

The Influence of Product Quality and Service Quality on Competitiveness and Business Performance at Q Print

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Abstract

The printing industry plays an important role in disseminating information and communication in various forms, such as books, magazines, brochures, packaging, and advertising materials. This industry has experienced rapid development and offers a variety of printed product services, both digital and offset, according to customer needs. Product quality and service quality are fundamental factors for business performance and company competitiveness. The research was conducted at Q Print, a printing business located in Cikeas, Gunung Putri District, Bogor Regency. The purpose of this study was to determine the effect of product quality and service quality on competitiveness and business performance. The research methodology uses a quantitative approach in the form of research data measured in a numeric scale (numbers) that can be analyzed using statistical analysis. The data collection method is in the form of primary data obtained through distributing questionnaires to Q Print customers and secondary data in the form of product quality levels as supporting data. The data obtained were analyzed using descriptive statistical analysis that can describe the characteristics of respondents and research variables, multiple linear regression to determine the effect of product quality and service quality on business performance, and path analysis to test the role of competitiveness as a mediating variable. The results of this study indicate that Product Quality and Service Quality have a positive effect on Business Performance. Likewise, Product Quality and Service Quality have a significant effect on Competitiveness. While Competitiveness does not have a significant effect on Competitiveness. For indirect influence variables, both Product Quality and Service Quality on Business Performance through Competitiveness mediation do not have a significant effect.

1. Introduction

The printing industry plays a vital role in disseminating information and communication in various forms, such as books, magazines, brochures, packaging, and advertising materials. The industry has grown rapidly with the advancement of technology, offering a range of digital and offset printing services that can meet the needs of a diverse range of customers.

Q Print is a company that has been operating for more than two years and has loyal customers, both individuals and companies. However, with the increasing number of new competitors offering similar services, Q Print must continue to improve its competitiveness in order to remain relevant in the market. The company's competitiveness is highly dependent on two main factors: the quality of the products

produced and the quality of service provided to customers.

In today's competitive business situation, it is a reason for Q Print to understand the latest trends in the printing industry, such as customer preferences, new technologies, and the emergence of new competitors and better understand the needs and desires of its customers, so that it can develop more targeted products and services. By understanding the needs and desires of customers, Q Print can improve the quality of its products and services, thereby increasing customer satisfaction and loyalty.

Business performance refers to the evaluation or measurement of the results achieved by a company in achieving its business goals. Business performance evaluation is

conducted periodically to monitor the company's progress towards its strategic goals and to identify areas that require improvement or enhancement. By understanding and managing these aspects of business performance effectively, companies can ensure continuity and growth in a competitive business environment (Porter, 1996).

Business performance is an indicator used to measure the success of a company in achieving its goals and objectives. Pramestinigrum & Iramani (2019) stated, "business performance is the result of achieving the suitability between the roles and tasks of a business in carrying out business objectives in a certain period. In other words, business performance can determine the good or bad of a business and can determine whether the results obtained are in accordance with its business objectives or not. Several factors that can affect business performance include product quality, service quality, and the competitiveness of a business.

Based on the background explanation above, it can describe the importance of the variables discussed, such as product quality and service quality, to the business performance of a company in an era where the level of competition continues to increase, so that high competitive capabilities are also required.

Based on the background description above, the general problem of this research is whether there is an influence of Product Quality and Service Quality on Business Competitiveness and Performance? The problem can then be formulated as follows:

- Is there any influence on Product Quality? on Business Performance ?
- Is there any influence of Service Quality on Business Performance ?
- Is there any influence on Product Quality? on Competitiveness ?
- Is there an influence of Service Quality on Competitiveness ?
- Is there any influence of Competitiveness on Business Performance?

- Is there any influence on Product Quality? on Business Performance through Competitiveness?
- Is there an influence of Service Quality on Business Performance through Competitiveness?

2. Research Methods

2.1 Place and Time of Research

This research will be conducted at Q Print which is a printing business located in Cikeas, Gunung Putri District, Bogor Regency. The time needed from planning, preparation to research reporting is carried out for four months, namely between September and December 2024.

2.2 Samples and Sampling Methods

Sample is part of the amount owned by the population (Sugiyono, 2016). In sampling in this study using the Slovin formula. Sample is part of the amount owned by the population (Sugiyono, 2016:80). The respondents analyzed in this study were Q Print customers with a sample size of 93 respondents consisting of 68 male respondents and 25 female respondents. Based on the research conducted, the research object can be described as follows:

1. Research Focus

This study examines the relationship and influence between independent variables, namely product quality (X1) and service quality (X2), on the dependent variable of business performance (Y), with the competitiveness variable (Z) as an intervening variable at PT. Queen Jennah Kian Raya.

2. Population and Sample

Population: Q Print, a printing company, has 120 customers. Sample: A total of 93 customers, obtained through the Slovin formula with an error rate of 5%. Method of collecting data.

Data were collected through a questionnaire using a Likert scale (1–5), with primary data from customer surveys and secondary data from relevant literature and reports.

This study uses a quantitative approach with statistical analysis conducted through the help of SPSS software. This approach aims to measure the relationship between variables objectively and mathematically.

Research Variable Instrumentation is as follows: a. Validity Test: Conducted to ensure that the research instrument is able to measure the intended variable. The validity criteria use a two-sided test with a significance level of 0.05, comparing the calculated r value with the table r and b. Reliability Test: Measuring the consistency of the instrument through the Cronbach's Alpha value. The instrument is declared reliable if Cronbach's Alpha > 0.60 .

Methods of Analysis and Hypothesis Testing:

Descriptive Statistics: Presenting data in the form of tables, diagrams, or graphs to provide an overview, including mean, standard deviation, maximum, and minimum values.

Multiple Linear Regression Analysis:

Used to test the influence of independent variables (Product Quality and Service Quality) on the dependent variable (Business

Performance) with the mediating variable (Competitiveness).

Classical assumption testing is done through:

Normality Test: Data distribution was tested using the Kolmogorov-Smirnov test with a significance criterion of > 0.05 .

Multicollinearity Test: Using Tolerance values (> 0.2) and VIF (< 10).

Heteroscedasticity Test: Performed through a scatter plot to ensure there is no particular pattern.

Path Analysis

The path analysis method is used to test the direct, indirect, and total effects between independent variables.

3. Research Results and Discussion

Based on results research conducted by researchers about Influence Quality Products and Quality Service on Competitiveness and Business Performance at Q Print using method analysis descriptive and multiple linear regression, then can obtained conclusion that is as following :

Research Results

| Hypothesis | t- count | p-value | Conclusion |
|--|----------|---------|----------------------------|
| Quality Products → Business Performance | 2,127 | 0.023 | Influential significant |
| Quality Service → Business Performance | 2,493 | 0.042 | Influential significant |
| Quality Product → Competitiveness | 3,343 | 0.001 | Influential significant |
| Quality Service → Competitiveness | 3,448 | 0.032 | Influential significant |
| Competitiveness → Business Performance | 0.492 | 0.624 | No influential significant |
| Quality Product → Competitiveness → Business Performance | 0.590 | 0.537 | No influential significant |
| Quality Service → Competitiveness → Business Performance | 0.587 | 0.541 | No influential significant |

3.1 Influence Quality Product on Business Performance

It is known mark significance Quality Product on Business Performance is is $0.023 < 0.05$ and the calculated t value is $2.127 > t$ table 1.987 then can concluded as following:

Significance Value (p-value): The p-value is $0.023 < 0.05$, meaning accept hypothesis alternative stating that There is influence significant from Quality Product on Business Performance .

T test (t - calculated and t -table): t -calculated value (2.127) $> t$ - table (1.987), then

We can conclude that coefficient For Quality Product significant in a way statistics, which means There is significant influence from Quality Product on Business Performance.

Based on a higher p-value small from 0.05 and a higher t - value big from the t- table, it can be concluded that variable Quality Product influential significant to Business Performance variables. This is show that Quality Product influential significant to Business Performance Variables company and its importance focus on quality product in business strategy For push growth and success term long Because companies that improve quality the product tend will feel improvement in performance business, good from aspect financial, growth, and satisfaction customer.

3.2 Influence Quality Service on Business Performance

Based on the analysis results, it is known that the significance value (p-value) for the influence of Service Quality on Business Performance is $0.042 < 0.05$, and the t-value is $2.493 > t\text{-table } 1.987$. This indicates that the alternative hypothesis is accepted, meaning there is a significant influence of Service Quality on Business Performance. Additionally, since the t-value (2.493) $> t\text{-table } (1.987)$, the coefficient for Service Quality is statistically significant. Therefore, it can be concluded that Service Quality has a significant influence on Business Performance. Based on the p-value being less than 0.05 and the t-value being greater than the t-table, it can be concluded that the Service Quality variable significantly influences the Business Performance variable. This means that improving service quality tends to enhance business performance, including customer satisfaction, loyalty, and financial profitability. In other words, businesses that focus on improving customer service quality can achieve better overall results, both in terms of customer satisfaction and financial and operational performance.

3.3 Influence Quality Product on Competitiveness

It is known that the significance value (p-value) for the influence of Product Quality on Competitiveness is $0.01 < 0.05$. Since $0.01 < 0.05$, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), which means that the Product Quality variable has a significant influence on Competitiveness. This indicates that companies producing high-quality products tend to have a greater competitive advantage compared to competitors offering lower-quality products. High-quality products are often more valued by consumers, which can enhance customer loyalty, brand reputation, and market demand. With higher product quality, companies can more easily attract customer attention, retain market share, and outperform competitors. Superior product quality plays a critical role in building a stronger competitive edge in a competitive market.

3.4 Influence Quality Service on Competitiveness

The significance value for the impact of service quality on competitiveness is 0.032, which is less than 0.05. This result indicates a significant influence of service quality on competitive power based on the analyzed data. Therefore, it can be concluded that changes in service quality have a significant impact on a company's competitiveness. There is a real relationship between service quality and competitiveness. In other words, the quality of services provided by a company directly influences its ability to compete. This finding highlights the importance of service quality in a company's business strategy, as it significantly impacts its competitive strength in the market.

3.5 The Influence of Competitiveness on Business Performance

The significance value for the impact of competitiveness on business performance is 0.624, which is greater than 0.05. This p-value

indicates that competitiveness does not have a significant influence on business performance in the context of this analysis. Although competitiveness may influence business performance under different conditions or in further analyses, the data analyzed does not show a strong enough effect to be considered significant. This result suggests that, within the tested model or dataset, competitiveness is not a key factor significantly affecting business performance.

A company with strong business performance does not always have a higher competitive advantage compared to its competitors. Other factors, such as marketing strategies, product quality, and innovation, may have a greater impact on competitiveness than business performance, which often measures short-term outcomes like profit or sales. A company's competitiveness is not necessarily directly related to how well it operates its business. Even if a company achieves strong business performance, such as high profits, this does not guarantee a higher competitive advantage if other aspects, such as innovation or product quality, play a more dominant role.

3.6 Influence Quality Product on Business Performance through Competitiveness

The direct influence of product quality on competitiveness is determined based on a t-value of 0.537 ($t\text{-count } 0.537 < t\text{-table } 1.987$) and a p-value of 0.595 ($p\text{-value } 0.595 > 0.05$). These results indicate that competitiveness does not significantly mediate the relationship between product quality and business performance. This finding suggests that the direct effect of product quality is stronger than its indirect effect through business performance. In other words, while product quality impacts business performance, its influence on competitiveness through business performance is neither significant nor strong.

This implies that directly improving product quality is more effective in enhancing competitiveness than relying on business

performance improvements as an intermediary. From a strategic decision-making perspective, these results indicate that companies should not expect that improvements in business performance, driven by better product quality, will automatically enhance competitiveness. Therefore, businesses need to explore alternative strategies to strengthen competitiveness beyond business performance improvements. Focusing on direct improvements in product quality will likely be more effective in boosting competitive advantage compared to using business performance as an intermediary.

3.7 Influence Quality Service on Business Performance through Competitiveness

Based on the calculation using the Sobel Test calculator in Figure 4.3, the results show a t-count of 0.537 ($t\text{-count } 0.537 < t\text{-table } 1.987$) and a p-value of 0.595 ($p\text{-value } 0.595 > 0.05$). These findings indicate that competitiveness does not significantly mediate the relationship between product quality and business performance. The direct influence of quality service on competitiveness is represented by a p-value of 0.595 ($p\text{-value } 0.595 > 0.05$), while the indirect influence of product quality through business performance corresponds to a t-count of 0.537 ($t\text{-count } 0.537 < t\text{-table } 1.987$).

The direct effect value of 0.595 suggests that there is no sufficiently strong positive relationship between quality service and competitiveness. This means that direct improvements in service quality do not significantly enhance a company's competitive power. Similarly, the indirect influence value of 0.537 further supports the absence of a significant relationship between quality service and competitiveness through business performance. Although quality service can impact business performance—such as through improved efficiency, customer satisfaction, or loyalty—this effect is not strong or significant enough to enhance competitiveness through business performance.

As a result, companies may need to reassess the role of business performance as a mediator between service quality and competitiveness, as this pathway has been shown to be ineffective. Business performance may have only a limited influence on competitiveness when viewed solely as an outcome of service quality improvement. If business performance is not an effective mediator between quality service and competitiveness, this suggests that companies should consider other factors that may be more effective in strengthening competitive advantage.

Elements such as product innovation, marketing strategies, distribution capabilities, or effective leadership could serve as more significant pathways for enhancing competitiveness. Based on these findings, companies should critically evaluate their business models and strategies. If business performance does not mediate the impact of quality service on competitiveness, organizations should explore alternative models for linking these variables or identify other factors that can bridge this gap.

4. Conclusion

4.1 Summary of Findings

This study aimed to examine the influence of product quality and service quality on competitiveness and business performance at Q Print, a printing business located in Cikeas, Gunung Putri District, Bogor Regency. The results revealed that both product quality and service quality significantly and positively affect business performance. This implies that improvements in product and service quality directly enhance operational outcomes, customer satisfaction, and company profitability.

Furthermore, both product quality and service quality were found to have significant positive impacts on competitiveness. High-quality products strengthen customer trust and brand reputation, while excellent service

delivery enhances customer retention and loyalty. However, the study found that competitiveness itself does not significantly influence business performance, suggesting that other strategic factors such as innovation, marketing, or technology adaptation may play more crucial roles.

Additionally, the mediating effect of competitiveness on the relationship between product/service quality and business performance was found to be insignificant. This indicates that direct improvements in product and service quality contribute more effectively to business success than indirect pathways through competitiveness.

4.2 Theoretical Implications

From a theoretical perspective, the findings reinforce the core principles of **Porter's Competitive Advantage Theory (1985)**, emphasizing that superior product and service quality are primary sources of differentiation in competitive markets. The results also align with the **Service Quality Model (Parasuraman et al., 1988)**, which posits that service performance directly affects customer satisfaction and organizational success.

However, this study extends existing literature by demonstrating that, in small and medium-sized enterprises (SMEs) like Q Print, competitiveness does not necessarily act as a strong mediating variable. This suggests that the link between competitiveness and business performance may depend on contextual variables such as market dynamics, innovation capabilities, and technology integration. Thus, the study contributes to the refinement of strategic management and marketing theories by providing empirical evidence from the Indonesian printing industry context.

4.3 Managerial Implications

For practitioners, especially managers and business owners in the printing and creative industries, the study underscores the

strategic importance of consistently maintaining and improving product and service quality. Investment in quality control systems, staff training, and customer relationship management (CRM) can lead directly to better business performance outcomes. Given the weak mediating effect of competitiveness, Q Print should not rely solely on competitive advantage as a performance driver but rather focus on product innovation, service differentiation, and operational efficiency.

Managers are encouraged to integrate digital technologies into their service processes, enhance after-sales service, and develop loyalty programs to sustain customer engagement. Furthermore, firms should continuously monitor market trends and adapt to evolving customer preferences to remain resilient against competitive pressures.

4.4 Limitations and Recommendations for Future Research

Although this study provides valuable insights, several limitations must be acknowledged. First, the research focuses solely on one company—Q Print—limiting the generalizability of findings to other printing or service sectors. Future research should include larger and more diverse samples across different industries to validate and strengthen these conclusions.

Second, this study employed a cross-sectional design, which restricts the ability to assess causal relationships over time. Future research should adopt a longitudinal approach to examine how changes in product and service quality affect competitiveness and business performance dynamically.

Third, this study only examined competitiveness as a mediating variable. Future studies could explore other mediators or moderators—such as innovation capability, customer satisfaction, or digital transformation—to gain a more comprehensive understanding of how quality factors shape organizational outcomes.

Lastly, qualitative approaches such as case studies or in-depth interviews could be incorporated to capture richer insights into managerial decision-making, customer perceptions, and contextual challenges faced by small businesses in maintaining competitiveness.

In summary, this research concludes that maintaining superior product and service quality remains the most effective strategy for improving business performance in the printing industry. While competitiveness contributes to market positioning, it does not significantly mediate the relationship between quality and performance. Therefore, continuous quality enhancement, innovation, and customer-focused strategies are crucial for ensuring sustainable business growth and resilience in competitive environments.

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