



CHAPTER 5

Control environment, control activities, and monitoring: drivers of pharmaceutical profitability

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ABSTRACT

This research explores the degree of correlation between internal control and profitability in the pharmaceutical sector. It adopts a quantitative approach, with a non-experimental, cross-sectional, and applied design, with a level of causal correlation. The technique used was a survey, and the instrument was a questionnaire administered to 382 workers in the areas of logistics, accounting, decision-making, warehousing, and marketing in the pharmaceutical industry. A Spearman Rho of 0.440 was obtained, demonstrating that there is a direct linear relationship between internal control and profitability. Likewise, the Sig. was less than 0.05, so the research hypothesis is accepted. The most important conclusion was that, provided that the control environment, control activities, and supervision or monitoring are carried out effectively, the economic profitability of the pharmaceutical sector can be increased.

Keywords: Profitability, decision-making, control environment, control activities, supervision, monitoring, margin.

INTRODUCTION

Yousif et al. (2021) show that, globally, everyone is currently dealing with an unprecedented shock in the health/economic/financial/social sector due to the COVID-19 lockdown, and societies have been forced to adopt internal control measures to remedy the abnormal inconveniences that were impacting the viability of these institutions. According to Koutoupis and Malisiovas (2021), entities are under tremendously high financial pressure, as they focus solely on the liquidity needed to meet their short-term obligations (Agyei, 2018); but they measure this with all their assets without verifying sales levels (Nasir et al., 2021). In order for companies to improve their profits, they must focus on maximizing their Return on Assets (ROE) and Return on Equity (ROE), as these metrics help companies understand their profitability over a period of time (Atef and Boulila, 2018). Therefore, it is essential to check total sales each year to see if they have increased, decreased, or remained in line with previous years (Campuzano et al., 2021).

Anton and Afloarei (2021) believe that another problem faced by organizations was the reduction of employees in critical and high-demand areas due to the drop in sales as a result of the economic crisis they suffered during the pandemic. This has led to a decline in profitability, which has also been exacerbated by theft of goods and money, increased inventory, and poor investment decisions by the partners of these companies, who have ignored the internal controls essential to preventing such situations (Mitra and Hossain, 2019).

According to Lara (2019), sales have been significantly affected. The author points out that, in terms of training, the level of education of employees and shareholders, lack of experience, and lack of training of all members of the internal control area, these situations have led to losses of merchandise, increased storage costs, or simply a loss of market value of products due to obsolescence (Lizarzaburu et al., 2020). and corrective measures must be taken urgently so that all members of the company can fully understand what the company is and thus be able to increase its profitability (Cotrina et al, 2020).

This study is based on scientific approaches at the financial level and transparency theory, both of which enhance each of the variables. From a methodological point of view, this is justified given that a quantitative, non-experimental, cross-sectional design was applied, with a survey of 382 employees in the pharmaceutical industry, which yielded the results of this research. The main problem posed was: To what extent are internal control and profitability related in the pharmaceutical industry? The general objective was to determine the level of relationship between internal control and profitability in the pharmaceutical sector. From this, three specific objectives were derived: SO1. Evaluate the internal control exercised by the pharmaceutical sector. SO2. Analyze the profitability of the pharmaceutical sector. SO3. Determine the level of correlation between the dimensions of internal control and profitability in the pharmaceutical sector. Finally, the research hypothesis was proposed: There is a relationship between internal control and profitability in the pharmaceutical sector.

Liu and Wang (2021) demonstrated that internal control is related to profitability because it allows users to predict future risks to which the company may be exposed. However, through integrity management and self-discipline, all members of the organization can strive to develop high-level entrepreneurship. Vu and Thuy (2021) demonstrated that the implementation of internal control substantially improves business profitability, given that, through integrated circuit management, it mitigates levels of bribery, thus enabling shareholders to enjoy a good return on their financial functions. Li et al. (2020) clarified that the quality of internal control is associated with financial problems that affect profit management strategies, because such activities tend to decrease cash earnings as they are mitigated by the problems that institutions will face. Turgaeva et al. (2020) indicated that companies do not conduct an expert analysis of the probabilities of occurrence, impact power, and results of the threats they face every day, which are the causes of financial instability. Fujianti and Satria (2020) stated that leverage does not have a significant impact on corporate profitability. It is possible to conclude that high profitability is better news for investors, therefore internal control is very necessary to meet expected profitability.

Chalmers et al. (2019) stated that internal control positively affects financial decisions; however, to do so, it is necessary to have detailed knowledge of the organizational structure, its attributes, and the degree of quality applied when performing internal control. Del Carpio and Miralles (2021). It became clear that companies apply innovative technologies in their financial processes, which brings great benefits to the organization. This is reflected in profitability, as internal control is being carried out efficiently and effectively under new technologies through the entity's policies. Carhuamaca and Almonacid (2021) concluded that the shares that have been placed on the stock market have given the opportunity for the profitability of these companies to improve considerably. This means that there is a positive and significant relationship between profitability and supervision of business movements. Varona and Gonzales (2021) found that the profitability of companies in most productive sectors is negatively associated with the economic recession that Peru experienced from the first to the fourth quarter of 2020.

Sanabria (2021) discovered that no budgetary evaluations or oversight were being carried out, demonstrating that there is an extremely high deficit in the processing of internal control in the country's SMEs and that corrections must be made urgently to reduce the risk of further economic losses. Angulo (2019) demonstrated that internal control promotes the management of companies' inventories, i.e., by improving inventory management, sales increase, which has a direct impact on the profitability of these organizations. Mejía, López, and Varón (2018) believe that companies can increase their sales and, therefore, their economic profitability, if they implement good corporate practices taking into account the code of ethics and institutional values, which are the basis for the application of these measures in each and every business operation. Arévalo and Ramírez (2019) pointed out that the implementation of adequate controls based on internal and external standards increases profitability.

Internal control is the subject of transparency theory, where Boehm (2014), the theory behind transparency, says that all individuals are subject to external sensation (whether constant or accidental, and unable to alter it). So, for the phenomenon that affects us, we must take two essential things into account. Of course, one is an occurrence, a problem, or an event, and the other impulse that really determines our behavior and response is what we get. Or the state of handling the situation. This is a fact and not a notion. And when these things happen, they will undoubtedly drive us crazy, become unbearable, and distract us with trivialities that seem like serious problems to us. This is because our inner state always ends up becoming a wall, and this wall is hit by so many manifestations coming from different places that we have to resist them because they bother and confuse us. On the contrary, profitability is based on financial theory, according to Flórez (2008). This perspective highlights the innovative research methodologies that companies are developing to identify costs and how they can help determine the level of profits they can achieve in a competitive market. This also allows them to know that they must be cautious when taking risks and doing business intelligently, as this will enable them to maintain a high level of liquidity, allowing them to meet all current and non-current obligations and increase assets and net worth.

Internal control is the systematization adopted by management, the board of directors, or other persons within the entity that has been developed to provide reasonable assurance that the entity's goals will be achieved (Cevahir & Tunca, 2020). We can also explain it as the internal audit defined within the corporate system that helps them keep their resources secure (Oluwagbemiga, 2021). Similarly, it can be said that internal control is an organized plan and a scale of action that guides all components of the organization in achieving its goals under the applicable administrative guidelines that ensure the preservation of assets (Khudhair et al., 2020).

The sense of control among its partners is reflected in and affects the company's operating model, according to the Comptroller General of the Republic (2018). In terms of regulating internal control mechanisms, it brings order and organization; it integrates the whole, institutional values, and capabilities of employees. At this point, it refers to the operations of the parent company, such as yawning, hitting the target, confirming, harmony, examining operational effectiveness, safeguarding assets, and separation of duties (Fricke et al., 2020). These are: preparations for intervention, disclosure and inspection, clock adjustment, manageable clocks, computer clocks, and management clocks. Whatever the type, control activities must be proportional to the risk (Comptroller General of the Republic, 2018). It is mentioned that internal control must be monitored, a procedure that consists of monitoring whether the system controls the user's course throughout (Leonov et al., 2021). This can take the form of continuous monitoring activities, external evaluations, or a combination of both. Monitoring should be continuous throughout the operation. Any deficiencies detected in internal control and any relevant issues should be reported to senior management and the board of directors in a timely manner (Comptroller General of the Republic, 2018).

Profitability is the indicator that measures management efficiency, which aims to increase the profit obtained from sales and investment (Mohammad et al., 2021). It can also be expressed as the index that determines the company's ability to generate income through its operations (Basyith et al., 2021). Just as it measures the extent to which a company's assets generate profits when it makes sales, it also calculates the profit made by the assets or capital that the company has (Karunakaran et al. 2021).

If economic profitability is a company's efficiency in using its investment to compare the company that compares profit indicators with total net assets as a descriptive variable (the denominator of the ratio) of the means available to the company to achieve such ends (Broekhuizen et al., 2021). The margin is calculated by profit per monetary unit sold, which is the profitability of revenue. Marginal elements can be analyzed according to economic classification or classification function (Broekhuizen et al., 2021). Turnover refers to asset turnover. Asset turnover is the number of times the asset is recovered through sales or, conversely, the number of monetary units sold for each monetary unit invested (Bygiyeva et al. 2021). It is therefore a measure of how efficiently assets are used to generate revenue. However, low turnover may reflect that it is not easy for the company to be inefficient in the use of capital, concentrated in industries with high fixed assets or low utilization rates (Broekhuizen et al., 2021).

METHODS

This research is applied because theoretical bases will be taken and applied for the evaluation of each of the variables (CONCYTEC, 2018). Correlational, since the research examined the relationship between two variables and the researcher had no control over either of them, the aim was to find out the association between the variables of interest. A non-experimental design was used, as none of the variables investigated were manipulated and, therefore, the study will be analyzed as presented in the business context over a period.

Ten considerations were considered regarding the nature of the study population, composed of 54,500 workers in the pharmaceutical sector, and a sample of 382 workers directly related to the study variables was taken, consisting of logistics, accounting, decision-making, warehousing, and marketing. The sampling technique was non-probabilistic, as it helped to select cases characteristic of the population based on region and place of residence, and the limitation of this case was that the sample taken was also very small. The method used was a survey, which was developed based on the dimensions and indicators of each theory according to the variables. The instrument used to collect the data was a questionnaire, which was applied to both variables.

The information was obtained in three phases. The first phase involved coordinating with managers in the pharmaceutical sector to request permission for data and general information. The second phase focused on training and preparing informants on biosafety protocols and details about the care and protection measures implemented throughout the collection period. The third stage focused on digitizing the information obtained from the interviews. The tables and figures were prepared using the statistical method to represent the data from the surveys. The research hypothesis can be tested (after verifying the normality of the data) using the inferential statistical method. The research was ethical in itself, following APA standards and UCV guidelines, with confidentiality, as the information will not be used in a way that makes the organization or its members vulnerable.

RESULTS AND DISCUSSION

The first, Table 1, shows that: 44% of respondents said that control plans, control directives, and follow-up management were very efficient. Twenty-two percent said that logistics management, organizational climate, staffing, and accounting plans are somewhat efficient, while 17% stated that payment authorizations and approvals, segregation of duties, account reconciliation procedures, and valuation standards are completely inefficient, these being the indicators that compromise proper internal control compliance. The result was a slightly deficient level (17%).

According to Table 2, 35 percent of respondents said that return on assets, return on equity, operating profit, and gross profit are high according to the company's requirements and commitments. And 28 percent said that gross sales margin, net sales margin, and margin before and after profit distribution were moderate. However, 22% said that the sales-to-assets ratio and net turnover were very low, meaning that these indicators could affect the company's profitability. Weak 15%).

According to Table 3, it can be seen that Spearman's Rho for the control environment dimension was 0.440, indicating that it has a positive linear relationship with profitability. However, Spearman's Rho for the control activities dimension is 0.389, suggesting that there is a weak correlation that is statistically significant. Similarly, Spearman's Rho for supervision and monitoring is 0.422, showing that it correlates significantly and moderately with profitability in the pharmaceutical industry. The Sig. level is less than 0.05, so the research hypothesis is accepted, and the null hypothesis is rejected

As can be seen in Table 4, Spearman's Rho value is 0.440, indicating that internal control has a positive linear relationship with the profitability of the pharmaceutical sector; which means that if or while the control environment, control activities, and supervision or monitoring are conducted efficiently, it is possible to improve economic profitability, increase net and gross sales margins, and even maintain an optimal level of merchandise and asset sales turnover. The Sig. value is less than 0.05, so the research hypotheses are accepted, and the null hypothesis is rejected.

Table 1. Level of internal control implemented in the pharmaceutical sector

Category	ni	%
Totally deficient	65	17
Somewhat deficient	65	17
Moderately efficient	84	22
Very efficient	168	44
Totally efficient	0	0
Total	382	100

Note: Prepared using data from SPSS V 27

Table 2. Pharmaceutical sector profitability level

Category	ni	%
Very low	84	22
Low	57	15
Average	107	28
High	134	35
Very high	0	0
Total	382	100

Note: Prepared using data from SPSS V 27

1 Table Level of relationship between internal control dimensions and profitability in the pharmaceutical sector

			EC	ACI	SM	R
Spearman's Rho	EC	Correlation coefficient	1.000	.901**	.988**	.440**
		Sig. (two-tailed)	.	.000	.000	.003
		N	382	382	382	382
	AC	Correlation coefficient	.901**	1.000	.890**	.389**
		Sig. (two-tailed)	.000	.	.000	.008
		N	382	382	382	382
	SM	Correlation coefficient	.988**	.890**	1.000	.422**
		Cont. (bilateral)	.000	.000	.	.004
		N	382	382	382	382
	R	Correlation coefficient	.440**	.389**	.422**	1.000
		Sig. (two-tailed)	.003	.008	.004	.
		N	382	382	382	382

Note: Prepared using data from SPSS V 27

Table 4. Level of relationship between internal control and profitability in the pharmaceutical sector

			CI	R
Spearman's Rho	CI	Correlation coefficient	1.000	.440**
		Sig. (two-tailed)	.	.003
		N	382	382
	R	Correlation coefficient	.440**	1.000
		Sig. (two-tailed)	.003	.
		N	382	382

Note: Prepared using data from SPSS V 27

Discussion

In order to strengthen the scientific basis of this thesis report, different scientific approaches were taken into account to support its development. For this reason, for the internal control variable, the theory of transparency was chosen, in which Boehm (2014) refers to the fact that when these things happen, they inevitably drive us crazy and make it impossible for us to concentrate on small things that have become big problems for us. This happens because our state of being always becomes a wall, and this is where all these manifestations collide. We resist them because they bother and upset us. In relation to profitability, it is based on financial theory, according to Flórez (2008). This theory is the basis for variable 2, profitability, because it provides a financial basis for avoiding excessive expenses, unpaid liabilities, and losses for the year, as it includes business intelligence and allows for the detection or assumption of risks, which can be resolved in a short time.

According to Table 1, it can be seen that payment authorizations and approvals, segregation of duties, the account reconciliation process, and valuation rules are completely inadequate, which are the indicators that most negatively affect internal control compliance. A slightly unsatisfactory level (17%) was reached. The findings are supported by the work of Liu and Wang (2021), which reports that the factors that most affect profitability are integrity management and work self-discipline, which contribute to anticipating future risks that the company may face.

According to Table 2, it can be seen that the gross sales margin, net sales margin, and margin before and after profit distribution are normal. These findings are supported by the work of Vu and Thuy (2021), who concluded that bribery control is reduced through integrated circuit management, giving shareholders the ability to manage good performance in their financial activities. This is also supported by Li et al. (2020), as they demonstrated that the quality of internal control will be influenced by the financial difficulties affecting management methods for managing profits. These activities tend to decrease actual profits because they are limited by the problems companies face.

According to Table 3, there is a positive linear correlation between the control environment and profitability. For control activities, on the other hand, there is a weak but significant correlation. It also shows that the supervision and monitoring dimension has a significant positive correlation with the profitability of the pharmaceutical sector. These results are supported by the study by Carpio and Miralles (2021), as they point out that companies that apply cutting-edge technology in their financial operations generate significant benefits for the company, which has a favorable impact on profitability.

According to Table 4, internal control is positively associated with financial profitability in the pharmacy industry, which is the result of the effective development of the control environment, control activities, and supervision or monitoring leading to improved economic profitability, increased gross and net sales margins, and maintaining an optimal point in terms of the turnover rate of merchandise and assets. These conclusions are supported by Melgarejo's study (2019), which showed that appropriate corporate practices based on a code of ethics and institutional values enable companies to increase their sales, with the direct consequence of increased economic profitability. This is also supported by Angulo's research (2019), which concluded that internal control contributes to the management of companies' inventories, i.e., improved inventory management leads to increased sales, which in turn have an impact on profitability.

CONCLUSIONS

Logistics management, institutional climate, personnel allocation, and accounting plans are moderately efficient, but payment authorizations and approvals, segregation of duties, account reconciliation processes, and valuation standards are totally deficient and constitute the indicators that most impact the proper fulfillment of internal control. The board of shareholders and decision-makers in the company should always evaluate the progress of logistics management, the institutional climate, personnel allocation, and the accounting plan (or lack thereof) that they have in place, but they must check authorizations, payment approvals, segregation of duties, the account reconciliation process, and valuation standards, which are totally deficient, even though this will lead them to maintain more than adequate control over themselves, which will have a positive impact on the organization's profits.

ROA, ROE, budgeted RO, and RG are high, in line with the company's needs and commitments. The gross sales margin, net sales margin, margin before distribution, and margin after distribution are moderate. It was also revealed that sales to assets and net income turnover were very low, which means that these were the indicators that could negatively affect the company's profitability. It is recommended that the manager design a strategic plan to increase the gross sales margin, net sales margin, and margin before and after profit distribution, since improving these indicators will gradually and significantly increase the company's profitability.

Logistics management, organizational climate, staff allocation, and accounting plans have a direct linear positive effect on the quality of logistics services and have been proven to have a direct linear positive effect on the quality of logistics services in the pharmaceutical sector. It is suggested that employees, area managers, the audit department, authorities, and the company's CEO monitor the evolution of sales over assets and net income over turnover, as these metrics provide real-time information on the organization's financial situation.

It has been proven that internal control has a direct linear influence on profitability in the pharmaceutical sector; that is, the better the control environment, control and monitoring or supervision activities are implemented, the greater the possibility of improving economic profitability, the gross and net sales margin can be improved, and it also allows for the storage of an ideal

degree of turnover of merchandise sales and assets. It is suggested that company authorities conduct surprise audits of all matters relating to the control and supervision or monitoring procedures carried out by the internal control office, as this measure would also benefit from an improvement in gross and net sales margins, thereby maintaining optimal turnover of merchandise and assets, which will ultimately result in good profitability.

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