International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

The Effect of Raw Material Quality and Production Process on Product Quality On Chips Business in Pringsewu Regency

Agus Purnomo[1], Hanif Permana Tsany[2]

[1] Faculty of Social and Political Sciences, University of Bandar Lampung

E-email: [1]agus.purnomo@ubl.ac.id [2]hanifpermana02@gmail.com

Abstract

This journal aims to investigate the effect of raw material quality as well as the production process on product quality in the chip business in Pringsewu Regency. Product quality has a very important role in determining the competitiveness and success of a business, especially in the chip industry, which is one of the leading commodities in the region. The research method used in this journal is a case study by collecting data through direct interviews with chip producers, direct observation of the production process, and analysis of product samples produced. The collected data were then analyzed using descriptive statistical methods and regression analysis to measure the relationship between the variables of raw material quality, production process, and product quality. The results showed a significant influence between the quality of raw materials as well as the production process for product quality in the chip business in Pringsewu Regency. Good raw material quality, which includes cleanliness, purity, and consistency, as well as the implementation of good and efficient production processes, positively affect the quality of the final product.

Keywords: **Raw Material Quality; Production Process; Product Quality.**

INTRODUCTION

The chip industry, particularly in Pringsewu Regency, is an important part of the local economy. In this industry, product quality plays a very significant role in influencing

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

competitiveness and business success. The two main factors that influence product quality are the quality of the raw materials used as well as the production process applied by chip producers (Budi, 2016). Therefore, an in-depth understanding of the influence of the quality of raw materials as well as the production process on product quality is very important to improve the competitiveness and growth of the chip industry in Pringsewu Regency.

The quality of raw materials is a key factor in determining the final quality of chip products (Ariani, 2018). Low-quality or inappropriate raw materials can result in an unsatisfactory final product in terms of taste, texture, and appearance. Therefore, the selection of high-quality raw materials as well as strict monitoring of raw material supply is a crucial step for chip producers in Pringsewu Regency to ensure the consistency of their product quality (Heriyana, 2020). In addition to the quality of raw materials, the production process also has a significant impact on the final quality of chip products (Situmorang, 2016). From raw material preparation, processing, to packaging, each stage in the production process has the potential to affect product quality. Therefore, implementing a good production process, with strict control of production variables, is key to achieving consistent and satisfactory product quality for consumers (Tumanggor, 2020).

In the context of Pringsewu Regency, where the chip industry is one of the leading commodities, an in-depth understanding of the influence of raw material quality as well as the production process on product quality is highly relevant and important. By comprehensively analyzing these factors, chip producers can identify potential areas of improvement in their operations and implement appropriate strategies to improve product quality and enhance the overall competitiveness of the chip industry in Pringsewu Regency.

LITERATURE REVIEW

Raw material quality refers to the characteristics or attributes possessed by raw materials or basic components used in the production process. The quality of raw materials is very important because it has a direct impact on the final quality of the product produced (Erdi & Haryanti, 2023). Some aspects that affect the quality of raw materials include cleanliness, strength, purity, consistency, and other physical, chemical, or biological characteristics. Cleanliness of raw materials is an important aspect in determining their quality (Endri & Emalia, 2017). Clean raw materials free from contamination or dirt can produce a clean final product and avoid the risk of contamination

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

that can affect consumer health. In addition, the strength or durability of raw materials is also important, especially in industries such as construction or manufacturing, where raw materials must be able to withstand certain loads or pressures without being damaged (Adi & Muhammad, 2019).

The production process refers to a series of steps or activities that are carried out to convert raw materials into finished products or goods ready for sale (Manggalaning, 2021). The production process can vary depending on the type of industry as well as the product being produced, but generally involves several main stages such as raw material preparation, processing or production, quality testing, and packaging (Mulyono, 2015). Overall, the production process is the core of a manufacturing or production business operation, which enables the transformation of raw materials into finished products ready for sale. It is important to ensure that the production process runs smoothly, efficiently, and complies with established quality standards to achieve satisfactory production results and meet customer expectations (Handa et al., 2017).

Product quality refers to how well the product meets or exceeds customer expectations and needs (Herawati & Mulyani, 2016). Product quality is very important in influencing customer satisfaction, brand reputation, and customer loyalty. There are several dimensions in product quality that need to be considered. In addition, product quality also includes aspects of service or support related to the product, such as customer service, warranty, and repair. Ease of getting good after-sales support or service can increase customer satisfaction and their perception of product quality (Prawirosentono, 2016).

RESEARCH METHODS

Quantitative research is a research method that uses quantitative approaches in data collection, analysis, and interpretation. This method is usually used to examine phenomena that can be measured quantitatively, and is done by collecting data from certain populations or samples. This quantitative approach is based on the philosophy of positivism, which is the view that knowledge can be obtained through objective empirical observation and testing. Sugiyono (2019). Quantitative research is a type of research method used to test theories or hypotheses by measuring certain variables as well as analyzing the relationship between these variables. Quantitative research usually involves collecting measurable data in the form of numbers or statistics, as well as applying statistical analysis techniques to test hypotheses. (Hardani et al., 2020).

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

RESULTS AND DISCUSSION

Tabel 1.

The results of the validity test of the Raw Material Quality questionnaire (X1)

Pernyataan	*rhitung*	*rtabel*	Kondisi	Simpulan
Butir 1	0,516	0.312	rhitung> rtabel	Valid
Butir 2	0,555	0.312	rhitung> rtabel	Valid
Butir 3	0,792	0.312	rhitung> rtabel	Valid
Butir 4	0,522	0.312	rhitung> rtabel	Valid
Butir 5	0,336	0.312	rhitung> rtabel	Valid
Butir 6	0,752	0.312	rhitung> rtabel	Valid
Butir 7	0,777	0.312	rhitung> rtabel	Valid
Butir 8	0,616	0.312	rhitung> rtabel	Valid

Source: SPSS 23 data processing results (2024)

The validity test results show that for each indicator tested, the value of rcount> rtable. Therefore, it can be concluded that all raw material quality items are statistically valid, because the high rcount value indicates that no items need to be removed.

Tabel 2.

Questionnaire validity test results Production process (X2)

Pernyataan	*rhitung*	*rtabel*	kondisi	Simpulan
Butir 1	0,569	0.312	rhitung > rtabel	Valid
Butir 2	0,421	0.312	rhitung > rtabel	Valid
Butir 3	0,382	0.312	rhitung > rtabel	Valid
Butir 4	0,444	0.312	rhitung > rtabel	Valid
Butir 5	0,411	0.312	rhitung > rtabel	Valid
Butir 6	0.550	0.312	rhitung > rtabel	Valid
Butir 7	0,444	0.312	rhitung > rtabel	Valid
Butir 8	0,431	0.312	rhitung > rtabel	Valid

Source: SPSS 23 data processing results (2024)

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

The validity test results show that for each indicator tested, the value of rcount> rtable. Therefore, it can be concluded that all production process items are statistically valid, because the high rcount value indicates that no items need to be eliminated.

Tabel 3.

The results of the validity test of the Product Quality questionnaire (Y)

Pernyataan	*rhitung*	*rtabel*	kondisi	Simpulan
Butir 1	0,539	0.312	rhitung > rtabel	Valid
Butir 2	0,753	0.312	rhitung > rtabel	Valid
Butir 3	0,638	0.312	rhitung > rtabel	Valid
Butir 4	0,474	0.312	rhitung > rtabel	Valid
Butir 5	0,540	0.312	rhitung > rtabel	Valid
Butir 6	0,689	0.312	rhitung > rtabel	Valid
Butir 7	0,364	0.312	rhitung > rtabel	Valid
Butir 8	0,669	0.312	rhitung > rtabel	Valid

Source: SPSS 23 data processing results (2024)

The validity test results show that for each indicator tested, the value of rcount> rtable. Therefore, it can be concluded that all product quality items are statistically valid, because the high rcount value indicates that no items need to be removed.

Tabel 4.

Reliability test results

Variabel	*Koefisien Alpha Cronbach*	Koefisien r	Simpulan
Kualitas Bahan baku	764	0,60	Reliabel
Proses Produksi	657	0,60	Reliabel
Kualitas Produk	724	0,60	Reliabel

Source: SPSS 23 data processing results (2024)

Table 4. shows the results of the Reliability Test for variable X1, with a Cronbach's Alpha value of .764, variable X2, with a Cronbach's Alpha value of .657, and variable Y, with a Cronbach's Alpha value of .724. Cronbach's Alpha values that are close to or above 0.60 are generally considered indicators of high reliability in measurement instruments.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Tabel 5.
Normality test results

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			42
Normal Parameters[a,b]	Mean		,0000000
	Std. Deviation		1,65982759
Most Extreme Differences	Absolute		,201
	Positive		,201
	Negative		-,086
Test Statistic			,201
Asymp. Sig. (2-tailed)			,000[c]
Monte Carlo Sig. (2-tailed)	Sig.		,060[d]
	99% Confidence Interval	Lower Bound	,054
		Upper Bound	,066

Source: SPSS 23 data processing results (2024)

In the normality test, the basis for decision making is if the sig value> .05 until it is concluded that the data is normal. In this study, the sig value is .060> .05 so that it can be categorized as normal data for this study.

Tabel 6.
Multicollinearity Test Results

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	KUALITAS BAHAN BAKU	,854	1,171
	PROSES PRODUKSI	,854	1,171

Source: SPSS 23 data processing results (2024)

For the multicollinearity test, the basis for decision making is if the VIF value < 10 and the Tolerance value> .10 so that it can be said that the data does not experience multicollinearity symptoms. In this study, the VIF value of 1.171 < 10 and the Tolerance

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

value of .854> .10 so that it can be concluded that there are no symptoms of multicollinearity.

Tabel 7.
Heteroscedasticity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9,162	3,617		-2,533	,015
	KUALITAS BAHAN BAKU	,110	,074	,235	1,499	,142
	PROSES PRODUKSI	,192	,109	,276	1,756	,087

Source: SPSS 23 data processing results (2024)

From the heteroscedasticity test, the data shows that if the sig value is>.005 then the data does not occur heteroscedasticity.

Tabel 8.
Multiple Linear Regression Analysis Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,618	6,026		1,430	,161
	KUALITAS BAHAN BAKU	,276	,122	,321	2,250	,030
	PROSES PRODUKSI	,459	,182	,360	2,520	,016

a. Dependent Variable: KUALITAS PRODUK

Source: SPSS 23 data processing results (2024)

From the table above, the equation formed is

$$Y = 8{,}618 + 0{,}276\ X1 + 0{,}459\ X2 + e$$

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Tabel 9.

Partial Significance Test (t)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,618	6,026		1,430	,161
	KUALITAS BAHAN BAKU	,276	,122	,321	2,250	,030
	PROSES PRODUKSI	,459	,182	,360	2,520	,016

a. Dependent Variable: KUALITAS PRODUK

Source: SPSS 23 data processing results (2024)

In the T test analysis, the basis for decision making is if the sig value < .05 as well as the calculated T value> T table, it can be concluded that there is an influence between one variable and another. In this study for the halal business legality variable .030> .05 and the calculated T value of 2.250 < 2.023 so that it can be concluded that variable X1 has an influence on Y. For the product quality variable, the sig value is .016 < .05 as well as the calculated T value of 2.520> T table 2.023 so that it can be concluded that variable X2 has an effect on Y.

Tabel 10.

Simultaneous Significant Test (F)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53,449	2	26,724	9,227	,001[b]
	Residual	112,956	39	2,896		
	Total	166,405	41			

a. Dependent Variable: KUALITAS PRODUK

b. Predictors: (Constant), PROSES PRODUKSI, KUALITAS BAHAN BAKU

Source: SPSS 23 data processing results (2024)

From the results of the F test, it is obtained that the data has a sig value of .001 < .05 so that and Fcount of 9.227> F table 3.238, therefore it can be concluded that there is an influence between the X1 and X2 variables for variable Y.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Tabel 4.19
Coefficient of Determination (R^2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,567[a]	,321	,286	1,702

a. Predictors: (Constant), PROSES PRODUKSI, KUALITAS BAHAN BAKU

Source: SPSS 23 data processing results (2024)

This means that all independent variables (X) which include the quality of raw materials and the production process simultaneously have a contribution of 32.1% to the related variable (Y) Product Quality while the remaining 67.8% is explained by other factors outside of this study.

CONCLUSIONS AND SUGGESTIONS

Conclusions

From the results obtained, the conclusions obtained are:

1. The results of testing the first hypothesis (H1) explain that there is an influence between the quality of raw materials for product quality. Judging from the results of the data processed through the author, the calculation of the significance value for the quality of raw materials for product quality is .030 < .05 and the t value is 2.250> 2.023. It can be concluded that the quality of raw materials has a positive and significant influence on product quality in the chip business in Pringsewu Regency.
2. The results of testing the second hypothesis (H2) explain that there is an influence between the production process for product quality. Judging from the results of the data processed by the author, the calculation of the significance value for the production process for product quality is .016 < .05 as well as the t value of 2.520> t table 2.023. It can be concluded that the production process has a positive and significant influence on product quality in the chip business in Pringsewu Regency.
3. The results of testing the third hypothesis (H3) explain that there is an influence on the quality of raw materials as well as the production process for product quality. It is known that the sig value for the simultaneous influence of X1 and X2 on Y is .001 < .05 as well as the calculated f value of 9.227> 3.238 f table. Until it can be

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

concluded that there is an influence on the quality of raw materials as well as the production process together has a positive effect on product quality in the chip business in Pringsewu Regency.

Suggestions:

Suggestions for this research are:

1. For business owners of Keripik wahyu, Roja snack, and Robbani snack to be able to maintain consistency in maintaining the quality of raw materials, carrying out the production process, as well as in maintaining product quality. The results of research conducted through data processing show the results that all X variables as well as Y provide positive results between variables. This proves that the entire process as well as the performance of the chip business in Pringsewu Regency towards its products is quite good.
2. In an effort to maintain the smooth quality of raw materials, production processes, and product quality, chip business owners in Pringsewu Regency are expected to focus and pay attention to several research variables with the lowest scores or values. Some efforts that can be made:
   a. Strive to ensure that existing raw materials do not result in a buildup that can have implications for the smooth production process as well as product quality through the SOP standard storage system throughout the company.
   b. Ensure that when carrying out the production process, it always refers to and is guided by workers who are experts in their fields in processing raw raw materials into finished raw materials in the form of quality products.
   c. Developing a branding and promotion strategy for the chip business in Pringsewu Regency that is both attractive and contemporary by utilizing technology and social media to reach a wider market share.

REFERENCES

Adi, Israndi, & Muhammad, Satar. (2019). The Effect of Raw Material Quality and Production Cost Efficiency on Product Quality at CV. Granville. Accounting Faculty of Economics. Scientific Journal of Accounting. Nurtanio University Bandung.Publication on February 10, 2020. 10(3), 89-101, September-december 2019.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Ariani, N. M. (2018). The Effect of Product Quality Price and Brand Image on Purchasing Decisions for Pond's Products (Case Study on Students of State Senior High School 1 Gianyar) in Gianyar Regency. Faculty of Economics Ngurah Rai Denpasar.

Budi Nugroho. 2016. The Effect of Product Design and Raw Material Inventory on Product Quality at Asri Sliver Silver Crafts Company Yogyakarta. Journal UNY. Vol. 2 No. 1 ISSN: 2605-1952.

Endri, S., & Emalia, T. (2017). The Effect of Raw Material Quality, Production Process, Labor Quality on Product Quality at Pt. Delta Surya Energy in Bekasi. Journal of Management Science Oikonomia, 13(2), 37-48.

Erdi, E., & Haryanti, D. (2023). The Effect of Raw Material Quality and Production Process on Product Quality at Pt Karawang Foods Lestari. IKRAITH-ECONOMICS, 6(1), 199-206.

Handa Williani Novianty, Inne Satyawisudarini and Dudi Haryadi (2017). "The Effect of Production Process and Quality Control on the Quality of Baby Blanket Pocket Print Products at Pt. Dialogue Garmindo Utama". Bandung: Management Study Program, Faculty of Economics and Business, Langlangbuana University Bandung.

Hardani, H., Andriani, H., Ustiawaty, J., Utami, E. F., Istiqomah, R. R., Fardani, R. A., Sukmana, D. J., & Auliya, N. H. (2020). Qualitative & Quantitative Research Methods Book (Issue March). CV Pustaka Ilmu Group.

Herawati, H., and Mulyani, D. 2016. The Effect of Raw Material Quality and Production Process on Product Quality at UD Tahu Rosydi Puspan Maron Probolinggo. Proceedings of the National Seminar. December 17, 2016, Probolinggo, Indonesia. Page 463- 482.

Heriyana, H. (2020). Inventory Control and Production Process Influence on Product Quality at Ukm Karya Abadi Prabumulih. Integrity Journal of Professional Management (IJMPRO), 1(2), 119-130.

Manggalaning, D. (2021, 07 12). The Effect of Production Process and Quality of Raw Materials on Product Quality at Ketan Tape Business 38 Magelang. Retrieved from https://dspace.uii.ac.id/handle/123456789/36053.

Mulyono, M. (2015). Quality Management of Food Raw Materials. Yogyakarta: Gadjah Mada University Press.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Prawirosentono, S. 2016. Human Resource Management, employee performance policies, tips for building competitive organizations in the era of world free trade. Yogyakarta: BPFE.

Situmorang, Netty Marlyna. 2016. The Effect of Raw Materials, Human Resources, and Technology on the Competitiveness of PT. Aquafarm Nusantara (Nile Tilapia Processing Industry) with Product Quality as an Intervening Variable. Jakarta: Universitas Terbuka.

Sugiyono. (2019). Quantitative and Qualitative Research Methods and R&D. Alfabeta.

Tumanggor, N. B. (2020). The Effect of Raw Material Quality and Production Process on the Quality of Bridge Beam Products at PT. Wijaya Karya Beton,Tbk. Medan. Published, Universitas Medan Area, Medan.

Akbar, A. 2013. Analysis of the Effect of Brand Image, Price, and Product Quality on Purchase Decisions of Toshiba Notebooks. Faculty of Economics. Department of Management, Universitas Gunadarma, Jakarta.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.