Jurnal Manajemen Universitas Bung Hatta
Vol. 20, No. 01, January 2025
ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

Impact of Total Quality Management on Business Performance at DIY MSMEs Mediated by Customer Satisfaction and Moderated by the JIT

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Abstract

The research investigates how Total Quality Management (TQM) influences company performance, with customer satisfaction acting as a mediator and the Just In Time (JIT) concept functioning as a moderator. This study specifically targets micro, small, and medium enterprises (MSMEs) in the food and craft industries in Yogyakarta. With a quantitative methodology, the study uses purposive and non-probability sampling techniques to collect data from 125 participants in DI Yogyakarta. The Smart-PLS application is used to analyze data using structural equation modeling (SEM) methods.The findings showed that total quality management (TQM) significantly improves positive effect both customer satisfaction and business perfomance. However, there is also a strong positive correlation between customer satisfaction and business performance. Other results show that the JIT variable improves business performance, but has a negative and insignificant impact in moderating the effect of TQM that it can actually weaken MSMEs TQM. MSMEs' commitment to maintaining product quality is the main thing that affects customer satisfaction and improves business performance. Thus, strict supervision is needed in the production process, including quality data collection, supplier selection, employee training, production timeliness, as well as regular inspections.

Keywords: company performance; customer satisfaction; JIT; TQM

Received: November 6, 2024 *Revised: December 4, 2024* *Accepted: December, 28, 2024*
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Introduction

The era of globalization brings many significant changes in various aspects of life, opening up a broader global market. The flow of globalization poses challenges for companies to enhance their competitiveness and performance in maintaining product quality and service (Kazakov & Valijonov, 2021). One effective step to maintain company performance is to optimize internal resource quality to achieve competitive advantage with high competitiveness (Kholik & Laeli, 2020).

The superiority of internal resources in a company is an implementation of the Resource-Based View (RBV) theory, which states that ownership of strategic resources and orchestration frameworks can enhance organizational performance (D'Oria et al., 2021). This RBV theory influences the dissemination of TQM logic that can improve business company performance Chahal et al., (2020) and increase organizational effectiveness.

The DDSC concept represents the application of RBV theory because information and knowledge in supply chain analysis are included in effective resources (Panichayakorn, 2020). It can be said that operational excellence plays a role in efforts to increase resource productivity and competitive advantage (Manori et al., 2022). In other literature, RBV in this SCM

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

application can enhance the company's capabilities in providing products. Therefore, it can be said that operations linked to effective cost structures, high-quality products, speed, and responsiveness represent consumer pleasure (Guenther & Guenther, 2021). Based on the empirical work on RBV theory, the novelty of this research is to examine the role of RBV theory in a case study of the effect of TQM on company performance mediated by customer satisfaction and moderated by the concept of JIT. This theory reviews the importance of the superiority of internal resource competencies in implementing total quality management (Assensoh, 2019) so that its effect on the performance of a company is known. The purpose of choosing RBV theory is to provide recommendations for MSME (Zahra, 2021) to pay attention to the quality of internal resources in an effort to improve the quality of product quality (Aryanny, 2020) so that it affects company performance.

Previous researchers have conducted studies on the affects of TQM on business growth. Some researchers who found positive results include (Ming, 2023). On the other hand, other researchers like Macinati (2008) stated insignificant results between TQM and business growth. Other empirical studies also show research results regarding the effect of TQM on customer satisfaction. Research conducted by Nguyen & Nagase (2019), showed positive results. Another study claimed that TQM had an positive effect insignificant on customer satisfaction due to one of the factors of TQM measurement that did not provide satisfaction to customers (Sit et al., 2009). In addition to TQM and customer satisfaction, empirical studies also indicate that the Just In Time concept strengthens a company's TQM to improve business growth and performance (Nugroho et al., 2020). This research findings can serve as a basis for considering the JIT concept as a moderating variable that enhances company performance.

The objectives of this research are to analyze the effects of total quality management on company performance, mediated by customer satisfaction and moderated by the just-in-time concept. This model is an empirical development placing customer satisfaction as the intervening variable between TQM and company performance, with the JIT concept as the moderating variable affecting TQM's influence on company performance, thus making this model a novelty in this research. The result of this investigation provide some suggestion how company performance can be improved by implementing effective TQM. Previous researchers have not used JIT as a moderating varian previous studies, RBV theory was applied in companies adopting DDSC in the (SCM) implementation. Able in analyzing the influence of TQM to company performance. This also marks a novelty in this research model.

Literature Review

The study of RBV theory provides an explanation that capable resources can maximize Total Quality Management control of production (Assensoh, 2019). One of the indicators emphasized in TQM is feedback from customers, where this is a factor that can be used to measure customer satisfaction with the product (Lepistö, 2022). Resource optimization also provides an opportunity for companies to apply the jit concept so as to streamline inventory management to optimize the production process (Smith, 2019). In general, the application of RBV theory will streamline resources to produce high-quality products and improve financial performance (Malhotra, 2024).

Influence of TQM on Customer Satisfaction

The concept of Total Quality Management offers guiding principles emphasizing the process of product and service improvement (Ugwu, 2023). TQM is one way to continually enhance the development processes of companies to provide quality services that can meet consumer expectations (Nguyen & Nagase, 2019). The focus of the TQM approach emphasizes on improving more effective processes and faster responses in

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

meeting customer needs to achieve customer satisfaction (Ramlawati & Putra, 2018). In Quality Management, customer satisfaction becomes a crucial aspect of operational processes. To fulfill this aspect, good relations with customers are the key to improving service quality (Ali, 2020). Customer satisfaction is important in the operational processes of companies as a close relationship with customers to provide good quality and services (Mohamed, 2020). The quality obtained by customers becomes the benchmark for the company in evaluating the value of the quality provided (Pekkaya et al., 2019). The quality provided to consumers influences customer satisfaction (Agyapong et al., 2018), and can increases loyalty due to satisfaction with the services provided. Another reference also state that consumers will pay attention to the quality provided to previous consumers as well as credibility for service evaluation before choosing to buy (Yamin et al., 2024). TQM is one factor influencing loyalty (Le, 2023). To optimize TQM, companies can divide it into three process stages (Fitriani 2019), namely: (1) preparation, (2) planning, and (3) implementation. These stages can be realized with management commitment, employee involvement, and supported by training and communication (Sathiskumar & Shanmuganathan, 2019).

H1: TQM has a significant positive effect on customer satisfaction.

The Influence of TQM on Company Performance

According to earlies research, there is a strong influence between TQM and business perfomance. Researchers providing positive evidence include (Hassan & Jaaron, 2021). TQM provides a systematic approach that enhances organizational efficiency and effectiveness (Tasleem et al., 2018). Products with poor quality will significantly threaten business performance (Tasleem et al., 2018). Additionally, poor quality also impacts human resource wastage (Habib et al., 2019). TQM has great potential in improving an organization's ability to efficiently utilize resources (Arifin et al., 2022). Since TQM focuses on continuous improvement, it facilitates companies in ensuring the quality of production processes from upstream to downstream (V. Singh et al., 2018). TQM implementation has demonstrated its ability to improve profitability and company performance. Improved TQM has an impact on company growth and synergy building in realizing sustainability ad company performance (Ayodeji et al., 2021).

H2: TQM has a significant positive effect on company performance.

The Influence of Customer Satisfaction on Company Performance

Satisfaction from customer is defined as an asset relevant to the efficiency of improving company performance (Otto et al., 2020). Lim et al., (2020) also claim that increasing customer satisfaction will enhance cash flow and reduce risks associated with that cash flow. Other research also states that customer satisfaction positively affects overall business perfomance (Gu, 2023). Meeting customer satisfaction will reduce the cross-elasticity of competitive actions, thus maintaining good margins and cash flow for the company (Otto et al., 2020). Additionally, increased revenue also comes from acquiring additional customers.

H3: Customer satisfaction has a significant positive effect on company performance.

Customer Satisfaction Mediates TQM on Company Perfomance

Profitability is also influenced by high retention and customer satisfaction levels, resulting in high revenues (Ali et al., 2021). Business success also contributes greatly to the development of the national and global economy (Desiyanti, 2023). Customer satisfaction is influenced by the company's consistency in maintaining the quality

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

of its products, thus exceeding customer expectations (Sandberg et al., 2023). Other factors that contribute to customer satisfaction are the commitment to maintaining quality in operational processes, which provides a fair return for the costs incurred by customers (Farahani & Tohidi, 2021).

H4: TQM has a significant positive effect on company performance mediated by customer satisfaction.

The JIT Concept Improves Company Performance

The Just In Time practice is very useful in improving operational processes (Karim & Qamruzzaman, 2020). The integration of TQM and JIT significantly affects enhancing a company's competitive performance, consisting of cost efficiency, quality, delivery, and flexibility (Khalfallah & Lakhal, 2021). The JIT concept ensures that the flow of production materials is scheduled according to needs, while TQM helps anticipate rework, thus reducing production process steps (Popov, 2023).

H5: The JIT concept has a significant positive effect on company performance.

JIT concept moderates TQM on Company Perfomance

The presence of TQM can reduce production defects, strengthen relationships with suppliers and customers, and complement JIT deliveries to achieve higher volume flexibility (Pratiwi et al., 2023). Research by Dhawan (2023) states that implementation of JIT can improves company performance by lowering inventory levels, reducing quality costs, and optimizing time used. The practice of reducing inventory and improving quality can enhance company performance efficiency (Dhawan, 2023), thus supporting TQM implementation in maintaining product quality and improving customer satisfaction (Permana et al., 2021).

H6: TQM has a significant positive effect on company performance moderated by the JIT concept.

Methods

This investigation uses a quantitative exploratory approach. The primary data used in this study were collected through questionnaires both online and offline. This research combines purposive sampling with non-probability technique. Respondent of this study are MSMEs in Yogyakarta who have been running their business for at least one year, have permanent employees, and have suppliers who can meet their production needs.

Since the population size is unknown, we determine the minimum sample size using Hair's formula by multiplying the number of research indicators by 5-10 times. Using this formula, the minimum sample size obtained is 120 respondents. In real, 125 MSMEs owners in the food and baverage and craft industries completed the questionnaire. A total of 52 statements outlining the operational conditions of MSMEs were given to respondent. On a likert scale ranging from strongly disagree to strongly agree, MSMEs owners selected statements based on how much they agreed wist each statement.

The study was analyzed using inferential statistical techniques divided into two main parts: path analysis through the use of Partial Least Squares software and descriptive analysis. The measurement model, or outer model, is included in the research framework through the evaluation of composite reliability, discriminant validity, and convergent validity. Predicting the relationship between latent variables and testing hypotheses according to the model used is the purpose of structural model evaluation (Hair et al., 2014).

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

Tabel 1. Operational Definition

No	Variable	Definiton	Indicator	Item
1.	TQM (Total Quality Management) (Demirbag et al., 2006)	The definition of Total Quality Management (TQM) is the operational process of creating the best goods and services for consumers by managing processes from upstream to downstream (Talha, 2004). Sashkin & Kiser (1993) also define TQM as an integrated system of tools, methodologies, customer training, and processes to maximize goods that provide satisfaction to customers.	1. Superior reporting and data	1. One instrument for managing quality 2. Quality data as a management tool 3. Coverage of quality data includes to monitoring process and service perfomance 4. High quality data that managers and supervisors use in assessing perfomance
			2. The fuction of upper management	1. Department heads are responsible for product quality 2. Top management supports long-term quality improvement processes 3. Top management focus on goals for quality performance
			3. Relations between employees	1. There is feedback given to employees on the quality of performance. 2. Employees participate in quality decision making 3. Employees have superior quality in the performance process
			4. Quality control for suppliers	1. Requirement specifications provided to suppliers 2. Evaluation of supplier performance 3. Offer a long-term relationship with the supplier
			5. Training	1. Advanced technical training 2. Statistical technique training

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

				3. Specialized occupational skills training
			6. Policy of quality	1. Quality development by top management for cost and revenue management 2. Top management's commitment to improving as a way to increase profits
			7. Procedure oversight	1. Inspection, review and examination of works 2. Ideal number of inspections, reviews or checks of work
	Customer satisfaction (Ishaq Bhatti et al., 2014)	Based on a study from Hayes (2008) customer satisfaction serves as a measurement tool for how well a company's goods and services meet or exceed customer expectations. Meanwhile, according to Anderson & Sullivan (1993), customer happiness can also be used as a general assessment tool based on consumption patterns over time.	1. Customer loyalty index 2. Product quality 3. Service quality assurance 4. Order frequency 5. Out of stock 6. Number of complaints 7. New clients 8. The quantity of client testimonials 9. Market share in relation to client 10. Timely delivery	
3	JIT (Just In Time) (Kannan & Tan, 2005)	The Just In Time concept is a manufacturing philosophy to improve profitability, business quality to meet customer demand by prioritizing the delivery of goods in the right place and at the right time (Kannan & Tan, 2005). JIT allows companies to identify and eliminate waste (Dennis, 2017).	1. The flow of materials	1. Lower lot size 2. Shorten setup time 3. Boost delivery frequency 4. Buying from JIT vendors
			2. Adherence to JIT	1. Boost JIT efficiency 2. Assist suppliers in strengthening their JIT competencies 3. Choosing suppliers who support JIT concepts
			3. Management of supllies	1. Choosing suppliers who make waste reduction a priority 2. Decreasing the supplier

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

				pool 3. Preventive upkeep
4	Corporate Perfomance (Anggadwita & Mustafid, 2014)	Company performance is a variable to measure business capabilities that include effectiveness, efficiency, and also the adaptability of the company (Richard et al., 2009)	1. Entrepreneurial Aspects	1. Motivation 2. Optimism 3. Self-efficacy 4. Self-management
			2. Proficiency with human resources	1. Skill 2. Ability 3. Knowledge
			3. Innovativeness	1. Product creativity 2. Technology
			4. sustainability	1. Growth 2. Profitability

Source : Researcher (2024)

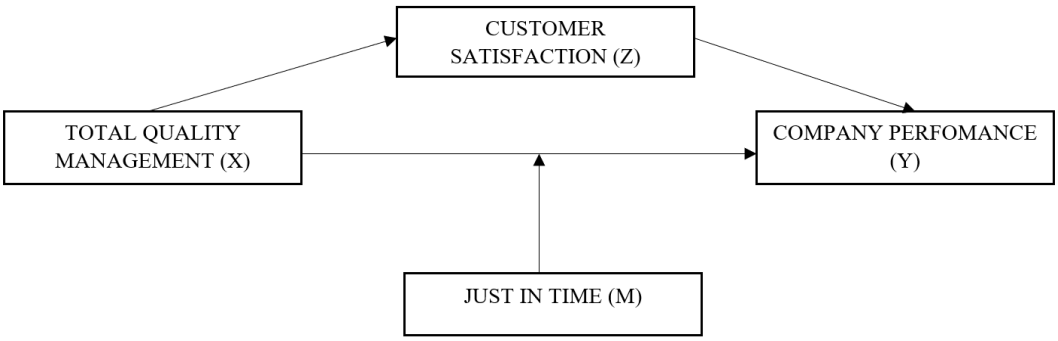

Figure 1. Theoretical Framework

Results and Discussion

Respondent Characteristic for this study involved 125 respondents with a diverse age composition. 52% of the respondents were over 40 years old, 25% were aged 21-30 years, 21% were aged 31-40 years, and 2% were under 21 years old. Based on the data, the average respondent had completed their studies at the Bachelor's level, accounting for 58%. Meanwhile, 24% had a Senior High School education. 15% of the respondents had completed a Diploma, 2% had attended Junior High School, and 1% had completed their education at the Elementary School level. The participants in this study were predominantly female, making up 72%, while the remaining 28% were male

Table 2. Respondent Characteristics

Respondent Profile		Frequency	Percentage
Position	Supervisor	1	1%
	Manager	3	2%
	Director	1	1%
	Store Head	1	1%
	Owner	119	95%
Business Address	Bantul	42	30%
	Gunung Kidul	5	4%
	Kota Yogakarta	28	22%
	Kulon Progo	12	10%

ISSN : 1907-6576 (print)
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	Sleman	38	34%
Length of Business	1 -5 years	91	73%
	6 -10 years	28	22%
	> 10 years	6	5%
Income	< 5 milion	34	27%
	5 - 20 milion	37	30%
	20 - 40 milion	16	13%
	40 - 75 milion	21	17%
	> 75 milion	17	13%

Source : Questionnaire data processing (2024)

Table 3. Outer Model

Variables / Indicators	Outer Loading	Crombah Alpha	Composite Realibility	Conclusion
TQM		0.582	0.951	Reliable
X 10	0.726			Valid
X 11	0.724			Valid
X 12	0.744			Valid
X 13	0.633			Valid
X 14	0.778			Valid
X 16	0.698			Valid
X 17	0.807			Valid
X 18	0.794			Valid
X 19	0.853			Valid
X 20	0.792			Valid
X 5	0.806			Valid
X 6	0.760			Valid
X 7	0.767			Valid
X 8	0.776			Valid
Customer Satisfaction		0.552	0.895	Reliable
Z 1	0.767			Valid
Z 10	0.671			Valid
Z 2	0.807			Valid
Z 3	0.820			Valid
Z 4	0.761			Valid
Z 7	0.732			Valid
Z 9	0.622			Valid
JIT		0.640	0.925	Reliable
M 1	0.732			Valid
M 2	0.713			Valid
M 3	0.798			Valid
M 4	0.862			Valid
M 5	0.839			Valid
M 6	0.813			Valid
M 7	0.831			Valid

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

Company Perfomance		0.610	0.945	Reliable
Y 1	0.745			Valid
Y 10	0.804			Valid
Y 11	0.708			Valid
Y 2	0.783			Valid
Y 3	0.768			Valid
Y 4	0.821			Valid
Y 5	0.812			Valid
Y 6	0.854			Valid
Y 7	0.772			Valid
Y 8	0.781			Valid
Y 9	0.733			Valid
TQM * JIT	0.982	1.000	1.000	Reliable

Source : Processing result (2024)

First convergent validity test, the number of indicators for each variable is as follows: TQM has 20 indicators; Customer Satisfaction has 10 indicators; the JIT concept has 10 indicator; and the Company Performance variable has 11 indicators. After conducting the validity test, it was found that several indicators were declared invalid due to having a coefficient value <0.60.

In the second test, data that were invalid due to coefficient values <0.60 were eliminated. Data with coefficient values >0.60 were declared valid because this research is exploratory, and thus, outer model loadings >0.60 are acceptable based on recommendations from research conducted by (Chin, 1998). After the data was eliminated, the number of indicators for each variable is as follows: TQM 14 indicators; Customer Satisfaction 7 indicators; JIT 7 indicators; and Company Performance 11 indicators.

Data in Table 4 shows that all research variables exhibit CR values > 0.70 and AVE values > 0.50. These findings suggest that the variables in this study are valid for use in estimating the inner structural model function.

Discriminant Validity of the Inner Model

Table 4. Discriminant Validity

	CP	CS	JIT	Moderating Effect 1	TQM
CP	0.781				
CS	0.749	0.743			
JIT	0.759	0.756	0.800		
Moderating Effect 1	0.308	0.294	0.458	1.000	
TQM	0.638	0.633	0.636	0.277	0.763

Source: processing result (2024)

By comparing the √AVE on each correlation across the variables comprising the latent construct, an item-specific validation procedure is used to validate the inner latent model. An entry in that variable is considered acceptable if the √AVE value (bold) is greater than the correlation value. Since the √AVE value of each variable is greater than the correlation between variables, the data in the table indicates the validity of each part of the study. Thus, the research can proceed. Here are the results of Determination Coefficient of Endogenous Variable (R Square). Endegenous Latent in the Inner Model's Adjusted R2 values

ISSN : 1907-6576 (print)
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Table 5. Inner Model's Adjusted R2 values

	R Square	R Square Adjusted
CP	0.665	0.653
CS	0.401	0.396

Source : Processing result (2024)

Based on Table 6, the total determination coefficient (Q^2) can be calculated as follows from the data in the table, the total determination coefficient (Q^2) can be calculated as follows:

Q^2 predictive = 1 – (1 – 0.653) (1 – 0.396)

= 1 – (0.347 x 0.604)

= 1 - (0.209)

= 0.791

The value of the R-Square (R^2) is 0.791. This result indicates that the variables included in the model account for 79.1% of the variability, with the remaining variables accounting for about 20,9% of the variability

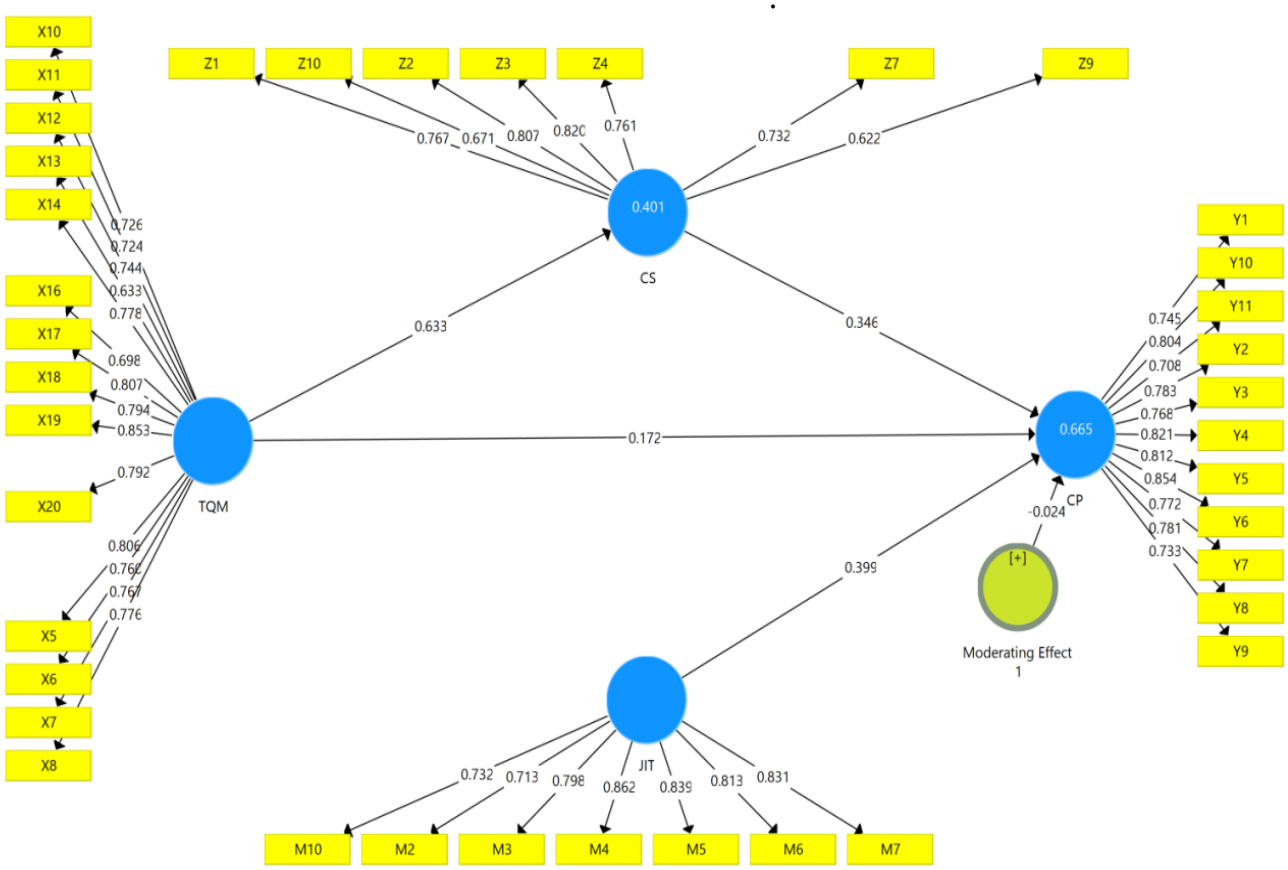

Figure 2. Structural Model of the Structural Model In Relation to Latent Variables

This table show Hypothesis Path Inner Model Test Standard Deviation (STDEV). Outcame Original Sample (O)Sample Mean (M)

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

Table 6. Results of Calculation of Direct and Indirect Influence

Hypothesis	Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion
H1	TQM -> CS	0.633	0.652	0.057	11.108	0.000	Accepted
H2	TQM -> CP	0.391	0.405	0.077	5.088	0.000	Accepted
H3	CS -> CP	0.346	0.341	0.096	3.616	0.000	Accepted
H4	TQM -> CS -> CP	0.219	0.221	0.062	3.556	0.001	Accepted
H5	JIT -> CP	0.399	0.385	0.086	4.630	0.000	Accepted
H6	Moderating Effect 1 -> CP	-0.024	-0.015	0.055	0.433	0.666	Rejected

Source : Processing result (2024)

Table 4 shows the path of influence between variables in the model. Testing the effect of TQM on customer satisfaction, the p-value of 0.000 is smaller than the significance level of 0.05, so hypothesis 1 is accepted. Hypothesis 2 is accepted because the effect of TQM on the Company gets a p-value of 0.000 smaller than the significance level of 0.05. Customer Satisfaction affects Company Performance because the p-value of 0.000 is less than the significance level of 0.05, indicating a significant relationship between variables, this result indicates that H3 is accepted. In addition, in testing the effect of customer satisfaction as a mediator of TQM with company performance, the p-value of 0.001 is less than the significance level of 0.05, so hypothesis 4 is accepted. The effect of the JIT concept on Company Performance shows a p-value of 0.000 less than the significance level of 0.05, so it can be stated that H5 is accepted. Moderating effect on Company Performance obtained a p-value of 0.666 greater than the significance level so that hypothesis 6 is rejected.

Discussion

In case studies of MSMEs in DI Yogyakarta, TQM positively impacts customer satisfaction, aligning with research by (Nguyen & Nagase, 2019). An optimal management process will consistently maintain product quality and deliver results that exceed customer expectations (Farahani & Tohidi, 2021). The commitment to product quality affects customer satisfaction because the price paid is commensurate with the quality of the products received (Lone & Bhat, 2023. This commitment also includes maintaining quality to reduce product defects (Yulianto & Wahyuni, 2022). Overall, this commitment is continuously pursued by MSMEs in DIY to obtain high-quality products while simultaneously increasing customer satisfaction with SME products.

Total Quality Management (TQM) can significantly improve company performance. According to findings by Hassan & Jaaron (2021), TQM plays a role in quality enhancement. TQM focuses not only on good production outcomes but also encompasses the entire operational process from upstream to downstream (Singh & Dadhich, 2021). Optimal management processes will yield higher quality standards (Riepina & Tepliuk, 2023). In this regard, top management plays an essential role in implementing TQM (Aburayya et al., 2020). This is due to the extensive scope of TQM, which includes various aspects such as quality data collection, supplier selection,

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

employee training, and production process supervision (Thapliyal, 2023). In this study, it was found that MSMEs in DIY have a strong commitment to improving long-term product quality to ensure successful TQM. This commitment consistently helps the company monitor and maintain quality at every stage of production (Upadhye, 2020). Additionally, the commitment to maintaining quality also enhances production efficiency, reduces operational costs, and increases productivity (Wijaya et al., 2023).

Customer satisfaction significantly positively influences company performance, in line with findings from (Guenther & Guenther, 2021). When customers are satisfied, they tend to repurchase and even recommend the products to others, thereby increasing sales frequency (Sharma & Singh, 2023). This research is also supported by findings from (Otto et al., (2020), which state that improvements in company performance can be seen from increased sales volume. In this case, the indicator for measuring customer satisfaction is product quality, considering positive feedback as encouragement for MSMEs to continue maintaining and improving product quality (Drouvelis & Paiardini, 2022). The results indicate that SMEs in DIY must consistently pay attention to their product quality to provide satisfaction to their customers. High customer satisfaction impacts increased sales, loyalty, and operational efficiency, thus enhancing profitability (Guenther & Guenther, 2021).

This study puts customer satisfaction as an intervening variable between Total Quality Management (TQM) and company performance. the results of the investigation show results where customer satisfaction significantly positively affects the relationship between TQM and company performance. This result is supported by the research findings of Hassan & Jaaron (2021) which state that customer satisfaction positively affects firm performance. Based on respondent statements, MSMEs are committed to maintaining product quality to enhance customer satisfaction, which is a crucial factor in improving SME performance. Thus, customer satisfaction strengthens the impact of TQM applied by MSMEs in their business development processes (Alawag et al., 2023).

This study shows that the Just In Time (JIT) concept significantly positively influences company growth. This result is supported by research from (Ralahallo, 2021), which states that JIT can enhance productivity. The JIT concept encompasses time management processes, supplier scheduling, reliable supplier selection, worker training, and equipment preparation to reduce production failures (Shelke et al., 2021). These steps are referred to as anticipatory measures, including production time management, supplier scheduling, reliable supplier selection, management of raw material supply quantities, and optimal training of workers and equipment preparation to minimize production failures (Biswas & Sarker, 2020). Therefore, the application of the JIT concept will help companies reduce production failures Dhawan (2023) and meet customer expectations, thereby enhancing company performance evaluations (Khajavi et al., 2024).

This study presents information that the application of the Just In Time (JIT) concept in SMEs has a negative, insignificant impact on Total Quality Management (TQM). This result can be interpreted as indicating that the implementation of the JIT concept in MSMEs in DIY may actually weaken TQM. This finding aligns with research by (Salaheldin, 2009), which states that JIT can disrupt company performance, as indicated by research by Suleiman et al., (2021) showing that JIT negatively affects performance flexibility. Research by Sim & Killough, 1998) also supports this finding, as it shows that the JIT concept can have a negative impact when acting as a moderating variable for TQM. One reason JIT may weaken TQM is the limitations in inventory management processes (Achanga et al., 2006). The case study of MSMEs in DIY shows that the issues

ISSN : 1907-6576 (print)
ISSN : 2615-5370 (online)

faced include a lack of awareness regarding the importance of inventory management. MSMEs in DIY have not implemented a system for purchasing raw materials according to needs to avoid waste. This constraint is rooted in limited capital, labor, and management capabilities, which are complex for JIT implementation, yet these are key to JIT success (Sebtaoui et al., 2021). Furthermore, MSMEs in DIY also face challenges due to a lack of cooperation with suppliers, making it difficult to respond quickly to changes in consumer demand, in line with research (Okon, 2018).

Conclusions and Managerial Implication

The results of a study of MSMEs in Yogyakarta show that Total Quality Management (TQM) significantly improves customer satisfaction and business success. Other results of this study indicate that customer satisfaction has an impact on business performance. In the research framework, customer satisfaction acts as an important mediator between quality management and business performance. Another finding of this investigation is that the JIT concept significantly improves business performance. However, in this study, it was found that JIT actually weakens TQM because the negative result was not significant. So this study indicates that the JIT concept does not function as a mediator of TQM on firm performance in MSMEs in DIY. This research is expected to contribute to determining the strategy of MSME actors in an effort to improve company performance. MSME actors need to pay attention to indicators that affect TQM so as to increase customer satisfaction and company performance. The research model by implementing the JIT concept is intended to analyze the contribution of JIT to TQM which has a good influence but has not been used in the implementation of TQM in MSMEs in the Special Region of Yogyakarta.

A long-term commitment to maintaining product quality will optimize TQM (Benzaquen & Charles, 2022). This commitment to quality impacts customer satisfaction, which in turn affects company performance (Goetsch & Davis, 2016). Therefore, it is recommended that MSMEs in DIY regularly conduct data collection on production processes to maintain quality consistency (Sariyer et al., 2021). Quality maintenance includes setting production standards, quality inspections, anticipatory measures to prevent failures, employee training, and considering customer feedback (Heizer et al., 2020). In practice, MSMEs in DIY are not advised to implement the JIT concept, as it requires complex integration processes (Jacobs & Chase, 2018). As an alternative, MSMEs can optimize TQM quality through supplier selection, employee training, timely production, and regular reviews of production processes (Goetsch & Davis, 2016).

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