The Effect of Product Innovation on Repurchase Intentions Mediated by Consumer Satisfaction of Oppo Smartphone Users

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Abstract
This study aims to determine the effect of product innovation on repurchase intentions mediated by consumer satisfaction on Oppo smartphone users at NAROTAMA University, UBAYA and UKWMS. This study was conducted in the city of Surabaya using path analysis data analysis techniques. The sample size obtained by using the purposive sampling method was 99 respondents. Based on the results of the analysis, it was found that product innovation has a positive and significant effect on consumer satisfaction for Oppo smartphones. Product innovation has a positive and significant effect on the repurchase intention of Oppo smartphone consumers. Consumer satisfaction has a positive and significant effect on the repurchase intention of Oppo smartphone consumers. Consumer satisfaction mediates the positive effect of product innovation on the repurchase intention of Oppo smartphone consumers. The advice recommended by the Oppo smartphone company is to provide the latest innovations for Oppo smartphone products so that users can comfortably use their products and an evaluation is held for each of the latest products or variants, to be able to see the user's needs.

Keywords: Consumer Satisfaction, Product Innovation, Repurchase Intention

1. Introduction
Smartphone is a communication tool that is owned by almost all people of the world from, because the advantages of smartphones have become the needs of today's society. According to Databoks, the population of smartphone users in 2015 was 28.6% and increased in 2018 to 56.2%, meaning that the population of smartphone users will increase every year. As the user population continues to increase, the market will continue to increase. The increasing smartphone market is inseparable from competition for this reason, smartphone companies are required to make the right marketing strategy in marketing their products. One of the strategies implemented is product innovation. Product innovation is the process of creating a new product or system that brings interest to the company and social success to consumers and society or the environment (Philip Kotler & Koller, 2006). Innovation is offering of unique and superior products or services on an ongoing basis. Innovation product produces new products that play an important role in increasing company profitability. So that product innovation is a process that plays a strategic role in reducing costs in the expenditure of goods or services (Fandy Tjiptono, 2019). From the theory above, it can be concluded that product innovation is an important strategy for companies to produce innovative products that adapt to changing times and can provide satisfaction to consumers. Product innovation is a process carried out to improve product quality and display advantages that are not owned by competing products.

Oppo needs product innovation to improve product quality to maintain consumer purchases. Fatmawati and Masrieveastiutu, (2019) in a study entitled "The influence of Product and Price Innovation on Interest in Buying Samsung Smartphone Products” using multiple linear data analysis techniques showed that product innovation had a significant influence on buying interest in Samsung smartphone products. Putra & Kusumadewi (2019) in a study entitled "The Effect of Product Innovation on Buyback Intentions Mediated by Consumer Satisfaction” using the Path Analysis data analysis technique shows that product innovation has a positive and significant influence on consumers' repurchase intentions at Bakery Patisserie & Café Sanur. So, it can be said that product innovation is the reason to attract repurchase interest from consumers. Repurchase intention is the desire and action of consumers in buying a product, because of the satisfaction of a product received (Philip Kotler & Koller, 2006). Repeat purchases occur because of customer satisfaction (Fandy Tjiptono, 2019). From this theory it can be concluded that repurchase intention is an action taken by consumers.
because of their satisfaction with previously purchased products. An increase in repurchase intention reflects an increase in consumer satisfaction with a product. One of the company's goals is not only to find new customers, but also to make customers in repurchasing their products to maintain the company's survival. For this reason, a company needs product innovation so that its customers make repeat purchases.

The existence of repeat purchases cannot be separated from customer satisfaction, as discussed in the research results of Wicaksono, Rachma, Khoirul with the title "The influence of Customer Satisfaction on Customer Repurchase Interest at Distortion Merch Stores in Malang" using a simple linear method regression analysis technique. This study has a positive and significant effect on customer satisfaction toward repurchase interest at Distortion Merch Stores in Malang. So, the result of this study shows that the repurchase intentions occur because of the consumers satisfaction. Satisfied customers generally stay loyal, make more purchases when the company introduces new products and develops its products, do not pay attention to other brands product, voluntarily recommend the company's products to other buyers that are not price sensitive (Philip Kotler & Koller, 2006). Customer satisfaction is seen as "an evaluation that gives results where the perceived experience is at least as good as expected" (Fandy Tjiptono, 2019). It can be concluded that customer satisfaction is an expression in which a consumer feels very happy with the results of the product he bought. In maintaining customer satisfaction, the company need to keep the customer loyal and not switch to other products, brands, or companies. Many companies try to maximize customer satisfaction and not switch to other products, brands, or companies. Many companies try to maximize customer satisfaction because consumers who are satisfied with the purchased product have a positive assessment of the intention to repurchase the product, so that from customer satisfaction the company can form good relationships with customers. Based on the above phenomenon, the following things were found: 1) There is consumer interest in products other than Oppo, with a rapid decline but a slow increase; 2) Lack of repurchases intention for Oppo products, as evidenced by a drastic decline in Oppo products purchase since the first quarter of -2020; 3) Lack of consumer satisfaction with the purchase of Oppo products, purchase instability reflects a lack of consumer satisfaction with Oppo products.

The hypotheses for this study are:

H1: Product innovation has a positive and significant effect on repurchase intention.

Product innovation is closely related to repurchase intentions because consumers have an interest in new products that have better quality than the previous product. The existence of product innovation can increase the added value of a product because innovation can create new products that solve consumer problems from previous products. Innovation can increase the ability to compete with other products which in turn will have an impact on repeat purchases by consumers. So that product innovation is needed to increase repurchases intention. Muchamad Fajar Bahari, (2021), with the research title "The influence of Product Quality and Product Innovation on Repurchase Interests of Canon Brand Digital Cameras (Study on the Jombang Photography Community)" the results of his research stated that product innovation had a positive effect on buying interest in Canon digital camera products. in the Jombang photography community.

H2: Product innovation has a positive and significant effect on consumer satisfaction.

Product innovation is closely related to consumer satisfaction because product innovation can make consumers stick to the company's products, not switch to other brands and not worry about rising product prices. Product innovation provides new value to the product, which makes initially satisfied consumers can continue to stick to the product brand and become more loyal to the company. So that product innovation can increase customer satisfaction. I. B Panca Putra P and Ni Made Wulandari Kusumadewi (2019) The results of their research also state that product innovation has a positive effect on consumer satisfaction.

H3: Consumer satisfaction has a positive and significant effect on repurchase intention.

Consumer satisfaction reflects the quality and image of a product, it also makes it easier for consumers to accept new products from the same brand because they are satisfied with the previous product. When consumers are satisfied with a product, the company has built a good relationship with these consumers indirectly. Consumers will always prioritize the company's brand over other brands when buying a product (loyal consumers), even consumers can become salespeople for other people buy company products. So that customer satisfaction can increase repurchase intentions. Alfari's research, Fauzan (2019), entitled "The Effect of Brand Equity on Repurchase, Premium Prices, Wom and Customer Retention of Samsung S Series Smartphones Mediated by Customer Satisfaction in Surabaya" states in the results of his research that customer satisfaction has a positive and significant effect on smartphone repurchase Samsung in Surabaya. If customer satisfaction increases, then the intensity of repeat purchases will be higher.

H4: Product innovation has a significant effect on repurchase intention if it is through consumer satisfaction.

This model scheme explains that consumer satisfaction mediates the positive effect of product innovation on consumer purchase intentions, as shown in the following figure:
2. Methodology

The research approach used in this study is a quantitative approach. According to (Sugiyono, 2018) Quantitative research methods are methods based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, data analysis is quantitative/statistical, with the aim of testing predetermined hypotheses. According to (Sugiyono, 2018) Population is all elements that will be used as generalization areas, population elements are all subjects to be measured which are the units under study. The population in this study was students who used Oppo smartphones. In general, this study aims to determine consumer satisfaction which mediates the effect of innovation product on consumer repurchase intentions significantly. This research was conducted at Narotama University, Surabaya University and Widya Mandala University Surabaya by targeting students who have already used Oppo smartphones, with the reason to win the competition in the smartphone field. The Oppo smartphone company must be able to develop product innovation by presenting good smartphones to consumers so that they have a sense of satisfaction with the Oppo smartphone company.

The objects in this research are students from Narotama University, Surabaya University and Widya Mandala University Surabaya. The variable of consumer satisfaction mediates the effect of product innovation on repurchase intention significantly.

The type of data used is quantitative. Sources of primary and secondary data used such as giving questionnaires to respondents. The indicators in this study use 3 indicators consisting of six questions from the product innovation variable, eight questions from the consumer satisfaction variable and eight questions from the repurchase intention variable.

Validity test is a test carried out to test the validity of research results if there are similarities between the data collected and the data that occurs in the object under study. Items that are positively correlated with a high total score and correlation indicate that these items have high validity. The minimum requirement to be considered eligible is r = 0.3. So, if the correlation between items with a total score of less than 0.3 then the items on the instrument are declared invalid (Sugiyono, 2018). Reliability test is a test carried out to find out the results of two or more measurements of the same symptoms with the same measuring instrument. The results of the study can be trusted, if there are similarities in data at different times (Sugiyono, 2018). The author uses Cronbach's Alpha coefficient by using the SPSS facility to see the reliability of each instrument. The instrument is said to be reliable if the Cronbach alpha coefficient value is > 0.6.

The data analysis technique used in this research is path analysis technique. Path analysis test used to test the effect of intervening or mediating variables. Analytical test results are used to compare which effect is greater between direct and indirect effects, so that it can be seen that there are mediating variables that can strengthen or weaken the independent effect on the dependent (Ghozali, 2018).

The direct effect of product innovation (X) on consumer satisfaction (M) is indicated by the path coefficient a, the direct effect of product innovation (X) on repurchase intentions (Y) is indicated by the path coefficient c, and the effect of consumer satisfaction (M) on repurchase intentions (Y) is indicated by the path coefficient b. The indirect effect of product innovation (X) on the value of repeat purchases (Y) is obtained by multiplying a by b.

The mediation hypothesis can be tested by performing a procedure developed by Sobel (1982) known as the Sobel test (Ghozali 2018). The Sobel test is used to test the strength of the indirect effect of the product innovation variable (X) on the repurchase intention variable (Y) through the consumer satisfaction variable (M) which is calculated by multiplying the path coefficient X against M (a) with the path coefficient M against Y(b), or ab. The standard error coefficients a and b are written as $S_a$ and $S_b$, the magnitude of the indirect effect is $S_{ab}$. 

![Figure 1. Conceptual Framework](image-url)
3. Result and Discussion

3.1. Result

Table 1. Summary of Validity Test Results

| Indicator | R count | R table | Description |
|-----------|---------|---------|-------------|
| X.1       | 0.642   | 0.3     | Valid       |
| X.2       | 0.562   | 0.3     | Valid       |
| X.3       | 0.563   | 0.3     | Valid       |
| X.4       | 0.639   | 0.3     | Valid       |
| X.5       | 0.696   | 0.3     | Valid       |
| X.6       | 0.762   | 0.3     | Valid       |
| Y.1       | 0.842   | 0.3     | Valid       |
| Y.2       | 0.792   | 0.3     | Valid       |
| Y.3       | 0.814   | 0.3     | Valid       |
| Y.4       | 0.789   | 0.3     | Valid       |
| Y.5       | 0.765   | 0.3     | Valid       |
| Y.6       | 0.729   | 0.3     | Valid       |
| Y.7       | 0.588   | 0.3     | Valid       |
| Y.8       | 0.672   | 0.3     | Valid       |
| M.1       | 0.772   | 0.3     | Valid       |
| M.2       | 0.616   | 0.3     | Valid       |
| M.3       | 0.490   | 0.3     | Valid       |
| M.4       | 0.603   | 0.3     | Valid       |
| M.5       | 0.707   | 0.3     | Valid       |
| M.6       | 0.447   | 0.3     | Valid       |
| M.7       | 0.494   | 0.3     | Valid       |
| M.8       | 0.672   | 0.3     | Valid       |

The table above shows that each variable indicator has a person correlation value greater than 0.30, then this means that the indicators/questions used are appropriate to measure what should be measured and can reveal data from the variables studied appropriately.

Table 2. Reliability Test

| Cronbach’s Alpha | Cronbach’s Alpha Based on Standardized Items | N of Items |
|------------------|---------------------------------------------|------------|
| 0.758            | 0.948                                       | 23         |

The table above shows that the value of Cronbach’s Alpha for all variables used is > 0.6, this means that the measuring instrument will give consistent results if the measuring instrument is used to examine the same object.

Table 3. Recapitulation of Structure Regression Results 1

| Model     | Coefficientsa          | Standardized Coefficients | Beta | t     | Sig.  |
|-----------|------------------------|---------------------------|------|-------|-------|
| 1         | (Constant)             | B: 10.300                 | 2.215| 4.650 | 0.000 |
|           | Product Innovation_X   | 0.903                     | 0.091| 0.710 | 9.933 | 0.000 |

Based on the report in the table above, the structural equations are as follows:

Z: 0.71x1+0.496
Se: 0.000
T: 9.933
R2: 0.515
Based on the SPSS test of individual parameters, the results of the individual product innovation test show an standardized beta coefficient value of 0.710 and a significance value of 0.000, a significance value less than 0.05 then H2 is accepted. Thus, it can be concluded that product innovation has a significant positive effect on consumer satisfaction.

**Table 4. Recapitulation 2 structural regression results**

| Unstandardized Coefficients | Standardized Coefficients |
|-----------------------------|---------------------------|
| Model                       | B  | Std. Error | Beta | T   | Sig.  |
| 1 (Constant)                | -5.287 | 3.629    | -1.457 | .148 |
| Product Innovation_X       | 1.036 | .191     | .541  | 5.419 | .000  |
| Customer Satisfaction_Z    | .350  | .150     | .232  | 2.325 | .022  |

Based on the individual parameter SPSS test, the results of the individual product innovation test show an standardized beta coefficient value of 0.541 and a significance value of 0.000, less than significance value of 0.05, then H1 is accepted. Thus, it can be concluded that the product innovation variable has a significant positive effect on repurchase intention.

The results of the individual consumer satisfaction test show the standardized coefficients beta value of 0.232 and a significance value of 0.022, less than significance value of 0.05, then H3 is accepted. Thus, it can be concluded that consumer satisfaction has a significant positive effect on repurchase intentions.

The calculation results show the comparison of the calculated z value of 2.899 > z table of 1.96, then H0 is rejected and H1 is accepted. This means that consumer satisfaction mediates the effect of product innovation on consumer repurchase intentions on Oppo smartphone consumers.

**3.2. Discussion**

From the analysis above, it is obtained that the significance of 0.000 is smaller than 0.05 so that it can be concluded that product innovation has a direct effect on repurchase intention. The results of Muchamad Fajar Bahari's research, (2021), with the research title "The influence of Product Quality and Product Innovation on Repurchase Interests of Canon Brand Digital Cameras (Study on the Jombang Photography Community)" in his research results stated that product innovation had a positive influence on product repurchase interest. Canon digital camera in the Jombang photography community. It was found that there is significance because innovation in a product can increase value of the product. In addition to providing added value, the product that is innovated also has an increase in the quality of the original product so that it can increase the ability to compete with other products which in turn will have an impact on consumer interest in making repeat purchases of the product.

From the above analysis, the significance value of 0.000 is smaller than 0.05, so it can be concluded that product innovation has a direct effect on consumer satisfaction. The results of research by I. B Panca Putra P and Ni Made Wulandari Kusumadewi (2019) also stated that product innovation has a positive effect on consumer satisfaction. It is found that there is significance because product innovation provides an increase in the quality of the product and the ability to compete with other brands, which makes it difficult for consumers to turn away from the product. Innovation provides new value for a product and encourages consumers to be interested and continue to stick to the product brand.

From the analysis above, a significance value of 0.022 is obtained which is smaller than 0.05, so it can be concluded that consumer satisfaction has a direct effect on repurchase intentions. Alfarisi's research, Fauzan (2019), entitled "The influence of Brand Equity on Repurchase, Premium Prices, Wom and Customer Retention of Samsung S Series Smartphones Mediated by Customer Satisfaction in Surabaya" states in the results of his research that customer satisfaction has a positive and significant influence on smartphone repurchase Samsung in Surabaya. It is found that there is significance because consumers who are satisfied with a product will form good trust in the brand by itself, this is what makes consumers have the confidence to make repeat purchases.
Consumer satisfaction reflects the quality and image of a product, making it easier for consumers to accept new products from the same brand because they are satisfied with the previous product. Indirectly, consumers who are satisfied with a product will always prioritize the brand of the product compared to other brands when buying the same product.

From the Sobel test, it is known that the t value of 2.899 is greater than z table 1.96 so it can be concluded that product innovation has an influence on repurchase intention through consumer satisfaction. I. B Panca Putra P and Ni Made Wulandari Kusumadewi (2019) Their research results also state that consumer satisfaction positively mediates the influence of product innovation on consumers repurchase intentions. Significance was found because the existence of innovation in a product can have a positive effect on consumer satisfaction, satisfied consumers will have a positive effect on the occurrence of repeat purchases of the same product.

4. Conclusion & Suggestion
4.1. Conclusion
Based on research on product innovation carriers on repurchase intention mediated by consumer satisfaction of Oppo smartphone users, the researcher makes several conclusions to answer the problem formulation and hypotheses that have been stated previously. The conclusions that can be drawn consist of:

Direct effect:
1. Product innovation (X) has a positive and significant effect on repurchase intention (Y) on student who using smartphone Oppo in Surabaya. This shows that the better the product innovation, the higher the level of repurchase intention for Oppo smartphones.

2. Product innovation (X) has a positive and significant effect on consumer satisfaction (Z) on student who using smartphone Oppo in Surabaya. This shows that the better the product innovation, the higher the level of satisfaction of Oppo smartphone users.

3. Consumer satisfaction (Z) has a positive and significant effect on repurchase intention (Y) on student who using smartphone Oppo in Surabaya. This shows that the better the consumer satisfaction, the higher the level of satisfaction of Oppo smartphone users.

Indirect effect, product innovation (X) has a positive and significant indirect effect on repurchase intention (Y) through consumer satisfaction (Z) on student who using smartphone Oppo in Surabaya. This shows that the better the product innovation provided to customers, the higher the satisfaction of smartphone users, thus encouraging repeat purchase intentions.

4.2. Suggestion
From the conclusions above, the researcher provides suggestions and inputs that need to be considered by the Oppo smartphone company for future improvements. The suggestions are 1) Providing the latest innovations for Oppo smartphone products so that users can comfortably use their products; 2) An evaluation is carried out for each new product or variant, to be able to see user needs; 3) Consistently presenting products that innovate so that they can compete with other smartphone products.

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