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The Influence of Customer Involvement and Social Networking Sites on Innovation Performance

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Abstract– ***This research discusses how customer engagement and social networking sites influence business performance. The population in this study were buyers or connoisseurs of dodol products in the Garut Regency. This type of research is quantitative research with a descriptive approach. The sample used was 97 dodol customer respondents in Garut Regency who were distributed using a questionnaire via Google Form media and then processed using the SPSS statistics 26 and SmartPLS 3 applications using purposive sampling. The analysis used in this research is the outer model test, inner model test, and hypothesis test, which are carried out using the R-square value, direct effect, bootstrap, and t-statistic methods. This research aims to determine the influence of customer involvement on innovation performance and the influence of social networking sites on innovation performance. The results of this research state that customer involvement influences innovation performance, which influences 64.03%, and social networking sites influence innovation performance, which influences 21.96%. The results of these two hypotheses show that the variables can control each other with a high value at that time. So it can be concluded that there is an influence of customer involvement on the innovation performance of dodol products in Garut Regency as well as enthusiasm (enthusiasm), attention (attention), absorption (absorption), interaction (interaction) and identification (identification) which are very supportive of several indicators in performance innovation in dodol products in Garut Regency and that there is an influence of social networking sites on the innovation performance of dodol products in Garut Regency as well as social communities, social media platforms and social media .***

Keywords: Customer Engagement; Innovation Performance; Social Networking Site

I. INTRODUCTION

While previous research primarily highlighted internal factors, more recent research directions now consider how a company's external factors can influence a company's innovative performance [1]. Innovation consists of the process of creating new ideas and knowledge to facilitate the development of new businesses. The dynamic perspective argues that knowledge arises from ongoing interactions between organizational members, and attention is focused on the intangible aspects and the organization's capabilities in managing, developing, and changing these intangible aspects to create added value [2]and [3] New cognition is required for innovation, and the formation of new knowledge in organizations deserves attention and care. This step can, in turn, spark innovation by inspiring new approaches and creating space for the birth of new knowledge [4]. Thus, researchers propose opening company access is a crucial strategic step because unique and valuable expertise often lies with partners or external parties outside the company [5] and [6].

As new product development increasingly requires diverse capabilities, especially when entering new local markets, companies are increasingly inclined to engage in collaborative innovation. This is due to increasingly complex and diverse challenges, which require various skills and resources that may not be fully owned by a single company. Therefore, collaboration in innovation becomes more important in overcoming these barriers [8]. This allows them to engage with users, gather information, and harness their creativity, resulting in superior innovation performance [9]. By building strong and interactive relationships with customers through social media, companies can gather valuable input, drive innovation-based customer needs, and direct the development of products that better meet their expectations [10].

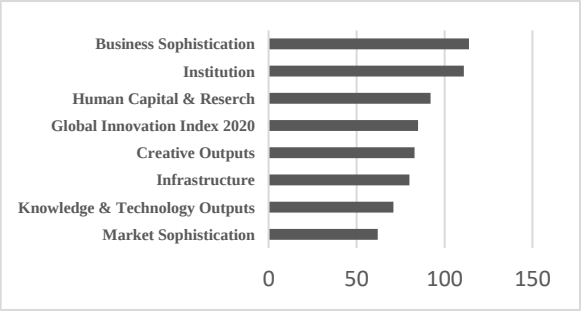

Figure 1. Indonesia Innovation Performance
Source : [7]

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The government in the Garut region has a special focus on the development of Micro, Small and Medium Enterprises (MSMEs) because of their important role in the regional economy. MSMEs play a very significant role in the dental legal sector and are proven to be able to make an important contribution to the economy. Garut Regency, which is also known as a home furnishing industrial area, has a major role in dodol production in West Java. This is marked by the large number of dodol production spread across various cities in West Java, with Chocodot being the current superior product.

Tabel 1. Dodol Industry Production Value Produced by the Garut Dodol Industry (2016-2022)

Years	Production (000)			GROWTH
	Formal	Non Formal	Total	
2016	3,835,250	13,925,280	17,760,530	-
2017	5,322,625	23,158,280	28,480,905	60,3%
2018	5,322,625	32,525,500	37,848,125	32,8%
2019	5,322,625	32,525,500	37,848,125	0,0%
2020	5,322,625	28,202,500	33,525,125	-11,4%
2021	5,322,625	28,200,500	33,525,125	0,0%
2022	4,322,500	15,824,480	20,146,980	42,3%

Based on the data above, it can be seen that from 2016 to 2021, the production of the dodol industry in Garut Regency 2021 fluctuated, as seen in Table 1.2; the output value in 2017 and 2018 was IDR 28,480,905,000 and IDR 37, respectively. 848,125,000. This represents an increase in production value of IDR 10,720,375,000 and IDR 9,367,220,000 or 60.3% and 32.8% respectively. However, if we look at next year, 2019, the production value could be more stable. This means that the production value of the Garut dodol industry in 2019 was the same as in 2018, namely IDR 37,848,125,000. The output value of the Garut dodol industry in 2020 fell to IDR 4,323,000,000 with a percentage of -11.4%, while the output value of the Garut dodol industry in 2021 did not change at all from 2020, namely IDR 33,525,125,000. And finally, in 2022, the output value of the Garut dodol industry will be IDR 20,146,980, which is a decrease from the previous year. So, from the description of the table above, the innovation performance of several Dodol MSME business units has decreased from year to year. Researchers want to know how customer involvement and social networking sites influence innovation performance. This study contributes to the literature regarding the role and implications of customer involvement in improving innovation performance. This research is intended to develop previous research that discusses customer involvement and social networking sites from the customer side on dodol products in Garut Regency.

II. LITERATURE REVIEW

Innovation Performance

Innovation performance can be defined as the extent to which a company's innovation process succeeds in producing results that lead to significant renewal or improvement of products or services, production processes, marketing methods, or organizational methods in the business context, corporate work environment, or external relations [8]. Innovation performance is a form of performance that involves the application of new elements to improve the overall quality of the company [9]. Innovation can indeed be defined as a source of competitive advantage that comes from ideas to create quality, efficiency, speed, and flexibility that benefit the company [3]. These dimensions can be divided into four categories, namely dimensions that measure the results of innovation from an economic perspective, dimensions that measure the intensity of innovation in a business unit, dimensions that measure the effectiveness of innovation and investment, and dimensions that measure how widespread the creative culture is in a company [10]

Customer Engagement

Customer engagement encompasses how connected, involved, and invested consumers feel in a product, service, or experience and how this influences how they interact with a brand or company and their purchasing decisions [11]. In the digital and social media era, customer involvement can build solid relationships and sustainable brand awareness [12]. Based on the research results (Firdaus, 2021), the researcher revealed that customer engagement has multiple dimensions. All of them state that four dimensions can identify the level of customer

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involvement in innovation performance, namely: 1) The importance of self-expressive importance: products that help people to express their self-concept to other people/society, 2) The importance of hedonism (hedonic importance): products that can please, excite, excite, interest and enchant, 3) Practical relevance: products that are fundamental or useful for valuable reasons, 4) Purchase risk (purchase risk): products that create uncertainty due to bad choices will be very disruptive [13]. Meanwhile, according to research results by Laurent and Kapferer (2021), customer involvement is measured using measurement dimensions for the following items: 1. Product class involvement, 2) Purchase decision involvement [13]. Finally, according to [12], the dimensions that measure customer engagement are 1) enthusiasm (enthusiasm), which means that there is a reflection of the level of interest and enthusiasm of customers about a product or service brand, 2) attention (attention) which means that there is interaction and attention between the owner of the product or service and the customer/buyer about a product or service, 3) absorption, which means that there is an inability or attachment to escape after interacting with other customers about a product or service, 4) interaction, which means that there is the interaction between the customer and the seller of the product or service, 5) identification, which means that there is a reflection of the customer's sense of unity towards the product or service[12].

Social networking

In an increasingly connected global business ecosystem, social networking sites and similar digital platforms are essential for adapting to change and exploiting opportunities in an ever-changing environment [14]. The advantage of this social networking site is that it allows people to interact with others worldwide at a cheaper cost than using the telephone. In addition, with the existence of social networking sites, information can spread quickly. Currently, social networking websites are the websites that get the most visits after search engine websites. In certain conditions, social networking websites are even the websites with the highest visits [15].

Based on research results [14], it explains that the dimensions contained in social networking sites include: 1. Social community, namely a collection of individuals whose members each have the same vision, mission, and goals. 2. Social media platforms, namely online media, where users can share and participate in them, such as search engines, social networks, blogs, virtual worlds, etc. And 3. Social media capabilities are the capabilities of online technology in searching for information [14].

Hypotheses

Hypotheses in research function as theory testers, explaining social phenomena in society, making it easier to create a framework for conclusions, and providing research direction. Based on the problem formulation that has been described, the hypothesis in this research is as follows:

Ha1: There is a positive influence of customer involvement on innovation performance.

Ho1: There is no positive influence of customer involvement on innovation performance.

Ha2: Social networking sites have a positive influence on innovation performance.

H02: Social networking sites have no positive influence on innovation performance.

III. RESEARCH METHODS

Based on the problem Statement, the nature of the research method used on this occasion is an explanatory research method because this research has the nature of examining the level of relationship between customer involvement variables and social networking sites on innovation performance where the researcher measures three variables, which must understand and describe the relationship statistics between them. Quantitative research places great emphasis on objective results through distributing questionnaires. Data can be obtained objectively and tested using a validity and reliability process [1]. This study uses the Structural Equation Model Partial Least Square (SEM-PLS) with Smart PLS to assess whether there is a positive relationship between customer involvement and social networking sites on dodol products in the Garut Regency. SEM-PLS is suitable for this research because it focuses on predictive data. Factor and path models characterize SEM-PLS—measurement with intervals on a Likert scale. Respondents indicate the value of using customer engagement and social networking sites in the innovation process on a five-point Likert scale, where code 1 means strongly disagree and code 5 means strongly agree. The questions are divided into three measurements, namely (1) customer engagement, (2) social networking sites, and (3) innovation performance. This research uses probability sampling because the total number of members in the population

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is unknown, and it provides equal opportunities for each element (member) of the population to be selected as a member of the sample, using Simple Random Sampling as a sample determination technique in his research. Simple Random Sampling. Based on the Cochran formula, the number of samples is 97 samples,

All questionnaire items on customer engagement instruments, social networking sites, and innovation performance were declared valid based on the validity test. This instrument on customer engagement consists of 10 statement items, six innovation performance questions and 6 social networking questions with a total of 30 respondents which meet the validity testing criteria, where if the t value > t table then the questionnaire distributed is declared valid. This shows that questionnaire items on customer engagement instruments, social networking sites, and innovation performance used to measure what should be measured. The reliability test results for all variables show that the questionnaire instrument for customer involvement, networking sites, and performance is declared reliable because the Alpha-Cronbach value is > 0.60.

IV. RESULTS AND DISCUSSION

Outer Model

The outer model test can be carried out in two ways, namely by using a construct validity test and by using a reliability test. The construct validity test consists of two parts: convergent validity and discriminant validity. Testing the outer model provides reliability and validity analysis value, which measures how far the indicator can explain the latent variable. Validity and reliability tests were carried out using Smart-PLS software with a sample of 97 respondents. The following are the findings from testing the structural outer model:

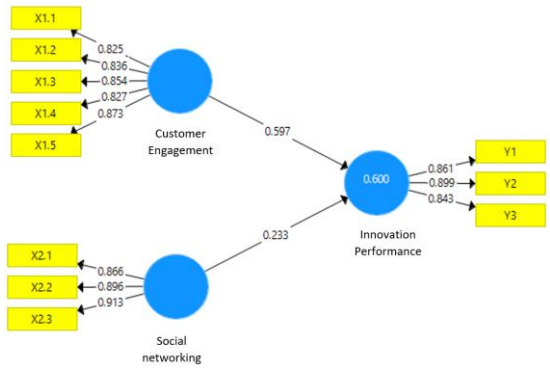

Figure 2. Algorithm Analysis Results

Convergent Validity Test

Table 2. Outer Loading Values

Variable	Indicator	Outer Loading	Result
Customer Engagement	X1.1	0.825	VALID
	X1.2	0.836	VALID
	X1.3	0.854	VALID
	X1.4	0.827	VALID
	X1.5	0.873	VALID
Social Networking	X2.1	0.866	VALID
	X2.2	0.896	VALID
	X2.3	0.913	VALID
Innovation Performance	Y1	0.861	VALID
	Y2	0.899	VALID
	Y3	0.843	VALID

Based on Table 2, it can be concluded that the loading factor values for all indicators in the three variables above are declared valid, whereas in a condition, the loading factor value is > 0.70. This can mean that all indicators are valid with the highest loading factor values at X2.2 and Y2, namely 0.899 and 0.913

Table 3. Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)	Result
Social Networking,	0.711	VALID
Customer engagement,	0.754	VALID
Innovation Performance	0.795	VALID

Based on Table 3, it can be concluded that the AVE value of the customer engagement variable is > 0.5, with a value of 0.711. Then, for the AVE of the social networking site variable > 0.5 with a value of 0.754. Then, finally, there is the innovation performance variable > 0.5 with a value of 0.795. It shows that each variable has good discriminant validity.

Table 4 Reliability Test

	Cronbach's Alpha	rho_A	Composite Reliability
Customer engagement	0.899	0.904	0.925

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Innovation Performance	0.836	0.837	0.902
Social Networking	0.872	0.886	0.921

Table 4 shows that the Cronbach's Alpha value of the customer engagement variable is 0.899, the social networking site variable is 0.872, and then finally, there is the innovation performance variable with a value of 0.836. Apart from that, there is a composite reliability value with a customer involvement variable of 0.925. Next is a social networking site variable with a value of 0.921 and then an innovation performance variable with a value of 0.902. It can be concluded that the three variables are declared valid because Cronbach's alpha value is > 0.60 and the composite reliability value is > 0.70.

Structural Model Testing (Inner Model)

Table 5. R Square Value

	R Square	R Square Adjusted
Innovation Performance	0.600	0.591

Table 5 shows that the R square value of the simultaneous effect of X on Y is 0.600 with an adjusted R honest value of 0.591. It indicates that customer involvement and social networking sites simultaneously influence innovation performance by 0.591, showing the moderate influence of customer involvement and social networking sites.

Hypothesis testing

Hypothesis testing decides whether the hypothesis being tested is accepted or rejected. To see whether a hypothesis can be accepted or rejected, consider the significance value between variables, t-statistics, and p-value. These values can be seen from the bootstrapping results. The rules of thumb used in this research use t-statistics > 1.96 with a significance level of p-value of 0.05 (5%), and the beta coefficient is positive. Hypothesis testing in this research uses direct effect, indirect effect, and total effect tests.

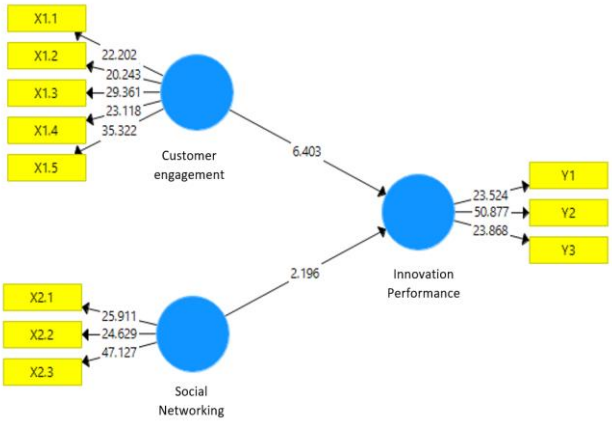

Figure 3 Model Bootstraping

Hypothesis Test 1: Direct Influence Between Customer Engagement On Innovation Performance.

Table 6. Hypothesis Test 1

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
customer engagement ->innovation performance	0.597	0.598	0.093	6.403	0.000

Based on Table 6, the parameter coefficient for customer involvement in innovation performance is 0.597. The higher the X value, the higher the Y value will be. Increasing customer engagement units will increase innovation performance by 59.7%. Based on bootstrap calculations, the estimated coefficient test results for customer involvement in innovation performance are 0.597, and the standard deviation is 0.093. The t-statistics is 6.403 > 1.96, and the p-value is 0.000 < 0.05, which shows that Ho is rejected and Ha is accepted. This means that customer involvement has a positive and direct influence on innovation performance significantly. This is directly proportional to previous research conducted [16] which stated that the impact of customer involvement on innovation performance had a very positive effect. This is because solid customer information processing capabilities enable SMEs to search and analyze complex information and identify new insights from customer engagement, thereby creating new knowledge that is beneficial to their new product/service development[16] and [17].

Hypothesis Test 2: Analysis Of The Direct Influence Of Social Networking Sites On Innovation Performance

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Table 7. Hypothesis Test 2

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Social Networking -> Innovation Performande	0.233	0.237	0.106	2.196	0.029

Based on Table 7, it can be seen that the parameter coefficient for the social networking site variable on innovation performance is 0.233, which means that there is a positive influence and a direct influence, or it can be interpreted that the higher the X value, the Y value will also increase. Increasing social networking site units will increase innovation performance by 23.3%. Based on calculations using bootstrapping or resampling, the estimated coefficient test results for social networking sites on innovation performance are 0.237 with a standard deviation value of 0.106 and a t statistics value of 2.196 > 1.96, and a p-value of 0.029 <0.1 so it can be concluded that Ho is rejected. Ha is accepted, which means that social networking sites have a direct and positive influence with moderate intensity on innovation performance which does not have a very significant effect. This is in line with research conducted by [14] which states that the influence of social networking sites on innovation performance has a positive effect. However, it has little impact. Relevant entrepreneurial thoughts are emerging from this analysis: (1) the ability of entrepreneurs to create innovation and (2) entrepreneurs' desire to create solid collaborations with digital environmental systems. Intensive use of knowledge can motivate entrepreneurs to get out of routine and produce innovation. Therefore, entrepreneurs can implement new combinations: knowledge, experience adoption, and collaborative approaches. This approach requires discovering, realizing and exploiting new ideas [14].

Total Effect

The total effect is the total influence, which is the result of adding direct to indirect influence. The full effect of this research is as follows:

Table 8. Total Variable Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Customer engagement -> Innovation Performance	0.597	0.598	0.093	6.403	0.000
Social Networking -> Innovation Performance	0.233	0.237	0.106	2.196	0.029

Table 8 shows that the magnitude of the parameter coefficients, both directly and indirectly, for these three variables is declared statistically significant. The highest parameter coefficient is for the customer involvement variable, 0.597, with an estimated coefficient test of 0.598, a standard deviation of 0.093, and a statistical t-value of 6.403. Next is the magnitude of the parameter coefficient on the social networking site variable on innovation performance, namely 0.233 with an estimated coefficient test of 0.237, a standard deviation of 0.106, and a statistical t value of 2.196. Both hypotheses have a t-statistic value > 1.96 and a p-value of 0.000 < 0.05, so Ho is rejected, and Ha is accepted, which means there is a direct influence between customer involvement and social networking sites on innovation performance, which is statistically significant.

V. CONCLUSIONS AND RECOMMENDATIONS

Research on customer involvement in innovation performance has a positive influence, where the customer involvement variable influences innovation performance, which shows that the influence exerted is strong enough to be statistically significant. So, it can be concluded that customer involvement influences the

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innovation performance of dodol products in Garut Regency as well as enthusiasm, attention, absorption, interaction, and identification, which are very supportive of several indicators in innovation performance in dodol products in Garut Regency. Based on the enthusiasm indicator when innovating dodol products, there is a high level of enthusiasm from the customer and company side in improving the innovation performance of dodol products, and attention to innovation performance has more interaction and attention to dodol products in Garut Regency.

Furthermore, the social networking site variable which influences innovation performance is. So it can be concluded that the influence of social networking sites on the innovation performance of dodol products in Garut Regency and social communities, social media platforms and social media capabilities are not very supportive of several in

Researchers recommend that policymakers create an official website for dodol product customers in Garut Regency, which aims to review, review and provide suggestions related to dodol products so dodol entrepreneurs can continue to innovate in a better direction and compete with other products.

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