

The Effect of Total Quality Management (TQM) on Productive Behavior of Small Industries of Cibaduyut Shoes

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Abstract-Small and medium enterprises (SMEs) have a role and contribute to develop the national economy of Indonesia. Therefore, SMEs are required to improve quality of products so that can compete well in domestic and global market. The main objective of this study is to explore the potentials and constraints that occur; thus will be able to become a model for advancing small industries performance of Cibaduyut shoes. The research was conducted in the center of Cibaduyut shoes because that area became one of tourist destinations of domestic and foreign. The study is designed by using descriptive and verification method. Respondents are owners or managers small industries of Cibaduyut shoes, with a total sample of 30 enterprises. The data required are primary and secondary data. Data retrieval technique is to study literature, interview using questionnaires, and observe. The data were analyzed by using descriptive analysis and path analysis using IBM SPSS Statistics version 22. The research result indicates that total quality management (TQM) affects 71.7% on productive behavior the Cibaduyut shoes industries at the level of 95%, positively and significantly.

Keywords : Customer focus, Continuous improvement, Total involvement, TQM, Productive behavior.

1. INTRODUCTION

Background

Small and Medium Enterprises (SMEs) are a type of business that the artery and the pillar of national economy. In conducting its business SMEs have a role to assist the government in providing employment, providing comprehensive economic services to the community, encouraging the growth, and developments in national economy. SMEs have also proved themselves to have a more robust durability compared to large enterprise during a storm in August 1998 financial crisis whose effects are still felt to this day. On the other hand, SMEs are faced with complex problems of world economy and an increasingly globalized economic situation. Every country including Indonesia can not be separated from all conditions and, consequently, in the Asean applied Asean Free Trade Area (AFTA), at the world level is fully implemented the World Trade Organization (WTO) began in 2010, then in Asia Fasifik began in 2014 enacted the AFTA . And in 2015 enacted the Asian Economic Community (AEC).

Therefore, the business world, including SMEs are required to improve performance. The essence of improving performance is on improving quality; so that products can be accepted by community (customers). Agus Prianto (2012) revealed that the presence of a strong entrepreneurs determine quality of a country's economic growth. Wibowo (2006) in Triatmanto Boge (2011), revealed that human resources play a role as a key player for success, therefore human resources should always be given knowledge and skills continuously. Thus human quality must be managed in an integrated manner, and the most suitable quality management is through total quality management (TQM). TQM has an important role in improving quality of products, and impact on human resources is to grow productive behavior that is always directed at how to be able to compete as a competitive advantage and then logically have implications for performance of SMEs.

Total quality management (TQM) is an innovation of management science are prepared to anticipate business challenges an increasingly competitive with uncertainty in an increasingly globalized market. In the global market, customers are main evaluator of quality goods / services offered. For that SMEs are required to always be proactive against market trends through continuous quality improvement. TQM is basically formed to increase quality goods and services, through continuous improvement so that increasing productivity. Productivity can be measured based on its type, namely total productivity and partial productivity is productivity of each resource includes human resources. Measurement productivity of human resources is more directed at characteristics of productive human. According to Fromm (1975) in Sedarmayanti (2009), productive individuals are those who have compassion, ability to use his ability and to realize potential in him. Productive behavior in the implementation is always to find out about how to improve themselves so as to bring benefits (outcomes) both for themselves and for others., and in subsequent process of productive behavior will result in level of competitive advantage. Competitive advantage is a very fundamental and strategic for company is primarily intended to increase value added. Furthermore, in the long term competitive advantage will be able to improve performance (Moore and Petty, 2003) in Mirza (2011).

Cibaduyut is an area of shoes industries center as a tourist destination in Bandung which includes 8 villages in Bandung. The area is 14 km². The region grew and developed into a center of shoes industries since 1920 pioneered by some local residents who daily work as employees of shoes factories. There has also been known as Center Service Facility (CSF). In addition, the development of marketing has penetrated into overseas markets (Department of Industry and Trade of Province of West Java: 2012) such as the USA (27%), Hong Kong (8%), Germany (7%), England (7%), and other countries (51%). From these circumstances indicate that the Cibaduyut has potential to be a shoes industry center for domestic and global markets. Efforts continue to be made of all relevant elements from business community, either local or central government, such as through support of infrastructure facilities (roads, establishment of outlets/shops adequate, banking, etc.), and managerial and entrepreneurial development. To achieve it, the region of Cibaduyut shoes industries becomes as part of Bandung Creative Industries.

Formulation of Problems

From the description above, problems can be formulated as follows:

- (1) How does the implementation of total quality management in the center of Cibaduyut shoes industries ?
- (2) How does productive behavior of Cibaduyut shoes industries ?
- (3) How does the total quality management effect on productive behavior of Cibaduyut shoes industries ?
- (4) How does each subvariable of total quality management effect on productive behavior of Cibaduyut shoes industries ?

2. THEORETICAL AND HYPOTHESIS

Total Quality Management (TQM)

Quality is fundamental and important because it relates directly to the customer satisfaction. The TQM studies every area of operations management, from product planning to scheduling and monitoring results; from delivery of goods to customer reaction. Quality has diverse understanding. Crosby defines quality as same as the requirements or standardized. Deming defines that quality is level predictable of uniformity and dependability at a low cost and in accordance with market. While according to Juran, quality is as the ability to use (fitness for use). Furthermore Juran (Tjiptono, 2000) imply, that quality contains keywords that need to be defined further, and this definition has two main

aspects, namely: (1) the characteristics of the products that meet customer demand; and (2) lack of flaws.

Quality requires a process of continuous improvement, meaning that organizations are required to always be able to "make good better" (Tunggal, 2000). According to Cascio (1995): "TQM a philosophy and a set of guiding principles that Represent the foundation of accountinuously improving organization." Robbins (1996): "TQM a philosophy of management that is driven by the constant attainment of customer satisfaction through the continuous improvement of all organizational processes."

Continuous improvement is primarily a core business strategy in finding a market leader position. This requires a thorough commitment of all personnel in the sense of not only making "the best from good", but whether a product has been processed correctly ". Ivan Sutrisno, Rahab, and Jaryono (2010) concluded that process improvement can create efficient use of resources and creating learning curve, process pmprovement positively correlated with growth rate. It is as proposed by Gomez - Mejia, Balkin and Cardy (1995) : "Total quality management (TQM), an organization-wide approach to improving the quality of all the processes that lead to a final product or service. Based on the work of W. Edward Deming. "

Meanwhile, Tenner and Detoro (1993) divides elements TQM more briefly, that MMT is a combination of variety of quality gurus who built based on three main principles: customer focus, continuous process improvement, and total involvement.

Productive behavior

Productive behavior is the result of implementation of total quality management, it is indicated that total quality management will form an individual innovative, creative and oriented forward. Productive behavior in this study adopts the opinion of Dale Timpe (1989) in Sedarmayanti (2009), the indicators include: (1) intelligent, (2) competent, (3) a creative and innovative, (4) understand the work, (5) learning with clever, (6) are always looking for improvement, (7) is considered valuable by employers, (8) has a successful track record, and (9) always improve.

Linkage Between TQM with Behavior Productive

TQM is intended to improve quality of products and brought in three dimensions, namely customer focus, continuous process improvement, and total involvement. TQM on the next process is expected to create changes in individual that leads to productivity or productive behavior. Thus the relationship between TQM with productive behavior can be described as follows:

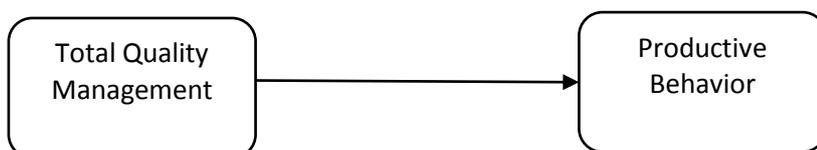


Figure 1: Relationship of TQM with Productive Behavior

In today's era of globalization, small and medium enterprises (SMEs) are faced with various challenges regarding the increasingly fierce market situation, needs and desires of customers are increasing and diverse, the behavior of competitors, as well as economic and political environment that is difficult to predict. To deal with this, the SMEs in particular SMEs in Cibaduyut Bandung must be proactive. Proactive actions are basically geared to increase productivity. The most fundamental thing to achieve productivity is concerned productive behavior of the perpetrators of SMEs. This is in accordance with David J. Charington (1995:64) : "Quality performance has become so important to the economic survival of some companies that they have implemented a company-wide program called total quality management (TQM). The purpose of the TQM is to eliminate errors and improve the quality of service."

Cascio (1995: 20) reveals that the adoption of TQM in the company will bring thorough changes including changes in human resource management system that involves communication, involvement of employees, job design, training, performance, measurement and evaluation, compensation, safety and occupational health, selection / promotion and career development.

Meanwhile Bennett and Kerr, 1996 (Veithzal Rivai and Ella Jauvani Sagala 2013: 408-409) revealed that in TQM is not only responsible management in meeting customer desire, but also the active role of all members to improve quality of products or services it produces. In practice TQM is a blend of managerial capabilities and

techniques work. (Veithzal Rivai and Ella Jauvani Sagala 2013: 409) reveals that the implementation of TQM has applied employee empowerment which means providing authority and responsibility to employees in making decisions and taking action. Empowerment is to allow employees to satisfy customers at the first contact occurs, to improve processes and increase productivity and better business results. Tenner and Detoro (1993: 31-32), TQM implements three things: focus on customer, continuous improvement and total involvement.

From the description above it can be concluded that TQM is an integrated system that forms an integral unity that involves all stakeholders in the organization, with a focus on continuous improvement activities. Result of continuous process improvement is expected to increase productivity. Productivity will be achieved if the productivity actors voluntarily willing to carry out things that lead to the achievement of productive behavior. According to Sedarmayanti (2001) required continuous effort of employees in improving their professional. Productivity of employees associated with the main task, needs to be seen of his qualifications and professional development. Behavior which leads to increased productivity will produce products quality and minimize of damage as it includes a system that detects the level of damage or defect and product innovation constantly so that products can compete and logically performance can be improved. Based on the above framework, the conceptual paradigm of research can be formulated in the following figure 2:

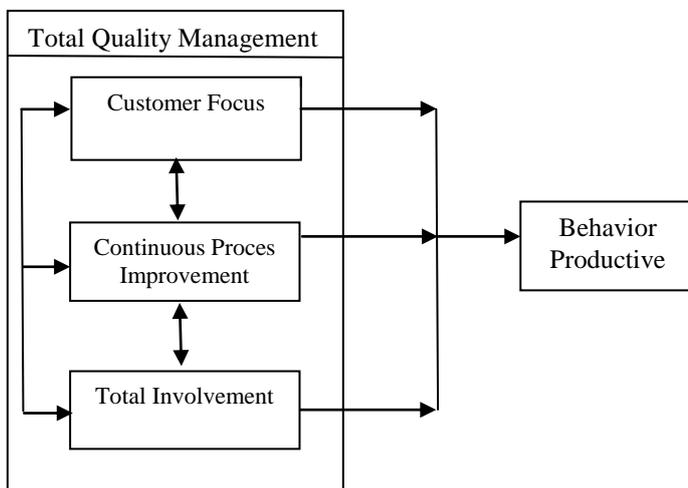


Figure 2. Research Model

Hypothesis and Sub Hypothesis

Hypothesis :

Total quality management (TQM) has a positive effect on Productive Behavior of small industries of Cibaduyut shoes.

Subhypothesis:

1. The customer focus has a positive effect on productive behavior of small industries of Cibaduyut shoes.
2. The continuous process improvement has a positive influence on Productive Behavior of small industries of Cibaduyut shoes.
3. The total involvement has positive effect on Productive Behavior of small industries of Cibaduyut shoes.

3. METHODS

Research Design

This study was designed to use descriptive research and verification. The descriptive research is used to demonstrate and describe the state of the research object, and verification is used to test the research hypothesis (Sucherly, 2014). The method for this type of research is a survey method.

Operationalization of Variables

This study consists of variable total total quality management and productive behavior. In operasinal variables can be seen in the following table:

Table 1. Operationalization of Research Variables

Variable / sub variable	Concept	Indicator	Scala	No. Item
Customer Focus (X ₁)	Quality is based on the concept that everyone has a customer and that the requirements, needs, and expectation of that customers must be meet every time if the organization as a whole is going to meet the needs of the external customer. (Tenner and Detoro, 1993 : 32)	1. Identify customers	Ordinal	1
		2. Meet expectations of customers	Ordinal	2
		3. Mechanisms to hear voice of customers	Ordinal	3
Continous Procees Improvement (X ₂)	The concept of continuous improvement is built on the premise that work is the result of a series of interrelated steps and activities that result in an output. (Tenner and Detoro, 1993 :32)	1. Setting a problem	Ordinal	4
		2. Identification and documentation process	Ordinal	5-6
		3. Measure of performance	Ordinal	7
		4. Understand various issues	Ordinal	8
		5. Develop and test ideas	Ordinal	9-10
		6. Evaluation and implementation solution to problem	Ordinal	11 12
Total Involvement (X ₃)	All efforts to optimize all capabilities of employees so that the organization gain a competitive advantage. (Tenner and Detoro, 1993 : 32)	1. Leadership	Ordinal	13
		2. Empowerment	Ordinal	14
		3. Build trust	Ordinal	15
Productive Behavior (Y)	Productive individuals are those who have compassion, ability to use his ability and to realize its potential (Fromm; 1975: Sedarmayanti, 2009)	1. Smart	Ordinal	16
		2. Competent	Ordinal	17
		3. Creative aaand innovative	Ordinal	18
		4. Understand the job	Ordinal	19
		5. Learning with ductile	Ordinal	20
		6. Always make improvements	Ordinal	21
		7. Considered worth	Ordinal	22
		8. Have a good track record	Ordinal	23
		9. Always improve yourself	Ordinal	24

Methods of Sampling

Sampling method in this research is using cluster random sampling with three stages cluster random sampling (Harun al-Rashid, 1999), namely :

- (1) Determine the number of research population or primary sampling units, which consists of 749 shoemakers and 95 perpetrators of industries as placeholders of products and marketers;
- (2) Determine the amount of sample (sampling unit) with the formula $n = \frac{n_0}{1 + \frac{n_0}{N}}$; with the provisions $n_0 = \left[\frac{z^2 \frac{1}{2} \alpha}{2\delta} \right]^2$; if $\frac{n_0}{N} < 0,05$; then $n = n_0$; and then $\frac{n_0}{N} > 0,05$; then $n = \frac{n_0}{1 + \frac{n_0}{N}}$; : n= total sample size, N= population size, $z \frac{1}{2} \alpha$ = value of the normal distribution of variables, α = the risk of errors; and δ = bound of error (maximum 0.2). The risk of error (α) used is 0.05 and $\delta = 0.17$, then by using the formula above, the sample size will be obtained is no

Testing Questionnaire of Research

1. Validity: calculated using the formula Product Moment Correlation use raw score of Karl Pearson, with the formula:

$$r_{xy} = \frac{N(\sum xy) - (\sum x \sum y)}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum y)^2\}}}$$

Where r_{xy} = coefficient of correlation between variables X and Y; N = Number of subjects or respondents; x = Score items; and y = total score.

Subsequently measuring level of validity of each item statement in the questionnaire were then compared in a table r product moment at significance level $\alpha = 5\%$ with N at 30.

If r_{xy} count $>$ r table, the item is valid statement.

If r_{xy} count $<$ r table, the item is not a valid statement.

2. Reliability Test

Reliability reflects the consistency of a measurement. High reliability showed that the indicators (variables observed) have

$$= \left(\frac{1,96}{2(0,17)} \right)^2 = 33,23; \text{ thus } \frac{n_0}{N} = \frac{33,23}{844} = 0,03937 < 0,05;$$

then $n = n_0 = 33,23 \cong 34$ sampling units;

- (3) Allocate the amount of sample into each cluster in proforsional with formula: $n_i = \frac{Ni}{N} \times n$. Thus the shoemaker 30,17 $\cong 31$ people; and shopkeepers 3.8 $\cong 4$ people; so the total respondents is $31 + 4 = 35$.

Type, Source, and Data Collection Techniques

The data consist of primary data and secondary data. Primary data were collected through observation and interviews with respondents helping questionnaires. Respondents were businesses the Cibaduyut shoes industries, while secondary data is done through a review of literatures, and information from reports of several institutions / agencies. The questionnaire based on Likert scale which has five alternative answers.

a high consistency. To measure the reliability is used Croncbach's Alpha.

$$\text{Formula : } r_{11} = \left[\frac{n}{n-1} \right] \left[1 - \frac{\sum S_i^2}{S_t^2} \right];$$

$$S_i^2 = \frac{N \sum X_i^2 - (\sum X_i)^2}{N(N-1)}$$

$$S_t^2 = \frac{N \sum Y^2 - (\sum Y)^2}{N(N-1)}$$

Specification: $r_{11} =$

Coefficient of reliability ; n = Many items ; N = Number of subjects respondents; $\sum S_i^2$ = Total variance scores of each item;

S_t^2 = Variance total score.

Methods of Data Analysis

- (1) Analysis of descriptive statistics: used to answer the problem formulation no. 1, and 2.
- (2) Inferential statistical analysis: using path analysis is to measure the relationship and relevance of research variables. This analysis is based on the paradigm of research propositions formulated in the research hypothesis.

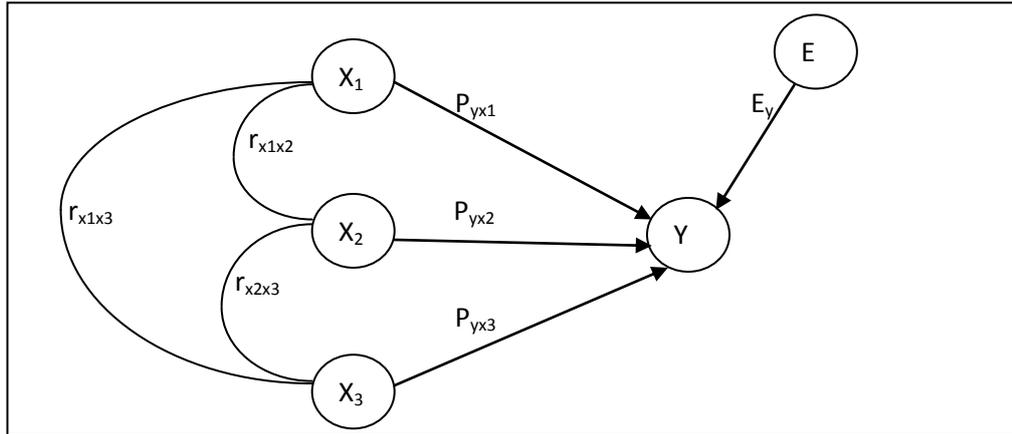


Figure 3. Path Diagram Model of Research

The form of the equation for path diagram above is:

$$Y = P_{yx1} X_1 + P_{yx2} X_2 + P_{yx3} X_3 + E_1$$

Design Hypothesis Testing

$$H_1 : P_{yxi} > 0$$

$$H_0 : P_{yx} \leq 0$$

H_1 : Total quality management (TQM) has a positive effect on Productive Behavior of small industries of Cibaduyut shoes.

H_0 : Total quality management (TQM) does not have a positive effect on Productive Behavior of small industries of Cibaduyut shoes.

Path diagram of the operational sub-hypotheses are formulated as follows:

$$H_1 : P_{yxi} > 0 ; i = 1, 2, \text{ dan } 3$$

$$H_0 : P_{yxi} \leq 0$$

1= Customer Fokus; 2= Continuous Proses Improvement; dan 3 = Total Involvement

H_1 : The customer focus has a positive effect on productive behavior of small industries of Cibaduyut shoes.

H_0 : The customer focus does not have a positive effect on productive behavior of small industries of Cibaduyut shoes.

H_1 : The continuous process improvement has a positive influence on productive behavior of small industries of Cibaduyut shoes.

H_0 : The continuous process improvement does not have a positive influence on productive behavior of small industries of Cibaduyut shoes.

H_1 : The total involvement has positive effect on Productive Behavior of small industries of Cibaduyut shoes.

H_0 : The total involvement does not have positive effect on Productive Behavior of small industries of Cibaduyut shoes.

4.RESULTS AND DISCUSSION

Research Hypothesis Testing

Table 2. The Correlation Matrix Between Sub Variables

	X1	X2	X3
X1 Pearson Correlation	1	.316	.075
Sig. (2-tailed)		.088	.692
N	30	30	30
X2 Pearson Correlation	.316	1	.595**
Sig. (2-tailed)	.088		.001
N	30	30	30
X3 Pearson Correlation	.075	.595**	1
Sig. (2-tailed)	.692	.001	
N	30	30	30

** Correlation is significant at the 0.01 level (2-tailed).

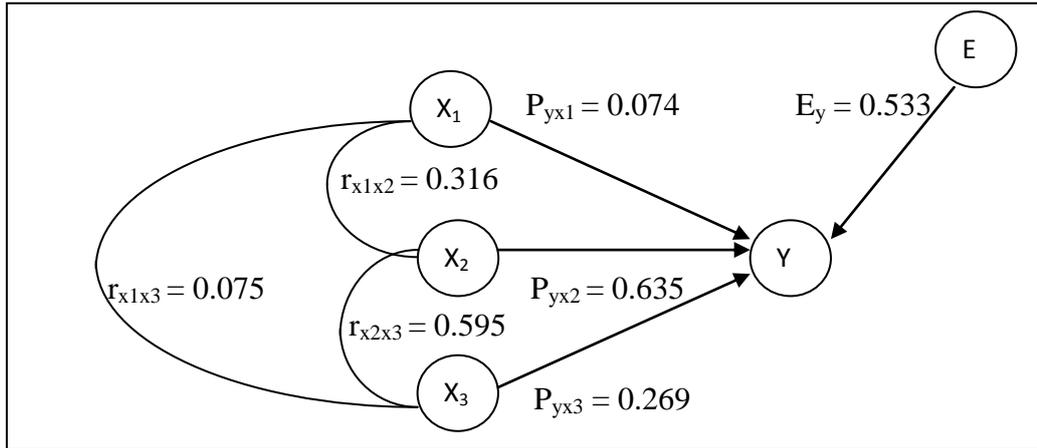


Figure 4. Path Diagram X_1 , X_2 , and X_3 on Y

Partial effect :

a. Effect X_1 on Y

- Indirect effect $= (P_{yx1})^2 = (0.074)^2 = 0.005$
- Direct influence :
 - Through $X_2 = (P_{yx1}) (r_{x1x2}) (P_{yx2}) = (0.074) (0.316) (0.635) = 0.015$
 - Through $X_3 = (P_{yx1}) (r_{x1x3}) (P_{yx3}) = (0.074) (0.075) (0.269) = 0.002$
- Total effect X_1 on $Y = 0.005 + 0.015 + 0.002 = 0.022$

b. Effect X_2 on Y

- Direct effect $= (P_{yx2})^2 = (0.635)^2 = 0.403$
- Direct influence :
 - Through $X_1 = (P_{yx2}) (r_{x1x2}) (P_{yx1}) = (0.635) (0.316) (0.074) = 0.015$
 - Through $X_3 = (P_{yx2}) (r_{x2x3}) (P_{yx3}) = (0.635) (0.595) (0.269) = 0.102$
- Total effect X_2 on $Y = 0.403 + 0.015 + 0.102 = 0.520$

c. Effect X_3 on Y

- Direct effect $= (P_{yx3})^2 = (0.269)^2 = 0.071$
- Direct influence :
 - Through $X_1 = (P_{yx3}) (r_{x1x3}) (P_{yx1}) = (0.269) (0.075) (0.074) = 0.002$
 - Through $X_2 = (P_{yx3}) (r_{x2x3}) (P_{yx2}) = (0.269) (0.595) (0.635) = 0.102$

b. Predictors: (Constant), Customer Fokus, Continuous Process Improvement, Total Involvement

The above table shows that the customer focus, continuous process improvement, and total involvement significantly positive effect on productivity behavior, with degrees of freedom (df) = $nk-1 = 30-3-1 = 26$ at 95% confidence level, and (f) count = 21 899 > (f) table = 3.0298. As for the partial test of the influence of each subvariable can be seen in the following table:

- Total effect X_3 on $Y = 0.071 + 0.002 + 0.102 = 0.175$

Simultaneous Effect :

$Y = P_{yx1} X_1 + P_{yx2} X_2 + P_{yx3} X_3 = 0.022 + 0.520 + 0.175 = 0.717$ or 71.7 %

The effect of other variable (E) to $Y = 1 - 0.717 = 0.283$ or 28.3%

Effect of Total Quality Management (X) on Productive Behavior (Y)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Total Quality Management	.846 ^a	.716	.684	2.529

a. Predictors : (constant), Customer Fokus, Continuous Process Improvement, Total Involvement

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	420.058	3	140.019	21.899	.000 ^b
Residual	166.242	26	6.394		
Total	586.300	29			

a. Dependent Variable: Productivity Behavior

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
1 (Constant)	-.476	2.450		-.194	.848
Customer focus	.129	.194	.074	.668	.510
Continuous process improvement	.719	.156	.635	4.597	.000
Integrated involvement	.696	.341	.269	2.044	.051

a. Dependent Variable: Productivity Behavior

From the above table found that :

1. The customer focus does not have a positive effect on productive behavior of small businesses of the Cibaduyut shoes.
2. The continuous process improvement has a positive influence on productive behavior of small businesses of the Cibaduyut shoes.
3. The total involvement does not have a positive effect on productive behavior of small businesses of the Cibaduyut shoes.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

1. Total quality management simultaneous effect on productive behavior on Cibaduyut shoes industries
2. The customer focus does not have a positive effect on productive behavior of small businesses of the Cibaduyut shoes.
3. The continuous process improvement has a positive influence on productive behavior of small businesses of the Cibaduyut shoes.
4. The total involvement does not have a positive effect on productive behavior of small businesses of the Cibaduyut shoes.

Recommendations

Cibaduyut is the center of creative industry in Bandung that need efforts towards the development of innovation so that its products can compete. To improve the competitiveness of its product it is necessary to increase the understanding of the craftsman industry towards TQM the Cibaduyut shoes; thus expected to grow productively.

6. Acknowledgement

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