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Improving Operational Performance through Competitiveness and Implementation Management Quality Integrated

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Abstract

The challenge in implementing quality management effectively in MSMEs lies in the tight market competition and the dynamics of the ever-changing industrial environment. Although MSMEs have great potential to improve the economy and absorb labor, various obstacles such as low product quality, limited human resources and technology still hamper development. This study aims to determine and analyze the effect of the implementation of Total Quality Management on the quality competitiveness and improvement of operational performance of MSMEs in Makassar City. Data were analyzed using descriptive statistical techniques and Structural Equation Modeling (SEM), with validity testing through normality and reliability tests. The results of the study indicate that the implementation of Total Quality Management (TQM) has a positive and significant effect on the quality competitiveness of MSMEs in Makassar City. TQM improves product quality, makes MSMEs more competitive in the market, and helps manage the production process more efficiently, reduces errors, and increases customer satisfaction. Although TQM also has a positive impact on operational performance, its effect is not significant, indicating that other elements such as human resources, technology, and the business environment also influence. Overall, TQM contributes to improving operational performance through quality competitiveness and operational efficiency. The output produced from this study is in the form of scientific publications. Theoretically, it becomes a theoretical basis for quality management practices, quality competitiveness and improving operational performance in Micro, Small and Medium Enterprises in Makassar City.

Introduction

The development of industry in big cities has caused various problems, including a focus on creating low-cost products without considering quality, which can make consumers reluctant. The concept of selling only prioritizes how products can be sold, often ignoring ethical methods. The growth of industry in Southeast Asia, including Indonesia, requires large investments to boost the economy and absorb labor, but also causes problems in quality consistency due to uncontrolled competition and production.

Quality management has not had a clear agreement among experts, often causing confusion. Small and medium industries still face challenges such as difficulty in accessing capital, low product reliability, difficulty in adjusting to consumer demand, limited human resources and production equipment, and difficulty in accessing markets (Etemad, 2020).

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The object of this research is to conduct a study of various quality management practices concerning leadership, employee management, consumer focus, and strategic planning, which are applied to Micro, Small and Medium Enterprises (MSMEs) in Makassar City. In addition, it also assesses the level of operational performance in terms of consumer satisfaction, employee morale, productivity, quality and delivery performance (Adeinat & Kassim, 2019). This research is unique, because from the various literatures that the author identified, there has not been much research conducted related to quality management problems. In addition, the uniqueness of this research is the inclusion of the quality competitiveness variable which is an extension of organizational competitiveness (Camargo, 2021; Ogutu et al., 2023). One of the biggest obstacles experienced by organizations in implementing total quality is the obstacle to competitiveness (Ikram et al., 2020; Pambreni et al., 2019). Meanwhile, competitiveness as a value system that is produced from a conducive environment to continuously expose and improve quality, which consists of values, traditions, procedures, and expectations to promote quality.

So far, studies on quality management practices and their relationship to operational performance and moderated by quality competitiveness, especially in small and medium industries (SMEs) that are grouped in industrial centers have not been widely conducted, especially in Indonesia. Existing research so far is still partial, for example, studies on the impact of total quality management on middle managers and employees as well as the implementation of quality management in large and small companies, the relationship between quality management practices and company performance. This study is intended to examine the problem of quality management further by including the variable of quality competitiveness.

The information from this study is very important for the Makassar City government, where Makassar City has 233 Small and Medium Industries (SMEs) spread across 15 sub-districts as shown in Table 1. This study is also expected to be a basis for conducting coaching and supervision in the field of quality management practices in improving the company's operational performance.

Table 1. Number of Business Units, Workforce and Production Value of Small Industries

District	Business Units	Workforce Count	Production Value
Mariso	4	16	363,000,000
Mamajang	18	27	1,957,410,000
Tamalate	22	73	6,480,910,000
Rappocini	29	89	3,916,710,000
Makassar	18	48	5,104,740,000
Ujung Pandang	3	3	127,180,800
Wajo	-	-	-
Bontoala	13	27	1,437,960,000
Ujung Tanah	1	1	18,000,000
Kep. Sangkarrang	-	-	-
Tallo	13	50	8,915,550,000
Panakkukang	37	92	4,149,090,000
Manggalla	17	25	1,810,080,000
Biringkanaya	37	65	3,253,300,000
Tamalanrea	21	33	2,022,642,000
Total	**233**	**549**	**39,556,572,800**

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Kretschmer et al. (2022) states that organizations that develop and maintain quality competitiveness will differ significantly from organizations with traditional competitiveness. Quality competitiveness is an organizational value system that produces an environment conducive to the formation and continuous improvement of quality consisting of values, traditions, procedures, and expectations that enhance quality. Quality competitiveness is a pattern of values, beliefs and expectations that are embedded and developed among members of the organization regarding their work to produce quality products and services, align with research from Shuaib & He (2021). Developing quality competitiveness is related to efforts to change human behavior and mental attitudes. This is one of the most difficult management tasks because it requires great strength and persuasive and motivating skills. Seriousness is also needed in facilitating and managing changes in competitiveness towards quality competitiveness (Prado-Prado et al., 2020).

According to Steiss (2019) and Kaydos (2020), performance measurement is generally designed to assess how well the activities are carried out and can be done to identify the necessary improvement activities and carried out continuously. As mentioned, companies and organizations have so far used more performance measurement which emphasizes the financial aspect or perspective, which is often referred to as the company's financial performance measurement. For other assessment measurements that are often carried out, performance measurements related to employee aspects are also carried out (Edú-Valsania et al., 2022; Bergner et al., 2019).

While other performance measurements such as those in the company's operational functions are rarely carried out, even though this aspect is also important because operational performance is related to quality, speed. Reliability, flexibility and cost to produce products and services. Operational performance is an indicator of achieving good performance where performance is the company's ability to achieve the effectiveness of using existing resources in the company so that the company's goals are achieved (Fernando et al., 2019). Operational performance according to is "the ability to compete by providing the ability to respond to customers and by developing the capabilities that will keep it head of its competitors in the future" (Firdaus, 2023). Thus, operational performance provides an overview of the company's ability in terms of competitive ability, responding to customer expectations and needs by developing capabilities to be better than competitors in the long term.

The purpose of the organization to develop quality competitiveness is to influence the overall performance of the organization (Azeem et al., 2021). This is proven by several research results that found that quality competitiveness developed in the organizational environment is able to provide a significant influence on organizational performance. First, research Ozbekler & Ozturkoglu (2020) found that quality competitiveness plays a dominant role in an organization's competitiveness towards performance. Second, a survey study in the education sector conducted Mohd Rasdi et al. (2023) on 267 academic staff of the International Islamic University in Malaysia also showed that quality competitiveness has a strong influence on faculty performance. Third, the results of a study that is in line were also found by Yadav et al. (2023) which found that as many as 275 respondents from 760 companies, quality competitiveness has a positive impact and supports the improvement of SME or Small Medium Enterprise performance in India.

Methods

This study uses a design to analyse the influence of quality management practices on operational performance through quality competitiveness in small and medium industries in Makassar City. The method applied is quantitative research with a causal approach that aims

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to test the relationship between variables through previously established hypotheses. Primary data is the main source of this study and is collected through a structured questionnaire distributed to employees as respondents. This questionnaire is divided into three parts, with questions covering service quality and student satisfaction, making it easier to collect relevant and in-depth data related to the variables studied.

For data analysis, this study used descriptive statistical methods and structural equation modeling (SEM) with AMOS 25.0 and SPSS 22.0 software. Descriptive statistical analysis was used to describe the characteristics of respondents, such as gender, last education, age, and length of service, and to assess respondents' responses to research variables such as quality competitiveness and production quality. SEM analysis, as an inferential method, was used to evaluate the complex relationships between variables in this research model. SEM allows researchers to test causal relationships simultaneously, providing a comprehensive view of the research model. In addition, this model was evaluated using various model fit indices, such as Chi-Square, RMSEA, GFI, AGFI, and CFI, to ensure the accuracy and fit of the data to the proposed model.

Result and Discussion

This study focuses on the analysis of observed problems using tabulated and validated data through normality and reliability tests, then analyzed using statistical methods. The next step is to analyze the characteristics of respondents in each variable based on their indicators using frequency. Then, SEM (Structural Equation Model) analysis is carried out to test the variable construct according to the eight goodness of fit criteria. Hypothesis testing is carried out to assess the direct and indirect effects that can be positive/negative and significant/insignificant

Description of Research Variables

Total Quality Management (X_1)

Table 2. Frequency/percentage of Integrated Quality Management variables

Indicator	**Respondent's answer**						**Total**	**∑(f X s) N**
		1	**2**	**3**	**4**	**5**		**average**
Leadership (X1.1)	F		1	5	73	63	142	624/142 = 4.39
	%		0.7	3.5	51.4	44.4	100	
	SCORES	0	2	15	292	315	624	
Supplier quality management (X1.2)	F	0	0	3	60	79	142	644/142 = 4.54
	%	0	0	2.1	42.3	55.6	100	
	Score	0	0	9	240	395		
Focus on consumers (X1.3)	F	0	0	7	55	80	142	641/142 = 4.39
	%	0	0	4.9	38.7	56.3	100	
	Skor	0	0	21	220	400	641	
Training (X1.4)	F	0	1	7	42	92	142	651/142 = 4.58
	%	0	0.7	4.9	29.6	64.8	100	
	Skor	0	2	21	168	460	651	
Continuous improvement (X1.5)	F	0	0	1	71	70	142	637/142 = 4.49
	%	0	0	0.7	50.0	49.3	100	
	Score	0	0	3	284	350	637	
Information and Analysis (X1.6)	F	0	1	12	106	23	142	577/142 = 4.06
	%	0	0.7	8.5	74.6	16.2	100	
	Score	0	2	36	424	115	577	
Indicator	**Respondents' Answers**						**Total**	**∑(f X s)**

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								N
		1	2	3	4	5		Rata-rata
Design Product (X1.7)	F	0	0	1	36	105	142	672/142 = 4.73
	%	0	0	0.7	25.4	73.9	100	
	Score	0	0	3	144	525	672	
Employee Engagement (X1.8)	F	0	0	11	85	46	142	603/142 = 4.25
	%	0	0	7.7	59.9	32.4	100	
	Score	0	0	33	340	230	603	
Average of integrated quality management indicators = Average number / number of indicators								4.43

Based on table 2, above, it can be seen that from the distribution of respondents' answers related to Integrated Quality Management, it is measured through eight key indicators. From the measurement results, the product design indicator was recorded as the highest with a value of 4.73%. This shows that product design is considered an important aspect in the implementation of quality management in the organization. Furthermore, the training indicator has a value of 4.58%, confirming that attention to consumer needs and satisfaction also receives great attention (Wu et al., 2022). Continuous improvement follows with a value of 4.49%, reflecting the importance of good relationships with suppliers in maintaining quality standards. Meanwhile, the information and analysis indicator recorded a value of 4.06%, emphasizing the role of data and analysis in quality-based decision making.

Quality Competitiveness (M)

Table 3. Frequency/percentage of Quality Competitiveness variables

Indicator	Respondents' answers						Total	∑(f X s) N
		1	2	3	4	5		Average
Cost Factor (M1.1)	F	0	0	1	53	88	142	655/142 = 4.61
	%	0	0	0.7	37.3	62.0	100	
	Score	0	0	3	212	440	655	
Quality Factor (M1.2)	F	0	0	1	12	129	142	696/142 = 4.90
	%	0	0	0.7	8.5	90.8	100	
	Score	0	0	3	48	645	645	
Flexibility Factor (M1.3)	F	0	0	11	20	111	142	688/142 = 4.70
	%	0	0	7.7	14.1	78.2	100	
	Score	0	0	33	80	555	668	
Innovation (M1.4)	F	0	0	1	51	90	142	657/142 = 4.63
	%	0	0	0.7	35.9	63.4	100	
	Score	0	0	3	204	450	657	
Average quality competitiveness indicator = Average number / number of indicators								4.71

Based on the table 3, above it can be seen that from the distribution of respondents' answers related to the Quality Competitiveness Variable, it is measured through several important indicators that describe the main aspects that influence competitiveness in MSMEs in Makassar City. The quality factor indicator was recorded as the highest with a value of 4.90%. This shows that the ability to innovate is the main factor that drives competitiveness, because innovation allows MSMEs in Makassar City to offer superior and more relevant products or services in the market. Furthermore, the flexibility factor indicator gets a value of 4.70%, which indicates

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that the flexibility factor remains an important priority in maintaining a competitive position in the market.

Operational Performance Improvement (Y)

operational performance improvement variables in this study were measured by five indicators, including: Productivity level, product error rate, warranty/guarantee costs and quality costs. The respondents' perceptions regarding satisfaction can be shown in the table 5, below

Table 4. Frequency/percentage of Operational Performance Improvement variables

Indicator	**Respondents' Answers**						**Total**	**∑ (f X s) / N**
		1	**2**	**3**	**4**	**5**		**Average**
Productivity Level (Y1.1)	F	0	0	0	100	42	142	610/142 = 4.30
	%	0	0	0	70.4	29.6	100	
	Score	0	0	0	400	210	610	
Product Error Rate (Y1.2)	F	0	3	14	94	31	142	579/142 = 4.08
	%	0	2.1	9.9	66.2	21.8	100	
	Score	0	6	42	376	155	579	
Guarantee/Warranty Fee (Y1.3)	F	1	0	15	94	32	142	582/142 = 4.10
	%	0.7	0	10.6	66.2	22.5	100	
	Score	1	0	45	376	160	582	
Indicator	**Respondents' Answers**						**Total**	**∑ (f X s)**
		1	**2**	**3**	**4**	**5**		**N**
Cost of Quality (Y1.4)	F	0	0	1	105	36	142	603/142 = 4.25
	%	0	0	0.7	73.9	25.4	100	
	Score	0	0	3	420	180	603	
Timeliness of Product reaching the hands of consumers (Y1.5)	F	0	0	1	107	34	100	601/142 = 4.23
	%	0	0	0.7	75.4	23.9	601	
	Score	0	0	3	428	170	601	
Average operational performance binding indicator = Average number / number of indicators								4.19

Based on the table 4, above it can be seen that from the distribution of respondents' answers regarding the variable of improving operational performance in MSMEs in Makassar City, it is measured by five indicators that describe the effectiveness of business operations. Respondents' responses to MSMEs in Makassar City showed quite positive figures in various aspects. The following is an explanation of each indicator: Productivity Level (4.25%): This figure shows that respondents feel that MSMEs in Makassar have a good level of productivity. This could mean that small and medium enterprises in the area are able to produce goods or services efficiently and effectively.

Quality Cost (4.23%): Respondents assessed that the costs incurred to ensure product quality are also good. This shows that MSMEs invest in maintaining quality standards, which is important to maintain customer satisfaction. Timeliness of Product Arrival in Consumers' Hands (4.23%): With the same score, this shows that MSMEs in Makassar are able to meet product delivery time commitments. Timeliness is a key factor in maintaining customer trust (Setiawan et al., 2020; Lanin & Hermanto, 2019).

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Warranty Cost (4.10%): This figure is slightly lower, but still shows a positive assessment. This may indicate that respondents feel that the costs associated with product warranty are quite reasonable and provide a sense of security for consumers. Product Error Rate (4.10%): Although this is also lower than the other indicators, this figure still reflects that the product error rate is relatively low. This shows that MSMEs are quite good at maintaining product consistency and standards.

Integrated Quality Management (X_1)

Loading factor is assessed based on Standardized Regression, which describes the contribution of each indicator in explaining the construct of the integrated quality management variable (X). The requirements that must be met are a loading factor value of more than 0.70 and a significance level of less than 0.05. In Table 6 below, it can be seen that all 8 indicators meet these criteria, so that all indicators can be involved in further testing. For more details, see Table 6 below.

Table 5. Loading factor of integrated quality management variables

Indicator	*Loading Factor* (ƛ)	Critical Ratio	P value (p)	Information
X1.1	0.748	8,673	0.000	Significant
X1.2	0.780	8,953	0.000	Significant
X1.3	0.821	9.313	0.000	Significant
X1.4	0.742	8,611	0.000	Significant
X1.5	0.713	8,349	0.000	Significant
X1.6	0.789	7,117	0.000	Significant
X1.7	0.732	6,523	0.000	Significant
X1.8	0.738	-	-	FIX

Improved operational performance (Y)

Loading factor is assessed based on Standardized Regression, which describes the contribution of each indicator in explaining the construct of operational performance improvement variable (Y). The requirements that must be met are loading factor value of more than 0.70 and significance level of less than 0.05. In Table 8 below, it can be seen that all 5 indicators meet these criteria, so that all indicators can be involved in further testing. For more details, see Table 8 below.

Table 6. Loading factor for operational performance improvement variable indicators

Indicator	*Loading Factor* (ƛ)	Critical Ratio	Profitability (p)	Information
Y1.1	0.810	-	-	Fix
Y1.2	0.795	10,083	0.000	Significant
Y1.3	0.749	11,088	0.000	Significant
Y1.4	0.705	10,271	0.000	Significant
Y1.5	0.757	11,252	0.000	Fix

Table 7. Validity and Reliability Test Results

Construct	Indicator	Loading Factor	Loading Factor ^{2}	1-Loading Factor ^{2}	Cut off point AVE >0.5	Cut off point CR > 0.70	Kete-Range
Integrated quality management	X1.1	0.748	0.560	0.440	0.575	0.915	Reliable
	X1.2	0.780	0.608	0.392			
	X1.3	0.821	0.674	0.326			

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(X)	X1.4	0.742	0.551	0.449			
	X1.5	0.713	0.508	0.492			
	X1.6	0.789	0.623	0.377			
	X1.7	0.732	0.536	0.464			
	X1.8	0.738	0.545	0.455			
Quality competitiveness (M)	M1.1	0.844	0.712	0.288	0.615	0.865	Reliable
	M1.2	0.782	0.612	0.388			
	M1.3	0.764	0.584	0.416			
	M1.4	0.744	0.554	0.446			
Improved operational performance (Y)	Y1.1	0.81	0.656	0.344	0.584	0.875	Reliable
	Y1.2	0.795	0.632	0.368			
	Y1.3	0.749	0.561	0.439			
	Y1.4	0.705	0.497	0.503			
	Y1.5	0.757	0.573	0.427			

Table 7 shows the Loading Factor, Construct Reliability (CR), and Average Variance Extracted (AVE) values for each research indicator. Based on the table, the Loading Factor value for each indicator is more than 0.70, which indicates that all research indicators are declared valid, so that no deletion or exclusion of indicators is required. Furthermore, the convergent validity test is met if the AVE value is more than 0.50 (Hair et al., 2014). Based on the table, all AVE values for each variable are more than 0.50, so it can be concluded that the CFA formed has met the convergent validity requirements.

The next stage is the Construct Reliability test, which is carried out to ensure that the value is greater than 0.70. In this test, the CR value of each variable is analyzed. The CR value is used to test the size of the Loading Factor of each indicator against the latent construct (Ardi, 2020; Suleman & Zuniarti, 2019). In this case, the Construct Reliability criteria indicate that a Loading Factor value of more than 0.70 illustrates good reliability.

Structural Equation Modeling

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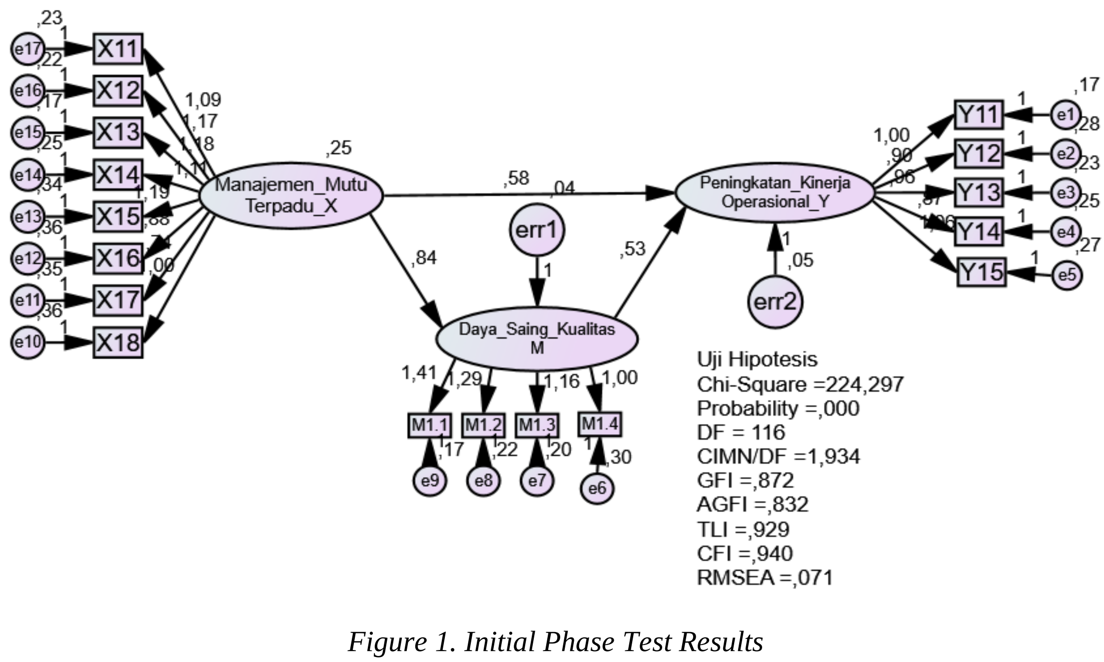

Figure 1. Initial Phase Test Results

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Figure 1 above shows that of the eight criteria of goodness of fit indices, the Chi-square value is still too large, and overall, the criteria do not match the specified cut-off value. Therefore, it is very necessary to modify the model by correlating the errors in the indicators, according to the instructions from the modification indices. The results of the analysis after modification to the final model are as follows.

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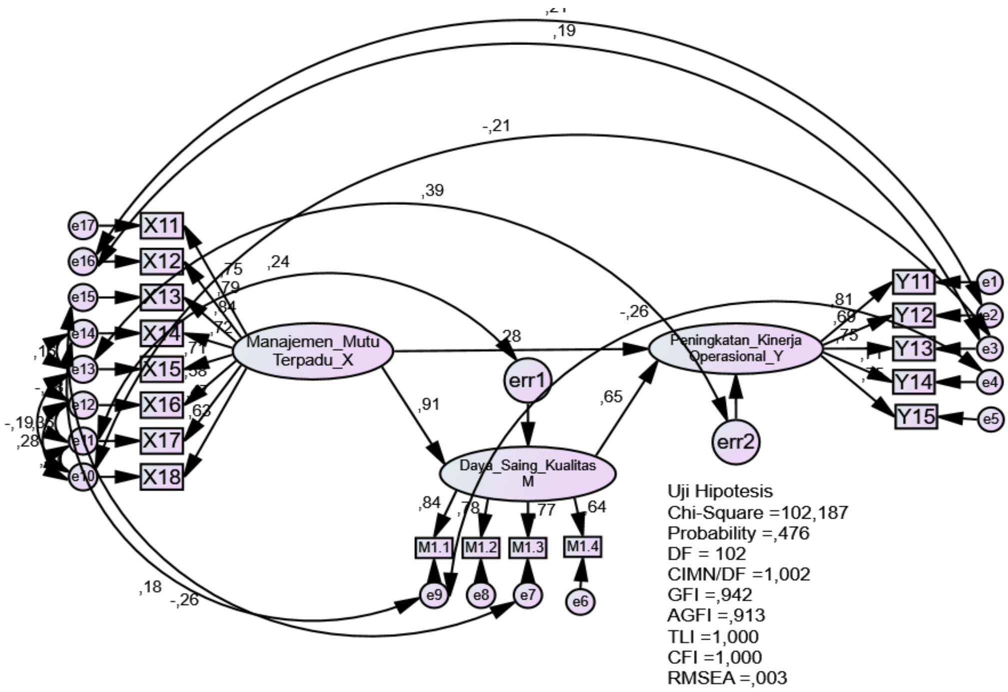

Figure 2. Final Stage Test Results

The results of the model test presented above are then evaluated based on the goodness of fit indices in the following table with the presentation of all model criteria and their critical values that have data suitability.

Table 8. Evaluation of the Goodness of Fit Indices Overall Model criteria

Goodness of fit index	**Cut-off value**	**Initial model results**	**Description**	**Final model results**	**Information**
X^2 - ChiSquare	It is expected small	224.297 > (0.0:116 = 142.138)	Marginal	102.187<0.05:102=126.574	finish
Probability	≥ 0.05	0.000	Marginal	0.476	finish
CMIN/DF	≤2.00	1.934	finish	1.002	finish
GFI	≥ 0.90	0.872	Marginal	0.942	finish
AGFI	≥ 0.90	0.832	Marginal	0.913	finish
TLI	≥ 0.90	0.929	Baik	1.000	Baik
CFI	≥ 0.90	0.940	Baik	1.000	Baik
RMSEA	≤ 0.08	0.070	Baik	0.003	Baik

Based on the results of the model evaluation at the initial stage, it can be seen that from the eight criteria of goodness of fit indices, the model shows a fairly good or marginal match between the data and the model. This can be seen from the index values, where several criteria such as chi-square, probability, CMIN/DF, GFI, and AGFI are still in the marginal category,

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except for TLI and CFI which are appropriate. However, RMSEA has met the established standards. Therefore, it is necessary to modify the model according to the suggestions from the modification indices. Modification indices are calculations to identify changes that can significantly reduce the chi-square value if related variables are connected. After the modification is made, at the final stage, all the criteria of goodness of fit indices have met the set cut-off value, so this model can be said to be appropriate and worthy of further analysis (Li et al., 2019; Mus et al., 2020).

Hypothesis Testing

Based on the empirical model conducted in this study, testing of the proposed hypothesis can be carried out through testing the path coefficient in the structural equation model. Table 1 1 is a hypothesis test by looking at the value, if the p-value is smaller than 0.05, then the influence between the variables is significant. The test results are presented in the following table:

Table 9. Total Influence, Indirect Influence Between Variables

No.	**Variables**			**P-Value**	**Direct Effect**	**Indirect Effect**	**Total Effect**	**Caption**
	Exogenous	**Inter Venue**	**Endogen**					
H-1	Integrated quality management (X)	Quality competitivees (M)	-	0.000	0.909		0.909	Significant
H-2	Integrated quality management (X)		Operational performance improvement (Y)	0.132	0.320		0.320	Not Significant
H-3		Quality competitivees (M)	Improved operational performance (Y)	0.000	0.800		0.800	Significant
H-4	Integrated quality management (X)	Quality competitivenes s (M)	Improved operational performance (Y)	0.000	0.909	3.329	4.238	Significant

From the entire model of 7 hypothesized direct paths, there is one direct path that is not significant. The interpretation of table 11 can be explained as follows:

H-1. Integrated quality management has a positive and significant influence on quality competitiveness, with a correlation coefficient of 0.909 and a p-value of 0.000, which is smaller than 0.05. This indicates that increasing integrated quality management will be followed by increasing quality competitiveness in MSMEs in Makassar City. Thus, the first hypothesis is accepted.

H-2. Integrated quality management has a positive but insignificant influence on improving operational performance, with a correlation coefficient of 0.320 and a p-value of 0.132, which exceeds 0.05. This shows that improving integrated quality management is not automatically followed by improving operational performance in MSMEs in Makassar City.

H-3. Integrated quality management has a positive and significant influence on improving operational performance through quality competitiveness, with a total effect value of 4.238 (0.909 + 3.329) or a direct effect of 0.909 and an indirect effect of 3.329. This shows that improving integrated quality management will be followed by improving operational performance in MSMEs in Makassar City. Thus, the first hypothesis is accepted.

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The Influence of Integrated Quality Management on Improving Operational Performance

Total Quality Management (TQM) is a comprehensive approach that focuses on improving quality across all aspects of an organization, from production processes to customer service. Based on the results of the study, it was found that although total quality management has a positive effect on improving operational performance, this effect is not significant. This means that the implementation of total quality management does encourage improvements in business operations, but the impact is not large enough to produce significant changes in overall company performance.

One reason why the effect is positive but not significant is due to the implementation factor. In many cases, the implementation of total quality management takes a long time before the real impact can be felt in operations. Companies face challenges in the consistency of implementing quality standards or face resource constraints, such as lack of adequate training for employees (Busch & Barkema, 2021). As a result, although there are improvements in quality, the increase in efficiency and productivity is not strong enough to provide significant changes in operational performance.

On the other hand, these results also show that integrated quality management does not work alone in determining operational performance. There are many other factors that affect operational performance, such as technology, human resources, and supply chain management (Ganbold et al., 2021). Therefore, although integrated quality management helps create a higher quality process, its influence on improving operational performance will only be seen significantly if supported by improvements in other aspects. This emphasizes the importance of a holistic approach in operational management that involves various elements to achieve optimal results.

The lowest indicator in the context of quality management related to "Continuously identifying problems in the continuous quality improvement process" indicates that the problem identification process in continuous improvement is not yet fully optimized. Problem identification is a very important initial step in the continuous improvement cycle, as outlined in methods such as PDCA (Plan-Do-Check-Act). Without proper identification, problems that affect quality will be difficult to find and fix effectively. If this indicator is low, it means that the organization or SME does not consistently identify the root causes of problems in the production or service process. This can be caused by various factors, such as the lack of an efficient problem reporting system, minimal employee involvement in raising operational issues, or the lack of mechanisms to continuously monitor and evaluate the process. As a result, small unidentified problems will continue to persist, which can ultimately affect the overall quality of the product or service.

By not routinely identifying problems, companies risk missing opportunities for greater improvement. Continuous improvement requires organizations to proactively look for problems and respond quickly to them (Chuang, 2021). When problem identification is done consistently, any errors or inefficiencies that arise can be immediately corrected, improving overall quality. Therefore, this low indicator indicates an urgent need for organizations to strengthen their problem identification processes and ensure that quality evaluation and monitoring are a regular part of operations.

Increased Operational Efficiency

Cost factor plays a central role in creating quality competitiveness. When a company is able to manage costs well without sacrificing the quality of products or services, it directly improves

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operational efficiency. Effective cost management, such as reducing waste, optimizing resource utilization, and improving production processes, helps companies reduce production costs (Shivajee et al., 2019). Thus, companies can offer products or services at more competitive prices without lowering quality standards.

Empirically, research shows that good cost management contributes significantly to improving operational performance. This cost efficiency allows companies to produce goods or services faster and cheaper, which ultimately increases productivity and profitability. In a highly competitive business environment, the ability to keep costs low while maintaining high quality becomes a very important competitive advantage.

Conclusion

Based on the research results, total quality management (TQM) is proven to have a positive effect on improving operational performance, but the effect is not significant. This shows that although the implementation of TQM brings benefits in improving operational efficiency and quality, its impact is not strong enough to make a significant difference in the overall performance of the companies or organizations involved in this study. Other factors may also affect operational performance, such as human resources, infrastructure, technology, and the external business environment. Therefore, the implementation of total quality management alone is not enough to directly improve operational performance significantly, without strong support from other relevant elements.

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