



# Total Quality Management as the Key of the Company to Gain the Competitiveness, Performance Achievement and Consumer Satisfaction

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## ABSTRACT

A decreasing number of manufacturing industries in some sectors in the region of Makassar city from the year 2012 to 2016 is generally influenced by the economic climate and is also affected by the poor performance and inability to compete and lack of attention to some industry on the application of total quality management (TQM) in their companies. TQM is an important concern because it involves all elements of management and continuously improving in order to shape the company's well performance and to create the consumers' satisfaction so that the business continuity can be maintained. This study took a sample of 43 large-scale manufacturing companies with the number of respondents consists of 129 managers, with the data collection using questionnaires. The research approach uses explanatory research by making the structural equation model as a tool of analysis test. The results of this study stated that the better implementation of TQM practices the more increase in the competitiveness of the company, consumers' satisfaction, and business performance, the better competitiveness is also increasing the consumers' satisfaction but does not affect the business performance of these manufacturing companies in Makassar.

**Keywords:** Total Quality Management, Consumer Satisfaction, Competitiveness

**JEL Classifications:** L6, M0, M2

## 1. INTRODUCTION

The effect of the Asean free trade area (AFTA) and the ASEAN Economic Community (AEC), leading companies in each country, especially in the Asean region that faced the global competition (Taty, 2016), (Arslan and Tatlidil, 2012), This global competition provides many choices to consumers, in buying high quality products and services (Fagerberg, 1988), This situation led the Indonesian business world increasingly face many challenges. This challenge arises both from within the country and from abroad. From within the country, there are competitions between the firms and industries (Nguyen and Doan, 2017). The competition can be in form of price wars, promotions, as well as the quality of after-sales services. Also, the domestic companies are faced with the competitors from abroad. Today many products come into Indonesia, with the lower prices and more attractive designs, such as food products and children's toys which made in China ([www.kemenperin.go.id](http://www.kemenperin.go.id), 2018), (Hidayatullah, 2010), In order to face the

competition, the company and the industry in Indonesia must have a competitive advantage for their products. To gain a competitive advantage on a global scale, a company is required to be able to present any better process in order to produce high-quality goods or services at a reasonable price and be able to compete. It is the time for the companies in Indonesia to evaluate the concepts of quality management development ([www.kemenperin.go.id](http://www.kemenperin.go.id), 2018), (Raharja, 2012). It is important for the companies to join the global competition, especially for companies that world market-oriented. Especially for manufacturing companies that have an international market segment, because they would compete with companies from other countries (Mechling et al., 1995) and (Noble, 1997).

The increasing of the global competition, has prompted many organizations to implement total quality management (TQM) as one of their strategies to meet the needs of the consumers (Munizu, 2012), TQM is a management philosophy that seeks to achieve excellence in all aspects of the business through

continuous improvement in the overall organization (Soejono, 2000). It is believed that TQM can contribute to organizational competitiveness (Ramlawati, 2011). TQM is also seen as a system that can be developed into an approach in running the business to maximize the competitiveness of the organization through continuous improvement on products, services, labor, processes and the environment. There are many terms used in the development of the quality concepts, such as total quality improvement (TQI), or continuous measurable improvement (CMI), or TQM (www.quality-one.com, 2018). During the 1980s and 1990s, TQM started to affect the business systems in many countries and is regarded as a “revolution” in the management (www.Bpir.Com, 2018). So that TQM is often referred to as the “social movement” (Wilkinson, 1998). TQM is focused on improving the effectiveness and promptness (responsiveness) of the organization in meeting the consumer needs. So the goal of TQM is an organizational excellence and customer satisfaction. The focus is to improve the competitiveness of the companies, where the further impact can improve the overall financial performance. In the application of comprehensive quality-based management, TQM also requires the creation of continuous improvement for the consumers’ satisfaction. So as to create a win-win solution for the industry and consumers themselves (Halim et al., 2017)

Makassar is a new developing industrial area. Therefore to enter the global era of quality competition, the manufacturing industry in Makassar city has begun to consider obtaining a certificate in the field of quality such as ISO 9000. In connection with the research on the application of TQM practices with the operational performance or TQM practices with other consequences variables are still very limited. So it is very important to conduct an exhaustive review of the TQM practices and their influences on business performance. According to the available data, large-scale industries in Makassar city in the last 3 years are presented in the Table 1.

Based on Table 1, it can be seen that the development of some of manufacturing industries in Makassar city tends to increase rapidly, especially in the chemical industry sector, metal goods, and other processing. As for some other sectors such as the textile and garment industry and the primary metals industry tend to sharply decline.

The decline in the number of manufacturing industry sector is influenced by the slowing economic climate which in another hand also decrease the contribution manufacturing industries (Marwah, 2018). The decline in the number of manufacturing industries also assumed that most companies are not able to produce a good performance and later they can not survive in the competition both on a regional and national scale (Giri, 2018). Moreover, even some small-scale industry in Makassar also become a contender to be reckoned because of their creative innovation can be rational reasons for some industries mentioned above decreased their quantity (www.makassar.Antaraneews.com, 2016). Besides, the raw material, human resources, technology and the standardized facilities factors also become an obstacle to compete in some manufacturing industries in Makassar (Munizu, 2012).

**Table 1: The large scale manufacturing industries in Makassar year 2013–2014**

Classification	2013	2014	2015	2016
Food and drink	12	25	29	28
Textiles and garment	64	41	2	0
Wood, articles of wood	40	19	4	30
Paper and articles of paper	0	7	3	13
Chemicals and chemical goods	0	0	2	64
Mineral products instead of petroleum and coal	0	0	0	0
Primary metals	26	0	0	0
Metal goods, machinery, and fittings	8	5	2	120
Other processing	0	13	7	193

A preliminary conducted at PT Kima to see that every year the existing manufacturing industries stop their production or even stop their operation. The other phenomenon is still a lack of companies that implement the TQM practices. Data obtained from the initial survey that of the 50 companies that were observed, only about 40% of which already have trained their personnel in the field of quality control and quality management while 60% have not had educated their personnel. Under such conditions, it is almost certain that the industrial companies in Makassar city mostly have not embraced the practice of TQM yet.

This study originated from the fact that global competition requires companies to meet the consumer expectations. One of the expectations is the quality of the products produced by the company that can satisfy them. The manufacturing industry in the city of Makassar is expected to respond to the expectations of consumers, because the quality will be a reflection of a nation’s productive performance as well as a factor of competitive advantage, especially in facing the increasingly competitive market competition (Haming and Nurnajamuddin, 2007). Based on the previously described phenomenon that there is still a lack of manufacturing companies in the city of Makassar that apply the practice of TQM, will lead the companies unable to increase the competitiveness to create customer satisfaction which in turn have an impact on business performance.

## 2. LITERATURE REVIEW

### 2.1. TQM

The importance of quality for the company’s performance and success on the market widely recognized in the literature and business practice (Crosby et al., 1990), (Shewhart and Deming, 1986), (Juran, 1992). There are many approaches to recommended quality management to help companies improving their efficiency and competitiveness through the improvement of quality. One of the most popular approaches and most often recommended is the philosophy of TQM - a holistic approach that seeks to integrate all organizational functions to focus on meeting the consumers’ needs and the organizational goals.

There are plenty of TQM principles, but in practice, the company may follow the standard model that has been known and accepted as a guideline for quality management (José, 2005). For examples the TQM principles embodied in the seven criteria of the Malcolm

Bridge National Quality Award (MBNQA) which considered important to initiate a successful TQM system (Kumar et al., 2009). The TQM practices in several subsequent studies later developed and measured with a different approach. Even though there are plenty of quality management practices that have been described, however, those practices have a lot in common with each other to measure the dimensions of TQM practices that including the process quality, human resources, strategic quality planning and information and analysis (Choi and Eboch, 1998). Indicators used by (Lau and Idris, 2001) our culture, trust, teamwork, employment continuity, education and training, leadership from the senior management and continuous improvement, the employee involvement and consumers' satisfaction or involvement (Lakhali et al., 2006).

Han et al. (2007), Albers et al. (1995) found out that TQM practices have a direct positive relationship with competitiveness. Narasimhan and Jayaram (1998) found out that TQM practices can result in a competitive advantage through improvements to the dimensions of competition such as quality and cost (Anderson and Sohal, 1999), (Maruchek et al., 1990), (Han et al., 2007) evaluate the contribution of a quality management on business performance and concluded that quality management can help companies to gain a competitive advantage by providing goods that can meet consumers' needs to be brought to the market. Thus the hypotheses in this study are:

H<sub>1</sub> = The better implementation of TQM will further enhance the competitiveness of the company.

H<sub>7</sub>: The practice of TQM which applied properly will increase the consumers' satisfaction by improving the competitiveness.

Furthermore, (Choi and Eboch, 1998), (Forza and Filippini, 1998) found out that TQM practices have a stronger effect on customer satisfaction. Consumer satisfaction is an important construct and became one of the main objectives of the company (Li et al., 2006), (Choi and Eboch, 1998) found out that the practice of TQM has a very strong influence on consumers' satisfaction. However (Han et al., 2007) found out that TQM practices have no effect on customer satisfaction. Therefore the TQM practices indicators in this study have developed so it is expected to answer the contradictions of the research findings (Kaynak, 2003), (Wahyudi, 2006), (Sila, 2007). Finally, the researcher's standing position in constructing this hypothesis is to state that:

H<sub>2</sub> = The better implementation of TQM practices will further improve the customer's satisfaction.

H<sub>8</sub>: The practice of TQM which applied properly will improve the business performance through the increasing of the competitiveness and the improvement of the consumers' satisfaction.

Permasari and Rismadi (2013) stated that the goal of TQM is the consumers' satisfaction so that the company applies these TQM practices for the sole purpose of creating the consumers' satisfaction. With the increase in the consumers' satisfaction will affect the improvement of the company performance (Shewhart and Deming, 1986). Terziovski and Samson (1999), Lau and Idris (2001), Maiga and Jacobs (2005), Lakhali et al. (2006), Cai (2009), Kumar et al. (2009). Thus the hypothesis proposed by the researchers is:

H<sub>4</sub> = The better implementation of TQM practices will further improve the business performance.

## 2.2. Competitiveness

Hansen and Mowen in the year of 2000 quoted (Christine, 2012) believe that the competitiveness is creating better customer value with an equal or lower cost than the other competitors to create the value that is equivalent with a lower cost. The achievement of customer value in order to create and sustain competitive advantage is closely related to the activities undertaken by the company. Competitiveness includes capabilities that allow an organization to differentiate itself from its competitors, and the competitiveness is derived through critical decision making by management. Two of the competitiveness that can be owned by a company is the low cost and differentiation. Both competitiveness include the quality of products/services, features, delivery of goods (delivery), follow-up service, ease of use, and other non-cost factors distinguishing the company from its competitors (Porter and Van Der Linde, 1995), (Han et al., 2007) stated that business performance will increase if the company has a stronger competitiveness through improvements in four dimensions: Quality, cost, delivery, and flexibility. The interesting part of this study is that the findings of TQM practices do not have a direct positive correlation with the consumers' satisfaction. This finding implies that TQM practices can improve competitiveness, which will further improve the consumers' satisfaction. In other words, the organizational competitiveness is a mediating variable between TQM practices with the consumers' satisfaction. Implementation of TQM itself cannot produce the consumers' satisfaction. The consumers' satisfaction can be obtained by increasing the company's competitiveness in terms of quality, cost, delivery, and flexibility. Competitive situation is changing rapidly and the dynamic consumer expectations require manufacturing companies to create the flexibility in product development (Zhang et al., 2009). Performances measures are used to measure the organizational performance including four main areas of business namely the human resources performance, the consumers' performance, the organizational effectiveness, the financial performance and the market performance. Sila (2007) measured the effectiveness of the organization by using the indicators of cost, quality, productivity, cycle time, and the number of defects or errors. (Terziovski and Samson, 1999) (Flynn et al., 1995), (Han et al., 2007), (Zhang et al., 2009) stated that that practice of TQM has a strong impact on the competitiveness of the company, resulting in an increasing number of the consumers' satisfaction. Also, there is a strong correlation between competitiveness and the consumers' satisfaction. Li et al. (2006), (Sila, 2007), (Han et al., 2007), stated that the consumers' satisfaction followed by well business performance. Thus the hypothesis in this study stated that.

H<sub>3</sub> = The better the competitiveness of companies will further increase the consumers' satisfaction.

H<sub>5</sub> = The better the competitiveness of the companies will further improve the business performance

H<sub>6</sub>: The higher level of the consumers' satisfaction will further improve the business performance

H<sub>9</sub>: The well-applied competitiveness will improve the consumers' satisfaction which will further improve the business performance.

**2.3. Consumers’ Satisfaction**

In the global economy and tight competition business environment today, the organization must be oriented to the consumers or it could be fatal. Only the consumers-oriented organizations and those who could provide superior value to the consumers will be able to survive in the very tight competition business arena. In addition, consumers who are satisfied tend to have been less affected by the competitors, less sensitive to the price and their loyalty last longer (Dimitriadis, 2006). The abundant TQM literature tries to understand the relationship between TQM and the organizational performance (Sit et al., 2009). But the relationship between TQM and the consumers’ satisfaction has been neglected in general, as a consequence, the study on the relationship between TQM and the consumers’ satisfaction is important to do because it can provide the theoretical and practical foundation for organizations in their efforts to gain a sustainable competitive advantage (Sit et al., 2009). Choi and Eboch (1998) measure the consumers’ satisfaction by using three indicators: Cost, quality, and speed of delivery. Han et al. (2007) measure the consumers’ satisfaction by using four indicators i.e. the amount of praise from the consumers, the number of consumers who make repeat purchases, consumers’ retention and satisfaction levels.

**2.4. Business Performance**

The study on the performance conducted by (Maruchek et al., 1990) stated that the performance factors evaluated by the level of understanding and performance of the tasks assigned, the effectiveness of the work with other employees, trust and responsibility at work, assessing how the completion of the work and the possibility of getting promotion. Meanwhile, when the concept of performance operationalized in research with the concept of financial performance, the used indicators are: Return on assets, return on investment, the current ratio (Sambasivan, 2003). But the concept of organizational performance dimensions can be seen from the performance of financial and marketing performance, the used indicators are Long-term company profitability, sales growth, and the financial strength (Chow-Chua et al., 2003), (Kaynak, 2003) operationalize the performance, they are: (1) The financial performance, (2) the quality performance, (3) inventory management performance, (4) the results of the business, which includes the measures for business performance, operational performance, and consumers’ satisfaction. This study identifies the relationships between TQM practices and examined the direct and indirect effects of these practices on performance. The findings obtained here suggest that there is a positive correlation between the degrees to which the companies implement the TQM with their performance. Based on the previous findings, the studies so far are still getting contradictory findings. The failure to obtain the consistent findings could be due to the presence of three important differences between the various studies, especially in relation to the design of the study. The first, in several studies, the TQM is operationalized as a single construct to analyze the relationship between TQM and the company’s performance while in several other studies, such as in (Terziovski and Samson, 1999), the TQM is operationalized as a multidimensional construct. Secondly, the level of measured performance also differs between those studies. This study may contribute to the development of TQM theory by examining the relationships between the ten

TQM practices that have been developed by (Ahire et al., 1996) and (Lakhali et al., 2006) and its influence on competitiveness (Han et al., 2007), the consumers’ satisfaction and the business performance.

**3. METHODS**

This type of research is an explanatory research. This study, therefore, explains the implications of TQM practices (X.1) on competitiveness (X2), the consumers’ satisfaction (X3), and the business performance (Y1). The target population in this study is the entire manufacturing industries in Makassar city that apply the TQM practices which consist of 43 industries. The subjects are the managers, who become the respondents from each of the selected companies. The selected respondents are the production manager, the financial manager, and the marketing manager. Thus the respondents in one company are 3, so the number of respondents from 43 companies that have implemented TQM is  $3 \times 43 = 129$ . The method of data collection uses questionnaires. The scale in this research is using a Likert scale of 1–5 (1 = strongly disagree/SS, 2 = disagree/TS, 3 = quite agree/CS, 4 = agree/S, and 5 = strongly agree/SS) (Aditya, 2012).

The conceptual framework of this research is based on the results of the literature review, the hypothesis and the prior research is given in Figure 1.

The instruments of measurement data in this study are presented in Table 2.

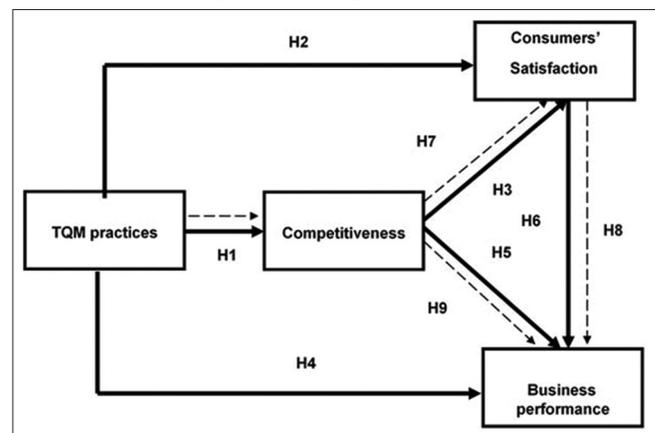
Method of data analysis for this study is the use of structural equation model (SEM) using AMOS as a tool of analysis test. The path analysis test is going through several stages (Halim et al., 2017) and (Aditya, 2012) such as:

1. Models compatibility test (goodness of fit) by looking at the value of Chi-square probability >0.05, GFI >0.90 and RMSEA <0.08
2. Research hypothesis testing.

**4. RESULTS**

Table 3 describes the proportion of research sample based on the manufacturing industries classification in Makassar city and located at PT. Kima. As for its descriptions as Table 3.

**Figure 1:** Conceptual framework



**Table 2: Instruments of measurement data**

Variables	Measurement instruments
TQM/X1	(X1.1) top management commitment, (X1.2) leadership (X1.3) supplier quality management, (X1.4) Focus on the consumer, (X1.5) Employees training (X1.6) Continuous improvement (X1.7) The Use of internal quality information, (X 1.8) Product design (X 1.9) Employees involvement, and (X 1.10) The use of statistical quality techniques
Competitiveness (DYS/X2)	X2.1) Cost efficiency (X2.2) Quality level (X2.3) Flexibility level, (X2.4) Delivery speed
CustomerSatisfaction (KKS/X3)	X3.1) The level of complaints from consumers (X3.2) The consumers' frequent purchases (X3.3) The consumers' retention
Business Performance (GOC/Y1)	(Y1.1) Return on investment (ROI) (Y1.2) The amount of market share (Y1.3) Sales growth rate

TQM: Total quality management

From company that is according to, 16 pieces (12.60%) are foreign companies, 14 pieces (11.02%) domestic investment company, state owned enterprises 6 units (4.72%), self-financing 56 pieces (44.09%), and the remaining 35 units (27.56%) is not a clear category/type of business.

**4.1. The Respondents Characteristics**

Based on the research data, the obtained respondents characteristics are: (1) Position, (2) age, (3) gender, (4) tenure and (5) the level of education. The respondent's characteristics can be seen in Table 4.

Based on Table 4, it can be seen that the majority of respondents by the functional position is the operations managers of 45.75%, followed by the marketing managers and financial managers. The classification based on the age of majority respondents range from 41 to 50 years where the percentage is 44.68%. The second range is 31–40 years. Furthermore, the male respondents have a larger number, 65 (69.15%) compared to a female that representing only 29 (30.85%). The majority of respondents have a bachelor degree (S1), 49 people (52.13%). There are 18 respondents who have masters' degree, and 27 respondents have diploma/high school degree. Based on the data above, it can be seen that the majority of respondents have worked at the company for 11–15 years (42 or 44.68%). 18 respondents have worked for 6–10 years, and the rest of them have worked more than 15 years and less than 5 years.

**4.2. Frequency Distribution Data**

**4.2.1. TQM variables**

Based on Table 5, it can be seen that of the 43 companies, the general perception of respondents to the TQM practices variables

**Table 3: The proportion of research samples**

No.	Type industrial/factory	Unit	Proportion (%)
1	Bottled water	1	0.78
2	Snacks	5	3.94
3	Wood processing	7	5.51
4	Rubber foam and cork	7	5.51
5	Distribution warehouse	9	7.08
6	Pharmacy	2	1.57
7	Ice Cube	4	3.15
8	Paint canning	1	0.78
9	Concrete	5	3.94
10	Cocoa bean processing	2	1.57
11	Cocoa manufacturing	8	6.30
12	Coffee	2	1.57
13	Furniture	6	4.72
14	Plastic and cardboard packaging	4	3.15
15	Cold storage	14	11.02
16	Cashew	1	0.78
17	Sandpaper	2	1.57
18	Button	1	0.78
19	Biscuits and bread	2	1.57
20	Instant noodles	1	0.78
21	Retreading	3	2.36
22	Workshop	3	2.36
23	PVC pipe	1	0.78
24	Coconut oil	2	1.57
25	Syrup	1	0.78
26	Paving blocks and tiles	1	0.78
27	Fish and livestock feed	2	1.27
28	Motor distributors and servicing	1	0.63
29	Heavy equipment distributors and servicing	1	0.63
30	Nail and rebar factory	2	1.57
31	Telecommunications services	2	1.57
32	Ketchup and sauces	2	1.57
33	Ice cream	2	1.57
34	Leather processing	2	1.57
35	LPG Gas Filling	2	1.57
36	Other industries	16	12.60
Total		127	100.00

Source: Adapted from publications of PT KIMA (Persero) 2018

can be interpreted that the respondents give very good values. This is explained by the average value of 4.30. This indicates that respondents understand and grasp the importance of TQM practices applied in the manufacturing industries. Linked to the average scores that include: (a) Top management commitment (4:41), (b) supplier quality management (4:37), (c) focus on the consumer (4:38), (d) continuous improvement (4:56), and (e) employees involvement (4:34). The smaller than the average scores include: (a) Leadership (4:28), (b) training (4:06), (c) information and analysis (4:18), (d) product design (4:27) and (e) use of statistical quality techniques (4:20). The data shows that the TQM practices variables qualitatively supported by three indicators: The top management commitment (X1.1), continuous improvement (X1.6) and focus on the consumer (X1.4).

**4.2.2. Competitiveness variables**

From the average value of the four used indicators, three indicators rated excellent, they are the delivery speed 4:56, quality level 4:54 and cost efficiency indicator with mean 4:44 also considered importantly to create the efficiency, while the flexibility of 4.16 relatively low compared to the value of the other three indicators (Table 6).

4.2.3. *Consumer satisfaction variables*

Table 7 indicates that the respondents (the managers) in consideration that the manufacturing industries in the Makassar city can create the satisfaction for their consumers.

4.2.4. *Business performance variables*

Table 8 explains that the average value of business performance variables 4:28. It indicates that the respondents (the managers) in consideration that the manufacturing industries in Makassar city are able to achieve better business performance.

**4.3. VARIABLE CONSTRUCT MEASUREMENT RESULTS**

4.3.1. *TQM variables*

Tables 9 and 10 shows the measurement model of TQM practice, so the model criteria have shown their model fit or the appropriateness between the data and model. It is proven by the probability value P = 0.131 and RMSEA = 0.080. Thus the above model shows a good level of acceptance and therefore can be concluded that the model is acceptable.

Loading factor ( $\lambda$ ) states that the overall indicator significantly influential.

**Table 4: The respondents characteristics**

No.	Characteristics	Group	Total (%)
1	Functional occupation	Operational manager	43 (45.75)
		Finance manager	15 (15.95)
		Marketing manager	36 (38.30)
2	Age	<30 years	17 (18:08)
		31–40 years	20 (21:28)
		41–50 years	42 (44.68)
		>50 years	15 (15.96)
3	Gender	Male	65 (69.15)
		Female	29 (30.85)
4	Tenure	<5 years	13 (13.83)
		6–10 years	18 (19:15)
		11–15 years	42 (44.68)
		>15 years	21 (22:34)
5	Level of education	Postgraduate	18 (19:15)
		Bachelor	49 (52.13)
		Diploma/high school	27 (28.72)

**Table 5: Frequency/percentage of TQM practices variables indicator**

Indicator	Respondents answer score					Mean
	1	2	3	4	5	
Top manage Com (X1.1)	0	0	2	15	26	4.41
Leadership (X1.2)	0	0	3	20	20	4.28
Supplier quality man (X1.3)	0	0	1	26	16	4.37
Focus on consumer (X1.4)	0	1	2	19	21	4.38
Training (X1.5)	0	1	3	32	7	4.06
Cont. improvement (X1.6)	0	1	1	10	31	4.56
Info and analysis (X1.7)	0	0	3	23	17	4.18
Product design (X1.8)	0	0	2	26	15	4.27
Employee involve (X1.9)	0	0	2	24	17	4.34
Statistic quality T (X1.10)	0	1	1	30	11	4.20
Variable mean						4.30

TQM: Total quality management

4.3.2. *Competitiveness variables*

Table 11 shows the competitiveness measurement model, so the model criteria have shown their model fit or the appropriateness between the data and model.

Table 12 shows that the dominant quality indicators shape the competitiveness variables, followed by the indicator of delivery speed, cost, and flexibility.

4.3.3. *Consumer satisfaction variables*

Consumer retention variable indicator which has a dominant loading factor value in shaping the consumers' satisfaction means that if the consumers have the will to keep using the company's products can also create a frequent purchase of the consumers and it also indicates that consumers' complaint is relatively limited (Table 13).

4.3.4. *Business performance variables*

Based on the obtained results above, the ROI dominantly shaping the business performance variables (0.958), which means that the ability of manufacture companies in the Makassar city achieve higher profit is due to the ability of the companies to achieve better sales growth. Without the strong sales growth, the company will not be able to create a broader market share. So the broad market control can be achieved if it supported by the better sales growth (Table 14).

**4.4. Structural Model**

The structural model is presented in Figure 2.

**Table 6: Frequency/percentage of competitiveness variables indicator**

Indicator	Respondents answer score					Mean
	1	2	3	4	5	
Cost (X2.1)	0	0	1	21	21	4.44
Quality (X2.2)	0	0	0	15	28	4.54
Flexibility (X2.3)	0	0	2	30	11	4.16
Delivery sp (X2.4)	0	0	0	10	33	4.56
Variable mean						4.43

**Table 7: Frequency/percentage of consumer satisfaction variable indicator**

Indicator	Respondents answer score					Mean
	1	2	3	4	5	
Complain (X3.1)	0	0	2	27	14	4.28
Freq. Purchase (X3.2)	0	2	4	26	11	4.07
Cons Reten (X3.3)	0	1	8	27	7	3.93
Variable mean						4.09

**Table 8: Frequency/percentage of business performance variables indicator**

Indicator	Respondents answer score					Mean
	1	2	3	4	5	
ROI (Y1.1)	0	0	0	25	18	4.42
M.Shar (Y1.2)	0	1	2	29	11	4.16
Sal. Gr (Y1.3)	0	0	2	28	13	4.26
Variable mean						4.28

**Table 9: The evaluation of goodness of fit indices practice of TQM criteria (X1)**

The goodness of fit index	Cut-off value	Model result *	Information
$\chi^2$ - Chi-square	Expected to be small	44,489	Good
Sign. Probability	$\geq 0:05$	0131	Good
CMIN/DF	$\leq 2:00$	1,271	Good
RMSEA	$\leq 0:08$	0080	Good
GFI	$\geq 0.90$	0831	Good
AGFI	$\geq 0.90$	0734	Good

TQM: Total quality management

**Table 10: Loading factor ( $\lambda$ ) of TQM practices factor measurement**

Indicator variables	Loading factor ( $\lambda$ )	Critical ratio	P	Information
Top Management Comm. (X1.1)	0899	9640	0000	Significant
Leadership (X1.2)	0781	6,905	0000	Significant
Supplier quality manage. (X1.3)	0765	6719	0000	Significant
Focus on consumers (X1.4)	0916	Fix	0000	Significant
Training (X1.5)	0818	7649	0000	Significant
Continuous improvement (X1.6)	0919	7019	0000	Significant
Information and analysis (X1.7)	0860	8486	0000	Significant
Product design (X1.8)	0870	8707	0000	Significant
Employee involvement (X1.9)	0858	8447	0000	Significant
Statistical quality tech. (X1.10)	0702	5704	0000	Significant

**Table 11: Evaluation of goodness of fit indices criteria of competitiveness (X2)**

The goodness of fit index	Cut-off value	Model result*	Information
$\chi^2$ - Chi-square	Expected to be small	7811	Good
Sign. Probability	$\geq 0:05$	0020	Marginal
CMIN/DF	$\leq 2:00$	3.905	Marginal
RMSEA	$\leq 0:08$	0263	Marginal
GFI	$\geq 0.90$	0915	Good
AGFI	$\geq 0.90$	0576	Marginal

**4.5. Hypothesis Testing**

The results of the path coefficient test on the SEM can be presented in Table 15, which is testing the hypothesis by looking at the P-value, if the  $P < 0.05$  then the correlation is significant between the variables. The results are presented in the following table:

Of the overall five models, one path is not significant. Direct path, and there are 3 indirect and significant paths. The interpretation of Table 14 can be explained as follows:

$H_1$  = The practice of TQM has a positive and significant influence on competitiveness with  $P = 0.007 (< 0.05)$ , and the value of CR (t count > t table or 2,681 > 2,132) with a coefficient of 0.382, this coefficient indicates that if the practice of TQM is well applied, the competitiveness of the company will be better ( $H_0 =$  accepted,  $H_1 =$  rejected).

**Table 12: Loading factor ( $\lambda$ ) of competitiveness factor measurement**

Indicator variable	Loading factor ( $\lambda$ )	Critical ratio	P	Information
Cost (X2.1)	0488	4894	0000	Significant
Quality (X2.2)	0854	FIX	0000	Significant
Flexibility (X2.3)	0307	3,150	0002	Significant
Delivery speed (X2.4)	0774	5,672	0000	Significant

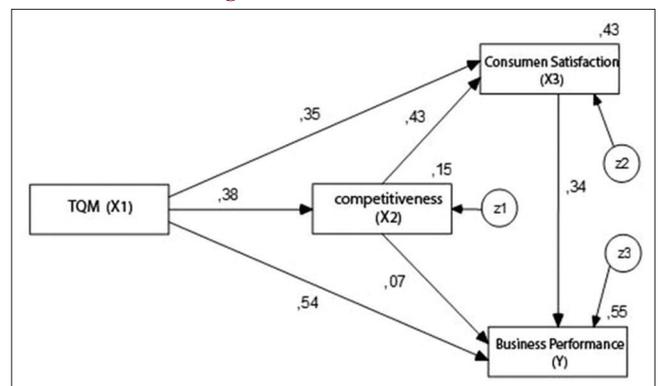
**Table 13: Loading factor ( $\lambda$ ) of consumer satisfaction factors measurement**

Indicator variables	Loading factor ( $\lambda$ )	Critical ratio	P	Information
Complaint Frequent purchase (X3.1)	0393	2,822	0005	Significant
Consumer retention (X3.2)	0723	3063	0002	Significant
Consumer retention (X3.3)	0787	FIX	0000	Significant

**Table 14: Loading factor ( $\lambda$ ) of business performance measurement**

Indicator Variables	Loading factor ( $\lambda$ )	Critical ratio	P	Information
ROI (Y1.1)	0958	3,704	0000	Significant
M.Shar (Y1.2)	0654	FIX	0000	Significant
Sal. Gr (Y1.3)	0683	3,942	0000	Significant

**Figure 2: Structural model**



$H_2$  = The practice of TQM has a positive and significant influence on consumers' satisfaction with  $P = 0.005 (< 0.05)$ , and the value of CR (t count > t table or 2,786 > 2,132) with a coefficient of 0.353, this coefficient indicates that if the practice of TQM is well applied, the consumers' satisfaction will also increase ( $H_0 =$  accepted,  $H_1 =$  rejected).

$H_3$  = Competitiveness has a positive and significant influence on consumers' satisfaction with  $P = 0.000 (< 0.05)$ , and the value of CR (t count > t table or 3.398 > 2.132) with coefficient of 0.430, this coefficient indicates that if the competitiveness of the company increases, the consumers' satisfaction will also increase ( $H_0 =$  accepted,  $H_1 =$  rejected).

$H_4$  = The practice of TQM has a positive and significant influence on business performance with  $P = 0.000 (< 0.05)$ , and the value of CR (t count > t table or 4,423 > 2,132) with a coefficient

**Table 15: Results of SEM testing**

HIP	Independent variables Standardize	Dependent variables	Path coefficient of direct effect		
			Standardize	P value	Information
H <sub>1</sub>	TQM practices	Competitiveness	0.382	0.007	Significant
H <sub>2</sub>	TQM practices	Consumer satisfaction	0.353	0.005	Significant
H <sub>3</sub>	Competitiveness	Consumer satisfaction	0.430	0000	Significant
H <sub>4</sub>	TQM practices	Business performance	0.540	0000	Significant
H <sub>5</sub>	Competitiveness	Business performance	0.073	0.566	Not significant
H <sub>6</sub>	consumer satisfaction	Business performance	0.345	0.012	Significant
Path Coefficient of Indirect Effect					
HIP	Variables independent	Dependent variables	Intervening variable	Standardize	Information
H <sub>7</sub>	TQM practices	Consumer satisfaction	Competitiveness	0.164	Significant
H <sub>8</sub>	TQM practices	Business performance	Competitiveness and consumer satisfaction	0.159	Significant
H <sub>9</sub>	Competitiveness	Business performance	Consumer satisfaction	0133	Significant

of 0540, this coefficient indicates that if the practice of TQM is well applied, the business performance will be better (H<sub>0</sub> = accepted, H<sub>1</sub> = rejected).

H<sub>5</sub> = Competitiveness has a positive and insignificant influence on business performance with P=0566 (> 0.05) and CR (t count < t table or 0.574 < 2.132) with coefficient of 0.073, the coefficient shows that even though the competitiveness is getting better, the business performance will not necessarily improve, but the competitiveness indirectly affect the business performance through consumers' satisfaction with the coefficient of 0.133, which means that a good competitiveness will increase the consumers' satisfaction and ultimately will increase the business performance (H<sub>0</sub> = rejected, H<sub>1</sub> = accepted).

H<sub>6</sub> = Consumer satisfaction has a positive and significant influence on business performance with P= 0.012 (<0.05), and the value of CR (t count > t table or 2,522> 2,132) with a coefficient of 0.345, the coefficient indicates that a well-maintained consumer satisfaction will increase the business performance (H<sub>0</sub> = accepted, H<sub>1</sub> = rejected).

H<sub>7</sub> = TQM practices have an indirect influence on consumer satisfaction through competitiveness with a coefficient of 0164, this coefficient indicates that if the TQM practice is well applied, the competitiveness will be better and affect the increase of consumers' satisfaction (H<sub>0</sub> = accepted, H<sub>1</sub> = rejected).

H<sub>8</sub> = TQM practices have an indirect influence on business performance through competitiveness and consumers' satisfaction with the coefficient value of 0159, this coefficient indicates that if the practice of TQM is well applied, the competitiveness will be better and at the same time it will increase the consumers' satisfaction and affect the business performance (H<sub>0</sub> = accepted, H<sub>1</sub> = rejected).

H<sub>9</sub> = Competitiveness has an indirect influence on business performance through consumers' satisfaction with a coefficient of 0133, this coefficient indicates that if the competitiveness is getting better, it will increase the consumers' satisfaction and affect the business performance (H<sub>0</sub> = accepted, H<sub>1</sub> = rejected).

## 5. DISCUSSION AND CONCLUSION

TQM focused on improving the effectiveness and promptness (responsiveness) of the organization in meeting the consumers' needs. So the goals of TQM are the organizational excellence and the consumers' satisfaction. The focus is to improve the

competitiveness of the companies, where this will further improve the overall financial performance. TQM practices based on research findings affect the competitiveness. This means that the practice of TQM greatly contributes to improving the competitiveness of the manufacturing industry in Makassar city. So that TQM can minimize the total cost through Single procurement by concentrating only on few suppliers, and provide training and necessary technology for these suppliers, as well as to monitor their performance, by doing this the variability in the suppliers' products can be reduced, the product quality can be improved, and the costs incurred by delays and rework can be minimized. The result of this study also stated that the implementation and the purpose of TQM Practices are to satisfy the customers. The result of this study rejects the findings of Han et al. (2007) which stating that TQM has no relationship with the consumers' satisfaction. If it linked to the indicators of consumer complaints which become the primary indicator that reflects the consumers' satisfaction, then this situation describes that the manufacturing industries in Makassar city emphasis greatly on continuous improvement in applying the TQM practices. Continuous improvement with a focus on consumers that are supported by a strong commitment from the top management in implementing TQM can bring a good impact on the consumers' satisfaction that can be reflected in the lower consumer complaints and the consumer desire to remain at the company.

In the context of the competitiveness, TQM also provides a strong connection which is shown through the results of the study that the speed of delivery is a key indicator in reflecting on competitiveness variables. This is evidently gained from a higher average value of above the other competitiveness indicators. This situation describes that the manufacturing industries places great emphasis on the commitment to deliver the product faster than their other competitors. The second highest indicator that reflects the competitiveness is the quality. This situation describes that manufacturing industries in Makassar city emphasis on the commitment to improve the quality of their products. The quality of the products concern two aspects: The quality of the products and the quality of the process. Therefore, it could be interpreted that to improve customer satisfaction, the quality is very necessary one of the strategies in an advanced competition. Companies that have the ability to maintain the quality of their products will win the competition and later can increase the consumers' satisfaction. Apart from the delivery speed and the quality, the cost

indicators also have a high average value and very well perceived by the respondents (manager). It means that the speed of cost is also a very important indicator in shaping the competitiveness variables. These findings prove that the better implementation of TQM practices will further improve business performance, as well as providing support to the theory of the quality chain reaction (quality chain reaction theory). While the results of this study stated that competitiveness does not significantly influence the company's business performance improvement for the manufacturing companies in Makassar city as the excuse to focus on the better business performance so the strategy to win the market can be done by focusing on the quality, the cost, and the speed.

The better implementation of TQM practices will increase the competitiveness of the company, the consumers' satisfaction, and the business performance. The better competitiveness will also increase the consumers' satisfaction but does not affect the business performance for manufacturing companies in Makassar city.

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