

THE EFFECT OF SERVICE QUALITY AND MARKETING MIX ON CUSTOMER SATISFACTION AND TRUST IN BUILDING LOYALTY: B2B CUSTOMERS OF PT. FARMSCO FEED INDONESIA

Rhegy Pratidina Iskandar^{*)1}, Hartoyo^{*)}, Lilik Noor Yulianti^{**)1}

^{*)}School of Business, IPB University
Jl. Pajajaran, Bogor 16151, Indonesia

^{**)}Department of Family and Consumer Sciences, Faculty of Human Ecology, IPB University
Jl. Kamper, Campus of IPB Darmaga Bogor 16680, Indonesia

Abstract: The livestock industry is an economic sector with high potential for generating quality economic growth. This study aims to analyze the effects of service quality and marketing mix on satisfaction, trust, and customer loyalty of PT. Farmsco Feed Indonesia (PT. FFI), as well as to formulate managerial implications that companies can apply to increase customer loyalty. The research design used in this study is quantitative, utilizing a survey approach. The sample consists of B2B (Business to Business) customers of PT. FFI who have been using poultry feed for the past two years. A total of 157 individuals were selected through voluntary sampling. Data were collected through an online survey using a Google Form questionnaire. The independent variables in the study are service quality and marketing mix, while the dependent variables are trust, satisfaction, and loyalty. Data processing and analysis techniques involved descriptive analysis and Structural Equation Modelling. The results indicate that: 1) service quality variables do not have a significant effect on satisfaction and loyalty, 2) the marketing mix has a significant effect on satisfaction and trust, 3) trust has a significant effect on customer loyalty, and 4) managerial implications for increasing customer loyalty include enhancing customer trust to foster long-term relationships.

Keywords: customer loyalty, marketing mix, satisfaction customer, service quality, B2B customers

Abstrak: Industri peternakan merupakan sektor ekonomi yang memiliki potensi tinggi dalam menghasilkan pertumbuhan ekonomi yang berkualitas. Penelitian ini bertujuan untuk menganalisis pengaruh kualitas layanan dan bauran pemasaran terhadap kepuasan, kepercayaan, dan loyalitas pelanggan PT. Farmsco Feed Indonesia (PT.FFI) serta merumuskan implikasi manajerial yang dapat diterapkan bagi perusahaan dalam meningkatkan loyalitas pelanggan PT.FFI. Penelitian ini menggunakan desain penelitian kuantitatif dengan melakukan survei. Sampel penelitian ini adalah pelanggan PT.FFI bersifat B2B yang menggunakan pakan unggas yang telah menggunakan produk tersebut selama 2 tahun terakhir. Responden terdiri dari 157 orang yang dipilih secara voluntary sampling. Pengumpulan data dilakukan dengan metode survei melalui penyebaran kuesioner secara online melalui google form. Variabel bebas dalam penelitian adalah kualitas layanan dan bauran pemasaran. Variabel terikat dalam penelitian ini adalah kepercayaan, kepuasan, dan loyalitas. Teknik pengolahan dan analisis data melalui analisis deskriptif dan Structural Equation Modelling. Hasil penelitian menunjukkan bahwa 1) variabel kualitas layanan tidak berpengaruh signifikan terhadap kepuasan dan loyalitas, 2) bauran pemasaran berpengaruh signifikan terhadap kepuasan dan kepercayaan, 3) kepercayaan berpengaruh signifikan terhadap loyalitas pelanggan, dan 4) implikasi manajerial yang dapat diterapkan pada perusahaan untuk meningkatkan loyalitas pelanggan adalah dengan meningkatkan kepercayaan dari pelanggan agar tetap mempertahankan hubungan jangka panjang.

Kata kunci: loyalitas pelanggan, bauran pemasaran, kepuasan pelanggan, kualitas layanan, B2B pelanggan

Article history:

Received
16 April 2023

Revised
24 May 2023

Accepted
4 July 2023

Available online
31 July 2023

This is an open access
article under the CC BY
license



¹ Corresponding author:

Email: rhegypratidina@apps.ipb.ac.id

INTRODUCTION

The livestock industry is a sector with high potential for generating quality economic growth. It plays a crucial role in providing meat consumption and protein sources for the community. The development of the livestock industry in Indonesia is closely linked to the animal feed industry, which is a major supporting industry (Septiani and Alexandi, 2014). Animal feed is a critical component, accounting for 60–70% of total production costs (Danar, 2020).

According to data from the Association of Animal Feed Companies (2022), there are currently 110 animal feed factories in Indonesia with a total production capacity of 29.7 million tonnes per year. The economic value of the industry is estimated to be around IDR500-600 trillion. The rapid growth in production and the number of animal feed factories is attributed to the expansion efforts undertaken by key players in the industry, who have been increasing production and constructing new facilities (Kurniadi, 2021). To survive and remain competitive, companies in this sector must not only compete with each other but also understand customer preferences and ensure customer satisfaction (Wulandari, 2018). Therefore, animal feed manufacturing companies will compete to maintain stability and continue to make improvements and business development to remain superior and competitive.

Providing excellent service quality is one way for animal feed manufacturing companies to satisfy their customers. Customers tend to be loyal when they receive high-quality service (Mahfudz, 2021). The relationship between service quality and customer loyalty has been proven to be significant in previous studies (Marakanon and Panjakajornsak et al. 2017).

According to Kotler (2009), the marketing mix refers to a set of controllable marketing tools that a company can use to achieve the desired response from the target market. Haruna (2015) argues that the marketing mix can have an impact on customer satisfaction. Therefore, it is crucial for PT.FFI to maintain and improve the marketing mix to ensure customer satisfaction and foster customer loyalty.

Increased sales can be achieved when customers are satisfied with the products or services provided by the company. Customer satisfaction plays a significant role

in customer loyalty (Javed and Min, 2019). Satisfied customers are more likely to make repeat purchases in the future. Emmanuel's (2022) research on service quality and repurchase in the poultry feed industry found a positive and significant relationship between service quality and repurchase behavior. In addition to service quality and satisfaction, customer trust is another important variable that influences customer loyalty, particularly in B2B (Business to Business) relationships. Sun (2010) distinguishes relationship marketing into two aspects: customer satisfaction and trust. Mainardes and Cardoso (2019) concluded in their research on the effect of relationship marketing on loyalty that trust has a significant impact on customer loyalty.

Building strong relationships is crucial for B2B marketers, as having a deep understanding of the customer's business processes is essential for B2B success. Developing good customer relationships is the key to success in B2B business. Referring to Dhall (2019), another contributing factor to B2B success is the role of salespeople. Interpersonal trust, specifically trust in salespeople, is critical in maintaining long-term relationships.

PT Farmsco Feed Indonesia (PT FFI) is a relatively new player in the animal feed industry, starting its business development in 2017 with the establishment of its first factory in the Banten area. Currently, PT FFI has a production capacity of 480 thousand Metric Tonnes (MT) per year. According to the Association of Animal Feed Companies (2022), the estimated total production capacity of agro-feed mills in Indonesia is 20.4 million MT, and PT FFI contributes approximately 2.2% to this total.

In terms of turnover, PT FFI has shown consistent growth over the past three years, with an average increase of 3–4%. However, in 2021, PT FFI still needs to achieve its target turnover of 450 thousand MT. It is worth noting that the number of customer complaints has also increased over the past three years. These complaints are primarily related to product and service issues, indicating the need for PT FFI to meet customer expectations in order to maintain their loyalty. If these issues are left unaddressed, it may lead to customer defection to competitors. Bansal et al. (2005) highlight that customers switch to other companies due to factors such as low product quality, dissatisfaction, and attraction to alternatives.

To thrive in a highly competitive market, PT FFI must focus on building and increasing customer loyalty. Enhancing customer loyalty is crucial for the long-term success and sustainability of PT FFI, especially considering its relatively new presence in Indonesia. As competition continues to intensify, the company needs to improve its overall performance, including service quality, to establish and maintain strong relationships with its existing and potential customers (Andalusi, 2018).

The objective of this study is to analyze the impact of service quality and marketing mix on customer satisfaction, trust, and loyalty in the context of PT Farmsco Feed Indonesia (PT FFI). The findings of this study will provide valuable insights and managerial implications for increasing customer loyalty at PT FFI.

METHODS

This study adopts a quantitative research design and surveys PT FFI customers located on the islands of Java and Sumatra. Data collection was conducted from December 2022 to February 2023. The target population consists of PT FFI customers who have been using its products. The sample for this study includes B2B customers of PT FFI, such as chicken companies, large independent farmers, and farmer partnerships, who have been using poultry feed for the past two years. The sampling technique employed in this study is non-probability sampling, specifically the volunteer sampling technique. The sample size is

determined based on the analysis requirements of the Structural Equation Model (SEM), ranging from 135 to 270 respondents. In total, 157 respondents completed the distributed questionnaires, but 28 respondents were screened out.

Data was collected through an online survey using Google Forms. The independent variables in this study are service quality and marketing mix, while the dependent variables are trust, satisfaction, and loyalty. The data processing and analysis techniques involve descriptive analysis to describe the characteristics of the respondents, and the Top Two Boxes and Bottom Two Boxes are used to analyze the Likert scale responses. Validity and reliability tests are conducted, and the quantitative analysis of this research utilizes the Structural Equation Modelling Partial Least Square (SEM PLS) method using SmartPLS 3.0 software.

The structural model in this study encompasses eight research hypotheses that establish causal relationships between latent variables (Figure 1). The formulated hypotheses are as follows: H1: Service Quality Affects Customer Satisfaction; H2: Service Quality Affects Customer Trust; H3: Marketing Mix Affects Customer Satisfaction; H4: Marketing Mix Affects Customer Trust; H5: Satisfaction Affects Customer Loyalty; H6: Trust Affects Customer Loyalty; H7: Service Quality Affects Customer Loyalty; H8: Marketing Mix Affects Customer Loyalty. The research framework is designed to examine the influence of service quality and marketing mix on customer loyalty.

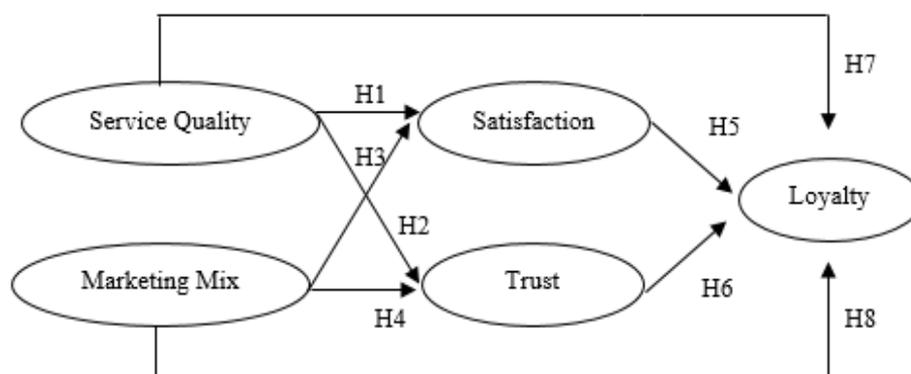


Figure 1. The research framework

RESULTS

Descriptive Analysis

The respondents in this study are customers who have been purchasing PT FFI feed products for the past two years. A total of 157 respondents were selected from a population of 240 PT FFI customers. In terms of gender, the respondents consist of 94.9% males and 5.1% females. The majority of respondents, accounting for 56.1 percent, fall within the age range of 38-53 years. The study predominantly focuses on respondents from West Java province, representing 33.8% of the sample. In terms of occupation, 75.2% of respondents are employees or managers, while 24.8% are company or farm owners. Regarding the usage of PT FFI products, respondents are categorized into three groups: broiler, laying, and native chicken feed. Among these categories, 72.6% of respondents reported using broiler feed products. More details can be found in Table 1.

In this study, customer behavior is assessed based on the respondents' purchasing patterns. The characteristics of respondents include the place of purchase, the frequency of feed purchases per month, and the primary reasons for buying feed products, as presented in Table 2. The place of purchase is categorized into three groups: factories, agents, and partnership companies. Among these categories, the largest percentage (79.6%) of customers prefer to purchase products directly from the factory. The primary reason and priority for purchasing PT FFI products, with a percentage of 56.7%, is the quality of the feed. The monthly purchase volume is divided into three categories: 10-100 tonnes, 100-500 tonnes, and more than 500 tonnes. Among these categories, the highest percentage (50.3%) corresponds to customers purchasing 10-100 tonnes of products each month.

Table 1. Characteristics of Respondents

Characteristics	Number (n)	Percentage (%)
Gender		
Male	149	94.9
Female	8	5.1
Age		
18-37	58	36.9
38-53	88	56.1
>53 years old	11	7
Occupation		
Banten	7	4.5
West Java	53	33.8
Central Java	39	24.8
Jogja	2	1.3
Lampung	16	10.2
Palembang	25	15.9
Jambi	15	9.6
Products Used		
Broiler Chicken	114	72.6
Laying Chicken	30	19.1
Native Chicken	3	8.3
Employment Status		
Employee/Manager	118	75.2
Owner	39	24.8

Table 2. Customer Behaviour

Customer Behaviour	Number (n)	Percentage (%)
Place of Purchase		
Factory	125	79.6
Agent	9	5.7
Partnership Company	23	14.6
Reason for Buying		
Feed Quality	89	56.7
Price	45	28.7
Fast Delivery	7	4.5
Services	5	3.2
Personal Relationship	3	1.9
More	8	5.1
Number of Bookings per Month		
10-100 tonnes	79	50.3
100-500 tonnes	66	42
>500 tonnes	12	7.6

SEM-PLS Analysis Results

Outer Model Evaluation

The convergence validity test was conducted to determine the average variance extracted (AVE) value for each variable. The results showed that the AVE value was 0.5, which aligns with the recommended threshold (Hair et al. 2010). According to the rule of thumb, the composite reliability value should be greater than 0.7, although a value of 0.6 is still acceptable. Based on Table 3, it can be observed that all AVE values and composite reliability values meet the specified requirements.

Model Goodness

Table 4 presents the R-Square value in the SEM model for the endogenous variables, namely satisfaction, trust, and customer loyalty. The SEM analysis shows that the R-square value for the customer satisfaction variable is 0.358. This indicates that 55.1 percent of the variability in customer loyalty can be explained by service quality

and marketing mix, while the remaining 44.9 percent is attributed to other factors outside the model. Goodness of Fit (GOF) value: $GOF = 1 - [(1-R1)(1-R2)(1-R3)] = 1 - [(1-0.358)(1-0.391)(1-0.551)] = 0.824$

Hypothesis Test

The results of the SEM model estimation for direct effects are outlined in Table 5. The data analysis indicates that four hypotheses are accepted, while four others are rejected. Table 5 provides the SEM analysis results to address the eight research hypotheses.

In addition to the direct effects between variables, this study also identified indirect effects. Table 6 presents the results of the analysis on the indirect effects. The data analysis indicates that there is a significant indirect effect of the service quality and marketing mix variables on customer loyalty through the customer trust variable. However, there is no significant indirect effect of the service quality and marketing mix through the customer satisfaction variable on customer loyalty.

Table 3. Validity and reliability test parameters in PLS

Variables	AVE	Cronbach's Alpha	Composite Reliability
Service Quality (X1)	0.563	0.903	0.921
Marketing Mix (X2)	0.597	0.887	0.912
Satisfaction (Y1)	0.692	0.819	0.892
Trust (Y2)	0.734	0.778	0.871
Loyalty (Y3)	0.762	0.688	0.865

Note: AVE (average variance extracted)

Table 4. R-Square Value

Dependent Variable	R-Square
Customer Satisfaction	0.358
Customer Trust	0.391
Customer Loyalty	0.551

Table 5. Hypothesis Testing Result

	Coef (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Description
Quality of Service → Satisfaction (H1)	0.068	0.078	0.095	0.714	0.475	Not Significant
Quality of Service → Trust (H2)	0.206	0.214	0.079	2.591	0.010	Significant
Marketing Mix → Satisfaction (H3)	0.597	0.605	0.067	8.939	0.000	Significant
Marketing Mix → Trust(H4)	0.492	0.498	0.078	6.309	0.000	Significant
Satisfaction → Loyalty (H5)	0.165	0.166	0.090	1.844	0.066	Not Significant
Kepercayaan → Loyalty (H6)	0.602	0.604	0.087	6.933	0.000	Significant
Quality of Service → Loyalty (H7)	0.073	0.078	0.068	1.068	0.286	Not Significant
Marketing Mix → Loyalty (H8)	-0.027	-0.029	0.074	0.360	0.719	Not Significant

Table 6. Indirect effects between variable

	Coef (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Description
Quality of Service → Satisfaction → Loyalty	0.011	0.013	0.019	0.582	0.561	Not Significant
Quality of Service → Trust → Loyalty	0.124	0.129	0.053	2.317	0.021	Significant
Marketing Mix → Satisfaction → Loyalty	0.099	0.101	0.057	1.739	0.083	Not Significant
Marketing Mix → Trust → Loyalty	0.029	0.300	0.061	4.822	0.000	Significant

The Effect of Service Quality on Customer Satisfaction (H1)

PT.FFI's service quality has not been able to demonstrate its influence on customer satisfaction. Not all companies are successful in providing high-quality service for a specific product, leading to customer satisfaction. In this study, it was found that the service quality provided by PT.FFI has not yet achieved optimal satisfaction, resulting in customer dissatisfaction with the services and products offered by the company. Even though the facilities provided meet customer expectations, there is still a need for improvement in the services received by customers.

The Effect of Service Quality on Customer Trust (H2)

Research conducted by Agustiono and Sumarno (2006), Wang and Shieh (2006), Aryani and Rosinta (2010), and Paramitha et al. (2013) has shown that a higher level of service quality leads to greater customer trust in a company. Chou (2014) also found that service quality has a significant positive impact on customer trust. Customers who have trust in a company rely on it because they are guaranteed good service quality. On the other hand, customers who lack trust in a company will not depend on it due to the absence of assurance regarding good service quality. The results of this study indicate that the service quality variable plays a role in building customer trust in PT FFI. This is evident from the coefficient value of the service quality variable on customer trust, which is 0.206, indicating that an increase in PT.FFI's service quality leads to a 20.6 percent increase in customer trust in PT.FFI.

The Effect of Marketing Mix on Customer Satisfaction (H3)

Based on the test results, it is empirically established that the marketing mix influences customer satisfaction at PT FFI. The findings demonstrate that the marketing mix at PT FFI has a positive impact on customer

satisfaction. This is supported by studies conducted by Ulus (2013), Kosasih (2013), Situmorang et al. (2018), Quang et al. (2017), and Wahab et al. (2015), which indicate a significant influence of the marketing mix on customer satisfaction. The marketing mix directly affects customer satisfaction. This hypothesis is also consistent with research conducted by Anggraini (2013) and Garg et al. (2016), which highlight the significant direct effect of the marketing mix, including promotion, on customer satisfaction.

The results of this study reveal that the marketing mix variable contributes to customer satisfaction with the marketing mix provided by PT FFI. This is evident from the coefficient value of the marketing mix variable on customer satisfaction, which is 0.597, indicating that an increase in PT.FFI's marketing mix leads to a 59.7% increase in customer satisfaction at PT.FFI.

The Effect of Marketing Mix on Customer Trust (H4)

Based on the test results, the marketing mix significantly influences customer trust in PT. FFI. This is consistent with the research conducted by Cronin et al. (2000), which states that the marketing mix has a significant impact on trust. Other studies by Erwinsyah et al. (2019) and Aep et al. (2019) also support this finding, demonstrating the significant effect of the marketing mix on customer trust. The dimensions of the marketing mix can create positive value for customer trust, and a better marketing mix leads to greater trust in PT FFI. Previous research by Deliana (2012), Su and Huang (2011), DelVecchio et al. (2006), and Tariq et al. (2019) also confirm that a good marketing mix has a positive impact on customer trust. The results of this study indicate that the marketing mix variable instills confidence in customers regarding the marketing mix provided by PT FFI. This is evident from the coefficient value of the marketing mix variable on customer trust, which is 0.492. Therefore, an increase in PT.FFI's marketing mix results in a 49.2% increase in customer trust in PT.FFI.

The Effect of Satisfaction on Customer Loyalty (H5)

Hypothesis five tests the effect of customer satisfaction (Y1) on customer loyalty of PT FFI. Based on Table 5, the value of 1.844 is smaller than the T table value of 1.96, and the p-value of 0.066 is greater than alpha (0.05). Therefore, the decision is to accept H0. Empirically, there is not enough evidence to support the effect of satisfaction on customer loyalty of PT FFI. This finding does not align with the views proposed by some researchers, such as Hidayat et al. (2019), who suggest that customer loyalty can indicate satisfaction and result in repeated purchases.

The Effect of Trust on Customer Loyalty (H6)

This hypothesis is in line with the theory proposed by Razak et al. (2016), which states that the trust variable has a positive and significant impact on customer loyalty. The findings of this study are also supported by the research of Nalendra (2018), suggesting a positive effect of trust on customer loyalty. Similar results were obtained in studies conducted by Wiwoho (2018), Chakiso (2015), and Octavia (2016), which demonstrated a significant impact of trust on customer loyalty. Customer trust plays a crucial role in building, developing, and maintaining exchange relationships with customers (Sheth & Sinha, 2015).

The relationship between trust and customer loyalty lies in the fact that higher levels of trust in a product lead to increased brand loyalty. Customer commitment to a product is based on trust in its use, recommendations, and reliability (Nugroho et al. 2013). Consistent with the theory proposed by Swan and Nolan (1985), long-term customer loyalty is achieved when customers have a high level of trust in the product or company. This finding aligns with the research conducted by Laely (2016), which revealed a positive and significant impact of customer trust on customer loyalty.

The results of this study indicate that the trust variable is one of the factors contributing to customer loyalty to PT FFI. This is evident from the coefficient value of the trust variable on customer loyalty, which is 0.602. Therefore, an increase in customer trust in PT FFI leads to a 60.2% increase in loyalty to PT FFI.

The Effect of Service Quality on Customer Loyalty (H7)

Empirically, the findings of this study do not support the opinions expressed by several researchers, such as Lee et al. (2016), Han et al. (2016), Hudrasyah et al. (2017), Martini and Lorena (2018), and Ketut (2018), who proposed that service quality has a positive effect on loyalty. It is possible that the service quality provided by PT FFI has yet to reach the desired level of excellence or meet customer expectations, leading to a lack of significant impact on customer loyalty.

The Effect of Marketing Mix on Customer Loyalty (H8)

Empirically, the findings of this study do not support the opinions expressed by several researchers, such as Iskandar et al. (2015), Aisjah et al. (2017), Hudrasyah et al. (2017), Susilowati et al. (2017), Denny and Lestari (2018), Martini and Lorena (2018), and Susanti et al. (2018), who found a positive and significant direct effect of the marketing mix on customer loyalty. On the other hand, this hypothesis aligns with the research conducted by Ogi et al. (2015), which revealed an insignificant direct effect of the marketing mix on customer loyalty.

Managerial Implication

The results of the descriptive analysis indicate that the second highest majority of respondents, accounting for 36.9%, fall within the age range of 18–37 years. This suggests that the millennial generation will become the future workforce in the agricultural sector. Hence, it is recommended to approach customers in a manner that resonates with millennials, such as actively and extensively conducting marketing and promotional activities through social media (digital marketing). Another finding from the descriptive analysis of PT.FFI's customer behavior is that the main reason for purchasing animal feed products is the quality of the feed, with a highest percentage of 56.7%. Therefore, it is crucial for PT.FFI to consistently maintain the quality of its feed products, as feed quality is the primary motivation for customers to make purchases.

Based on the discussed research findings, several managerial implications can be derived for the management of PT.FFI to enhance customer loyalty and foster long-term relationships. It is evident from this study that the trust variable plays a pivotal role in building and increasing customer loyalty towards PT.FFI. To bolster customer trust, PT.FFI can continue to maintain or even improve the quality of its service and marketing mix. The higher the quality of service and marketing mix, the greater the level of trust customers will have in PT.FFI.

Based on the conducted analysis, it is evident that service quality and marketing mix have a significant impact on customer trust. Therefore, to enhance customer trust, PT.FFI can continue to maintain or even improve the quality of its service and marketing mix, as it is currently doing. The higher the quality of service and marketing mix, the greater the level of customer trust in PT.FFI.

Among the service quality variables, the one with the highest loading factor value is the availability of comprehensive product options for customers to choose from. In poultry farming, there are various feed products specifically designed for different ages, conditions, and types of chickens. This wide range of product choices adds value for PT.FFI customers, enabling them to achieve optimal results in their livestock business. On the other hand, the marketing mix variable with the highest loading factor value is the alignment of PT.FFI's product quality with the offered price. This demonstrates PT.FFI's commitment to delivering products that meet the promised quality, instilling confidence in customers that the product quality corresponds to the price paid.

In B2B (business-to-business) transactions, trust plays a significant role. Once customers develop trust, loyalty towards the company naturally follows, as supported by the research findings that highlight the impact of trust on loyalty. Examining the dimensions of trust, it becomes evident that the aspect of believing in the quality of PT.FFI's products garners the highest index value and loading factor. Hence, the company must consistently deliver on its promise of quality products to bolster trust and foster loyalty among PT.FFI's customers.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The findings of this study indicate that service quality variables do not have a significant impact on satisfaction and loyalty. However, the marketing mix variable has a significant influence on satisfaction and trust. Moreover, trust is found to have a significant effect on customer loyalty. In terms of managerial implications, it is recommended for companies to focus on building trust among customers to foster long-term relationships and increase customer loyalty.

Recommendations

For future research, it is suggested to incorporate additional variables such as customer relationship marketing, consumer behavior, and customer experience when examining customer loyalty. Furthermore, while this study focused on PT.FFI customers using chicken feed, it would be beneficial to explore the perspectives of PT.FFI customers who use quail and duck feed in further research. Additionally, expanding the research scope beyond B2B customers to include B2C customers with a broader and larger sample size would provide a more comprehensive understanding of customer loyalty.

FUNDING STATEMENT: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CONFLICTS OF INTEREST: The authors declare no conflict of interest.

REFERENCES

- Aep N, Heru M, Mursida KW. 2019. Pengaruh bauran pemasaran terhadap kepuasan dan kepercayaan serta dampaknya pada loyalitas konsumen. *Jurnal Manajemen Kewirausahaan* 16(2):346. <https://doi.org/10.33370/jmk.v16i2.346>
- Andalusi R. 2018. Pengaruh kualitas pelayanan, harga, dan kualitas produk terhadap kepuasan pelanggan instrumen penunjang laboratorium (studi kasus pada PT. Laborindo Sarana Jakarta). *Jurnal Madani: Ilmu Pengetahuan, Teknologi, dan Humaniora* 1(2): 305–322. <https://doi.org/10.33753/madani.v1i2.16>

- Anggraini V, Prasmatiwati FE, Santoso H. 2013. Tingkat kepuasan dan loyalitas konsumen gulaku di kota bandar lampung. *JILA* 1(2): 149–155.
- Bansal et al. 2005. Migrating to new service providers: toward a unifying framework of customers switching behaviors. *Journal of the Academy of Marketing Science* 33(1):96–115. <https://doi.org/10.1177/0092070304267928>
- Chakiso CB. 2015. The effect of relationship marketing on customers' loyalty (evidence from zemen bank). *EMAJ: Emerging Markets Journal* 5(2): 58–70. <https://doi.org/10.5195/emaj.2015.84>.
- Chou PF. 2014. An evaluation of service quality, trust, and customer loyalty in home-delivery services. *International Journal of Research in Social Science* 3(8): 99–108.
- Cronin JJ, Brady M, Hult G. 2000. Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing* 76(2): 193–218. [https://doi.org/10.1016/S0022-4359\(00\)00028-2](https://doi.org/10.1016/S0022-4359(00)00028-2)
- Emmanuel E. 2022. Pengaruh kualitas produk terhadap pembelian kembali melalui word of mouth pakan unggas pokphand. *AGORA* 10(1): 1–18.
- Erwinsyah P, Mukhlis Y, Sulaiman. 2019. Pengaruh bauran pemasaran jasa terhadap kepercayaan merk (brand trust) dan dampaknya pada keputusan mahasiswa memiliki kuliah di politeknin aceh. *SI-MEN (Akuntansi dan Manajemen)* 6(2): 87–97.
- Garg SA, Singh H, De KK. 2016. Direct and indirect effects of marketing mix elements on satisfaction. *Academy of Marketing Studies Journal* 20(1):53–65.
- Haruna I. 2015. 7ps marketing mix and retail bank customer satisfaction in northeast nigeria. *British Journal of Marketing Studies* 3(3): 71–88.
- Hidayat A, Adanti AP, Darmawan A, Setyaning AN. 2019. Factors influencing Indonesian customer satisfaction and customer loyalty in local fast-food restaurant. *International Journal of Marketing Studies* 11(3):131–139. <https://doi.org/10.5539/ijms.v11n3p131>
- Iskandar D, Nurmalina R, Riani E. 2015. The effect of service, product quality, and perceived value on customer purchase intention and satisfaction. *Indonesian Journal of Business and Entrepreneurship* 1(2):51–62.
- Mahfudz AS. 2021. Pengaruh kualitas produk, kualitas layanan, dan kualitas informasi produk terhadap loyalitas pelanggan dengan kepercayaan pelanggan sebagai variabel intervening. *Diponegoro Journal of Management* 10(2):1–15. <https://doi.org/10.56521/manajemen-dirgantara.v15i2.765>
- Mainardes E, Cardoso M. 2019. Effect of the use of social media in trust, loyalty, and purchase intention in physical stores. *The International Review of Retail, Distribution, and Consumer Research* 29(4): 456–477. <https://doi.org/10.1080/09593969.2019.1583593>
- Marakanon L, Panjakajornsak V. 2017. Perceived quality, perceived risk and customer trust affecting customer loyalty of environmentally friendly electronics products. *Kasetsart Journal of Social Sciences* 38(1): 24–30. <https://doi.org/10.1016/j.kjss.2016.08.012>
- Nalendra ARA. 2018. Pengaruh kualitas pelayanan harga kepuasan pelanggan terhadap loyalitas pelanggan (studi kasus pelanggan im3 madiun). *JITK (Jurnal Ilmu Pengetahuan dan Teknologi Komputer)* 3(2) 281–288.
- Octavia WC. 2016. Pengaruh relationship marketing terhadap customer loyalty dan customer satisfaction sebagai variabel intervening pada PT. fuboru indonesia di surabaya. *Jurnal Manajemen Pemasaran* 10 (2): 52–58. <https://doi.org/10.9744/pemasaran.10.2.52-58>
- Septiani M, Alexandi MF. 2014. Struktur perilaku kinerja dalam persaingan industri pakan ternak di Indonesia periode tahun 1986–2010. *Jurnal Manajemen dan Agribisnis* 11(2):77–88.
- Sun H. 2010. Transferring attribute of e-commerce systems into business benefits: a relationship perspective. *Journal of e-commerce research* 11(2): 92 – 108
- Wiwoho AS. 2018. Pengaruh relationship marketing, customer value, dan trust terhadap loyalitas pelanggan pada PT. Asuransi Jiwasraya Cabang Kota Malang. *Jurnal Manajemen Bisnis* 8(2): 115–23. <https://doi.org/10.22219/jmb.v8i2.7062>
- Wulandari RD. 2018. Pengaruh citra merek dan kualitas produk terhadap keputusan pembelian pada produk kosmetik. *Jurnal Ilmiah Fakultas Bisnis Institut Teknologi dan Bisnis Kalbis* 3(1): 81–91. <https://doi.org/10.36226/jrmb.v3i1.81>

APPLICATION OF INPUT MANAGEMENT AND INTEGRATED PEST MANAGEMENT ON PADDY PRODUCTION: CASE STUDY IN KAMPAR SUBDISTRICT, KAMPAR DISTRICT, RIAU PROVINCE

Amalia^{*1}, Yusman Syaukat^{**}, Dedi Budiman Hakim^{*}, Dadang^{***})

^{*}Department of Economics, Faculty of Economics and Management, IPB University
Jl. Agatis, Campus of IPB Darmaga Bogor 16680, Indonesia

^{**}Department of Resources and Environmental Economics, Faculty of Economics and Management, IPB University
Jl. Agatis, Campus of IPB Darmaga Bogor 16680, Indonesia

^{***}Department of Plant Protection, Faculty of Agriculture, IPB University
Jl. Kamper, Campus of IPB Darmaga Bogor 16680, Indonesia

Abstract: The attack levels of plant pest organisms (PPO) highly influence the productivity of paddy rice farming. With the increasing human awareness of the dangers of using pesticides, especially for the environment and human health, PPO control prioritizes preventive control by applying the principles of integrative pest management (IPM), which prioritizes the application of healthy crop cultivation, routine observation, utilization of natural enemies and farmers as IPM experts. The use of inputs by farmers in production activities can affect the resulting production. This study aimed to estimate the effect of input management, IPM, and non-IPM on paddy rice production. The analysis used in this study was the Cobb-Douglas production function with the multiple linear regression method. Partially, each variable of land area, seeds, inorganic fertilizers, and dummy variables of IPM or non-IPM farmers significantly affected paddy rice production in Kampar Subdistrict. Variables of organic fertilizers, natural pesticides interacted with frequency, chemical pesticides interacted with frequency, and labor partially had no significant effect on lowland paddy rice production in Kampar Subdistrict. It is necessary to re-enact counseling on IPM in Kampar Subdistrict, Kampar District, to apply IPM principles that prioritize preventive PPO control to avoid the dangers of using pesticides for the environment and human welfare.

Keywords: Cobb-Douglas, plant pest organisms, integrative pest management, non-IPM, rice paddy production

Abstrak: Tingkat serangan organisme pengganggu tanaman (OPT) sangat memengaruhi produktivitas usaha tani padi sawah. Dengan semakin berkembangnya kesadaran manusia terhadap bahaya penggunaan pestisida, terutama bagi lingkungan hidup dan kesehatan manusia, maka pengendalian OPT mengedepankan pengendalian secara preventif dengan menerapkan prinsip-prinsip pengendalian hama terpadu (PHT) yang mengutamakan penerapan budidaya tanaman sehat, pengamatan rutin, pemanfaatan musuh alami dan petani sebagai ahli PHT. Penggunaan input oleh petani dalam kegiatan produksi dapat berpengaruh terhadap produksi yang dihasilkan. Tujuan penelitian ini adalah untuk mengestimasi pengaruh penggunaan input dan penerapan PHT dan Non PHT terhadap produksi padi. Analisis yang digunakan dalam penelitian ini adalah fungsi produksi Cobb-Douglas dengan metode regresi linear berganda. Secara parsial masing-masing variabel luas lahan, benih, pupuk anorganik dan variable dummy petani PHT atau Non PHT berpengaruh nyata terhadap produksi padi sawah di Kecamatan Kampar. Variabel pupuk organik, pestisida alami, pestisida alami diinteraksikan dengan frekuensi, pestisida kimiawi, pestisida kimiawi diinteraksikan dengan frekuensi dan tenaga kerja secara parsial tidak berpengaruh nyata terhadap produksi padi sawah di Kecamatan Kampar. Perlu digiatkan kembali penyuluhan tentang Pengendalian Hama Terpadu (PHT) di Kecamatan Kampar Kabupaten Kampar, karena dengan semakin berkembangnya kesadaran manusia terhadap bahaya penggunaan pestisida, terutama bagi lingkungan hidup dan kesejahteraan manusia, maka pengendalian OPT mengedepankan pengendalian secara preventif dengan menerapkan prinsip-prinsip PHT.

Kata kunci: Cobb-Douglas, organisme pengganggu tanaman, pengendalian hama terpadu, Non PHT, produksi padi

Article history:

Received
5 May 2023

Revised
27 June 2023

Accepted
3 July 2023

Available online
31 July 2023

This is an open access
article under the CC BY
license



¹ Corresponding author:
Email: amaliamasjkur@yahoo.co.id