The Effect of Raw Material Quality and Production Process on Tobacco Product Quality at KOPA Tarutama Nusantara Jember

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui kualitas bahan baku dan proses produksi terhadap kualitas produk tembakau pada KOPA Tarutama Nusantara. Penelitian ini menggunakan pendekatan kuantitatif asosiatif, dengan 50 pekerja lepas sebagai responden. Penelitian ini menggunakan kuesioner sebagai intrumen penelitian. Penelitian ini juga menggunakan uji validitas dan ujireliabilitas untuk menguji kualitas instrumen. Metode analisis yang digunakan ialah regresi linier berganda dengan bantuan software SPSS 26. Hasil dari penelitian ini menunjukkan bahwa hasil uji determinasi r square 49,9% kualitas produk dapat dijelaskan oleh variabel kualitas bahan baku dan proses produksi, sedangkan untuk sisanya sebesar 52,2% dijelaskan oleh variabel independen lainnya. Sedangkan dari hasil uji hipotesis menyatakan variabel kualitas bahan baku berpengaruh positif dan signifikan terhadap kualitas produk. Variabel proses produksi juga dinyatakan berpengaruh positif dan signifikan terhadap kualitas produk.
Kata Kunci*: Kualitas Bahan Baku, Proses Produksi, Kualitas Produk.*

ABSTRACT

This study aims to determine the quality of raw materials and production processes against the quality of tobacco products at KOPA Tarutama Nusantara. This study used an associative quantitative approach, with 50 freelancers as respondents. This study used questionnaires as research instruments. This research also uses validity and reliability tests to test the quality of instruments. The analysis method used is multiple linear regression with the help of SPSS 26 software. The results of this study show that the results of the r square determination test of 49.9% of product quality can be explained by the quality variables of raw materials and production processes, while for the remaining 52.2% explained by other independent variables. Meanwhile, the results of the hypothesis test state that the variable quality of raw materials has a positive and significant effect on product quality. Production process variables are also stated to have a positive and significant effect on product quality.
Keyword*: Raw Material Quality, Production Process, Product Quality*

INTRODUCTION

Management in the production and operation system has a crucial role to achieve company goals. The Company strives to produce goods or services according to predetermined parameters, such as quantity, quality, time, and funds. This is an important factor to achieve the company's operational success. Quality o product is ability in a aproduct carry out its functions a whole, both in terms of power, accuracy, and reliability it has (Kotler &; Keller, 2016: 37). The company determines the best product quality to meet the needs and desires of consumers. Consumer satisfaction is the company's main goal in producing a product. In producing products with good quality, several important factors must be considered by the company, such as the quality of raw materials and production processes. Raw materials are materials used in the production process, some of which are obtained directly from nature and can be obtained from other companies (Rusdiana, 2014: 368). The company can be said to be successful if the procurement of raw materials is carried out carefully at the time of search and selection of raw materials that will be used in the production process later. As for the implementation of a good production process and agility in its implementation also affects the quality of the company's products. The production process is goods or services produced by the company in a certain period which is then used as added value of the company Irhami (2014: 12). Therefore, if in the company the availability of quality raw materials is always there and the effectiveness of the production process is always maintained, the company will be able to produce products or goods that are in accordance with what customer's wishes.

Tarutama Nusantara Agribusiness Cooperative (KOPA TTN) itself is a private company engaged in agribusiness in the form of an independent cooperative. However, in recent years sales of production products have decreased due to product quality factors that are not in accordance with market desires. Due to non-compliance with tobacco specifications such as defects in tobacco (spikel, trip, NKK) or inappropriate tobacco color, which results in tobacco re-checking (returns). This can be seen from the following table:

Table 1. Company *Recheck* Data

No	Year	Production	Return
1	2019	1159	645
2	2020	1175	785
3	2021	1989	726

Source: KOPA Tarutama Nusantara (2023)

With the return of tobacco for re-checking, it can indirectly affect the market mindset that the raw materials produced by the company have poor quality and do not match market criteria that have no defects and clear colors. In addition, the production process that is run cannot be effective and efficient and takes longer, which is more than 8 months of work. Based on the explanation of the background above, the author is interested in examining the raw materials and n processes' production This research aims to know influence of quality raw materialsand processes production of product quality at KOPA Tarutama Nusantara.

According to o Herjanto (2015: 1) Operation is an activity carried out by a company in creating goods and services that are then offered to consumers. Therefore, in a company that is one of its main functions is operating activities. Operations management according to Prasetya and Lukiastuti (2011: 3) is a series of activities that can produce value in the form of services or goods by converting input goods into output goods. Furthermore, according to Deitiana (2011: 2) operations management is a study that can be used in various types of business fields, because in every business always produces goods or services. Then, the quality of the product is according to Assauri (2012: 45) is 'aspect   that is found in a   of goods a or the results   that make the i goods in accordance with the purpose for the goods meant. Furthermore, to Kotler & Gary (2012: 254), product quality is the hallmark of product a or service a that depend on its abilitya to satisfy n customer needs that   is stated or implied. According to Erdi and Haryanti (2022), the quality raw u materials is material obtained directly from nature or from suppliers whose quality has been tested, as a result it can be used as the main material that has been tested for quality. According to Assauri (2008: 105) the production process is i way,   method, and technique   to produce or show the profit of a good or service by utilizing existing sources (labor, machinery, materials and funds). Furthermore, the production process according to Ahyari (2005: 12) is a way, method   or technique by creating new functions or adding functions t implemented.

METHOD

The type of this research used is quantitative research. Quantitative   research is research whose data is in the form of a number or score that has a tendency to be analyzed   by statistical means. According to Sugiyono (2018: 13). In this study use a associative with in the form of a causality relationship. Research location at KOPA Tarurama Nusantara Jember. The population in this study is all freelance employees who are in the final check or *recheck* section with a total of 80 employees. The sample in this study was taken using the slovin formula so that the number of samples became 44 people. In determining the sample using purposive sampling techniques by providing special criteria to popoulasi members that can be used as samples in this study. The provision of these criteria includes:

Freelancers in Kopa Tarutama Nusantara with a minimum working period of more than 5 years.
Role and understanding in the process of rechecking or *rechecking* tobacco.

The data used in this study are primary data and secondary data. Primary data was obtained from the results of questionnaires filled directly by freelance employees of KOPA Tarutama Nusantara. While secondary data is in the form of data obtained from the main source or place of research, but in the form of archives of other documents needed in this study.

RESULTS AND DISCUSSION

Based on the results of the validity test using the formula df = n-2, n is intended for the number of samples, so df = 44 - 2 = 42 and the table r = 0.251. The results of the validity test show that the independent variables of raw material quality (X_1) and production process (X_2) have a calculated r value greater than the table r, so it can be interpreted that all indicators on this variable are declared valid and can be used as research measuring tools. Reliability tests are used to measure the level of consistency of answers to questions contained in questionnaires. The results of the reliability test using the help of the *SPSS Statistic 26.0* program are as follows:

Table 2. Table of Reliability Test Results

Variable	Cronbach Alpha	Information
Raw Material Quality (X1)	0.258	Reliable
Production Process (X2)	0.737	Reliable
Product Quality (Y)	0.763	Reliable

Based on the table, all variables have a *Cronbach Alpha* value of > 60. So it can be concluded that all question points used in this study are reliable. All data obtained are then tested using the Classical Assumption Test which consists of a normality test, a multicollinearity test, and a heteroscedasticity test. Based on the results of the normality test, the data in this study is normally distributed. Based on the multicollinearity test, the data in this study was declared multicollinearity-free. Based on the results of the heteroscedasticity test, the data in this study was declared heteroscedasticity free with the significance value of the production process greater than the quality of raw materials. So it is concluded that the quality of raw materials and production processes both have a positive and significant effect on the quality of tobacco products. However, the variable production process has a GIS value greater than the quality of raw materials, which means that the production process has a more significant effect on the quality of tobacco products.

Double Linier Regression Analysis

A double linear regression model is a regression model that uses two or more variables. The results of the double linear regression analysis can be seen in the table below:

Table 3. Multiple Linear Regression Calculation Results

Variable	B	t count	t table	Say.
Konstanta	-10.703			
Quality of Raw Materials	0.653	3.906	1.682	0.000
Production Process	0.433	5.427	1.682	0.000
	R	=	0.721	
	R^2	=	0.520	
	Standard Error	=	2.209	
	F count	=	4.341	
	Fsig	=	0.019	
	N	=	44	

From the results of table 3 can be made multiple linear regression equations as follows:

$Y = -10.703 + 0.653X_1 + 0.433X_2 + e$

From the equation above, several things can be analyzed as follows:

Product Quality (Y), without accountability and transparency (X 1 and X 2 = 0), then performance is only worth -10,703 while if each respondent increases by 1 point for transparency and accountability (X_1 and X_2), it can be expected that the level of performance will rise to:

$Y = -10.703 + 0.653X_1 + 0.433X_2 + e$
$Y = -10.703 + 0.653(1) + 0.433(1) + e$
$Y = -9.617$

Multiple linear regression coefficients of (0.653) and (0.433) indicate the expected amount of additional product quality (Y) in relation to the increase in respondents' answers to these two variables, namely the quality of raw materials (X1) and the production process (X2).

The multiple linear regression equation $-10.703 + 0.653X_1 + 0.433X_2 + e$ can be used to estimate product quality influenced by raw material quality variables (X_1) and production process (X_2) whether validity has been tested and can be used.

Partial testing (Test t)

According to Sujarweni (2022: 161), the t test is used to test whether or not there is an influence between the independent variable and the dependent variable individually. The t test is performed by comparing the calculated t value with the table t. If t counts > t table, then the Alternative Hypothesis (Ha) is accepted.

The calculation results using SPSS can be seen in table 1 showing the results as follows:

The results of the test obtained a calculated t value of 3,906 which is greater than the table t of 1,682 then the Alternative Hypothesis (Ha) is accepted. While with a significance value of 0 smaller than 0.05 which indicates a significant Alternative Hypothesis (Ha). Further, it can be concluded that the quality of products is partially significantly affected by the quality of raw materials.

The results of the test obtained a calculated t value of 5,427 which is greater than the table t value of 1,682 then the alternative hypothesis is accepted. While a significance value of 0 smaller than 0.05 indicates that the Alternative Hypothesis (Ha) is significant and accepted, it can be concluded that product quality is partially affected by the production process.

Simultaneous testing

Table 3. shows that p value F_{count} has a value of 4.341 which p is greater p than the F value of table of 3.23 with a significance value of 0.019 less than alpha (a) of 0.05. Thus, it can be concludedl that the variables the quality of raw materialsr and i process production together have a significant effect o on the quality o product.

Discussion of Research Results

The Effect of Raw Material Quality and Production Process on Tobacco Product Quality in KOPA tarutama Nusantara Jember

The *correlations* table explains the simultaneous relationship of the Raw Material Quality variable (X_1), the Production Process variable (X_2) to Product Quality (Y). Simultaneously showing the positive and significant influence of the quality of raw materials and production processes on the quality of tobacco products at KOPA Tarutama Nusantara Jember. This be seen from test results simultaneously with SPSS application version 26 which states the value of F count > F table where F_{count} 4.341 > F_{table} of 3.22 with significance value 0.019 < 0.05 which shows that Ha1 is accepted. So that it can be concluded that H $_{a1}$ is accepted and H_0 is rejected, it can be stated if the quality of raw materials and production processes simultaneously affect the quality of tobacco products at KOPA Tarutama Nusantara Jember.

The results of this study are supported by research owned by Hilary & Wibowo (2021) which conducted research on the effect of e quality of raw y materialsand production processon the quality t ofproducts PT. Menjangan Sakti, where the results of the study show that the quality of raw materials (X1) and the production process (X2) together have a positive and significant effect on product quality (Y).

The Effect of Raw Material Quality on Product Quality at KOPA Tarutama Nusantara Jember

The *correlations* table shows the partial relationship of the raw material quality variable (X1) to product quality (Y). There are 3 indicators used in measuring product quality, namely storage, handling or control, and process.

All three indicators equally have a great influence on product quality. The first indicator that has a great influence on product quality is the leadership indicator. This can be seen from the answers of respondents as many as 68% and 57.3% stated a positive answer, namely in item X 1.1.1 (storage of tobacco raw materials is done by grouping according to type), with the selection of 43.2% affirmative answers and 25% affirmative answers. In point $X_{1.1.2}$ (storage is carried out in accordance with the procedure determined by the company), the number of affirmative answers is 50% and strongly agrees 27.3%. This states that by storing products in accordance with the type and operational standards of the company such as room temperature regulation can affect the quality of tobacco produced. Making the quality of tobacco products produced superior to tobacco products owned by other companies.

The next largest indicator that affects product quality is handling or controlling items with items moving and packaging tobacco products according to company operational standards with a percentage of 54.6%. The entire process of sorting and bookkeeping tobacco products is the main focus in addition to grouping according to type. Therefore, freelance employees are required to always be careful in carrying out these activities, if not done carefully, they can risk damage. For example, tobacco products can be torn or can even be exposed to insect attacks that have the potential to damage tobacco. So that caution in carrying out moving and packaging activities is needed to produce superior quality tobacco products.

The third indicator that has an influence on the quality of tobacco products is that the raw materials processed by the company have quality in accordance with the company's quality standards with a percentage of 47.7%. The quality of tobacco raw materials processed by the company is in accordance with the company's quality standards, because the tobacco raw materials obtained are the results of the company's cultivation independently. So as to minimize the existence of incompatibility with the quality of the company.

This can be proven by the results of hypothesis testing using the t test which shows $a_{calculated}$ t value of 3,906 greater than the table t value of 1,682 and a significance value of 0 smaller than 0.05. So it can be concluded that the quality that H_{a2} is accepted and H_0 is rejected, so it can be concluded that the quality of raw materials partially has a significant effect on the quality of tobacco products at KOPA Tarutama Nusantara Jember. If the raw materials used have good quality, it will also affect the quality of the products issued.

The results of this study are in line with previous research conducted by Pratiwi & Sugiyarti (2022) which conducted research on the effect of raw material quality and production processes on product quality at PT. Kurnia Dwimitra Sejati Bogor. The results of this research show that the quality of raw materials partially has a positive and significant effect on product quality.

The Effect of Production Process on Tobacco Product Quality at KOPA Tarutama Nusantara

The *correlations* table describes the partial relationship of the production process (X2) with product quality (Y). There are 4 indicators used in measuring product quality, namely preparation of production plans, maintenance and maintenance of machines, quality control, and labor management. These four indicators also have a great influence on product quality.

The first indicator that has a great influence on the quality of tobacco products is the preparation of a production plan. This can be seen from the positive answers of respondents as many as 100% stated a positive answer, namely at $X_{2.2.3}$ (the company has a schedule in production process activities), with the selection of 13.6% affirmative answers and 86.4% affirmative answers. In point $X_{2.2.4}$ (there are routes/flows/sequences of work in the production process set by the company), 84.1% agreed and 15.9% strongly agreed. This means that schedules and routes in the production process can affect the quality of tobacco products. Because with the

schedule and flow in the production process, the work will be clearer and more organized in accordance with the work flow that has been set, so that the work can be completed on time and product quality can be accounted for.

The second indicator that has a major influence on product quality is quality control, namely item X 2.2.8 (the company is able to improve quality if needed in accordance with company regulations), and item $X_{2.2.9}$ (the company is able to maintain the quality of existing products and reduce the number of existing products). This can be seen in the positive answers of each respondent as much as 97.7%. So it can be concluded that the company is really able to control the quality of the quality of the products produced by minimizing the number of damaged products. Thus, the quality of tobacco products has improved. The third indicator that has a major influence on product quality is the company's statement that it always checks the machine regularly or periodically for smooth production and the company makes improvements if there is damage to the machine for smooth production, each item received a positive response from respondents by 95.4% and 93.2%. This means that checking and revamping machines carried out by companies such as scales and presses periodically can affect the smooth production process. If the production process runs smoothly, the work can be completed on time and the tobacco can be directly weighed or pressed without waiting for machine repairs first which can affect product quality.

The last indicator that has a major influence on product quality is the statement of performance evaluation to improve the quality of employee performance with a percentage of 90.9%. With the performance evaluation applied by the company, employees can find out where mistakes are in doing work and are able to improve employee performance to be better than before. Thus the work of employees becomes better, so that the selection of tobacco becomes more thorough and the quality of tobacco products also improves.

Based on the description above, it is stated that the production process affects product quality. This can be seen based on the results of hypothesis testing using the t test which shows a$_{calculated}$ t value of 5.427 greater than the table t value of 1.682 and a significance value of $0 < 0.05$. So it can be concluded that H$_{a3}$ is accepted and H$_0$ is rejected, so it can be stated that the production process has a partial effect on the quality of tobacco products at KOPA Tarutama Nusantara Jember. If the production process is carried out in accordance with the company's operational standards, it will run smoothly and affect the results of employee performance which also affects product quality.

The results of this study are in line with research conducted by Mubarok et al., (2022) who conducted research on the effect of raw material quality and production processes on product quality at Garuda Jaya Factory Ciamis. The results of this study showed a significance value of $0.000 < 0.05$. This means that in this research the production process partially has a positive and significant effect on product quality.

CONCLUSION

Based on the results of simultaneous and partial hypothesis testing with variables of raw material quality (X1) and production process (X2) and product quality (Y), are as follows:
The quality of raw materials and the production process simultaneously have a positive and significant effect on the quality of tobacco products at KOPA Tarutama Nusantara Jember with a Detemination Coefficient value of 52%. This is then corroborated by the F test which produces a$_{calculated}$ F value (4.341) greater than the table F (3.23) with a significance value of 0.019 which is less than the error standard or alpha (a) of 0.05.

The quality of raw materials partially affects the quality of products at KOPA Tarutama Nusantara Jember with a regression coefficient value of 0.653. This is then corroborated by a t test with a$_{calculated}$ t value of 3.906 lbih greater than t$_{table}$ 1.682 and a significance value of 0 which is less than the error standard or alpha (a) of 0.05.

The production process partially affects product quality at KOPA Tarutama Nusantara Jember with a regression coefficient value of 0.433. This is then corroborated by a t test with

$a_{calculated}$ t value of 5,427 greater than t_{table} 1.682 and a significance value of 0 which is less than the error standard or alpha (a) of 0.05.

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