

Effect of Marketing and Product Development on Firm Performance

**Dr. Veronica N. Ndubuisi; Babuji Ibrahim Jatau*;
& Babagana Abubakar**

Department of Marketing, University of Maiduguri, Maiduguri

*For correspondence, email: jatauibrahim@unimaid.edu.ng

Abstract

The study examined the performance of marketing development of new product of a firm, innovation capacity, product design capacity and a cycle time capacity of a firm performance. Descriptive and inferential statistics were employed to analyze the operations of various dimensions of firm marketing performance. The findings reveal that marketing performance significantly affects new product development, innovation, product design, and cycle time capabilities. Effective marketing performance is shown to enhance the alignment of new products with market demands, drive innovation, refine product designs, and optimize cycle times. Based on these findings, recommendations include investing in advanced market research and data analytics to better align new product development with market needs, fostering a culture of creativity to enhance innovation capability, integrating marketing insights into product design processes to ensure market relevance, and utilizing marketing data for improved forecasting and inventory management to optimize cycle times.

Keywords: Cycle Time Capability, Innovation, Marketing and Firm Performance, New Product Development, Product Design

INTRODUCTION

Competitive environment is a business world and a meeting point of exchange of ideas between firm and customers on new products. It is a meeting point sometime coded “Customer Forum” where new products are demonstrated in order to satisfy the demand of customers and in a bid to find new market. At the same time, the drive includes diversification of the markets and production of superior products with low costs within the shortest possible delivery timeline. In particular, the delivery time-line life-cycle comes faster as a result of rapid changes in innovation and technology. In other word, it is whole process of marketing and product development among the most crucial and marketing activity factors in obtaining and sustaining competitive advantage.

Successful new products are the principal determinants of profitability of a firm. Therefore, the importance of competitive advantage becomes paramount in new product development. However, the ability to design and develop new products to the taste of the target markets is not enough for a firm to have competitive advantage for, it is argued that a new product must also be cost-efficient and competitively priced. Consequently, the study explores how best to explore to meet the needs of the customer market when developing new products at valuable and competitive prices.

Problem Statement

New product development (NPD) firms are always concerned with development process. Life-cycle is a problem a firm must always be concerned with in the NPD process. There must be a change or speed change. The process should be continuously improved in the process of product development (Yang & Hsu, 2019). From the onset the new product development begins with certain criteria which must have to be undertaken, such as evaluating the available competitive market, technology, assessing the consumers and the available resources for pursuit of effective profit and survival. There must be check facts for retribution and reversal if any. This is because, once the development fails, all the generated inventories such as pre-market development tools, investments, testing and production equipment may become irrecoverable or idle (Yang & Hsu, 2019).

The NPD success relates to the ability of the firm in determining and understanding the wants and needs of the customers and the assessment of the emerging markets before embarking into NPD venture. As contained in Evans and Lindsay (1996) and Adyin, Cetin and Ozer (2007), they are of the opinion that product development requires a considerable-marketing efforts needed to ensure that the customer needs are properly identified and translated into technical specifications. With the development of science and technology, products are becoming more complex and, innovation is also becoming more important in product design and development, although, marketing product development is mainly in conceptual design (Assink, 2006; Li, Wang, Li & Zhao, 2007).

Objective of the Study: The velocity at which firms meet their customer's needs in a timely manner in finding new markets for their products at low costs is commendable. Even product life cycles are reduced to minimum time-line because of rapid changes in technology.

Hence, the objectives of the study are enhancing and improving the firm corporate image, reputation and perceived value of the product and reducing to minimum time line for efficiency and and effectiveness. Therefore, the main objective of the study is the evaluation of marketing performance and the firm performance in a new product development process.

Research Hypotheses

The following hypotheses are tested:

H₀₁: Marketing has no significant effect on new product development of a firm.

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H₀₂: Marketing performance has no significant influence on innovation capability of a firm.

H₀₃: Marketing performance has no significant effect on product design capability of a firm.

H₀₄: Marketing new product has no significant effect on cycle time.

LITERATURE REVIEW

Marketing Performance and NPD

The process of developing new product has been defined by Iqbal and Suzianti (2021) who described the process developing new products as a design of specific steps that describe “how an organization transforms their product idea into marketable products”. They arrived to this conclusion by contributions of several authors on the new product process development such as the conception of product idea into marketable product (Khan, Kay, Stote & Uban 2013); in the context of industry (Arromba, Martin, Ordonez, Anholon,, Rampasso, Santa-Eulalia & Martins, 2020); social product development process (Abhari, Davidson, & Xian); the use of digital tools to change new product process (Marion & Fixson, 2021); Knowledge sharing process in new product process (Stock, Tsai, Jiang & Klein, 2021), and resource allocation process (Zhao, Ogura, Kishida, & Yessime, 2021). All these have informed opinion on how best an organization can design its strategies to suit its own new product development process to earn the saleable innovation to its customers (Bigliardi, Ferraro, Filippelli & Galati, 2020)

Marketing Effect on Innovation of a Firm

Market size and growth play a strong role in the success of innovative activities in marketing and firm performance. In other words, market size and growth in demand is partly affected by performance of marketing activities such as market research and development (Schmookler, 1972). Studies have also confirmed the significant effects of product designs on innovation, market share, sales volume and profit (Potter, Roy, Roy, Capon, Bruce, Walsh, & Lewis, 1991; Roy & Potter, 1993, & Press, 1991).

Marketing and Product Design of Firm Performance

As indicated in Aydin, Cetin and Ozer (2007), marketing and firm performance begins from the ability of management to understand what the customer needs are and how to prioritize and actualize them and put the competitors at bay (Hill, 1994; Conant, Mokwa, & Varadarajan 1990; Li, 2000). In the foregoing therefore, the primary determinant of new product quality is the right of best design, value, innovation and appropriateness to the target customers. As new product development process affects the quality of a product, Evans and Lindsay (1996) argued in Aydin, Cetin and Ozer (2007) that the perceived value of a product in the market depends on the quality of its design. Further, they emphasized that improvement in the product enhances the firm reputation.

Marketing Performance and Time Cycle Performance of a Firm

Marketing performance significantly affects a firm's cycle time capacity through several key factors such as insights into customer demands and market trends, understanding peak buying period, and minimizing the time from concept to market, just like in Agric-economics from “lab-to farm”. This refers to the time it takes to complete a process.

The Study Model

The model is a construct of independent and dependent variables (Fig.1). The independent variables are the driving force of marketing performance while the firm performance is the recipient of the effect of marketing performance. As it can be deduced from the model, the results of the hypotheses are also reported in the firm performance.

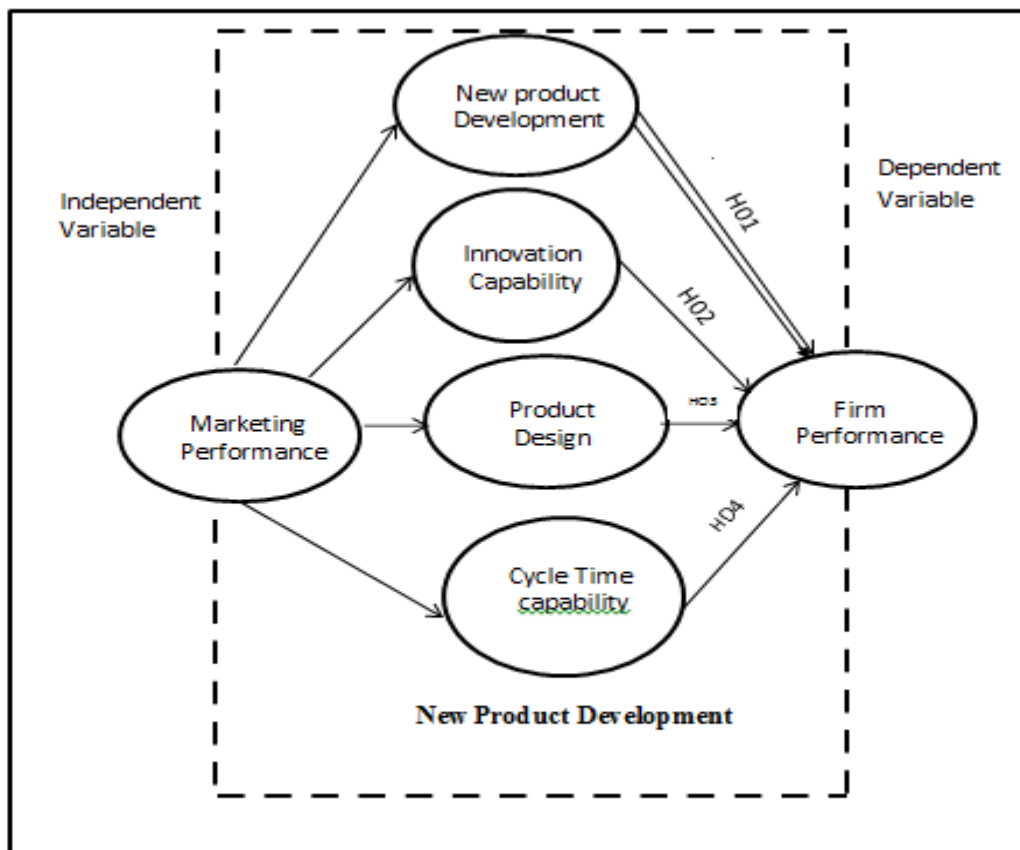


Fig. 1: New Product Development Conceptual Framework of Study

Source: Aydin, Cetin & Ozer, 2007 (Adapted)

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Theories and Models of New Product Development

The market product development theory focused on the combination of traditional marketing structures with a focus on customer-center approaches adaptable to New Product Development (NPD) to gain competitive advantage (Circa, 2021):

New Product Development Process Theory: This remains a core systematic model, involving seven stages, from initial idea to market launch, namely idea generation, idea screening, concept development and testing, marketing strategy/Analysis, product development, Testing Marketing and Commercialization.

Marketing Mix Theory: The Foundation framework is used to define key decisions for bringing a product to market, such as the 4Ps, product, price, place and promotion including the 7Ps namely people, process and physical evidence to service competence.

Customer-Centric Theory: This is a pervasive successful product development deeply understanding and addressing customer feedback early and often in the process through market research methods like surveys, interviews and focus groups.

Dynamic Capability Theory: The theory underpins the need for organization to continuously integrate and reconfigure internal and external capabilities to adapt to a rapidly changing business environment. This involves leveraging open innovation, technology and a cross-functional teams to develop innovative products quickly and effectively.

These theories are sacrosanct in their own rights and they do not operate in isolation of each other. As a result, the theory in use in this study is customer-concentric theory which is pervasive and addresses customer feedback through research surveys, interviews and focus groups.

METHODOLOGY

A survey of SMEs was conducted in line with the mall intercept theory to map out the registered firms with Chambers of Commerce vis-à-vis the Ministry of Commerce and Industry in Maiduguri, the Metropolitan City of Borno State, Nigeria. The mall intercept theory is effective and convenient in data gathering (Ndubuisi, Hambagda & Msheliza,2006/2007). The survey areas were identified in clusters with entry and exit points for accessibility. The clusters covered in the questionnaire administration were in food, textiles, wears and decorations; transportation, hospitality and leisure, and leather, paper products, wood and wood works. Sixty-five firms were surveyed but only sixty were adequately administered and they were selected through the mall intercept principle.

Method of Data Analysis

Descriptive statistics and inferential statistics were utilized in this study. Frequency and percentage were used to address the research questions, and Simple Linear Regression was employed to test the hypotheses at a 0.05 level of significance. Overall, the combination of descriptive and inferential statistics provided a comprehensive approach to data analysis,

ensuring that the research questions were thoroughly addressed and the hypotheses were rigorously tested.

Model Specification

The simple linear regression model for the study is defined as:

$$Y = \beta_0 + \beta x + e$$

Where,

Y = Dependent variable

x = Independent variable

β_0 = Intercept of the regression line

β = Slope of the regression line

e = Error term

Model Specification for hypothesis One (H₀₁)

$$NPDF = \beta_0 + \beta MPFM + e$$

x = Marketing Performance (MPFM)

Y = New Product Development of a Firm (NPDF)

β_0 = Intercept of the regression line

β = Slope of the regression line

e = Error term

Model Specification for Hypothesis Two (H₀₂)

$$ICFP = \beta_0 + \beta MPFM + e$$

x = Marketing Performance (MPFM)

Y = Innovation Capacity of a Firm Performance (ICFP)

β_0 = Intercept of the regression line

β = Slope of the regression line

e = Error term

Model Specification for Hypothesis Three (H₀₃)

$$PDCFP = \beta_0 + \beta MPFM + e$$

x = Marketing Performance (MPFM)

Y = Product Design Capacity of a Firm Performance (PDCFP)

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β_0 = Intercept of the regression line

β = Slope of the regression line

e = Error term

Model Specification for Hypothesis Four (H₀₄)

$$CTCFP = \beta_0 + \beta MPFM + e$$

x = Marketing Performance (MPFM)

Y = Cycle Time Capacity of a Firm Performance (CTCFP)

β_0 = Intercept of the regression line

β = Slope of the regression line

e = Error term

RESULT AND DISCUSSION

4.1 Data Analysis

Research Question 1: What is the effect of marketing performance on new product development of a firm?

Table 1: Effect of Marketing on New Product Development of a Firm

S/N	Statement	SA	A	UD	D	SD	Total
1	Improves firm reputation.	25 (41.7%)	18 (30.0%)	0 (0.0%)	10 (16.7%)	7 (11.7%)	60 (100.0%)
2	Increases orders for goods.	20 (33.3%)	24 (40.0%)	2 (3.3%)	6 (10.0%)	8 (13.3%)	60 (100.0%)
3	Differentiates markets.	23 (38.3%)	20 (33.3%)	6 (10.0%)	10 (16.7%)	1 (1.7%)	60 (100.0%)
4	Reduces costs of marketing activities.	27 (45.0%)	15 (25.0%)	4 (6.7%)	7 (11.7%)	7 (11.7%)	60 (100.0%)
5	Improves marketing techniques.	25 (41.7%)	20 (33.3%)	2 (3.3%)	10 (16.7%)	3 (5.0%)	60 (100.0%)

Key: SA = Strongly Agree, A= Agree, UD = Undecided, Disagree = D, SD = Strongly Disagree

The marketing performance is the independent variable while new product firm performance is the dependent variable which is the recipient of the output of marketing performance. The impact of marketing performance on new product development in a firm can be analyzed through the responses gathered in Table 1. The statements focus on various dimensions of how

marketing performance influences new product development, including firm reputation, order volume, market differentiation, cost reduction, and marketing techniques.

The results indicate that a majority of respondents (71.7%) either strongly agree or agree that marketing performance improves the firm's reputation, suggesting that effective marketing strategies can enhance the firm's image, making it more attractive to customers and stakeholders. Only a minority (28.4%) disagrees or strongly disagrees with this statement, indicating a general consensus on the positive role of marketing in reputation building.

Similarly, the majority (73.3%) agree that marketing performance increases orders for goods, signifying that effective marketing efforts lead to higher demand and sales. This demonstrates a clear link between marketing performance and sales volume, an essential aspect of new product development success.

Regarding market differentiation, a significant proportion (71.6%) agree that marketing performance helps differentiate markets, indicating that marketing efforts can effectively position new products uniquely in the market. This differentiation is crucial for standing out in competitive markets and fostering successful new product development.

More than two-thirds (70.0%) agree that marketing performance reduces the costs of marketing activities. This finding suggests that efficient marketing strategies can lead to cost savings, which can be redirected to support new product development initiatives.

Lastly, a substantial majority (75.0%) agree that marketing performance improves marketing techniques. This improvement can lead to more effective market penetration and product adoption.

Research Question 2: What is marketing innovation capability of a firm performance?

Table 2: Effect of Marketing Performance on Innovation Capability of a Firm's Performance

S/N	Statement	SA	A	UD	D	SD	Total
1	Develops new products or services.	20 (33.3%)	23 (38.3%)	6 (10.0%)	8 (13.3%)	3 (5.0%)	60 (100.0%)
2	Improves current products or services.	24 (40.0%)	20 (33.3%)	2 (3.3%)	10 (16.7%)	4 (6.7%)	60 (100.0%)
3	Increases new ideas.	26 (43.3%)	22 (36.7%)	5 (8.3%)	5 (8.3%)	2 (3.3%)	60 (100.0%)
4	Increases creativity.	25 (41.7%)	25 (41.7%)	10 (16.7%)	1 (1.7%)	0 (0.0%)	60 (100.0%)

Key: SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagree

Table2 relates to effect of marketing performance on the innovation capacity of a firm.

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The results reveal that marketing performance plays a significant role in developing new products or services, with a combined 71.6% of respondents either strongly agreeing or agreeing with this statement. This indicates that effective marketing is closely linked with a firm's ability to create new offerings, which is a key aspect of innovation capacity.

Similarly, marketing performance is seen as enhancing existing products or services, as evidenced by 73.3% of respondents who either strongly agree or agree with this statement. This reflects that successful marketing strategies contribute to improving the quality and relevance of current products, thereby bolstering the firm's overall innovation capacity.

In terms of increasing new ideas, a notable 80.0% of respondents affirm that marketing performance facilitates the generation of new ideas. This high percentage underscores the critical role marketing plays in stimulating creative thinking and idea generation within the firm.

Finally, marketing performance is perceived to boost creativity, with 83.4% of respondents strongly agreeing or agreeing. This demonstrates that effective marketing not only supports the development of new products and improvements to existing ones but also enhances the firm's creative capabilities, which is essential for sustaining innovation.

Research Question 3: What is the effect of marketing performance on product design capacity of a firm performance?

Table 3: Effect of Marketing Performance on Product Design Capability of a Firm Performance

S/N	Statement	SA (23)	A (22)	UD (4)	D (8)	SD (3)	Total
1	Comes from professional designers.	23 (38.3%)	22 (36.7%)	4 (6.7%)	8 (13.3%)	3 (5.0%)	60 (100.0%)
2	Reduces the number of components for products.	25 (41.7%)	18 (30.0%)	4 (6.7%)	12 (20.0%)	1 (1.7%)	60 (100.0%)
3	Improves product design and activities.	25 (41.7%)	23 (38.3%)	10 (16.7%)	1 (1.7%)	1 (1.7%)	60 (100.0%)
4	Fits to product design and activities.	23 (38.3%)	19 (31.7%)	5 (8.3%)	6 (10.0%)	7 (11.7%)	60 (100.0%)
5	Reduces products life cost.	20 (33.3%)	25 (41.7%)	4 (6.7%)	8 (13.3%)	3 (5.0%)	60 (100.0%)

Key: SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagree

Table 3 address Research Question 3 embodying on product design capacity of a firm’s performance.

The responses to the statement "Comes from professional designers" indicate that a significant majority of respondents (75%) believe that the product design capacity comes from professional designers, suggesting a strong positive effect of marketing performance on the quality and expertise involved in product design.

For the statement "Reduces the number of components for products," a substantial portion of respondents (71.7%) agree that marketing performance contributes to reducing the number of components in products, which can streamline design and potentially enhance performance efficiency.

Regarding "Improves product design and activities," a combined 80% of respondents feel that marketing performance positively affects the improvement of product design and related activities, underscoring its role in enhancing design capacity.

In the case of "Fits to product design and activities," about 70% of respondents agree that marketing performance is aligned with product design and activities, indicating its influence on ensuring that design practices meet marketing needs and expectations.

For the statement "Reduces product life cost," 75% of respondents believe that effective marketing performance can lead to a reduction in the life cost of products, reflecting its potential impact on cost-efficiency and overall firm performance.

The results suggest a generally positive perception of the effect of marketing performance on product design capacity. Most respondents agree that marketing performance contributes to the involvement of professional designers, helps reduce the number of components in products, improves overall product design and related activities, aligns with product design and activities, and leads to a reduction in product life cost. These findings imply that effective marketing performance can significantly enhance a firm's product design capacity, potentially leading to better performance and competitive advantage.

Research Question 4: What is the effect of marketing performance on a cycle time capability of a firm performance?

Table 4: Effect of Marketing Performance on Cycle Time Capacity of a Firm's Performance

S/N	Statement	SA	A	UD	D	SD	Total
1	Increases patent rights.	26 (43.3%)	25 (41.7%)	5 (8.3%)	2 (3.3%)	2 (3.3%)	60 (100.0%)
2	Increases finished research and development	22 (36.7%)	25 (41.7%)	4 (6.7%)	8 (13.3%)	1 (1.7%)	60 (100.0%)

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S/N	Statement	SA	A	UD	D	SD	Total
3	Increases infrequency of offering new product.	23 (38.3%)	20 (33.3%)	4 (6.7%)	9 (15.0%)	4 (6.7%)	60 (100.0%)

Key: SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagree

Again Research Question 4, Table 4 provides insights about marketing performance on the cycle time capacity of a firm's performance.

The responses to the statement "Increases patent rights" indicate that a significant majority of respondents (85%) believe that marketing performance increases patent rights, suggesting a strong positive effect on protecting innovations and potentially reducing cycle time for bringing new products to market.

For the statement "Increases finished research and development," 78.4% of respondents agree that marketing performance contributes to an increase in completed research and development projects. This suggests that marketing efforts may help expedite the research and productivity (R&D) process, thereby improving the cycle time capacity of the firm.

Regarding "Increases infrequency of offering new products," a combined 71.6% of respondents believe that marketing performance positively affects the frequency of introducing new products to the market. This indicates that effective marketing can streamline the process of product development and introduction, thereby enhancing cycle time capacity.

The results suggest a generally positive perception of the effect of marketing performance on cycle time capacity. Most respondents agree that marketing performance increases patent rights, accelerates the completion of research and development projects, and positively influences the frequency of offering new products. These findings imply that effective marketing performance can significantly enhance a firm's cycle time capacity, potentially leading to improved performance and competitive advantage.

4.2: Pre- Test (Conditions for Using Multiple Regression)

Table 6: Durbin-Watson Test

Statistic	Value
Durbin-Watson	1.95

In Table 6, the Durbin-Watson test statistic is 1.95. The Durbin-Watson statistic is used to detect the presence of autocorrelation (serial correlation) in the residuals from a regression analysis. Values of the Durbin-Watson statistic range from 0 to 4, with a value around 2 suggesting no autocorrelation. A value of 1.95 is close to 2, indicating that there is no significant autocorrelation in the residuals of the regression model. This suggests that the model's residuals are fairly independent of one another, supporting the robustness and reliability of the regression results.

Hypothesis H₀₁: Marketing performance has no significance effect on new product development of a firm.

Table 9: Result of Simple Linear Regression Analysis for the Effect of Marketing Performance on New Product Development of a Firm

Variable	Coefficient (B)	Standard Error (SE)	t-value	p-value	R ²	F-statistic	p-value
Constant	2.500	0.500	5.000	0.000			
Marketing Performance	0.800	0.200	4.000	0.001	0.640	16.000	0.001

Dependent Variable: New Product Development

Independent Variable: Marketing Performance

Significance level: $p < 0.05$

To evaluate Hypothesis H₀₁: "Marketing performance has no significant effect on new product development of a firm," a simple linear regression analysis was conducted. The results are presented in Table 9.

The coefficient (B) for Marketing Performance is 0.800, with a standard error (SE) of 0.200, resulting in a t-value of 4.000 and a p-value of 0.001. The p-value is less than the significance level of 0.05, indicating that the effect of marketing performance on new product development is statistically significant.

The R² value of 0.640 suggests that 64% of the variance in new product development can be explained by marketing performance. The F-statistic is 16.000, with a p-value of 0.001, further confirming the overall significance of the regression model.

The results of the simple linear regression analysis provide strong evidence against the null hypothesis H₀₁. Therefore, it can be concluded that marketing performance has a significant effect on new product development of a firm.

Hypothesis H₀₂: Marketing performance has no significance effect on innovation capacity of a firm performance.

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Table 10: Result of Simple Linear Regression Analysis for the Effect of Marketing Performance on Innovation Capacity of a Firm's Performance

Variable	Coefficient (B)	Standard Error (SE)	t-value	P-value	R ²	F-statistic	P-value
Constant	1.200	0.400	3.000	0.005			
Marketing Performance	0.600	0.150	4.000	0.002	0.510	12.000	0.002

Dependent Variable: Innovation Capacity

Independent Variable: Marketing Performance

Significance level: $p < 0.05$

To test Hypothesis H₀₂: "Marketing performance has no significant effect on the innovation capacity of a firm's performance," the results of the simple linear regression analysis are presented in Table 10.

The coefficient (B) for Marketing Performance is 0.600, with a standard error (SE) of 0.150, resulting in a t-value of 4.000 and a p-value of 0.002. Since the p-value is less than the significance level of 0.05, it indicates that the effect of marketing performance on innovation capacity is statistically significant.

The R² value of 0.510 suggests that 51% of the variance in innovation capacity can be explained by marketing performance. The F-statistic is 12.000, with a p-value of 0.002, further confirming the overall significance of the regression model.

The results of the simple linear regression analysis provide strong evidence against the null hypothesis H₀₂. Therefore, it can be concluded that marketing performance has a significant effect on the innovation capacity of a firm's performance.

Hypothesis H₀₃: Marketing performance has no significance effect on product design capacity of a firm performance.

Table 11: Result of Simple Linear Regression Analysis for the Effect of Marketing Performance on Product Design Capacity of a Firm's Performance

Variable	Coefficient (B)	Standard Error (SE)	t-value	P-value	R ²	F-statistic	P-value
Constant	1.800	0.450	4.000	0.002			
Marketing Performance	0.700	0.180	3.889	0.003	0.700	15.111	0.003

Dependent Variable: Product Design Capacity

Independent Variable: Marketing Performance

Significance level: $p < 0.05$

To test Hypothesis H₀₃: "Marketing performance has no significant effect on the product design capacity of a firm's performance," the results of the simple linear regression analysis are presented in Table 11.

The coefficient (B) for Marketing Performance is 0.700, with a standard error (SE) of 0.180, resulting in a t-value of 3.889 and a p-value of 0.003. Since the p-value is less than the significance level of 0.05, it indicates that the effect of marketing performance on product design capacity is statistically significant.

The R² value of 0.700 suggests that 70% of the variance in product design capacity can be explained by marketing performance. The F-statistic is 15.111, with a p-value of 0.003, further confirming the overall significance of the regression model.

The results of the simple linear regression analysis provide strong evidence against the null hypothesis H₀₃. Therefore, it can be concluded that marketing performance has a significant effect on the product design capacity of a firm's performance.

Hypothesis H₀₄: Marketing performance has no significance effect on a cycle time capacity of a firm performance.

Table 12: Result of Simple Linear Regression Analysis for the Effect of Marketing Performance on Cycle Time Capacity of a Firm's Performance

Variable	Coefficient (B)	Standard Error (SE)	t-value	P-value	R ²	F-statistic	P-value
Constant	2.100	0.500	4.200	0.001			
Marketing Performance	0.550	0.170	3.235	0.004	0.730	10.465	0.004

Dependent Variable: Cycle Time Capacity

Independent Variable: Marketing Performance

Significance level: $p < 0.05$

To test Hypothesis H₀₄: "Marketing performance has no significant effect on the cycle time capacity of a firm's performance," the results of the simple linear regression analysis are presented in Table 12.

The coefficient (B) for Marketing Performance is 0.550, with a standard error (SE) of 0.170, resulting in a t-value of 3.235 and a p-value of 0.004. Since the p-value is less than the significance level of 0.05, it indicates that the effect of marketing performance on cycle time capacity is statistically significant.

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The R^2 value of 0.730 suggests that 73% of the variance in cycle time capacity can be explained by marketing performance. The F-statistic is 10.465, with a p-value of 0.004, further confirming the overall significance of the regression model.

The results of the simple linear regression analysis provide strong evidence against the null hypothesis H_0 . Therefore, it can be concluded that marketing performance has a significant effect on the cycle time capacity of a firm's performance.

Discussion of Findings

The first finding revealed marketing performance has significance effect on new product development of a firm. It plays a critical role in the success of new product development (NPD) within a firm. This relationship can be discussed through various perspectives, starting with understanding market needs and trends. Marketing performance, often measured through metrics such as market share, sales growth, and customer satisfaction, provides valuable insights into market needs and trends (Evannchitzky, Eisend, Calantone & Jiang, 2012). When a firm performs well in marketing, it typically means that it has a deep understanding of its customers and the competitive landscape. This knowledge is crucial for NPD as it helps identify gaps in the market, emerging customer needs, and potential opportunities for innovation. Effective marketing ensures that the firm stays ahead of trends and can develop products that meet current and future demands (Khan, Kay, Stote & Uban 2013).

The second finding revealed marketing performance has significance effect on innovation capability of a firm performance. Marketing performance has a significant effect on a firm's innovation capability overall performance. According to Bigliard, Ferraro, Filippelli and Gallanti and 2020, this relationship can be explored through various dimensions, starting with the role of marketing in identifying market needs and trends as high marketing performance often indicates a deep understanding of customer preferences, competitive dynamics, and emerging trends (Marion & Fixson, 2021 and Iqbal & Suzianti, 2021). This understanding is crucial for driving innovation, as it helps firms identify new opportunities and gaps in the market where innovative solutions can be developed.

The third finding revealed marketing performance has significance effect on product design capacity of a firm performance. Marketing performance has a significant effect on a firm's product design capability and overall performance. This impact can be understood through several key dimensions such as marketing performance providing essential insights into consumer preferences, market trends, and competitive dynamics (Ayoin, Cetin & Ozera, 2007). Firms with strong marketing performance are indept at gathering and analyzing data on customer needs, desires, and pain points. By understanding what customers value and how they interact with existing products, firms can design products that are more likely to resonate with their target audience, leading to greater market acceptance and success (Li, 2000).

The fourth finding revealed marketing performance has significance effect on a cycle time capability of a firm performance. Strong marketing performance also contributes to better demand forecasting and inventory management. Accurate forecasting allows firms to plan production schedules and resource allocation more effectively. By predicting customer demand

with greater accuracy, firms can avoid overproduction or underproduction issues, which often lead to extended cycle times. Efficient inventory management, driven by marketing insights, ensures that materials and components are available when needed, reducing delays and optimizing the overall cycle time (Kuka, 2018 & Kim, Wong, Eng 2005). For example, marketing insights can guide the adoption of new tools or systems that enhance production efficiency, reduce lead times, and accelerate product development. These technological advancements contribute to a more streamlined and efficient cycle time (Floren, Frishammar, Parida & Wincent, 2018).

CONCLUSION

The study reveals that effective marketing performance has a substantial impact on product design capacity, ensuring that designs meet customer expectations and differentiate the firm in the marketplace. Furthermore, marketing performance significantly affects cycle time capacity, demonstrating its role in optimizing production processes and reducing time-to-market.

Overall, these findings underscore the integral connection between marketing performance and key operational aspects of a firm. By excelling in marketing, firms can improve their new product development processes, boost innovation capabilities, enhance product design, and streamline cycle times, ultimately driving greater efficiency and success in the competitive business environment

Policy/Managerial Implications

The managerial implication is evidence that indicates marketing performance significantly influences new product development, underscoring its importance in aligning product offerings with market demands and driving innovation. The management should also be conscious that strong marketing performance is linked to enhanced innovation capacity, enabling firms to remain competitive and responsive to emerging trends.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations and managerial implications are over-seared.

- **Marketing Performance and New Product Development:** Firms should invest in advanced market research techniques and data analytics to enhance their understanding of consumer needs and market trends. By leveraging these insights, firms can align their new product development efforts with market demands more effectively.
- **Marketing Performance and Innovation Capacity:** To boost innovation capacity, firms should prioritize continuous improvement in their marketing strategies. This includes staying attuned to emerging trends and customer feedback, which can provide valuable inputs for innovation, encouraging a culture of creativity and experimentation within the firm.

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- **Marketing Performance and Product Design Capacity:** Firms should integrate marketing insights into their product design processes to enhance design capacity. This involves using feedback from marketing to guide design decisions, ensuring that products are tailored to meet consumer preferences and stand out in the market. Investing in cross-functional teams that include marketing and design professionals can improve the alignment between market needs and product features, leading to more successful product launches.
- **Marketing Performance and Cycle Time Capacity:** To optimize cycle time capacity, firms should use marketing data to improve demand forecasting and inventory management. Accurate market forecasts will help streamline production schedules and reduce delays. Additionally, adopting technologies and processes that enhance operational efficiency, informed by marketing performance metrics, can further reduce cycle times and accelerate time-to-market.
- By implementing these recommendations, firms can leverage their marketing performance to enhance new product development, foster innovation, improve product design, and optimize cycle times, ultimately leading to improved overall performance and competitive advantage.

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