36.00%	Bad
2	36.01%-52.00%	Not Good
3	52.01%-68.00%	Enough
4	68.01%-84.00%	Good
5	84.01%-100%	Very Good

The validity of objective item items was calculated by the biserial point correlation formula, the validity of the item description items was calculated by the product-moment correlation formula. Correlation figures obtained in this way are called validity coefficients or item validity figures.

Formula 2. Validity formula

$$r_{xy} = \frac{n \sum xy - \sum x \sum y}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

Information :

Rxy = Shows the correlation between two variables

N = Number of respondents

Y = Total score

X = Question score

XY = Number of question scores multiplied by the number of respondents

Reliability tests are used to measure repeatedly produce the same data (consistent). Reliability test in this study uses the Cronbach Alpha formula:

Formula 3. Reliability formula

$$n = \left[ \frac{k}{(k-1)} \right] \left[ 1 - \frac{\sum \sigma_h^2}{\sigma^2} \right]$$

Information :

n = Instrument reliability

$\sum \sigma_h^2$  = Number of item variances

$\sigma^2$  = Total variance

k = Number of item question items

Here is a table to measure the level of reliability which is divided into five criteria, as follows (Table II) :

TABLE II. MEASUREMENT OF CONCENTRATION

Coefficient interval	Relationship Level
0,000 - 0,199	Very Low
0,200 - 0,399	Low
0,400 - 0,599	Similar
0,600 - 0,799	Strong
0,800 - 1,000	Very Strong

### III. RESULTS AND DISCUSSION

Table III can be described about the answer to manager's competency. Entrepreneurs have a good level of manager competence with a percentage of 81% (Good Category).

TABLE III. RESPONDEN PERCEPTION MANAGER COMPETENCE

Indicator	Actual Score	Ideal Score	Percentage	Categories
Decision Making Skills	801	1000	80%	Good
Conceptual Skills	833	1000	83%	Good
Technical Skills	418	500	84%	Good
Time Management Skills	810	1000	81%	Good
Human Relations Skills	1244	1500	83%	Good
Information Technology Skills	781	1000	78%	Good
<b>TOTAL</b>	<b>4887</b>	<b>6000</b>	<b>81%</b>	<b>Good</b>

According to Table III from the calculation results that an entrepreneur or manager has the properties that show well in manager competence. For the variable Technical Skills with indicators Knowing the process of making products that get a value of 84% which can be categorized as having manager competence. With a good category, it can be described that entrepreneurs and managers more or less know how the process of the business that is being run. This indicates the importance of knowing how the process is happening in our efforts to monitor how the performance of the workers in charge of production. From all the entrepreneurs in Bandung Regency, on average they know how the technical process of making a product is because many of the entrepreneurs participate in producing it or have produced it before they release it to their employees.

The Information Technology Skill variable is the variable that gets the smallest value among other variables and can be categorized as having manager competence. In the indicator, the highest value is obtained by the indicator "Understand about current technology" with a value of 80% and the smallest on the indicator using information from the current technology that only 76% can be categorized as having manager competence. Even though it is categorized as good in terms of the magnitude of the percentage, it can be illustrated that in technology there are still some that need to

be studied again both in the use of technology to support the running of the company.

From the calculation results, An entrepreneur or manager has the characteristics that shows competence in managerial. It can be seen with a value of 81% which is interpreted in either category. The competence needed to manage a social enterprise to the best of its ability is a real advantage for the organization to, in particular, to remain competitive [12]. This provides information to entrepreneurs in the small and medium business sector to improve things that can not improve the company. Human resources have abilities and capacities that cannot be replicated that can make a difference between companies and it became important for the knowledge of managerial competence and its effect on human capital [2].

In Table IV can be described the answers to innovation. The entrepreneurs have a good level of innovation with a percentage of 79% (Good Category).

TABLE IV. RESPONDEN PERCEPTION INNOVATION

Indicator	Actual Score	Ideal Score	Percentage	Categories
Relative advantage	400	500	80%	Good
Suitability	397	500	79%	Good
Complexity	396	500	79%	Good
Trial	380	500	76%	Good
Visibility	412	500	82%	Good
<b>TOTAL</b>	<b>1985</b>	<b>2500</b>	<b>79%</b>	<b>Good</b>

From the results of the calculation of respondents' answers to innovation can be seen in Table IV where the value obtained by Innovation is 79%. In the Respondent Answer Score table for Innovation Variables, the largest indicator value is Visibility indicator with a percentage value of 82% in the category of Applying Innovation. This is very logical when entrepreneurs or managers see that their innovation is successful by looking at their own consumers whether the product is in demand or not. The category of Applying Innovation obtained the smallest value in the Trial indicator which has a percentage value of 76%. From this, it can be illustrated that in the trial analysis how a product takes a long time felt by the company.

From the calculation results of respondents' answers to innovation can be seen in Table IV where the value obtained by innovation is 79%. The results of innovation can be said to be good, it can be interpreted that there are innovations in products in Bandung Regency SMEs. Companies must always move forward with marketing programs, product and service innovations, stay in touch with customer needs, and seek new profits rather than relying on the strengths of the past [13]. Innovation in SMEs is largely a personal process, and partly driven by one or two key people in the organization [3]. the potential of online social networking and competency-based management as a factor capable of creating high-quality knowledge that can enhance the company's innovation capability [5].

In this case, we know that small and medium businesses in Bandung Regency have a good level of manager competence and innovation. Where in the current condition the role of the manager plays an important role in managing a

business, it can be interpreted that the important factor to make changes from the product is the manager.

In Table V states the validity test on manager competency. All indicators are declared valid because  $r \text{ count} > r \text{ table}$ . This means that all of the indicators can be tested at a later stage.

TABLE V. MANAGER COMPETENCE VALIDITY TEST

Indicator	r count	r table	Description
X1.1	0,35	0,1654	Valid
X1.2	0,197	0,1654	Valid
X1.3	0,245	0,1654	Valid
X1.4	0,24	0,1654	Valid
X1.5	0,273	0,1654	Valid
X1.6	0,464	0,1654	Valid
X1.7	0,282	0,1654	Valid
X1.8	0,273	0,1654	Valid
X1.9	0,217	0,1654	Valid
X1.10	0,504	0,1654	Valid
X1.11	0,462	0,1654	Valid
X1.12	0,58	0,1654	Valid

In table V is a test of the validity of manager competencies. From the results that have been done, it is proven that the indicator X1.12 has the highest value, while X1.2 gets the lowest value. However, all indicators are declared valid.

Table VI states the validity test on manager competency. All indicators are declared valid because  $r \text{ count} > r \text{ table}$ . This means that all of the indicators can be tested at a later stage.

TABLE VI. INNOVATION VALIDITY TEST

Indicator	r count	r table	Description
Y1.1	0,283	0,1654	Valid
Y1.2	0,21	0,1654	Valid
Y1.3	0,36	0,1654	Valid
Y1.4	0,176	0,1654	Valid
Y1.5	0,207	0,1654	Valid

In Table VI is a test of invasion validity. From the results that have been done, it is known that indicator Y1.3 has the highest value, while Y1.4 gets the lowest value. But on the whole, all indicators are declared valid.

In Table VII, reliability testing is carried out for two variables. Of the two variables stated Reliable strong and Reliable matching. So the variables in this study can be done at the next test stage.

TABLE VII. REALIABILITY TEST

Variable	Reliability Index	Critical Value	Description
Manager Competence	0,715	0,1654	Reliable Strong
Innovation	0,46	0,1654	Reliable matching

From the results of the calculation of the reliability test according to Table VI both variables are declared reliable. With a value of 0.6-0.7 strong reliability while 0.4-0.5 similar or moderate reliability.

In Table VIII is the result of testing the influence of manager competencies on innovation. It appears that the hypothesis  $H_0$  is rejected.

$H_0 : pY1X1 = 0$                       Manager Competence does not affect Innovation at the small and medium enterprises.

$H_1 : pY1X1 \neq 0$                       Manager Competence affects the Innovation at he small and medium enterprises.

TABLE VIII. TEST RESULTS OF THE EFFECT OF MANAGER COMPETENCE ON INNOVATION

<b>Path Coefficient</b>	0,23
<b>t count</b>	4,92
<b>t table</b>	1,66
<b>H<sub>0</sub></b>	rejected

According to Table VIII the results of the test how much influence the competence of managers on innovation. From the calculation, the coefficient value of 0.23 means that the manager's competence has a positive influence of 23%, with a calculated value of  $t \ 4.92 > t \ table \ 1.66$  with a significant level of 95%. Judging from the value of the entrepreneurial spirit coefficient, the value is 0.23 or it can be interpreted that directly the manager's competence affects the innovation of a business by 23%. Every increase of one manager's competency variable will increase by 23% of the innovation variable. In a company, entrepreneurial spirit is very important where someone's seriousness in managing the company is expected to be mandatory, innovation is a component developed by someone who has an entrepreneurial spirit. Personal skills and leadership skills are very important. competencies such as commitment and resilience, critical thinking, making decisions, developing management systems, delegating, understanding and satisfying customers as essential for good performance and success[1]. Companies must devote extra effort to develop information technology capabilities and manager competency abilities because these capabilities are very important when pursuing competing demands for exploration and exploitation[10]. the entrepreneurial spirit is reflected in several creative and innovative characteristics reflected by high creativity, strong intuition, and broad insight [14].

There is a relationship between manager competence and innovation that is quite influential in the process of developing small and medium businesses in Bandung Regency. As in the study of Simona et al [5], Hawi, Alkhodary and Hashem [4], Buulolo [15] which states the influence of manager competence on innovation in a company. This makes the belief that the competence of managers can affect innovation in a company, where

innovation is currently a benchmark for companies said to be developing.

**IV. CONCLUSION**

It can be concluded that the results of this study indicate that manager's competency influences innovation in small and medium enterprises in Bandung Regency. Overall manager competency and innovation are relatively good potential for developing the company.

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