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The *Influence Of Raw Material Costs And Direct Labor Costs On Cost Of Goods Sold In Food And Beverage Sub-Sector Companies Listed On The Indonesian Stock Exchange Year 2015-2022*

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Abstract

The cost of production is the costs incurred in connection with production, the cost of production includes all costs and sacrifices that need to be incurred and made to produce finished products.The aim of this research is to determine the effect of raw material costs and direct labor costs on the cost of goods sold in food and beverage sub sector companies listed on the IDX. The sample in this study was 104 financial reports obtained from the IDX web for food and beverage sub sektor companies using a sampling technique, namely purposive sampling. The analytical method usd is a nonparametric testusing the fredman and kedall's tests. Based on the hypothesis, the research results show that the fredman test shows that the cost of raw materials and direct labor costs used have an effect on the cost of goods sold. According to kedall's test, raw material costs and labor costs directly influence the cost of goods sold.

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Introduction

The business world is now more competitive than before due to developments and even advances in science and technology. As competition heats up, businesses need to make the right choices to ensure their survival and expansion (Fernos & Dona 2018). This will force industry leaders to strive for higher performance standards. The company's failure in running a business is caused by the manager's lack of understanding of its business goals, which has implications for declining company performance (Marjan, Y., Hasanah, U., Muliatie, Y. E., & Usman, I. 2022). Personnel who can be trusted, agree, and are committed to the success of the business and its goals will be an invaluable asset (Lubis, 2018).

The phenomenon or case that occurs in Indonesia is related to the stability of the cost of production in order to maintain business continuity. Based on data from the Ministry of Industry, throughout 2018 the food and beverage industry fell by 7.91. In fact, the decline in production in large and medium manufacturing industries in the fourth quarter of 2018 fell by 3.90 percent compared to the fourth quarter of 2017, one of the causes of the decline in beverage industry production which reached 23.44 percent. Despite this, sales in the food and beverage industry sector experienced a sharp decline and business expenses increased. Along with increasingly sharp competition due to rapid technological changes and drastic environmental changes in every aspect of human life, every organization needs human resources who have the competence to be able to provide excellent and valuable services (Faidal, F., & Anshori, M. I. 2011). Several food and beverage companies experienced a decline in sales in 2018, namely PT. Indofood Sukses Makmur Tbk recorded a sales decline of 3.6% compared to the previous year's sales.

A manufacturing company is an industry where the production process is carried out to convert raw materials into finished goods or ready for consumption (Arni 2018). Food and beverages companies are part of manufacturing companies operating in the consumer goods industrial sector. Because food and beverages are basic needs that people need every day, food and beverages companies are an industry that is growing rapidly at the moment.

Raw materials are an important requirement for companies in making products, but as companies grow, more and more companies use the raw materials needed in their production process to fulfill consumer demand for the company's products (Meirina & Afdalludin 2018) which ultimately creates availability. The raw materials needed are decreasing and making the price of purchasing these raw materials increasingly expensive (Mulyadi 2015). As a result, companies need to control the costs of raw materials, because the small costs of raw materials or raw materials that will actually be used in the production process can reduce production costs. Therefore, companies must guarantee quality for sustainability (Wildan, M. A 2020).

Direct labor costs are the part of wages that are specifically and consistently incurred in the context of making a product, a certain sequence of work, or providing a service (Iryanie 2019). Direct labor is every human being who is directly involved in the production process, starting from processing materials until they become finished goods or final products. Human resources are by far the most important asset for an organization (Safrizal, H. B. A., Eliyana, A., Usman, I., & Gunarsa, F. A. 2020). An example of direct labor costs is the wages of machine operators in a factory.

Theoretical Basis

Raw Material Costs

According to Harapan (2020) Includes the price of all components that can be easily identified as intended additions to the final product. The current source of competitive advantage is inovation and creativity (Safrizal, H. B. A. 2023). Small raw resources, such as the cost of wood and nails as components for making a table, will be included in the larger raw materials category, which includes everything else used to make a product from scratch. As a result, raw material costs not only include the purchase price of the raw materials themselves, but also expenses related to their storage, transportation and utilization in production (Ramadhani, Merida and Hendrani 2020). Therefore, this is an important factor to consider when determining the price of a product.

One component that needs to be recorded regularly is the cost of raw materials. This component is a very basic component and needs to be included in

the industrial world and specified in manufacturing. In fact, raw materials are all the materials needed in the process of making and using raw materials when producing a product. So raw material costs are costs incurred in order to obtain raw materials that are ready to be used (Kamilah 2018).

Raw materials are materials that form a complete part of the finished product. Raw materials processed in manufacturing companies can be obtained from local purchases, imports, or from own processing. In obtaining raw materials, companies not only incur costs amounting to the purchase price of the raw materials, but also incur costs for purchasing, storing and other acquisition costs. This raw material can be used as a category in the production of other raw materials, either directly or indirectly. This raw material is easily accessible to every entrepreneur through domestic or international trade (Iryanie 2019). Thus, there are two types of raw material costs, namely direct and indirect.

Direct Labor Costs

According to Ramadhani, Merida and Hendrani (2020) direct labor costs, namely part of income, are always and are expected to occur in the process of producing one item, carrying out certain tasks, or providing certain services. To clarify, direct labor includes all workers from gathering raw materials to packaging and shipping the final product. To determine direct labor costs by calculating or adding up all wages and compensation given to employees during the production process (Iryanie 2019). Wages and compensation of all employees that can be associated with converting raw materials into finished products are included. Wages and salaries paid to machine operators are examples of indirect costs. Direct labor costs do not include indirect costs such as salaries and wages given to employees assisting in manufacturing operations. This also applies to raw material costs.
Therefore, there are two types of workers' compensation: direct and indirect labor costs. All forms of labor expenditure not specifically categorized as "direct labor costs" are grouped under "indirect labor costs" Setiawan (2021).

Cost Of Goods Sold

According to Harapan (2020), the cost of production is an important element for assessing the success of a manufacturing company. The cost of production is closely related to indicators of company success. The cost of production basically shows the cost of products produced in a certain accounting period. This means that the cost of production is part of the cost of goods.

RESEARCH METHODS

Types Of Research

This type of research is a type of hypothesis testing. According to (Niza Muddin, 2021) from several reports. Examination of theoretical investigations proves that research hypotheses are not chosen randomly, but are based on sufficient theory, framework and comparable facts to have theoretical validity. It is considered that research hypotheses still have to be validated experimentally using research data, therefore research hypotheses are the product of a theoretical or logical process, starting with literature studies or evaluation of relevant ideas and theories that support the research hypothesis Research findings serve as a sample to test the truth of the statements that form the hypothesis. Therefore, a hypothesis is stated as a statement that provides a short-term solution to a research problem (Dewi &

Restika 2018). In this research, we use the variables raw material costs, direct labor costs, and cost of production to test hypotheses about this relationship

Quantitative research according to Winarno (2017) is a way of learning something new that utilizes numerical data as a tool to achieve goals (knowledge). According to Syahril (2010), the aim of quantitative research is to verify or deny theorized relationships between variables. Raw material costs, direct labor costs, and cost of production are relevant factors here.

Object Of Research

The object of my research is food and beverage companies listed on the Indonesian Stock Exchange from 2015 to 2022. The total data I collected was 104 data.

Data Types and Sources

This type of research data is a ratio scale according to Syahril(2010) when two intervals have the same size, the scale with the original zero point is the highest. This research data comes from financial reports, so I conclude that all ratio scale data includes financial reports.

Panel data regression data is used for this analysis. Time series data and cross section data are combined to form panel data, which has properties with both types of data. This research data comes from a panel consisting of financial reports for 2015-2022 from food and beverage manufacturers listed on the Indonesia Stock Exchange.

Secondary data from audited annual reports and financial statements were used for this analysis. Data obtained by secondary means, or secondary data, is also available to the public. Information is gathered from the Indonesia Stock Exchange (www.idx.co.id) and company websites, with the latter also conducting research into relevant print and digital literature on the subject under discussion.

Population and Sample

A population is a large group of things that have some defining features and can be collected together to form study items such as people, documents, or data. Population according to Sugiono (2017) is a conceptual framework in the form of something specific that will be researched by scholars to reach conclusions. Producers in the food and beverage sub-sector between 2015 and 2022 are included in the research population.

Samples include segments or representatives of the population that have characteristics appropriate to the population. According to Sugiono (2017) a sample is a segment of the number and characteristics of a population, and the way to take a sample is purposive sampling, more specifically, how to collect samples that meet the standards set by scientists

RESEARCH RESULTS AND DISCUSSION
Descriptive Statistical Test

Table .1 Descriptive Statistics Test Results
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BBB	104	97261673000	57326171000000	6834326977156.05	11580563532 95.820
BTKL	104	9825006645	18133271000000	1800083697383.15	4275319224080.947
HPP	104	179156903000	76858593000000	9280384358531.97	16241189689657.227
Valid N (listwise)	104				

Source: SPSS 23 output, Secondary Data has been processed

Based on the Descriptive Test Results above, we can describe the distribution of data obtained by researchers as follows:

BBB variable (X1), from this data it can be described that the minimum value is 97,261,673,000 while the maximum value is 57,326,171,000,000, the average BBB value is 6,834,326,977,156.05 and the standard deviation of the BBB data is 11,580,056,353,295,820.

BTKL variable (X2), from this data it can be described that the minimum value is 9,825,006,645 while the maximum value is 18,133,271,000,000, the average BTKL value is 1,800,083,597,383.15 and the standard deviation of BTKL data is 4275319224080.947.

The HPP (Y) variable, from this data it can be described that the minimum value is 179,156,903,000 while the maximum value is 76,858,593,000,000, the average HPP value is 9,280,384,358,531.97 and the standard deviation of the BTKL data is 16,241,189,689,657.227.

Table .2 Validity Test and Reliability Test
Validity Test Results Correlations

		BBB	BTKL	HPP
BBB	Pearson Correlation	1	.946**	.995**
	Sig. (2-tailed)		.000	.000
	N	104	104	104
BTKL	Pearson Correlation	.946**	1	.970**
	Sig. (2-tailed)	.000		.000
	N	104	104	104
HPP	Pearson Correlation	.995**	.970**	1
	Sig. (2-tailed)	.000	.000	
	N	104	104	104

**. Correlation is significant at the 0.01 level (2-tailed).
Source: SPSS 23 output, Secondary Data has been processed

From the validity test results table above, what the researcher can describe. It can be seen that sig.(2-tailed) < 0.5 so it can be said that the data is valid. here for sig.(2-tailed) which is 0.000 which means that sig.(2-tailed) BBB is 0.000 < 0.5. means the data used is valid. Likewise, the BTKL sig.(2-tailed) which is 0.000 can be

interpreted as sig.(2-tailed) 0.000 < 0.5. The data used is valid. And for HPP sig.(2-tailed) which is 0.000, it means that sig.(2-tailed) 0.000 < 0.5 the data used is valid

Table .3 Reliability Test
Results Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.887	.990	3

Source: SPSS 23 output, Secondary Data has been processed

The results of the Cronbach's Alpha method reliability test calculation (r count) can be seen in the Cronbach's Alpha column, namely 0.887 with N of Items indicating that the number of items in the variable view is 3. So it can be said that the Cronbach's Alpha results for 3 data from items are 0.887. Then, to find out whether the data can be trusted or not, in Ghozali's book (2009) decision making in reliability testing if the Cronbach's Alpha value is > 0.70, then the data is declared reliable or consistent, so it is known that Cronbach's Alpha is 0.887 > 0.70, so The data is reliable or trustworthy and consistent

Normality Test

Table .4 Normality Test Results
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		104
Normal Parameters[a,b]	Mean	.0003639
	Std. Deviation	813508601602.31710000
Most Extreme Differences	Absolute	.230
	Positive	.230
	Negative	-.208
Test Statistic		.230
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: SPSS 23 output, Secondary Data has been processed

Based on the results of the analysis using One-Sample Kolmogorov-Smirnov on the residual value, it can be seen that the value of Asymp. Sig. (2- tailed) is 0.000 and this value is smaller than 0.050 (0.000 < 0.050), so it can be concluded that the data used to measure the research variables is not normally distributed.

Because the test results are not normal, non-parametric testing is used using the Friedman test and Kendall's W test as follows:

Hypothesis Testing

Table .5 Table of Ranks of Friedman
Test Results Ranks

	Mean Rank
BBB	2.00
BTKL	1.00

Table .5 presents the Mean Rank values of BBB and BTKL which influence the cost of production. From this table it can be seen that BBB has the highest influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022 with an average of 2.00. Meanwhile, BTKL has a lower influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022 with an average of 1.00.

Meanwhile, the Test Statistics table displays the results as follows

Table .6 Table Test Statistics
Friedman Test

Test Statistics[a]	
N	104
Chi-Square	104.000
Df	1
Asymp. Sig.	.000
a. Friedman Test	

Source: SPSS 23 output, *Secondary Data has been processed*

The Test Statistics table displays the results of the hypothesis analysis. In table .6 it can be seen that the value of Asymp.Sig. (significance level) has a value of 0.000. This value is smaller than the significance level taken, namely 5% or 0.05. Asymp. Sig. (signification level) is 0.000 < α so that H1 is accepted. So it can be said that BBB and BTKL have an influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022

Table .7 Table of Ranks for Kendall's W
Test Results Ranks

	Mean Rank
BBB	2.00
BTKL	1.00

Source: SPSS 23 output, *Secondary Data has been processed*

Just like the results of the Friedman test, the results of the Kendall's W test in table

.7 show that the Mean Rank values of BBB and BTKL influence the cost of production in food and beverage sub-sector companies listed on the IDX in 2015- 2022. The results of this test are similar to the Friedman test, namely that BBB has the highest influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022 with an average of 2.00. Meanwhile, BTKL has a lower influence on the cost of production in food and beverage sub- sector companies listed on the IDX in 2015-2022 with an average of 1.00

Table .8
Test Statistics Table Kendall's W Test

Test Statistics	
N	104
Kendall's W[a]	1.000
Chi-Square	104.000
Df	1
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Source: SPSS 23 output, *Secondary Data has been processed*

The results in table .8 can be seen that the value of Asymp. Sig. (significance level) has a value of 0.000. This value is also smaller than the significance level taken, namely 5% or 0.05. This value is also the same as the Friedman test results. Asymp. Sig. (signification level) is 0.000 < α so that H1 is accepted. So it can be said that BBB and BTKL have an influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015- 2022.

According to Ghazali (2009), hypothesis testing can also be seen by comparing the calculated Chi-Square value with the table Chi-Square value. The test results for the factors tested have df = 1 with α = 5% or (χ2 (1; 0.05)) in the Chi-Square table of 7.879. while the Chi-Square count is (104,000). So it can be said that the Chi-Square count is 104,000 > 7,879 Chi-Square table, so H1 is accepted. So it can be said that BBB and BTKL have an influence on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022.

DISCUSSION

The hypothesis developed in this research is that BBB and BTKL influence the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022. Through the results of the Friedman test and the results of the Kendall's W test, it can be seen that the value of Asymp. Sig. (significance level) has a value of 0.000. This value is smaller than the significance level taken, namely 5% or 0.05. Asymp. Sig. (signification level) is 0.003 > α so that H1 is accepted. So it can be said that BBB and BTKL influence the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022.

The results of this research provide the conclusion that the cost of production in food and beverage sub-sector companies listed on the IDX in 2015- 2022 is influenced by BBB and BTKL. The results of this research support previous research conducted by Mulyana et al., (2018) Arni et al., (2018), Lubis et al., (2018),

Rahmawati et al., (2018) and Iqbal et al., (2012) shows that raw material costs and direct labor costs influence the cost of production.

CONCLUSION

Based on the data analysis and interpretation presented in the previous chapter, the conclusion of the research results is that the average measurement results of the BBB and BTKL variables on the cost of production in food and beverage sub-sector companies listed on the BEI in 2015-2022 is 2.00 and 1.00. This can be interpreted as saying that the cost of production in food and beverage sub-sector companies registered on the IDX in 2015-2022 is included in the successful category because it has a positive value. The results of Friedman's test regarding the influence of BBB and BTKL on the cost of production in food and beverage sub-sector companies listed on the BEI in 2015-2022 show that BBB has the highest influence on the cost of production in food and beverage sub-sector companies listed on the BEI in 2015-2022. 2022 with an average ranking of 2.00. Then followed by BTKL with an average ranking of 1.00.

From the results of hypothesis testing using the Friedman test and Kendall's W test, it can be seen that the value of Asymp. Sig. (significance level) has a value of 0.000. This value is smaller than the significance level taken, namely 5% or 0.05. When Asymp. Sig. (signification level) is 0.000 < α so that H1 is accepted. So it can be said that BBB and BTKL influence the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022.

SUGGESTION

And the results found by researchers mean that suggestions are given to:

1. For future researchers, who will conduct similar research, it is recommended to add several variable factors that might influence the cost of production.
2. Researchers suggest that further research can expand the scope of research, not only to food and beverage sub-sector companies
3. Researchers suggest that further research can extend the observation period and also increase the number of samples so that it can be possible to draw better conclusions.

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