

The Influence of Digital Marketing and Product Innovation on Product Development Performance at XYZ Juice

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Keywords:	Abstract
digital marketing, product innovation, product development performance	This study aimed to evaluate the effects of digital marketing and product innovation on product development performance at XYZ Juice. The research focused on the Chia Seed topping innovation by utilizing sales data from XYZ Juice before and after the innovation during the period from February to May (covering pre-fasting, fasting, and post-fasting months). The t-test results indicated a decline in the number of cups sold following the product innovation, although the overall sales revenue remained relatively unchanged. The study further examined buyer responses through a survey to assess the effects of digital marketing and product innovation on product development performance. Data were collected from 230 respondents through Google Forms and analyzed using SmartPLS. The findings revealed that the independent variables collectively had a significant effect on the dependent variable ($0.000 < 0.05$). The R-square value of 0.171 indicated that digital marketing and product innovation explained only 17.1% of the variance in product development performance. Individual correlation tests showed that digital marketing did not have a significant effect on product development performance ($p\text{-value} = 0.316 > 0.05$), whereas product innovation had a significant effect ($p\text{-value} = 0.000 < 0.05$). These results suggested that the owner of XYZ Juice should investigate other factors that account for the remaining 82.9% of the variance in product development performance, as digital marketing did not demonstrate a significant contribution. This finding may be related to the predominantly middle- to lower-income characteristics of the Bonang area community; therefore, further research on consumer behavior in this region is recommended.

INTRODUCTION

Today, global businesses have numerous opportunities across various industries, including fashion, food and beverage, automotive, entertainment, and healthcare (Aldabous, 2024; Kant, 2024; Patil et al., 2024; Turner, 2024). In highly competitive markets, innovation is a key factor in achieving competitive advantage, requiring entrepreneurs to demonstrate creativity in developing and implementing new ideas for products and services. Innovative entrepreneurs typically possess a clear vision, the willingness to take risks, and the ability to execute new concepts effectively. Product innovation serves as an important strategy for competing in various industries, as demonstrated by technological advancements such as PlayStation and food innovations such as ayam geprek. Every business requires continuous product development to sustain growth and competitiveness (Agustian et al., 2023; Farayola et al., 2023; Hadi, 2025; Jusuf, 2022; Kalandarovna & Qizi, 2023; Opresnik, 2023). Mixue Bingcheng is a successful example in the food and beverage industry, which, through product innovations such as ice cream and tea products, has attracted significant attention from the Indonesian market since entering the country in 2020. Initially, Mixue introduced new products, including kiwi fruit tea, kiwi smoothies, and passion fruit jasmine tea, which were successfully accepted by consumers and contributed to increased sales. Subsequently, Mixue

developed additional product innovations, such as mascot-shaped beverage bottles, which successfully attracted young consumers and school-aged children, as reflected in the popularity of its merchandise among these groups. The success of innovation can be assessed through product quality, digital marketing strategies, and strategic effectiveness, as measured by product development performance (Al Koliby et al., 2024; Arista & Hermawan, 2025; Jung & Shegai, 2023; Martynenko et al., 2023; Masrianto et al., 2022; Sundari et al., 2025). This study aimed to examine the effects of product innovation and digital marketing on product development performance using XYZ Juice as a case study, as XYZ Juice was considered a potential emerging brand in the food and beverage industry. Therefore, it provided a relevant context for examining whether product innovation and digital marketing influenced product development performance (Cooper R., 2019; Chaffey D., 2023). XYZ Juice, which entered the market in February 2023, successfully launched a product innovation called Combination Juice in October 2023 to increase sales of other fruit variants and optimize inventory management. Through this innovation, XYZ Juice increased its sales performance and expanded its brand awareness among consumers. Building upon this development, XYZ Juice introduced another product innovation, such as Chia Seed toppings, which was expected to strengthen its market competitiveness.

The urgency of this research lies in the rapid digital transformation of the Indonesian food and beverage sector, where small and medium-sized enterprises (SMEs) must adapt quickly to maintain competitiveness. Recent studies indicate that SMEs often face challenges in implementing effective digital marketing strategies due to limited resources, inadequate technological infrastructure, and resistance to technological change. Understanding the factors that contribute to product development performance is essential for SMEs to allocate their limited resources more effectively.

The novelty of this research lies in examining the relationship between product innovation and digital marketing within the context of a local Indonesian juice brand while considering the unique seasonal characteristics of the fasting month and analyzing the differential effects of these factors on product development performance. This study contributes to the existing literature by providing empirical evidence from a specific geographic context characterized by predominantly lower-middle-income consumers, a segment that remains relatively underexplored in mainstream marketing research.

Because this research was conducted from February to May 2024, it coincided with the fasting month period, which may have influenced the results of the t-test analysis. Therefore, this study provides a unique opportunity to examine the effects of digital marketing and product innovation on product development performance within a specific seasonal context. This case study focuses on the relationship between digital marketing, product innovation, and product development performance.

METHOD

This study employed a quantitative approach using a survey method to collect numerical data from XYZ Juice customers who purchased Chia Seed toppings. The survey was conducted using a Google Forms-based questionnaire consisting of two independent variables, namely digital marketing (X1) and product innovation (X2), and one dependent variable, product development performance (Y). Primary data were collected directly from respondents through

questionnaires and interviews, while secondary data were obtained from relevant journals, books, articles, and XYZ Juice sales records. The sample was selected using a non-probability sampling method with an accidental sampling technique. Data analysis was performed using SmartPLS, including validity, reliability, correlation, t-test, and structural model analyses. Data processing using the outer model included convergent validity, discriminant validity, composite reliability, and average variance extracted (AVE), while the inner model analysis included R-square, F-square, and Q-square. All statistical analyses used a 5% significance level as the evaluation standard. The literature review was conducted to support the research framework, while data collection was carried out using a Google Forms questionnaire.

RESULTS AND DISCUSSION

The results that have been obtained from the T-test on sales data with excel are also with the results of the questionnaire processed with SmartPLS. With the results that have been obtained, the researcher can provide the right discussion related to the daily and reality that occurs in XYZ Juice. Data

The sales used are sales data for Chia Seed Topping and Fruit Juice which are categorized into 3 periods (before the fasting month, during the fasting month, after the fasting month).

Table 1 Results of the T test of the Glass before the presence of Chia Seed and after the presence of Chia Seed during fasting

Keterangan	Gelas 1	Gelas 2
Mean	148,862069	103,1613
Variance	1400,051724	1795,273
Observations	29	31
Hypothesized Mean Difference	0	
df	58	
t Stat	4,434885789	
P(T≤t) one-tail	0,0000208	
t Critical one-tail	1,671552762	
P(T≤t) two-tail	0,000041657	
t Critical two-tail	2,001717484	

Seen in table 1, which is the statistical data of the average glass before the existence of Chia Seed and after the presence of Chia Seed during fasting, it can be seen that the P value is smaller than the measure, which is alpha 5%. From these results, researchers concluded that Chia Seeds have a negative influence on the sales of fruit juice, whether or not the average glass before Chia Seed is larger than after Chia Seed. So Chia seeds have an impact but negatively, but the decrease in the average glass occurs due to the fasting month. So these results cannot be used as the only guide, there are still other factors from *sales* and also the period after fasting. There was a drastic decrease because many of the consumers followed the fasting month, and reduced the purchase of XYZ Juice products. So the researcher processed the T test for the period after fasting.

Table 2 Results of the T test Glass before Chia Seed and after Chia Seed after fasting

Keterangan	Gelas 1	Gelas 2
Mean	148,8621	120,9355
Variance	1400,052	1309,729
Observations	29	31
Hypothesized Mean Difference	0	
df	57	

t Stat	2,93514
P(T≤t) one-tail	0,002399
t Critical one-tail	1,672029
P(T≤t) two-tail	0,004799
t Critical two-tail	2,002465

Table 2 shows that there is an increase in the average sales value of Chia Seeds, then it can also be seen that the P value is still below the alpha value of 5%. So that Chia Seed still has a negative influence on the sales of fruit juice, this can happen because Chia Seed is a topping, toppings in quantity will follow the sale of fruit juice. A small quantity does not necessarily have a value value or small *sales* value, so there are still *sales factors* that can be calculated and processed with the T test.

Table 3 T Sales test results before Chia Seed with after Chia Seed during fasting

Keterangan	Sales 1	Sales 2
Mean	2200482,759	1703580,645
Variance	313745044334,975	455509451612,903
Observations	29	31
Hypothesized Mean Difference	0	
df	57	
t Stat	3,110950323	
P(T≤t) one-tail	0,001455901	
t Critical one-tail	1,672028888	
P(T≤t) two-tail	0,002911802	
t Critical two-tail	2,002465459	

Table 3 shows that the average *sales* value before the existence of Chia Seeds is greater than after the existence of Chia Seeds, the P value is smaller than the alpha value of 5%. So Chia Seed has a negative influence on the sale of fruit juice. Chia Seed toppings do not have their own quantity in sales, and the price of toppings also tends to be small, coupled with the fasting month. So that these factors have an impact on sales data. Researchers need to process Chia Seed sales data after fasting, to prove that the fasting factor has a great impact on Chia Seed sales.

Table 4 T Sales test results before Chia Seed and after Chia Seed after fasting

Keterangan	Sales 1	Sales 2
Mean	2200482,759	2081612,903
Variance	313745044334,975	401187178494,623
Observations	29	31
Hypothesized Mean Difference	0	
df	58	
t Stat	0,771162004	
P(T≤t) one-tail	0,221870641	
t Critical one-tail	1,671552762	
P(T≤t) two-tail	0,443741281	
t Critical two-tail	2,001717484	

As seen in table 4, the statistical data shows that the average value of *sales* before Chia Seed is higher than sales after Chia Seed. However, the P value is different from the previous one, in this table it can be seen that the P value is greater than the alpha 5%. So that Chia Seeds do not have a negative effect, although the average value of Chia Seed sales is lower than the sales before Chia Seed, but the statistical processing of the T test will be different even though the average value is lower than the comparator. So this gives the impression that Chia Seed

helps stabilize the sales of fruit juice, Chia Seed's attractiveness and customer interest in the topping helps to give relevance to the XYZ Juice menu (Saputra G., 2020) & (Sheila S., 2019).

This shows from the day to day sales side, but researchers want to know from the customer's point of view before buying Chia Seed. What makes them buy Chia Seed, whether it is because of *digital marketing* or because of the existence of interesting innovative products. So the researcher distributed the questionnaire in the month after fasting, namely May 1, 2024 to May 31, 2024, then the data was collected and processed with SmartPLS using 2 models, namely *the outer model*, and *the inner model*.

Table 5 Cross Loading Digital Marketing, Product Innovation, and Product Development Performance

	Digital Marketing	Product Development Performance	Product Innovation
D1.1	0.748	0.223	0.405
D1.10	0.734	0.244	0.551
D1.2	0.702	0.189	0.490
D1.5	0.831	0.229	0.558
D1.6	0.835	0.295	0.512
D1.7	0.838	0.282	0.497
P2.1	0.563	0.281	0.806
P2.3	0.455	0.305	0.799
P2.5	0.454	0.287	0.737
P2.6	0.485	0.325	0.791
P2.8	0.522	0.333	0.797
P2.9	0.559	0.426	0.832
PD1.1	0.300	0.782	0.398
PD1.10	0.132	0.706	0.195
PD1.11	0.088	0.750	0.203
PD1.12	0.200	0.786	0.317
PD1.2	0.389	0.796	0.424
PD1.9	0.165	0.796	0.232

In table 5, there are different *loading factors* for each variable. The green *Loading Factor* indicates that the data is valid, and reliable. The table above has gone through the process of *convergent validity* and *discriminant validity*. elimination of *factor loading* that has a value below 0.7 (Ghozali & Latan, 2015). So that the *loading factor* below this value will be removed, then run again until it is green. If it is green, the data can be directly proceeded to another assessment process, namely *average variance extracted*.

Table 6 Average Variance Extracted

	Average variance extracted (AVE)
Digital Marketing	0.613
Product Development Performance	0.593
Product Innovation	0.631

In table 6, the *average variance extracted* data has a green value, which has met the requirements for *convergent validity* feasibility, because these values exceed the correlation value as the comparison value of 0.5 (Ghozali & Latan, 2015). The next process that must be passed is *composite reliability*.

Table 7 Composite Reliability

	Composite reliability (rho_c)
Digital Marketing	0.905
Product Development Performance	0.897
Product Innovation	0.911

Table 7 shows the construct values as *composite reliability*, if the construct values are below

the comparative value of 0.7, then the construct value is unreliable. It is also seen that the construct values for *digital marketing*, *product innovation*, *product development performance* are above 0.7, which indicates that they are reliable with the green color. So that this data can be used and used as a guide in research, then the researcher uses an inner model to continue data processing in SmartPLS.

Table 8 Results of the F test analysis

	Sum square	df	Mean square	F statistic	P value
Total	272.706	203	0.000	0.000	0.000
Error	247.150	201	1.230	0.000	0.000
Regression	25.556	2	12.778	10.392	0.000

The definition of the F test in this study is to see whether *the variables of digital marketing and product innovation* simultaneously have an influence on *product development performance*. If the results of the analysis of the F test show a green color, this indicates that there is a simultaneous influence. So that the P value above is smaller than the alpha value of 5%, then the researcher continues the research by testing *the R-Square* or R determination. To find out how strong the relationship between the two independent variables is in influencing dependent variables, *digital marketing and product innovation on product development performance*.

Table 9 R-Square Results

	R-square	R-square adjusted
Product Development Performance	0.179	0.171

The purpose of *R-Square* or R determination is to find out the strength of the relationships of variables in a study. Using Chin's theory in Ghazali's book, it is known that there are 3 divisions, above 0.67 which means substantial or strong relationship strength, above 0.33 which means moderate or moderate relationship strength, and the last one above 0.19 which means weak or small relationship strength. In this case, the R-value of the determination is 0.17, so this indicates a weak relationship. These results encourage researchers to further investigate whether the two variables do indeed have an influence or only one of the variables that affects *product development performance*, so that the results can show a weak relationship. Then the researcher continued the research by testing *the path coefficient* between independent variables and their dependents, to analyze the relationship of the variables partially or individually. So that in the final we know what independent variables have an influence on the dependent variables.

Table 10 Results of the Path Coefficient of Digital Marketing and Product Innovation variables on Product Development Performance

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P Values
Digital Marketing -> Product Development Performance	0.082	0.094	0.082	1.002	0.316
Product Innovation -> Product Development Performance	0.366	0.372	0.082	4.488	0.000

Table 10 shows that there are 2 *outputs of the path coefficient*, the first of which is the result of *digital marketing to product development performance* showing red. This happens

because the P value is higher than the alpha value of 5%, so *digital marketing* does not affect *product development performance*. Then the second result has a difference from the first result, *product innovation* to *product development performance* shows the color green. Because the P value is lower than the alpha value of 5%, *product innovation* has an influence on *product development performance*. With some of the results of the research above, researchers can provide conclusions and suggestions related to this case study.

CONCLUSION

Based on the results of this study, it can be concluded that digital marketing and product innovation simultaneously had a significant effect on product development performance, with a p-value of $0.000 < 0.05$. However, the contribution of these variables was relatively low, accounting for 17.9% based on the R-square value, which indicated a weak explanatory level. The partial test results showed that digital marketing did not have a significant effect on product development performance, with a p-value of $0.316 > 0.05$, whereas product innovation had a significant effect on product development performance, with a p-value of $0.000 < 0.05$. These findings indicated that improvements in XYZ Juice's product development performance were more strongly associated with the company's product innovation capabilities than with digital marketing strategies. This condition also reinforced the results of the low R-square value, as only one independent variable was found to significantly explain variations in product development performance. Therefore, XYZ Juice was advised to prioritize product innovation strategies through improvements in product price, design, functionality, and size to better meet consumer needs. Considering that the majority of respondents in Bonang belonged to the lower-middle-income group, conventional marketing strategies based on push marketing, such as discounts, direct promotions, and product trial activities, may be more effective than digital marketing strategies. In addition, future research should consider consumer behavior factors and geographical characteristics of the marketing area to obtain a more comprehensive understanding of the factors affecting product development performance.

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