e-ISSN: 2722-7820 (Online)

Point of View Research Accounting and Auditing

https://journal.accountingpointofview.id/index.php/povraa

Quality Cost Analysis on Company Profitability

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DOI: https://doi.org/10.47090/povraa.v3i4.241

Submission Info

Received: 30 September 2022
Accepted: 25 October 2022
Available online: 30 October 2022

Keyword

Prevention Cost
Appraisal Fee
Internal Costs
Failure Costs
Profitability

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Abstract

This study aims to assess the application of prevention costs, appraisal costs, internal failure costs, and external failure costs to the level of profitability at PT Sang Hyang Seri (Persero) in Sidrap Regency, South Sulawesi Province. This type of research is quantitative research. The type of data used is secondary data in the form of company financial report data for five years. The research sample is the five-year financial report of PT Sang Hyang Seri (Persero). The data collection method used is archival techniques (direct access to archive data at the company). Data analysis used descriptive statistical techniques and multiple linear regression with the help of the SPSS 21.0 program. In addition to maintaining the quality of research data, this study used the Kolmogorov-Smirnov One Sample normality test. The results showed that partially the cost of prevention and the cost of appraisal have a positive and not significant effect on profitability at PT. Sang Hyang Seri (Persero), while internal failure costs have a negative and significant effect on the profitability of PT. Sang Hyang Seri (Persero). At the same time, external failure costs have a negative but insignificant effect on profitability PT'. Sang Hyang Seri (Persero).

Introduction

Improving the quality of a product according to predetermined standards is the first thing to reduce the total cost of failure in a company. As a result of efforts to improve quality, quality costs arise. These quality costs are defined as costs incurred during production (Sandag et al., 2014). According to Wahyu, (2014), quality costs are costs incurred because there may be or have been products of poor

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quality, further explained in this activity are the implications for quality costs associated with two sub-categories related to quality, namely control activities and activities due to failure. A company carries out control activities to prevent or detect poor quality or consists of prevention and assessment activities. At the same time, activities due to failure are carried out by the company or by its customers to respond to poor quality. If the response to poor quality is carried out before the defective product reaches the customer, the activity is classified as an internal failure activity. Vice versa, if the response appears after the product arrives at the customer, the activity is classified as an external failure activity (Tambingon et al., 2020). So it is from the activity definition that Riyadi (2017) divides into four categories of quality costs: prevention costs, appraisal costs, internal failure costs, and external failure costs. Prevention costs occur to prevent poor quality in the products or services produced—appraisal costs to determine whether the service product is by the requirements or customer needs. Internal failure costs occur because the service product produced does not match the specifications or customer needs. Meanwhile, external failure costs occur because the products and services produced fail to meet the requirements or do not satisfy customer needs after the product reaches the customer (Agustina et al., 2019).

Hansen and Mowen (2005) said that prevention costs and appraisal costs increased, meaning that the number of damaged products decreased and vice versa; if prevention costs and appraisal costs decreased, the number of damaged products increased, which increased losses. On the other hand, internal and external failure costs increase when the number of defective units increases. Conversely, the internal failure costs and external failure costs decrease when the number of defective units decreases. This shows that prevention costs and appraisal costs affect damaged products in the company, and internal failure costs and external failure costs are affected by damaged products within the company (Indrihastuti & Suhendrik, 2020). Meanwhile, according to Saputri, (2016), an increase in prevention costs results in a decrease in defects, which in turn has a positive effect on appraisal costs because a decrease in defects means a decrease in the need for routine inspection and testing activities.

In Saputri's opinion, prevention costs have a negative effect on damaged products, while appraisal costs have a positive effect on damaged products. This is because prevention costs and appraisal costs are incurred before damaged products occur so that they can affect the number of damaged products. Meanwhile, Jotlely (2019) says that if a company wants to carry out a quality improvement program, the company must identify the costs incurred in each of the four cost categories in the quality control system. In the same way that Ishikawa said that one of the instructions in carrying out quality control is to control costs because no matter how high the quality is if the product is too expensive due to lack of cost control, customer satisfaction cannot be achieved. In other words, we can only apply price and cost control quality. Therefore Mahendra (2011) said that the measurement of costs is a critical element of integrated quality management.

Quality measurement will not be separated from the quantitative aspects attached to the quality, which is called the cost of quality. Quality costs that occur in a company can be used to determine the extent to which the company implements the quality control system functions. The lower the failure cost, the better the quality improvement program implemented by the company. The better quality produced can indirectly increase market share and sales value. Increasing the value of sales by decreasing costs incurred will undoubtedly increase company profitability (Azwani & Meyliana, 2019).

A previous study (Muthia & Muslih, 2020) with the title analysis of prevention costs, appraisal costs, internal failure costs, and external failure costs on profitability in manufacturing companies in the

various industrial sectors listed on the Indonesia Stock Exchange 2016-2020. The results showed that the relationship between quality costs and profitability had a significant effect. While in research (Ernawati, 2012) on the effect of quality costs on profitability (ROI) at CV. Kobe Global Internasional says that quality costs have a minimal and insignificant effect on company profitability, and there is a low relationship between quality costs and profitability (ROI). Based on the previous explanation that the cost of quality is a quantitative measure used to measure quality and its effect on the level of company profitability, while the results of previous studies say that the relationship between quality costs and profitability has a significant influence, some say that quality costs have a minimal effect and not significant to profitability. Therefore, researchers are interested in discussing and examining further how much influence the application of quality costs has on the level of company profitability and finding out whether the existence of quality costs incurred by the company influences increasing company profitability.

Theoretical Framework and Hypotheses

Definition of Cost

In achieving its goals, a company must be able to manage many things, one of which is cost. According to experts, including Horngren (2008), the definition of cost is a resource that is sacrificed or released to achieve specific goals. According to Kholmi (2019), costs are often defined as using resources that have financial consequences. Meanwhile, according to Mowen (2005), costs are all necessary sacrifices for production, expressed in money according to prevailing market prices. Based on this definition, costs are expenditures made to obtain something valuable, either in the form of goods or services.

Quality

The definition of quality is very diverse. Many experts and organizations try to define quality based on their points of view. To improve the company's quality, employees and staff must pay attention to and increase commitment, awareness, and ability of employees and staff, especially those who deal directly with customers. Even though the quality systems and techniques are correct, excellent and correct quality should only be expected to materialize if the commitment, awareness, and ability of employees and staff are high (Azwani & Meyliana, 2019). According to Hansen & Mowen, (2005), a quality product or service meets or exceeds customer expectations in the following eight dimensions: a. Performance (performance) Is the level of consistency and goodness of product functions. b. Aesthetics (aesthetics) is Related to the appearance of products and services. c. Ease of maintenance and repair (serviceability) Related to the ease of maintaining and repairing the product. d. Features are product characteristics that differ functionally from similar products. e. Reliability Is the probability of a product or service performing its intended function within a certain period. f. Durability is the useful life of the product function. g. Quality of conformance Measures whether a product or service meets its specifications. h. Suitability for use (fitness for use) Is the suitability of a product to perform the functions as advertised.

Factors Affecting Quality

According to Arinda, (2016) the fundamental factors that affect quality are nine essential areas called 9M, including the following: a) Market. Today the market has a broader scope and is even functionally more specialized in the goods and services offered. b) Money. To improve the quality of the

products produced, the company requires costs. Costs used for efforts to improve quality are called quality costs. c) Management. Quality management can appropriately allocate the responsibilities of each manager in their respective fields to correct deviations from predetermined quality standards. d) Men (humans). With people who have expertise in their respective fields, companies will plan, create, and operate various systems that will guarantee the desired results. e) Motivation (motivation). Providing good motivation to workers so that workers work correctly according to what the company wants has a good effect on improving the quality of the company's production. f) Materials (materials). Quality products will also require quality materials, so it is necessary to carry out more stringent tests on the supply of materials. g) Machines and mechanization. The demand for companies to achieve cost reductions and production volumes to satisfy customers in a highly competitive market has driven the use of manufacturing equipment and its mechanization. h) Modern information methods (modern information methods). Information at this time is essential, for example, about customer responses to the products produced. i) Mounting product requirements (production process requirements). Increasing complexity and higher product performance requirements have led to product safety and reliability.

Cost Quality Behavior

Quality can be measured based on cost. The company wants to keep quality costs down but be able to achieve higher quality, at least up to a point. According to Nando, (2017) companies measure and analyze quality costs as an indicator of the success of a quality improvement program, which can be linked to other cost measures, namely: a. The cost of quality is compared to the sales value; the lower this value indicates, the more successful the quality improvement program is. b. The cost of quality is compared to the benefits; the lower this value indicates, the more successful the quality improvement program is. c. The cost of quality compared to the cost of goods sold is measured by the percentage of the total quality cost to the value of the goods sold. The lower this value indicates, the more successful the quality improvement program is.

Benefits of Quality Costs

use of quality cost calculations has several benefits in efforts to improve or increase cost reduction and sales revenue (Anatasya et al., 2021). Some of the benefits that might be achieved (Napu, 2017) are: a. Reduce the cost of errors. The expected savings must be based on a specific improvement plan. In estimating present costs, do not exaggerate or inflate present costs by including debates or limitations. b. Improve process capability. The savings are expected to come from reductions in product characteristic variation or other missing process and process characteristics such as inspection sorting, redundant operations, picking up missed information, and various other non-value-added activities. c. Reducing consumer dissatisfaction. Early indicators of consumer disfavor can be seen from the market response by asking the market, "Would you like to repurchase this item?". If the results of this study show consumer dissatisfaction, it is necessary to increase it to reduce consumer dissatisfaction and even dislike. The parameters include the economic effect of losing customers during "customer life" to retain existing customers and the quality retention effect of handling customer complaints. d. Increase in new consumers. An increase in goods or services that attract consumers will increase sales revenue, but the amount and timing depend on many internal actions and external market forces. As the cost of quality decreases, additional resources become available to finance goods or services without increasing prices. The result

can be a dramatic increase in the number of shares.

Profitability

Profitability is a company's ability to create profits in a certain period and see the extent to which the effectiveness of managing the company (Tresnawati et al., 2017). Meanwhile, according to Mahmood (2016), profitability is a ratio that measures the efficiency of using company assets (a group of company assets) associated with successful sales. Moreover, some say that Profitability is a company's ability to generate profits with all the capital working on it (Runtuwene et al., 2019).

Effect of prevention costs on profitability. Prevention costs are expenses incurred to prevent quality defects from occurring. In other words, any increase in these costs will impact the company's profit-making ability. The study's results (Fathonah et al., 2019; Muthia & Muslih, 2020) found a positive and significant effect of prevention costs on company profitability.

H_1: Prevention costs have a positive and significant effect on the profitability of PT. Sang Hyang Seri (Persero)

Appraisal (detection) costs are incurred in measuring and analyzing data to determine whether a product or service conforms to specifications. These costs are incurred after production but before sales. The study's results (Megawati, 2014; Muthia & Muslih, 2020) found that appraisal costs have a positive and significant effect on company profitability.

H_2: Appraisal fees have a positive and significant effect on the profitability of PT. Sang Hyang Seri (Persero)

Internal failure costs are incurred due to low quality from initial assessment to customer delivery. The study's results (Fathonah et al., 2019; Sari, 2012) found a significant effect between internal failure costs on company profitability.

H_3: Internal failure costs have a positive and significant effect on the profitability of PT. Sang Hyang Seri (Persero)

Effect of external failure costs on profitability. External failure costs are understood as costs incurred to rectify quality defects after the product reaches the customer and profits that fail to be obtained due to lost opportunities due to products or services that are not acceptable to customers. The study's results (Muthia & Muslih, 2020) found no significant effect of external failure costs on company profitability, while research (Sari, 2012) found that external failure costs had a positive and significant effect on profitability.

H_4: External failure costs have a positive and significant effect on the profitability of PT. Sang Hyang Seri (Persero)

Research Method

This research is a type of quantitative research. The object of this research is PT. Sang Hyang Seri (Persero). The sample of this research is the five-year financial statements of PT Sang Hyang Seri (Persero). The data source in this study is secondary data, namely data obtained indirectly by researchers. Secondary data in this study is from company financial report data for five years. The method of data collection used in this study is observation, namely by directly observing the Office, which is the object of research, by making physical observations, and by confirming with the parties involved in PT. Sang Hyang Seri (Persero) Maros Regency. As well as the documentation method to find the required data related to the financial statements of PT. Sang Hyang Seri (Persero). Data analysis used in this research is descriptive analysis and quantitative analysis. The stages of descriptive analysis in this study are: 1) Identifying research variables, namely the cost of quality which consists of prevention costs, appraisal costs, external failure costs, and internal failure costs. 2) Perform data processing using the control chart contained in the SPSS program to analyze quality costs, including prevention costs, appraisal costs, external failure costs, and internal failure costs. At the same time, the quantitative analysis consists of a normality test, multiple linear regression analysis, partial test, and test of the coefficient of determination.

Data Analysis and Discussion

Data Analysis

Prevention Cost

Prevention costs in this study are prevention costs incurred by PT. Sang Hyang Seri (Persero). This prevention cost consists of product planning costs and machine maintenance costs. Table 1 will present the cost of preventing PT. Sang Hyang Seri (Persero) 2016 - 2020.

Table 1. Calculation of PT. Sang Hyang Seri (Persero) Year 2016 – 2020
(In million rupiah)

No	Production	Year				
		2016	2017	2018	2019	2020
1.	Non-Hybrid Rice	2.327,4	1.187,6	581,8	1.248,2	1.616,1
2.	Soya bean	95,1	134,9	148	43,2	-
3.	Corn Comp.	-	-	-	-	18,6
4.	Hybrid Corn	-	-	-	37,4	74,7
5.	Hybrid Rice	296,9	34,7	0,1	33,6	52
	Total	**2.719,5**	**1.670,1**	**730,1**	**1.362,6**	**1.761,6**

Table 1 can be identified the total cost of preventing PT. Sang Hyang Seri (Persero) during the observation period from 2016 to 2020. The highest prevention costs during the observation period were in 2016 when the company allocated Rp.2,719,547,764. At the same time, the minor prevention costs were in 2018, when the company only spent IDR 730,101,841.

Appraisal Cost Appraisal

fee in this study is the cost of valuation issued by PT. Sang Hyang Seri (Persero) from 2016-2020. This appraisal fee consists of inspection costs and inspection costs for product distribution. Table 2 will present the valuation costs of PT. Sang Hyang Seri (Persero) 2016 - 2020.

Table 2. Calculation of the Appraisal Cost of PT. Sang Hyang Seri (Persero) Year 2016 – 2020 (In million rupiah)

No	Production	Year				
		2016	2017	2018	2019	2020
1.	Non-Hybrid Rice	102,5	216,3	125,7	122,1	153,2
2.	Soya bean	0,7	6,3	11,5	1,8	-
3.	Corn Comp.	-	-	-	-	4
4.	Hybrid Corn	-	-	-	7,2	5,7
5.	Hybrid Rice	115,4	124,8	0,07	2,9	1,3
	Total	**218,7**	**347,4**	**137,3**	**134,1**	**164,4**

Table 2 can be identified the total cost of the valuation of PT. Sang Hyang Seri (Persero) during the observation period from 2016 to 2020. The largest appraisal fee during the observation period was in 2017 when the company allocated Rp.347,460,863. Meanwhile, the nominal appraisal fee was in 2019, when the company only spent IDR 134,175,797.

Internal failure costs Internal

failure costs in this study are internal failure costs incurred by PT. Sang Hyang Seri (Persero) from 2016-2020. This fee includes correction fees, rework, and processing costs. Table 3 shows the internal failure costs of PT. Sang Hyang Seri (Persero) 2016 - 2020.

Table 3. Calculation of Internal Failure Costs of PT. Sang Hyang Seri (Persero) Year 2016 – 2020 (In Million Rupiah)

No	Production	Year				
		2016	2017	2018	2019	2020
1.	Non-Hybrid Rice	100,5	350,6	54,5	99,4	90,3
2.	Soya bean	-	-	-	-	-
3.	Corn Comp.	-	-	-	-	-
4.	Hybrid Corn	-	-	-	-	-
5.	Hybrid Rice	-	-	-	-	-
	Total	**100,5**	**350,6**	**54,5**	**99,4**	**90,3**

Table 4 can be identified the total internal failure costs of PT. Sang Hyang Seri (Persero) during the observation period from 2016 to 2020. The highest internal failure cost during the observation period was in 2017 when the company allocated Rp.350,655,430. Meanwhile, the nominal internal failure cost was in 2018, when the company only spent IDR 54,560,730.

Failure Costs External

The external failure cost in this study is the external failure cost incurred by PT. Sang Hyang Seri (Persero) from 2016-2020. This fee includes sales returns and warranties. The following will present the external failure costs of PT. Sang Hyang Seri (Persero) 2016 – 2020

Table 4. Calculation of PT. Sang Hyang Seri (Persero) Year 2016 – 2020 (In Million Rupiah)

No	Production	Year				
		2016	2017	2018	2019	2020
1.	Non-Hybrid Rice	18.732	79,3	27,7	0,5	0,6
2.	Soya bean	1.418,4	112	-	-	-
3.	Corn Comp.	-	-	-	-	7
4.	Hybrid Corn	-	-	-	199,6	2.157,8
5.	Hybrid Rice	13.381,5	11,9	82,2	574,2	628,5
	Total	**33.532,05**	**203,3**	**109,9**	**774,3**	**2.794,1**

Table 4 can be identified the total external failure costs of PT. Sang Hyang Seri (Persero) during the observation period from 2016 to 2020. The most significant external failure cost during the observation period was in 2016 when the company allocated Rp.33,532,056,370. Meanwhile, the nominal external failure cost was in 2018, when the company only spent IDR 109,975,438.

Profitability

The profitability indicator used is Return on Investment (ROI), a ratio that can measure a company's effectiveness, as seen through the company's ability to generate profits used to cover investments made by comparing profit after tax and total assets from 2016-2020. Table 5 will present the calculation of the profitability (ROI) of PT. Sang Hyang Seri (Persero) 2016 - 2020.

Table 5. Calculation of Profitability (ROI) of PT. Sang Hyang Seri (Persero) Year 2016 – 2020 (In Rupiah)

Year	Profit	Assets	ROI
2016	35.967.128.352	50.630.647.007	0,71
2017	44.264.456.733	111.624.434.616	0,39
2018	42.488.397.519	34.764.763.127	1,22
2019	46.713.887.967	66.374.903.510	0,70
2020	55.422.918.334	66.665.104.052	0,83

From table 5, it can be identified that the profitability of PT. Sang Hyang Seri (Persero), measured using ROI from 2016 – 2020, experienced fluctuations. The highest ROI during the observation period was in 2018, which reached 1.22. At the same time, the lowest ROI was in 2017, where the ROI value was 0.39.

Table 6. Calculation recapitulation of B. Penc, B. Pen, BKI, BKE and Profitability (ROI) of PT. Sang Hyang Seri (Persero) Year 2016 – 2020 (In Million Rupiah)

Year	Prevention Cost	Appraisal Fee	Internal Failure Cost	External Failure Costs	Profitability (ROI)
2016	2,719.50	218.7	100.5	33,532.05	0.71
2017	1,670.10	347.4	350.6	203.3	0.39
2018	730.1	137.3	54.5	109.9	1.22
2019	1,362.60	134.1	99.4	774.3	0.7
2020	1,761.60	164.4	90.3	2,794.10	0.83

Furthermore, the normality test determines whether the data is usually distributed. In this study, the validation test used was the One-Sample Kolmogorov-Smirnov method to determine the normality value of the data by reading the value of the signification (Asymp Sig2-tailed). If the significance is less than 0.05, then the conclusion is that the data is not normally distributed. However, if the data sinification is more significant than 0.05, the data is usually distributed.

Table 7. Normality Test for Prevention Costs

		Unstandardized Residual
N		5
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	.22039737
Most Extreme Differences	Absolute	.310
	Positive	.203
	Negative	-.310
Kolmogorov-Smirnov Z		.694
Asymp. Sig. (2-tailed)		.722

From the data regarding the results of the normality test with the One-Sample Kolmogorov-Smirnov method used, the significance value shows a number greater than 0.05, which is equal to 0.722 and it can be said that the cost of prevention is usually distributed.

Table 8. Appraisal Cost Normality Test

		Unstandardized Residual
N		5
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	.18912425
Most Extreme Differences	Absolute	.264
	Positive	.241
	Negative	-.264
Kolmogorov-Smirnov Z		.590
Asymp. Sig. (2-tailed)		.878

From the data regarding the results of the normality test with the One-Sample Kolmogorov-Smirnov method used, the significance value shows a number greater than 0.05, which is equal to 0.878 and it can be said that the valuation costs are normally distributed.

Table 9. Internal Failure Cost Normality Test

		Unstandardized Residual
N		5
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	.12051122
Most Extreme Differences	Absolute	.205
	Positive	.205
	Negative	-.170
Kolmogorov-Smirnov Z		.458
Asymp. Sig. (2-tailed)		.985

From the data regarding the normality test results with the One-Sample Kolmogorov-Smirnov method used, the significance value shows a number greater than 0.05, which is equal to 0.985 and it can be said that the internal failure costs are normally distributed.

Table 10. External Failure Cost Normality Test

		Unstandardized Residual
N		5
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	.29251047
Most Extreme Differences	Absolute	.194
	Positive	.189
	Negative	-.194
Kolmogorov-Smirnov Z		.434
Asymp. Sig. (2-tailed)		.992

Sumber: *Output* SPSS

From the data regarding the results of the normality test with the One Sample Kolmogorov-Smirnov method used, the significance value shows a number greater than 0.05, which is equal to 0.992 and it can be said that the cost of external failure is normally distributed.

Furthermore, multiple linear regression analysis which aims to determine how much influence the quality costs incurred on the level of profitability obtained by the company. The test results can be seen in table 11.

Table 11. Results of Multiple Regression Analysis
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	-1.521	.000	
	Cost_Prevention	.628	.000	1.009
	Appraisal Fee	.513	.000	.683
	Cost_Failure_Internal	-.921	.000	-2.123
	Cost_Failure_External	-.177	.000	-1.355

Sumber: *Output* SPSS

Based on table 11, the multiple linear regression equation is obtained as follows.

$$Y = –1.521 + 0.628X1 + 0.513X2 – 0.921X3– 0.177X4$$

The equation will explain the multiple linear regression test for each variable in the study. –1.521 is a constant, which means that if there is no change in the independent variables, namely prevention costs (X1), appraisal costs (X2), internal failure costs (X3), and external failure costs (X4), then relative profitability with ROI (Y) will decrease by 1.521. 0.628 is the coefficient of prevention costs (X1), which means that if there is an increase in prevention costs (X1), the profitability proxied by ROI (Y) will increase by 0.628. 0.513 is the coefficient of prevention costs (X2), which means that if there is an increase in appraisal costs (X2), the profitability proxied by ROI (Y) will increase by 0.513. –0.921 is the coefficient of internal failure costs (X3), which means that if there is an increase in internal failure costs (X3), the profitability proxied by ROI (Y) will decrease by 0.921. –0.177 is the coefficient of external failure costs (X4), which means that if there is an increase in external failure costs (X4), the profitability proxied by ROI (Y) will increase by 0.177.

The partial test determines whether the independent variable (X) significantly affects the dependent variable (Y). The test was carried out with a significance level of 0.05; if t-count > from t-table, the proposed hypothesis is accepted. Conversely, if count < from the t-table, the proposed hypothesis is rejected.

Table 12. Partial Test Results

Coefficients[a]

Model		t	Sig.
1	(Constant)	.844	.461
	Cost_Prevention	-1.580	.212
	Appraisal Fee	-2.113	.125
	Cost_Failure_Internal	-3.922	.029
	Cost_Failure_External	-.347	.752

a. Dependent Variable: ROI

Sumber: Output SPSS

Based on the partial test results, it is known that all independent variables included in this study, namely prevention costs (X1), appraisal costs (X2), internal failure costs (X3), and external failure costs (X4), only internal failure costs (X3) are proven has a significant effect on profitability proxied by ROI (Y). this is evidenced by the significant value of the internal failure cost variable (X3) which is smaller than the significance level (0.029 <0.05).

Analysis of the coefficient of determination (R2) is used to determine the percentage of the influence of the independent variables jointly on the independent variables.

Table 13. Determination Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000[a]	1.000	.	.

Based on the test results of the coefficient of determination in table 13, the R-square value obtained is 1.000, which indicates that profitability proxied by ROI (Y) can be fully explained by quality cost items consisting of prevention costs (X1), appraisal costs (X2), internal failure costs (X3) and external failure costs (X4).

Discussion

Effect of Prevention Costs on Profitability of PT. Sang Hyang Seri (Persero)

Based on multiple linear regression analysis, it is known that the cost of prevention has a positive coefficient which means that the cost of prevention is a factor that supports the profitability of PT. Sang Hyang Seri (Persero). In other words, any increase in these costs will impact the company's profit-making ability. Prevention costs intended to support the profitability of PT. Among others, Sang Hyang Seri (Persero) includes product quality planning costs and machine maintenance costs. Each cost is essential in preparing the product through strengthening planning and production equipment. In addition, when viewed from the size of the budget allocation, both prevention costs The most significant allocation during the observation period was in 2016, where the company allocated Rp.2,719,547,764 in costs. At the same time, the minor prevention costs were in 2018, when the company only spent IDR 730,101,841.

However, based on the significance test, it is known that the cost of prevention does not

significantly affect PT's profitability. Sang Hyang Seri (Persero). This indicates that the cost of prevention does not determine whether PT. Sang Hyang Seri (Persero). The significance of prevention costs to profitability is that all indicators of prevention costs still need to be met. Three other indicators of prevention costs that have not been considered are the costs of quality training internally and externally, including wages and salaries and instruction fees paid, supplier guarantee costs for developing needs and measuring data, auditing and reporting quality, and costs for preventing quality defects. This study's results align with previous studies' results (Wahyu, 2014; Satya, 2012), which also found no significant effect of prevention costs on company profitability.

The Effect of Appraisal Costs on the Profitability of PT. Sang Hyang Seri (Persero)

Based on multiple linear regression analysis, it is known that the valuation fee has a positive coefficient which means that the valuation fee is a factor that supports the profitability of PT. Sang Hyang Seri (Persero). In other words, any increase in these costs will impact the company's profit-making ability. Appraisal fees intended to support the profitability of PT. Among others, Sang Hyang Seri (Persero): inspection costs and inspection costs for product distribution. These two costs are essential in preparing the product before it is sold through direct inspection of the product before it is sold and reinforcement at the product distribution location. In addition, the appraisal fee during the observation period was in 2017, allocating IDR 347,460,863; this cost is the largest compared to other periods. Meanwhile, the nominal appraisal fee was in 2019; the company only spent IDR 134,175,797.

However, based on the significance test, it is known that the valuation fee does not significantly affect PT's profitability. Sang Hyang Seri (Persero). This indicates that the appraisal fee is not a determining factor whether PT. Sang Hyang Seri (Persero). The low influence of appraisal costs on the profitability of PT. Sang Hyang Seri (Persero) occurred because of not fulfilling all indicators of appraisal costs. Management has yet to consider two other appraisal cost indicators in increasing PT's profitability. Sang Hyang Seri (Persero), namely appraisal costs for testing equipment such as operating appraisal costs or costs for maintaining facilities, software, machines, testing equipment, and information costs, where these costs serve to prepare and prove quality reports. This study's results align with previous studies' results (Sodiq, 2013), which also found no significant effect of valuation costs on company profitability.

The Effect of Internal Failure Costs on the Profitability of PT. Sang Hyang Seri (Persero)

Based on multiple linear regression analysis, it is known that the cost of internal failure has a negative coefficient which means that the cost of internal failure is a factor opposite to PT's profitability. Sang Hyang Seri (Persero). In other words, any increase in these costs will have an impact on decreasing the company's profit-making ability. Meanwhile, based on the significance test, it is known that the cost of internal failure significantly influences PT's profitability. Sang Hyang Seri (Persero). This indicates that the cost of internal failure is a determining factor whether PT. Sang Hyang Seri (Persero). Internal failure costs intended to support the profitability of PT. Sang Hyang Seri (Persero) includes correction, rework, and processing costs. However, these costs need to be kept as low as possible to have a manageable effect on decreasing profitability. The most significant internal failure cost during the observation period was in 2017 when the company allocated Rp.350,655,430. Meanwhile, the nominal internal failure cost was in 2018, when the company only spent IDR 54,560,730.

Other internal failure costs that have yet to be prioritized by management support the profitability

of PT. Sang Hyang Seri (Persero), among others: Expedition costs or costs incurred to speed up processing operations due to time spent on repairs or rework, and Inspection and retesting costs or costs in the form of salaries, wages, and costs incurred during re-inspection or retesting of repaired products. Thus attention to internal failure costs is significant to increase the profitability of PT. Sang Hyang Seri (Persero). However, this concern lies not in the size of the allocated budget but in the small budget allocation. In other words, the smaller the internal failure budget item, the higher the quality of the products sold, affecting the company's profitability. This study's results align with previous studies' results (Azwani & Meyliana, 2019; Sari, 2012), which also found a significant effect of internal failure costs on company profitability.

Effect of External Failure Costs on Profitability of PT. Sang Hyang Seri (Persero)

Based on multiple linear regression analysis, it is known that external failure costs have a negative coefficient which means that external failure costs are a factor that is opposite to the profitability of PT. Sang Hyang Seri (Persero). In other words, any increase in these costs will have an impact on decreasing the company's profit-making ability. However, based on the significance test, it is known that external failure costs do not have a significant effect on the profitability of PT. Sang Hyang Seri (Persero). This indicates that external failure costs are not a determining factor whether PT. Sang Hyang Seri (Persero). This happens because external failure costs cannot avoid product defects and cannot avoid the company's failure to earn revenue.

This fee includes sales returns and warranties. The allocation of these two costs was substantial during the observation period in 2016, where the company allocated Rp.33,532,056,370. At the same time, the minor cost was in 2018, when the company only spent IDR 109,975,438. External failure costs such as sales returns and warranty costs do not significantly affect profitability, so they must be reduced to the lowest limit. If there is an increase in external failure costs, there will inevitably be a budget waste, reducing profitability. This study's results align with previous studies' results (Mahendra, 2011), which also found no significant effect of external failure costs on company profitability.

Conclusion

Based on the results of the analysis and discussion that has been described, it is concluded that the variables of prevention costs and appraisal costs have a positive and not significant effect on the profitability of PT. Sang Hyang Seri (Persero). Meanwhile, internal failure costs have a negative and significant effect on the profitability of PT. Sang Hyang Seri (Persero). At the same time, external failure costs have a negative but not significant effect on the profitability of PT. Sang Hyang Seri (Persero). Based on the research conclusions, the suggestions given by researchers are 1. It is recommended to PT. Sang Hyang Seri (Persero) is to start making a separate report on improving the cost of product quality in the company; this is intended to make it easier to evaluate the effectiveness of implementing quality costs. 2. For future research, it is hoped that it will be even better if the number of samples in the research is increased to produce more accurate results because the more samples studied, the better the parameter setting results. In addition, further research is expected to use the profit margin variable to replace the profitability variable.

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