

# The Influence of Technopreneurship and Product Innovation on the Quality of Grab Application Services

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**Abstract:** This research intends to shed light on how product innovation and technopreneurship affect the caliber of Grab application services. This study used a quantitative research design. Utilizing observation, questionnaires, and documentation, the data was gathered. Grab users make up the study's sample, which consists of 100 respondents selected from the rappocini community. Regression line analysis is the method of data analysis performed. The study's findings support the assertion that Grab users' actions in Rappocini are simultaneous, significant, and have an impact on the services provided by the Grab application (Y).

**Index Terms:** Technopreneurship, Product Innovation and Service Quality

## I. INTRODUCTION

Indonesia has entered the free market, and the country is encouraged to continue to develop its resources with the availability of relatively large resources, both in terms of human and natural resources, this is why this potential must be managed properly. Entrepreneurship emerged as one of the options for solving problems faced by the general public, such as poverty, social inequality, increasing job security, and reducing energy consumption. This requires creative and innovative policies. This encourages entrepreneurs to develop their businesses by utilizing the digital era, which aims to open the widest possible employment for the community.

Business owners need to develop business strategies by connecting digital technology as business innovation in the era of globalization J.Reis, M. Amori, N. Melao, P. Matos in (Rahmatullah et al., 2020). Digital marketing makes it easy for business people to study and be able to meet consumer needs and expectations. Consumers can also explore cyberspace to find and retrieve the product information they need by simplifying the search process without having to leave the house (Hidi & Zakiah, 2021). In its development, companies are challenged to compete in carrying out product development in order to increase product sales with other companies(Purwanti, Sarwani, 2020).

*Technopreneur* here running a business differently from the company the other, Technopreneurs (entrepreneurs), part of entrepreneurship development, which provides an overview of entrepreneurship through technology-based innovation. The concept of technology planning is based on technology used as a business tool, such as online business application development. with the security system. Technopreneurship is applying its business with the ability of science and technology(Nugroho, Darmawan, & Sulaeman, 2019). The innovators in the field of technology have created new opportunities for the economic development of a country.(Fowosire, R. A, OY, & Elijah, 2017). Companies with marketing, manufacturing, and innovation expertise can be used as a source of excellence for a company(Dalimunthe, 2017).

A new product (good or service) that is offered to the market in an attempt to gain market share is considered as a component of the company's innovation. In addition, the services provided by the company are very important to increase consumer interest in using the company's products or services. According to(Saputri, 2019)Service quality can be seen by comparing the user's expectations with the service received or the actual reality.

## II. METHOD

This research applies a quantitative approach, according to Margono, a quantitative approach can be defined as an approach that apply quantitative methods, where the quantitative approach aims to describe and analyze social phenomena or a phenomenon in society quantitatively and explain the relationship of these phenomena to one another(Sudaryono, 2017). Observations consisting of non-participant observation models, closed questionnaires, and documentation are one of the data approaches used in this study.

Grab users in Rappocini District are included in the study population. The methodology used to take the sample is called the purposive sampling method. Purposive sampling, according to Sugiyono, is a data analysis method that requires certain activities to be carried out. The sample who is the respondent in this case must follow the standards that have been previously set by the researcher(Noeraini & Sugiyono, 2016). In this case, the previous researcher has prepared criteria in determining the sample. The criteria used which is a Grab user in Rappocini sub-district and has been using Grab for 1 year.

In this study the questionnaire was used as a tool in collecting data, using Google Forms as an internet-based data collection option. The use of the instrument aims to observe data that is in accordance with the problem. later This tool provides researcher data so that the scores given are accurate and reliable, using a rating scale, namely the Likert scale. In this section the researcher will provide information about the research tools used in this study.

Table1. Research Instruments

Variable	Indicator	Scale
<i>Technopreneurship</i> (X1)	1. Innovation 2. Proactive (Williams et al., 2021)	<i>Likert</i>
Product Innovation	1. Product quality	<i>Likert</i>

(X2)	2. Service quality (Cappelli & Cini, 2021)	
Service Quality (Y)	1. Responsiveness 2. Reliability 3. Empathy (Sharma, Taggar, & Bindra, 2020)	Likert

Source: Secondary Data

In order for this research to obtain good research results, the data used must be good too, for that it is done Research instrument testing. The results obtained which stated that all items were considered valid and believed to represent which variables X and Y Pearson Correlation Coefficient on one item statement from variables X and Y with the number of statements  $> 0.1666$ , stating that one item is declared valid and one item can represent statements from variables X and Y as well as reliability shows all items are declared reliable and all items have consistent values. Where is Cronbach's Alpha the variable of Grab Application Service Quality. In addition, a hypothesis test was also conducted to answer the problem formulation in this study and a descriptive test to describe the distribution of research instrument data.

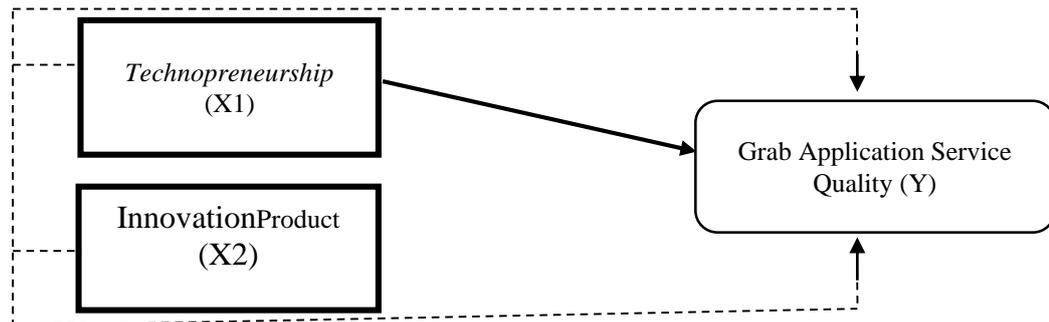


Figure 1. Framework

Based on the framework above, it can be understood that researchers are trying to reveal the influence simultaneously and partially between the independent variables, namely technopreneurship (X1) and product innovation (X2), with the dependent variable being Service Quality (Y).

### III. RESULTS AND DISCUSSION

One aspect of the respondent's characteristics that must be given to characterize the research sample used in this study. 100 respondents representing Grab users in the Rappocini sub-district participated in the survey. To see a description of the characteristics of respondents in the study, it is described as follows.

Table 2. Characteristics of Respondents

Characteristics of Respondents	Frequency	Percentage (%)
<b>Gender</b>		
Man	19	19%
Woman	81	81%
<b>Age</b>		
14-18	14	14%
19-23	76	76%
24-28	8	8%
29-33	1	1%
34-38	1	1%
<b>Last Education</b>		
College/Academy	15	15%
SMA/SMK/MA	76	76%
JUNIOR HIGH SCHOOL	4	4%
SD	5	5%
<b>Type of work</b>		
Teacher	3	3%
Housewife	3	3%
Carriage	4	4%
Student/i	60	60%
Employee	2	2%
Student	19	19%
Unemployment	5	5%
Businessman	4	4%
<b>Marital status</b>		
Marry	5	5%
Not married yet	95	95%

Source: Data Processing Results (2022)

It can be seen in the table above that the survey respondents were dominated by women with a total of 81% or a total of 81 respondents, compared to the male respondents which amounted to 19 respondents with a percentage of 19%. Furthermore, it can be seen that the quality of respondents in this study depends on age, which is dominated by respondents aged 19-23 years with a total of 76 respondents with a rate of 76% of 100 respondents. While the lowest number of respondents aged 29-38 years is only 2 respondents with a percentage of 2%. Furthermore, it is known that the respondents in the study have the type of work that is dominated by students as many as 60 respondents with a percentage of 60%, while the lowest number of respondents is in the work of teachers and housewives, each with a percentage of 3%,

Based on the results of descriptive data processing then can be seen categorization of each variable.

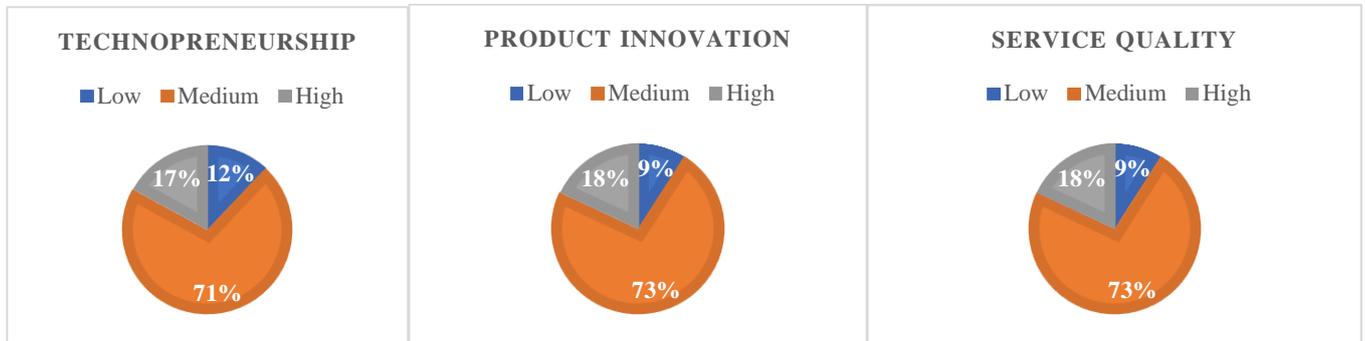


Figure 2 Descriptive Analysis Results

Source: Data Processing Results (2022)

It can be seen in the table above which shows that the variables in this study include technopreneurship (X1), product innovation (X2), service quality (Y) are in the average category of being. In addition, based on the results of data processing multiple linear regression analysis conducted by researchers, shows that the value of a or constant is 11.615, the beta coefficient of the X1 variable is 0.234, beta coefficient and X2 variable is 0.792. Referring to these data, the regression equation contained in this study are:

$$Y = 11.615 + 0.234X1 + 0.792X2 + e$$

Referring to the regression equation above, the detailed explanation can be seen as follows. 1.) the regression equation above can be clarified that a consistent value of 11,615 means that the literacy factor of technopreneurship and product innovation and the quality of Grab application services are considered stable or unchanged, so at that time, the adjustment of the quality of substitute services was 11,615. As mentioned above, the beta coefficient for techpranership is 0.234, which is positive, indicating a positive relationship between the variables of techpranership and service quality. The regression coefficient value is 0.234. This means that the effect of changes in service quality increases by 0.234 for each unit of added value on the technopreneurship variable. 3.) The beta coefficient value for the product innovation variable is 0.792 which has a positive value including a positive relationship between product innovation and service quality. The regression coefficient value of 0.792 means that for every increase in the unit value, the product innovation variable will increase the quality of service by 0.792.

Table 3. Results of Partial Significance Test (T Test)

No.	Variable	t-count	t-table	sig value
1.	Technopreneurship	2,177	1,984	0.032
2.	Product Innovation	6,788	1,984	0.000

Source: Data Processing Results (2022)

In the table above it can be seen that *technopreneurship* (X1) and product innovation (X2) partially have a positive and significant effect on service quality (Y).

Table 4. Simultaneous Significance Test Results (Test F)

ANOVAa						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	894,074	2	447,037	51.065	.000b
	Residual	849.166	97	8,754		
	Total	1743,240	99			
a. Dependent Variable: Service Quality						
b. Predictors: (Constant), Product Innovation, Technopreneurship						

Source: Data Processing Results (2022)

The table above shows the significant value 0.000 with The number of F is 51,065. so that researchers can draw conclusions, namely accepting H3 or rejecting H0, first determine the value of the F table that is used. By using a significance level of 5% and the value of df nk, it is obtained that F table = F (k, nk), and this result gives an F table value of 3.093. Therefore, we can see that the Sig value is 0.000 < 0.05 and the calculated F is 51.065 > 3.093. From these calculations, H0 is rejected and H3 is accepted.

From this we can conclude that the independent variables, namely technopreneurship (X1) and product innovation (X2) simultaneously have a significant influence on the dependent variable of service quality (Y).

Table 5. Results of the Coefficient of Determination

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716a	.513	.503	2,959
a. Predictors: (Constant), Product Innovation, Technopreneurship				
b. Dependent Variable: Service Quality				

Source: Data Processing Results (2022)

Based on the results of data processing in the table above, it is known that the correlation coefficient (R) of 0.716 or 71.6% means that the level of relationship between technopreneurship (X1) and product innovation (X2), on service quality (Y) is strong. The coefficient of determinant R<sup>2</sup> (R Square) is 0.513, which means that service quality (Y) is influenced by technopreneurship (X1) and product innovation (X2) by 0.513 or 51.3% while the remaining 48.7% is influenced by other variables outside of this study.

#### The Effect of Technopreneurship on the Quality of Grab Application Services

Based on the results of the study, if the regression coefficient 2,177 or t count (2,177) t table (1,984) and significance value (0.032) < 0.05 then H<sub>1</sub> is accepted and H<sub>0</sub> is rejected. The influence of technopreneurship has a positive and significant effect, meaning that technopreneurship contributes significantly to the service quality of the Grab application. The findings of this study are in line with several findings such as research conducted by (Rashid, 2017) that service quality has a positive effect on technology utilization, then (Erica & Rashid, 2018) shows that there is a significant effect between service quality and technological progress will improve service quality. The results of the study indicate that the use of technology for companies will assist in conveying information and provide convenience in accessing products and services that consumers want. This means that the better the use of technology used, the quality of service will also be better.

*Technopreneurship* is a method used by businesses to prioritize innovations, identify their biggest problems, and provide solutions to overcome them in order to be more competitive (Okorie, Kwa, Olusunle, Akinyanmi, & Momoh, 2014). Utilization of technology in business activities is a form of business competition (Eko Wahyuanto, 2022). Utilization of technology to provide convenience so that people can easily access public services (Rahman & Nurdian, 2021). As a service company, Grab is here to provide good customer service. By paying attention to comfort, speed and ease of accessing service products when used, through the use of good technology.

According to the marketing theory put forward by (Setiawati, 2017), marketing is an activity that includes the sale, promotion, and pricing of a product or service. Business, which is often referred to as an online marketing strategy or online marketing strategy, is a business that uses online media, such as the use of the internet and applications, to market products or services. From the explanation above, it can be concluded that the use of technology in building a business is very necessary, because if a company has adequate technology, it will provide added value that will attract consumers to use its service products.

#### The Effect of Product Innovation on the service quality of the Grab Application

Based on the results of the partial significance test, if the regression coefficient 6,788 or t count (6,788) t table (1,984) and significance value (0.000) is greater than 0.05 then H<sub>2</sub> can be accepted and H<sub>0</sub> is rejected. The findings of this study mean that product innovations that have been made by Grab can make a positive contribution to the service quality of the Grab Application. Furthermore, the results of the descriptive analysis of the product innovation variable respondents' responses showed 73%, this means that the respondents' responses were in the medium category. This means that product quality and service satisfaction indicators have a positive and significant influence on the quality of Grab application services in Rappocini sub-district.

The results of this study are in line with research that has been studied by (Riana Sari Siagian, 2021), which confirms that there is a relationship between service quality and satisfaction that is influenced by product innovation. These results are in accordance with research conducted by (Zahara, Andreansyah, & Volawati, 2017). who found a good and substantial relationship between product innovation and service quality as measured by the service satisfaction index. The findings of this study indicate that product innovation affects service quality, with the greater the quality of the product or service provided, the customer will be happier with the service, increasing the company's reputation. According to Luthfia, quality can be defined as the ability of a product to perform functions that include handling, ease of use, reliability in the use of service products. (Kodu, 2013)

This research is in line with the marketing theory, Taimine and Karjolotu, explaining that digital marketing is a new approach to marketing that is driven by digital elements. (Kusumawardhani, Kurniawan, & Ningrum, 2020). A marketing activity that the company wants to satisfy its needs through the transaction process. Daryanto defines marketing as a social and management process by which people and groups fulfill their needs and wants by producing, providing and trading goods of value to one another. (Herdioko, 2018). Kotrel claims that in order to meet or exceed customer expectations, marketers or manufacturers must be able to provide the goods that consumers want (Yuliansyah & Management, 2014).

From the explanation above regarding product innovation on service quality, it can be concluded that product or service innovation made by the company is indispensable in building a business, because the product or service is a breakthrough that will be sold by the company to meet the needs or desires of consumers.

#### The Influence of Technopreneurship and Product Innovation on Service Quality

Based on the research, the significance test shows that the significance value is 0.000 and the calculated f value is 51.065 > if the calculation obtained F-table 3.093, then H<sub>3</sub> is accepted and H<sub>0</sub> is rejected. According to the findings of this study, technopreneurship and product innovation all play a role in improving the service quality of the Grab application.

With the existence of technopreneurship in entrepreneurship, it can provide assistance and answer problems related to consumer needs and desires, where in its application companies engaged in this field are able to provide convenience in all things, from easy transaction processes to produce more effective services for their business. When a company is committed to its mission, it is more likely to succeed in terms of product development, allowing the company to outperform competitors (Purwanti, Sarwani, 2020).

Changes in information technology lead to changes in social norms. People's behavior patterns have changed as a consequence of the growth of social media, thanks to faster buying and selling processes, transactions, and larger markets (Cahyono, 2016). Technopreneurship must also succeed in two other ways: first, it must demonstrate that technology can act as a business item and fulfill consumer desires; and secondly, it must be able to be sold to make money and provide benefits in terms of economic, social and environmental value (Ono Suparno, Aji Hermawan, M. Faiz Syuaib, & Eko Nugroho, 2013).

From the explanation above, it can be interpreted that technopreneurship and product innovation can facilitate services so as to attract consumers to use the products or services provided by the company. The use of various technology and product innovations found in the Grab application in the Rappocini district can attract consumers to use their service products, making it easier for consumers to carry out daily activities, especially for grab users in the Rappocini sub-district.

#### IV. CONCLUSIONS

Based on research findings and data analysis, it can be concluded that (1) technology entrepreneurship (X1) and product innovation have a positive and significant effect on service quality (Y) on the Grab application in Rappocini sub-district. (2) Simultaneously, technopreneurship (X1) and product innovation (X2) have a significant effect on Service Quality on the Grab application in Rappocini sub-district.

#### V. ACKNOWLEDGMENT

Our gratitude and appreciation, the writing team, goes to the Economic Education Study Program which has facilitated the research and publication of this article. Thanks are also expressed to anonymous reviewers who have provided valuable suggestions and input to improve this article.

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