



Sales costs and profitability of a milling industry in Cajamarca, Peru

Costos de ventas y rentabilidad de una industria molinera en Cajamarca, Perú

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ABSTRACT

This article presents the results of the relationship between sales costs and profitability in Industria Molinera Santa Isabel Rice S.A.C. in the periods 2020 and 2021. This research is of a basic type, of a non-experimental design, of a correlational scope and with a quantitative approach; The population comprises twenty-four (24) financial statements corresponding to the periods 2020 and 2021. The sample is made up of the company Industria Molinera Santa Isabel Rice S.A.C. the documentary analysis technique was used through the content analysis instrument, where when obtaining the results, the relationship of sales costs with the profitability of the industry is examined. The IBM SPSS 2.5 software analyzed the data. It demonstrated a very significant inverse relationship between the cost of sales and profitability over revenue, with a relationship of 98.2%. However, the sales cost and the economic profitability index showed a lack of relationship. Likewise, there was no relationship between the sales cost and the financial profitability index.

Keywords: cost-efficiency analysis, economic benefits, cost of sales, profitability

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INTRODUCTION

According to the Ministry of Agrarian Development and Irrigation -MIDAGRI (2009), rice is the second most consumed grain in the world; the production of this grain is geographically concentrated 85% in Asia, present in seven countries of this continent (China, Indonesia, Vietnam, India, Bangladesh, Thailand, and Myanmar) all of them produce and also consume 80% of the rice in the world.

For all Peruvians, rice is a basic food staple. According to MIDAGRI (2009), rice consumption is the highest in Latin America, with an average per capita consumption of 54 kilograms per year. Per capita consumption of rice grain has varied subtly in recent years; consumption is higher than in previous years; however, this is also due to population growth.

However, despite the uncertainty of the pandemic that began in early 2020, the production and yield of rice grain



have improved greatly in the last decade; this commercial growth has made producers optimize their resources in a better way and employ them in productive growth, which has resulted in the growing need for effective tools to determine the best options to obtain greater profitability. In this regard, Moscosa (2018) says that a main measure that micro and small enterprises should adopt is to minimize their cost structure so that they can pay part of their administrative expenses and thus achieve the expected profitability with these savings. Likewise, according to Caja (2019), 80% of the companies in Latin America do not monitor or evaluate the expenses and inputs needed to produce their products to be marketed, which causes low profitability levels. In most cases, the entities need effective records showing the precise amount of resources used in the fiscal year and the aggregate costs used to market their products, which limits the correct profitability calculation.

This study aims to determine the relationship and the degree of significance between the cost of sales and profitability in rice grain production in the Industria Molinera Santa Isabel Rice S.A.C. On this matter, Gonzales and Vidal (2018) affirm a perfect correlation between the cost of production and profitability in T & Q S.A.C., a company dedicated to producing canned fish in the north of Peru. For his part, Quiquia (2021) concludes that fixed and variable costs influence the profitability of companies because both costs and expenses are actively involved in the process and distribution of transportation services, such as fixed or variable costs that can be directly or indirectly. Additionally, Bobadilla (2020) concludes that between the cost of sales and profitability, there is a significant relationship with a positive correlation; all this because between the dimensions of the cost of sales, which are initial inventory, purchases or merchandise and final inventory, and profitability, a positive and significant correlation was found.

METHODS

The present research is of a basic type with a quantitative approach because both the results and the information to be processed are numerical data; according to Hernández et al. (2014), quantitative research collects measurable and quantifiable data. In this regard, Sousa et al. (2007) say that quantitative studies allow analyzing numerical data to obtain answers to a hypothesis within the research. Likewise, this study was of non-experimental design. Hernandez et al. (2014) state that it could be defined as research that is carried out without freely manipulating the variables; that is, they are studies in which intentionally no modifications are made to the independent variables to see the effect it causes on other variables. In addition, the present study has a correlational scope; for Hernández et al. (2014), correlational research seeks to find the relationship between two or more variables.

Population and Sample

The population is made up of twenty-four (24) monthly financial statements corresponding to the periods 2020 and 2021 of Industria Molinera Santa Isabel Rice S.A.C., and the sample is the same company, Industria Molinera Santa Isabel Rice S.A.C. located at Carretera Fernando Belaunde Terry Km. 455, Nueva Cajamarca, Rioja, San Martín, Perú.

Data Collection

An instrument known as content analysis was used as a data collection technique, through the documentary analysis technique. The data collection and analysis was carried out based on the monthly financial statements of Industria Molinera Rice S.A.C. for the periods 2020 and 2021.

Variables and Operationalization

Cost of Sales: According to da Silva (2022), the cost of sales is all those expenses associated with producing and disseminating a service or product. In other words, the cost of sales determines how much money is spent to produce a product or deliver a service. In this regard, Erazo et al. (2021) mention that, in different companies, one of the most important components is the cost of sales and inventories.

Cost of Sales Ratio: A financial ratio that compares all costs and expenses generated by the sales activity with its revenues. In this regard, Correa et al. (2018), the cost of sales ratio can be given other names, including cost of goods sold ratio, cost of sales to revenue ratio, and cost of sales to sales ratio. To calculate the cost of sales ratio, according to Correa et al. (2018), one should divide the cost of sales by total sales.

Profitability: For Gascó (2019), profitability is the single rate of profit; measuring it is essential to visualize a negative or positive diagnosis; it can be measured as a percentage and helps to improve business management. In

this regard, De Gea (2019) states that profitability is all the results obtained after an initial investment. In the same sense, Sevilla (2019) mentions that, whether in a business or investment, profitability is a vitally important and basic concept because it is the ideal indicator to evaluate the growth of the entity and the return on the investment made. Finally, Ochante (2022) says that profitability shows the ability, capacity, or quality with which a company generates a return on investment, and this capacity can be evaluated using financial measures that are expressed in indicators called profitability indicators.

Profitability Ratios: Roldán (2019) states that profitability ratios are a series of economic and financial indicators that, when calculated, seek to show whether or not the company being analyzed is profitable. There are several types of ratios to analyze profitability; the most frequent are listed below.

Economic Profitability Ratio: Sanchez (2014) states that it is a basic indicator to evaluate the efficiency of business management; it generically determines whether a company or entity is profitable in economic and financial terms, starting from the behavior of assets, regardless of their financing.

$$\text{Economic Profitability} = \frac{\text{Net income}}{\text{Assets}}$$

Source: Sánchez (2014, p. 50)

Ratio of Profitability over Revenues: By calculating this index, it is possible to show whether the business is profitable or not. In this regard, Torres (2018) mentions that this indicator can be calculated based on sales and the costs and/or expenses that these generate.

$$\text{Return on revenues} = \frac{\text{Net income}}{\text{Sales}}$$

Source: Torres (2018, p. 38)

Financial Profitability Ratio: According to Quintanilla (2019), this ratio shows the return obtained by the company in relation to the investment made by the shareholders. For Carchi et al. (2020), they indicate that it measures, based on the investment made by the shareholders, the company's capacity to generate economic benefits.

$$\text{Financial Profitability} = \frac{\text{Net income}}{\text{Heritage}}$$

Source: Andrade (2017, p. 78)

RESULTS

Normality Assumption Result

Table 1.
Normality test

	Statistician	Shapiro-Wilk	
		gl	Sig.
Cost of Sales	0.801	24	0.000
Economic Profitability	0.820	24	0.001
Profitability on Revenues	0.801	24	0.000
Financial Profitability	0.890	24	0.013

Source: Own elaboration.

Considering a sample size of 24 monthly financial statements of the company Industria Molinera Santa Isabel Rice S.A.C., for the periods 2020 and 2021, the Shapiro-Wilk normality test was applied. Affirming in all variables

a non-normal data distribution, therefore, it is appropriate to apply non-parametric correlation tests for all data, in this case, it was applied, following the guidelines of Barreto (2011), Spearman's correlation coefficient.

Inferential Results (Correlational)

Table 2.
Correlation between Cost of Sales and Economic Profitability

		Economic Profitability
Cost of sales	Spearman correlation	-0.113
	Sig. (bilateral)	0.599
	N	24

Source: Own elaboration.

Table 2 shows a sig. (bilateral) = 0.599 > 0.05 which does not show a relationship; also a Spearman correlation = -0.113 which indicates a slightly inverse relationship, confirming that there is no relationship between Economic Profitability and Cost of Sales.

Table 3.
Correlation between Cost of Sales and Profitability over Revenues

		Return on revenues
Cost of sales	Spearman correlation	-.982**
	Sig. (bilateral)	0.000
	N	24

** Correlation is significant at the 0.01 level (bilateral).

Source: Own elaboration.

Table 3 shows a sig. (bilateral) = 0.000 < 0.05 that evidences a perfect relationship; likewise a Spearman correlation = -0.982 that determines a significant inverse relationship, which means that the lower the cost of sales, the higher the profitability index over revenues.

Table 4.
Correlation between Cost of Sales and Financial Profitability

		Financial Profitability
Cost of sales	Spearman correlation	-0.105
	Sig. (bilateral)	0.626
	N	24

Source: Own elaboration.

Table 4 shows a sig. (bilateral) = 0.626 > 0.05 which shows no relationship; also a Spearman correlation = -0.105 which indicates a null and slightly inverse relationship, confirming that there is no relationship between Financial Profitability and Cost of Sales.

DISCUSSION

In the results, it was evident that there is no relationship between financial profitability and cost of sales since the level of relationship is greater than 0.05, with a correlation = -0.113; however, between profitability on income and cost of sales, a perfect relationship was found, since the level of relationship is less than 0.01. Also, a correlation of significance = -0.982, which confirms a very significant and inverse correlation; in addition, the results showed a null relationship between financial profitability and cost of sales since the level of relationship is greater than 0.05, and with a correlation coefficient = -0.105.

In contrast to the research of Bobadilla (2020), entitled Cost of sales and Profitability of the Company Corporación NIGASA S.A.C. year 2020, concludes that there is a significant relationship between the cost of sales and profitability of the company NIGASA SAC in the year 2020 since its level of relationship was less than 0.05 and with a correlation = 0.782; however, the results obtained by the author, were based on a basic research

at a descriptive-correlational level, where he used the survey technique, which was applied to 22 employees of the company studied; however, in this study, the technique of content analysis was used, and the results obtained were based on the monthly financial statements of the company Industria Molinera Santa Isabel S.A.C, for the periods 2020 and 2021.

CONCLUSIONS

In this study, it can be concluded that in the company Industria Molinera Santa Isabel Rice S.A.C., in the periods 2020 and 2021, it is evident that there is a very significant inverse relationship between the cost of sales and the profitability over income, with a relationship of 98.2%, this indicates that if the cost of sales is lower, the profitability index over income will be higher and vice versa; however, between the cost of sales and the economic profitability index, it is shown that there is no relationship; likewise, between the cost of sales and the financial profitability index, there is a null relationship.

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