



International Conference on Economy, Management, and Business (IC-EMBus)

VOL. 1, 2023 p. 792-802

<https://journal.trunojoyo.ac.id/icembus>

The Influence Of Factory Overhead Costs And Direct Labor Costs On Production Costs In Food And Beverage Sub-Sector Companies Listed On The Indonesian Stock Exchange Year 2015-2022

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INFO ARTIKEL

Abstract

Keywords:

Cost Of Goods Sold, Direct Labor Costs, Factory Overhead Costs.

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 factory overhead costs and direct labor costs on the cost of production 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 used is a nonparametric test using the fredman and kedall's tests. Based on the hypothesis, the research results show that the fredman test shows that the cost of factory overhead costs and direct labor costs used have an effect on the cost of production. According to kedall's test, factory overhead costs and labor costs directly influence the cost of production.

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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. 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. 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.

Factory Overhead Costs are production costs before material costs. Research on the Effect of Cost of Goods Production in Companies has actually been carried out by the following groups:

- a. Cost of auxiliary materials.
- b. Repair and maintenance costs.
- c. Indirect labor costs.
- d. Costs incurred as a result of the appraisal of fixed assets.
- e. Costs incurred as a result of the passage of time,
- f. Other factory overhead costs that directly require cash outlays..

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. An example of direct labor costs is the wages of machine operators in a factory.

Factory Overhead Costs

Factory Overhead Costs (BOP) are production costs other than raw materials and direct labor. Factory overhead costs are defined as indirect materials and other costs that are not easily identified or charged directly to a particular job, production result, or final destination such as a government contract. Factory Overhead has two characteristics that must be considered in assigning it as a feasible production result. This characteristic concerns the special relationship between factory overhead and (Carter and Usry, 2006; 411):

The first characteristic is in relation to the product itself. In contrast to direct material and direct labor costs, factory overhead costs are an intangible part of the finished goods. There are no material government documents or labor time cards

that are used to state the amount of factory overhead costs such as on factory equipment or indirect labor accounted for in a job or product.

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

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 factory overhead 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. factory overhead costs, direct labor costs, and cost of production are relevant factors here.

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.

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.

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.

RESULTS AND DISCUSSION

Descriptive Statistical Test

Tabel .1
Descriptive Statistics Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BOP	104	37946015000	10640348000000	1443810104956.03	2488715239879.946
BTKL	104	9825006645	18133271000000	1800083697383.15	4275319224080.947
HPP	104	179156903000	76858593000000	9280384358531.97	16241189689657.225
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:

BOP variable (X1), from this data it can be described that the minimum value is 379,460,150,000 while the maximum value is 10,640,348,000,000, the average BOP value is 14,438,101,049,956.03 and the standard deviation of the BOP data is 24,887,152,398,799.46.

BTKL variable (X2), from this data it can be described that the minimum value is 9825006645 while the maximum value is 18,133,271,000,000, the average BTKL value is 18,000,836,973,83.15 and the standard deviation of BTKL data is 42,887,152,398,799.46.

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 92,803,843,583,197 and the standard deviation of the BTKL data is 16,241,189,689,657.23.

Validity Test and Reliability Test

Table .2

Validity Test Results

		Correlations		
		BOP	BTKL	HPP
BOP	Pearson Correlation	1	.966**	.992**
	Sig. (2-tailed)		.000	.000
	N	104	104	104
BTKL	Pearson Correlation	.966**	1	.970**
	Sig. (2-tailed)	.000		.000
	N	104	104	104
HPP	Pearson Correlation	.992**	.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 is:

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) BOP < 0.5 is the data used valid. Likewise, the BTKL sig.(2-tailed) which is 0.000 means that the BTKL sig.(2-tailed)<0.5 is that the data used is valid. And for the HPP sig.(2-tailed) which is 0.000 000, it means that the HPP sig.(2-tailed) < 0.5, the data used is valid.

Table .3

Reliability Test Results

Reliability Statistics		
Cronbach's		
Alpha Based on		
Cronbach's	Standardized	
Alpha	Items	N of Items
.674	.992	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 or namely 0.674 . Then, to find out whether the data can be trusted or not, if the calculated r calculation > r table 5%, where the calculated r is seen from the calculation results table that you get in

SPSS, while the r table 5% is seen in the table that has been determined, then It is known that the r table for this data is 0.176. Then, it can be concluded that r calculated > r table 5%, namely $0.674 > 0.176$, 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	.0007982
	Std. Deviation	.98200000
Most Extreme Differences	Absolute	.189
	Positive	.189
	Negative	-.136
Test Statistic		.189
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 the One-Sample Kolmogorov-Smirnov Test and Shapiro-Wilk 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
BOP	1.83
BTKL	1.17

Source: SPSS 23 output,
Secondary Data has been processed

Table .5 presents the Mean Rank values of BOP 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 1.83. 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 1.17.

Meanwhile, the Test Statistics table displays the results as follows:

Table .6

Table Test Statistics Friedman Test

Test Statistics	
N	104
Kendall's W ^a	.428
Chi-Square	44.462
Df	1
Asymp. Sig.	.000

a. Kendall's Coefficient of
Concordance

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. When Asymp. Sig. (signification level) is $0.000 < \alpha$ so that H1 is accepted. So it can be said that BOP 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
BOP	1.83
BTKL	1.17

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 4.7 show that the Mean Rank value of BOP and BTKL influences 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 BOP 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 1.83. 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 1.17.

Table .8
Test Statistics Table Kendall's W Test

Test Statistics ^a	
N	104
Chi-Square	178.231
Df	2
Asymp. Sig.	.000

a. Friedman Test

Source: SPSS 23 output,
Secondary Data has been processed

The results in table 4.8 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. When Asymp. Sig. (signification level) is $0.000 < \alpha$ so that H1 is accepted. So it can be said that BOP 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 (2011), 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 $df = 2$ with $\alpha = 5\%$ or $(\chi^2(1; 0.05))$ and the Chi-Square table value is 3.84. while χ^2 was calculated (178.231). So it can be said that $\chi^2 > \chi^2(1;0.05)$ table, so H1 is accepted. So it can be said that BOP 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 BOP 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. When Asymp. Sig. (signification level) is $0.003 > \alpha$ so that H1 is accepted. So it can be said that BOP 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 BOP 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 factory overhead 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 BOP and BTKL variables on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022 are 1.83 and 1.17. 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 BOP and BTKL on the cost of production in food and beverage sub-sector companies listed on the IDX in 2015-2022 show that BOP 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 1.83. Then followed by BTKL with an average ranking of 1.17.

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 $0.000 < \alpha$ so that H1 is accepted. So it can be said that BOP 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.

REFERENCE

- Arni, Y. (2018). Percentage of Raw Material Costs, Labor Costs, Factory Overhead Costs to Cost of Goods Production at PT. Forward Well Pond. *Balance Sheet Journal: Journal of Accounting Education and Economics*, 2(1), 43–56. <https://doi.org/10.31851/neraca.v2i1.2228>
- Dewi, K, M., & Restika, V. (2018). Business Scale and Age of Business Which Influence the Use of Accounting Information Systems (Empric Study of Cake and Bakery Shops in Padang City). *Pundi Journal*, 2(3).
- Fernos, J., & Dona, E. (2018). Analysis of Loan To Deposit Ratio, Capital Adequacy Ratio and Return On Assets PT. West Sumatra Regional Development Bank. *Pundi Journal*, 2(2).
- Ghozali., I. (2009). *Advanced Multivariate Analysis Using the SPSS Program*. Diponegoro University.
- Harapan, B. (2020). *Cost Accounting (Tukino (ed.))*. Batam Publisher.
- Iryanie, E., M., H. (2019). *Cost Accounting (Adi Pratomo (ed.))*. Poliban Press.
- Kamilah (2018). *Cost Accounting (Tukino (ed.))*. Batam Publisher.
- Lubis, D. S. (2018). The Influence of Production Costs on the Cost of Production of PT. Timah (Persero) Tbk. *Al-Masharif: Journal of Economic and Islamic Sciences*, 6(2), 132. <https://doi.org/10.24952/masharif.v6i2.1147>
- Meirina, E., & Afdalludin. (2018). The Influence of Budget Participation, Asymmetric Information and Budget Emphasis on Budget Slack. *Pundi Journal*, 2(3).
- Mulyadi. (2015). *Cost accounting*. YKPN College of Management Publishers.
- Nini, R., & Ananda, F. (2023). The Influence of Production Costs and Selling Prices on Sales Volume in the Bread Industry in Padang City. *Journal of Economics and Management*, 3(2), 189-196.
- Ramadhani, D., Merida., & Hendrani, A, S. (2020). *Cost Accounting (T. Editorial (ed.))*. CV Markumi.
- Setiawan, T. (2021). *Cost accounting*. Bhuana Popular Science Publisher Gramedia Group.
- Sugiono. (2017). *Metode Penelitian*. CV Alfabeta.
- Syahril. (2010). *Statistics (Sukabina Editorial Team (ed.))*. Sukabina Press.
- Susri, A., & Ananda, F. (2023). The Influence of Production Costs and Cost of Goods Production on the Selling Prices of North Padang District Micro, Small and Medium Enterprises. *Journal of Management, Business and Accounting*, 2(2), 238-249.
- Utami, T, N., & Ananda, F. (2023). Profitability, Financial Leverage and Income Smoothing. *Accounting Science Research Journal*, 2(2), 110-123.
- Winarno. (2017). *Econometric and Statistical Analysis with Eviews*. PT Global Executive Technology Member.