



## Study of post-COVID-19 liquidity in the sugar sector. Case in Peru

Yuri Gagarín Gonzales Rentería<sup>1\*</sup>, Víctor Alejandro Sichez Muñoz<sup>2</sup>, Richard Jhon Santos Villa<sup>3</sup>, Jeny Alcahuaman Villanueva<sup>4</sup>, Diana Yurisel Gonzales Flores<sup>5</sup>, Eddy Miguel Aguirre Reyes<sup>6</sup>

<sup>1</sup>Catholic University Los Angeles de Chimbote

<sup>2</sup>Chairman of the Board of Directors of SEDACHIMBOTE S.A. – PERU

<sup>3</sup>Public Accountant, Financial Advisor

<sup>4</sup>Catholic University Los Angeles de Chimbote

<sup>5</sup>Head of Logistics at SEDACHIMBOTE S.A. – Perú

<sup>6</sup>National University of Tumbes

### Abstract

To determine the post-Covid-19 impact on the liquidity of the sugar sector company Agroindustrial Laredo SAA of the La Libertad Region, during the period 2022 and 2023. The methodology used was qualitative, descriptive, and non-experimental in design; The technique of bibliographic review and interview was used, as well as bibliographic records and a questionnaire as instruments. The results revealed that, in contrast to the general economic trend, companies in the sugar sector including Agroindustrial Laredo SAA They experienced a significant increase in their liquidity during the period analyzed. This phenomenon was associated with the sustained increase in international sugar prices, which not only mitigated the adverse effects of the global crisis, but also consolidated the financial stability of the sector. It contributes to the financial literature by providing empirical evidence on the liquidity situation in the Peruvian sugar sector after the health crisis generated by Covid-19. The findings allow us to understand how companies in this sector faced the challenges arising from the decrease in demand, production problems and market restrictions. As it constitutes one of the first studies specifically focused on the liquidity situation of the Peruvian sugar sector in the period after the Covid-19 pandemic, which gives it an innovative character by addressing an area little explored within the national literature in accounting and finance; strengthening the understanding of how business liquidity can become a determinant of sustainability in contexts of high uncertainty.

**Keywords:** Covid-19, Liquidity and sugar sector.

### Introduction

Sugar is considered one of the most in-demand staples in the global food basket. This commodity is an essential component in the production of a wide variety of products. Its marketing has a significant impact on the trade balance of exporting countries, positively contributing to their economies. The history of sugar in Peru dates back to the colonial era. Shortly after the arrival of Europeans, the conquistador and governor of Trujillo, Don Diego de Mora, introduced sugarcane from Mexico and cultivated it on his estate located in the Chicama Valley. According to historian Romero Pintado, by 1549, Pedro de La Gasca had already reported the existence of four sugar mills in Peru dedicated to the processing of sugarcane and the production of sugar. This marked the beginning of an industry that would become an important pillar of the regional economy (Dargent, 2017; Moghavvemi & Jam., 2025).

In Peru, sugarcane cultivation takes place in all three natural regions: the coast, the mountains, and the jungle. Thanks to favorable climatic conditions, planting and harvesting are carried out year-round. This crop plays a fundamental role in the industry, as its main purpose is sugar production. Regarding land distribution, 65% of the hectares dedicated to sugarcane cultivation are under the control of the country's 10 largest sugar mills. The remaining 35% belongs to independent farmers, who contribute significantly to national production (Ministerio de Desarrollo Agrario y Riesgo, 2010).

In the La Libertad Region of Peru, sugarcane has established itself as the main producer of sugarcane nationwide. This crop has become one of the fundamental pillars of agriculture in the department, not only due to the expanse of land dedicated to its production and the significant use of water resources, but also due to its economic impact. In 2017, sugarcane contributed 11.7% of the region's

agricultural gross production value (GPV), standing out as a key driver for the development of the agro-industrial sector. Its importance transcends the economic, as it generates direct and indirect employment, boosting the revitalization of rural areas and strengthening the value chain associated with this crop (Sineace, 2020; Abbas et al., 2025). Its economic relevance is multifaceted, as it is not limited solely to the production of sugar, its main product. In recent years, ethyl alcohol has emerged as a derivative with great potential, experiencing notable growth due to its demand in sectors such as pharmaceuticals, energy (as a biofuel), and the beverage industry.

In Peru, the arrival of COVID-19 occurred in early March 2020. In response to this health emergency, the president and the ministerial committee declared a National State of Emergency on March 15 through Supreme Decree No. 044-2020-PCM, with an initial period of fifteen days. However, this measure was extended until December 7 of the same year. The main strategy implemented was mandatory social isolation. In accordance with Article 7 of the aforementioned decree, all commercial, cultural, recreational, hotel, and restaurant activities were suspended, and the country's borders were temporarily closed. These decisions resulted in a significant economic standstill, impacting both new entrepreneurs and large, established companies and generating unprecedented challenges for the business sector (El Peruano, 2020).

Liquidity in the financial sector refers to a company's ability to transform its assets into cash quickly and efficiently, without losing their value. This is essential to ensure solvency and meet short-term payment obligations. A company is considered liquid when it can convert its assets in less than one year without depreciation. Investors often focus on long-term goals, dismissing the possibility of unforeseen situations. Therefore, it is crucial for any business to maintain liquidity and avoid investing in assets that take a long time to convert into cash, as it may need emergency funds. This aspect is assessed through various financial indicators that compare current assets and liabilities, allowing for an analysis of a company's ability to meet its short-term obligations. Among the ratios used to measure liquidity are: Current ratio; calculated by dividing current assets by

current liabilities. This ratio provides an overview of a company's ability to cover its short-term debts. Acid ratio; obtained by subtracting inventories from current assets and dividing the result by current liabilities. This indicator offers a more stringent assessment of liquidity, considering only assets that can be quickly converted into cash. Quick ratio; calculated as the ratio of cash and cash equivalents to current liabilities. This ratio measures a company's ability to meet its immediate obligations without relying on inventory sales.

### Theoretical framework

Aliaga et al. (2021), in their research "Profit Conversion and Liquidity in Cuban Business Organizations," studied the contribution to improving the effectiveness of the profit conversion process in Cuban business organizations. They identify the procedure that strengthens management decision-making, as it provides a solid basis for defining, adjusting, or perfecting objectives, strategies, and actions aimed at addressing identified constraints. As a result, this contributes to continuously improving the liquidity of organizations, promoting their financial stability and long-term sustainability.

Firlej et al. (2024) with their article: "Evaluation of the financial situation of selected companies in the Polish sugar industry 2016-2022". Objective of the Article: The main objective of this article is to analyze and evaluate the financial situation of selected companies in the sugar industry that are part of the WIG Food index, during the period 2016-2022. Secondly, three financial liquidity ratios and three profitability ratios were calculated, analyzing the evolution of these indicators in the period 2016-2022, with special emphasis on the variations that occurred before and after the COVID-19 pandemic. The analyzed companies maintained a solid financial position throughout the studied period. The most robust multivariate discriminant analysis models were those of J. Gajdka and D. Stos, as well as that of D. Wierzba, which pointed to a deterioration in financial performance in certain years. Overall, companies showed high levels of liquidity and profitability between 2016 and 2022. However, ZPC Otmuchów SA was the only company to record negative profitability indicators, attributable to a

negative net profit. The findings of this research serve as a guide for companies in the food sector, highlighting the importance of adopting appropriate methods to assess their financial health and exploring the relationship between liquidity and profitability. This article contributes to the field of financial analysis by offering a detailed assessment of the situation of selected companies in the WIG Food Index. A correlation analysis is incorporated, providing a better understanding of the dynamics behind financial performance in this sector.

Ruiz et al. (2022) conducted a scientific study called "Collaborative work between academia and health authorities during COVID-19: experience in Santander, Colombia." The objective of this study is to systematize the experience of collaboration between academic actors in the region and the health authorities of the department of Santander, Colombia, during the COVID-19 health emergency between 2020 and 2021. As a result, after the declaration of the health emergency, two collaborative working groups were quickly formed: one between academia and government actors in Bucaramanga, and another between academia and departmental authorities. Although both groups emerged voluntarily, their organizational structures differed. This collaborative effort supported health authorities in preparing for the pandemic, translating and disseminating knowledge, conducting epidemiological surveillance, and strengthening response capacities. Finally, it is concluded that the collaborative work was highly productive in terms of activities and interventions, although it faced challenges, such as the lack of attention to several of its recommendations by health authorities. These difficulties are consistent with those reported in other public health emergencies, highlighting the need to strengthen relations between the government and academia to establish a proactive agenda that overcomes the limitations identified in this study.

Luque et al. (2021) in their research entitled: "Impacts of COVID-19 on Agriculture and Food Security." Agriculture worldwide was significantly affected during the COVID-19 pandemic, directly impacting food security. This article analyzes how the health crisis altered the agricultural system, which constitutes the main source of food supply for the

population and economic support for small farmers and their families, who play a fundamental role in global food security. The study is based on a descriptive systematic review supported by theoretical contributions, with the aim of examining the situation of agriculture in the face of the pandemic. The results highlight four main axes: the effects of COVID-19 on agriculture, concerns about food security, the social impacts on the agricultural sector, and government responses to the crisis. Finally, it is concluded that the pandemic has generated significant repercussions on agriculture and food security, which could lead to a food crisis. However, due to the uncertain evolution of the pandemic, it is still premature to draw definitive conclusions.

Aste & Mego (2021), with the study entitled: "Financial impact of COVID-19 on the liquidity of Metzger Perú SAC - Lima", aims to evaluate how the pandemic affected the company's liquidity. The findings revealed that, during 2020, Metzger Perú SAC faced a significant decrease in its liquidity, registering economic and financial indicators below the expectations of the Joint Venture partners. Several factors were identified that contributed to this negative impact, including: the increase in rescheduled loans, the stoppage of merchandise in warehouses for more than four months, the increase in debts with third parties, the reduction in sales income, and the lack of control over operating expenses, especially in the payment of workers' wages. In conclusion, the health crisis generated an adverse impact on the company's liquidity, compromising its financial and operational stability.

Quintana (2021) conducted a study entitled "Financial Management to Increase Liquidity in an Agro-industrial Entity, Lima 2021." The main objective of this study was to propose effective mechanisms to solve the problems that limit the entity's ability to achieve efficient and optimal liquidity. These problems included difficulties in converting receivables into cash, deficient management policies, and lack of access to credit by suppliers. The results revealed significant problems, such as insufficient liquidity to meet short-term obligations, as well as deficiencies in collections and payment processes. Based on these findings, concrete proposals were formulated, including: the

implementation of factoring for clients categorized as A1, the adoption of new payment and collection policies, and the preparation of financial projections with their respective ratios to evaluate the impact of the proposed measures. In conclusion, this study not only identified the causes of the agro-industrial entity's low liquidity but also provided viable financial tools and strategies to improve its management and ensure its long-term sustainability.

Huayna & Paucar (2021) carried out a project called: "Impacts of COVID-19 on the profitability of companies in the sugar sector supervised by the SMV in 2020". Its main objective was to evaluate whether the COVID-19 pandemic has generated a significant impact on the profitability of companies in the sugar sector supervised by the Superintendency of the Securities Market (SMV) during 2020. In conclusion, this research has made it possible to analyze the impact of COVID-19 on the profitability of companies in the sugar sector supervised by the SMV during 2020, addressing not only general profitability, but also specific aspects such as sales, return on investment, and net profitability. The results obtained show that the pandemic generated significant effects on the financial dynamics of these companies, reflecting challenges and adaptations in a context of an unprecedented health crisis. This study not only contributes to a better understanding of the economic consequences of COVID-19 on a strategic sector for the country's economy, but also opens a new line of research in the accounting field by exploring a recent and far-reaching issue. Furthermore, the qualitative methodology and descriptive-application approach employed have allowed for a rigorous analysis of financial information, providing valuable insights for future research and decision-making in the sugar sector. Finally, it highlights the importance of continuing to investigate the medium- and long-term effects of the pandemic, as well as implementing strategies that strengthen companies' financial resilience in the face of future crises.

Moreyra & Ortiz (2020) in their research entitled: "Impact of Financial Credit on Business Development: A Literature Review." Companies often resort to financial credit due to insufficient liquidity to carry out their economic and productive activities. Within this framework, the main objective of this work is to

synthesize information related to credit and its impact on business development. The results obtained indicate that access to credit contributes significantly to job creation, the acquisition of fixed assets, and increased production volume, which facilitates entry into international markets. However, it is observed that some companies do not use credit efficiently, which is attributed to a lack of financial culture and various financial barriers. In conclusion, credit has a positive impact on companies by acting as a means of internal capital that improves activities in international trade and encourages the creation of innovative projects. Thanks to access to credit, agro-industrial and exporting companies can develop, grow, and compete effectively in the market. Furthermore, government intervention is crucial to facilitate access to these loans through public policies and improvement plans, allowing companies to increase their productivity and consolidate their position in the market.

Barrientos & Flores (2022), through their research entitled "Financial Sustainability in an Agro-Industrial Company during the COVID-19 Crisis in 2021," aimed to analyze the financial sustainability of an agro-industrial company during the health crisis caused by the pandemic. The study's findings revealed that the company was able to anticipate its resources and capabilities in the face of contingencies arising from the crisis, leveraging technology and innovation in its activities and processes. Furthermore, it was determined that the company improved its productivity by implementing tools that facilitated work and optimized the use of time, thanks to innovation and the effective use of technology. Regarding investment and financing management, the company demonstrated an adequate distribution of its financial resources, focusing on technological improvement, debt refinancing, and investment in working capital. These strategic decisions were essential to ensure the continuity of its operations and maintain its financial sustainability throughout this critical period.

Gonzales et al. (2025) in their scientific article titled: "Internal Control and Its Impact on the Accounting Management of Small Companies in the Service Sector in Peru. Case Study – 2023", consider that Internal control provides the actions, plans, policies, procedures and methods that contribute to the



continuous improvement, operational, financial and economic efficiency of the entity, together with the achievement of its established objectives. The results showed that internal control significantly affects the favorable development of accounting management; from the recording of financial transactions to the analysis of financial information. Accounting management collects, records, analyzes and interprets financial information, which is an essential tool for making informed decisions for the benefit of organizations. Through solid control, accounting management will be developed in order to ensure the protection of assets, the reliability of financial information, the validity of accounting records and systems and compliance with current laws and regulations. According to the results, it was concluded that it is necessary to establish a permanent internal control system in conjunction with its components, designed according to the specific needs of the company under study, to correct the deficiencies of the empirical controls used.

Díaz & Gallardo (2022) in their research entitled: "Post-COVID-19 Pandemic Marketing Strategies to Improve Hass Avocado Exports from Lambayecan Companies to the Netherlands Market, 2022". The results showed that the marketing strategies analyzed contribute efficiently to improving Hass avocado exports, which will strengthen the marketing of this product in the post-pandemic context. In conclusion, this study not only identifies key strategies to optimize Hass avocado exports, but also provides practical recommendations for Lambayecan companies, thus contributing to their competitiveness in the international market and to the economic reactivation of the region in the post-COVID-19 era.

Pintato et al. (2024) conducted a research titled: "Working capital and its influence on the profitability of a construction company", they agreed that The research aims to determine the influence of working capital on the profitability of a construction company in Peru. It was worked with a descriptive correlational level, with a quantitative approach and cross-sectional, the population consisted of 6 employees dedicated to accounting-financial tasks. The survey technique was used and the questionnaire was its instrument, in order to test the hypotheses regarding the association of variables, logistic

regression was used. The results achieved have been developed and obtained with Kendall's Tau-b test, establishing a correlation of 0.966 and a significance of 0.000; being below 0.05; accepting the alternative hypothesis, obtaining that there is a significant influence of working capital on profitability. Concluding that working capital has a significant influence on the profitability of the construction company.

Aranda (2023) conducted an experiment entitled: "Strategic financial planning and its impact on the liquidity of the company Sencon Servicios, Negocios y Construcción SAC, Trujillo 2022." The results, after a detailed analysis of the financial ratios, identified that the company has a low level of payment capacity, which demonstrates its inability to meet immediate obligations and a significant dependence on external financing. These findings highlight the need to implement tools that optimize financial management. Through the research, it was determined that strategic financial planning has a positive impact on the company's liquidity. This tool not only benefits the organization by improving its payment capacity and reducing its dependence on third parties, but also positively impacts employees and managers' decision-making. The implementation of adequate strategic financial planning allows for more efficient management of resources and contributes to the company's financial sustainability. In conclusion, this study not only analyzes the relationship between strategic financial planning and liquidity but also proposes concrete financial strategies to strengthen a company's financial position. These strategies include the adoption of tools such as strategic financial planning, which is presented as an effective solution for improving liquidity, optimizing resource management, and ensuring more informed and effective decision-making.

Rodríguez (2022) in his project entitled: "Financial strategies to minimize the liquidity risk of the company Mc Mark Tecnología de Avanzada SRL, Trujillo 2020". The results obtained demonstrated that the application of financial strategies is effective in minimizing liquidity risk. Among the main findings are: Reduction of the collection period: Thanks to the implementation of the prompt payment discount, the collection period decreased from 176 days to 115 days. Expansion of the payment period to suppliers:

This strategy allowed improving liability management and optimizing cash flow. Factoring: With this tool, the collection period was significantly reduced, going from 176 days to 80 days. Furthermore, it was evident that the benefits obtained (improved liquidity and risk reduction) far exceeded the costs associated with the implementation of these strategies, which confirms their viability and effectiveness. In conclusion, the research demonstrated that implementing financial strategies such as early payment discounts, extended payment terms, and factoring not only minimizes liquidity risk but also contributes to improving the company's short-term financial stability.

Toledo (2020) with his research: "Internal control and its impact on the liquidity of the commercial company Inversiones y Servicios Horizonte SAC in the city of Trujillo - 2019." The results obtained reveal that the level of internal financial control in the company is low, with an average of 36.75% according to the surveys applied. This data reflects staff disagreement with key aspects such as the control environment, risk assessment, control activities, information and communication mechanisms, and supervision and monitoring. Likewise, the analysis of the financial ratios showed a lower-than-expected level of liquidity, which confirms the need to implement improvements in internal control to optimize financial management. In conclusion, this study demonstrates that the implementation of an adequate internal control system would have a positive impact on the company's liquidity. Furthermore, the findings and recommendations of this research are expected to serve as a basis for incorporating continuous improvement processes in the areas where internal control is applied, thus contributing to strengthening the financial position of Comercial Inversiones y Servicios Horizonte SAC and ensuring its competitiveness in the market.

Gonzales et al. (2025) in their scientific article entitled: "Research on the Impact of Internal Control on Small Business Management: A Case Study In Peru – 2023", The results showed that: internal control is a process that as it is executed improves the administrative management in the company, achieving the proposed objectives, however, the investigated company does not have an internal control system in place, which is why it presents

multiple weaknesses and threats such as loss of financial and administrative documentation, duplication of functions, financial statements with unreliable information, product inventories with unreal balances, therefore it is mandatory to implement an internal control system so that the administrative management can develop its controls effectively and efficiently, likewise it was concluded that internal control favorably influences and strengthens the administrative management by reducing costs and expenses that will benefit the company to achieve the objectives set and make correct decisions.

Altamirano (2020) with his study entitled: "The withholding tax system and its influence on the liquidity of micro and small transport companies in Peru: Case of Transportes Sandrita. Trujillo, 2018." The research findings allowed to conclude that the Withholding Tax Regime is a mechanism implemented by SUNAT with the purpose of combating informality and tax evasion. This system consists of withholding a percentage of payments made by clients, funds that are exclusively destined for the fulfillment of tax obligations. In the case of Transportes Sandrita, it was identified that, although the company accumulates balances in its favor in the regime, management does not request the corresponding refunds in a timely manner. This situation is mainly due to the lack of knowledge about the procedure and insufficient communication between management and the accounting area. As a consequence, the company experiences a decrease in its profitability, since it has conditioned cash that is not being used efficiently.

Sanchez & Rebaza (2024) conducted their research, "Accounts receivable and their impact on the liquidity of S&A Group Naturist Pharmacy SAC, Trujillo, 2022-2023." Their main conclusion was that the company does not have sufficient liquid assets to cover its short-term liabilities, reflecting a significant risk in its financial management. Furthermore, it was identified that the company lacks adequate credit policies, which has had a negative impact on its liquidity. Although a progressive recovery was observed during 2023, the problems identified in 2022 directly affected the company's short-term operations. These findings highlight the importance of implementing more effective strategies for accounts receivable

management and improving the company's liquidity.

Methodology

The study was conducted at a descriptive level, focusing on the description and analysis of information related to the post-COVID-19 impact on the liquidity of the sugar company AGROINDUSTRIAL LAREDO SAA, located in the La Libertad Region, during the period between 2022 and 2023. The study adopted a qualitative approach with the aim of identifying opportunities for improvement in the variables analyzed. Furthermore, a non-experimental research design was used, characterized by its bibliographic nature and based on a case study. This approach allowed for an in-depth and contextualized exploration of the phenomena, facilitating an

Results

understanding of the relevant aspects that affected the study area. The population consisted of agro-industrial companies in the sugar sector. The sample was a representative portion of this universe, and for this case study, it was represented by the company AGROINDUSTRIAL LAREDO SAA. This study employed a bibliographic review technique based on the contributions of various authors who had analyzed the variables of interest, such as internal control and liquidity. Additionally, an in-depth interview was conducted with the manager of the company under analysis, using an open-ended questionnaire as an instrument. This approach facilitated a comprehensive assessment of the relationship between internal control and the organization's liquidity.

Table 1. Regarding the objective of describing the post-COVID-19 impact on the liquidity of companies in the sugar sector in Peru

AUTHOR(S)	RESULTS
Luque, et al. (2021)	The COVID-19 pandemic had a significant impact on agriculture and food security globally, disrupting supply chains, reducing labor availability, and increasing production costs. These factors directly affected the liquidity of agribusiness companies, limiting their ability to meet short-term obligations. Many companies faced a deterioration in liquidity due to falling revenues, increased costs, and difficulties accessing financing. However, those that implemented effective strategies, such as market diversification, working capital optimization, and the adoption of technological innovations, managed to mitigate these effects and maintain their operations, demonstrating resilience in the face of the challenges posed by the pandemic.
Aste & Mego (2021)	The impact of COVID-19 on the company's liquidity was negative, with several factors identified as contributing to this situation. These include an increase in rescheduled loans, increased debt, merchandise freezes, and reduced sales. These problems were exacerbated by a lack of control over operating expenses, especially employee compensation. As a result, the company's financial and operational stability was compromised, reflecting the challenges it faced during the pandemic.
Quintana (2021)	The COVID-19 pandemic had a negative impact on liquidity, revealing significant problems such as insufficient liquidity to meet short-term obligations, deficiencies in collections and payment processes due to a lack of financial management and a lack of supplier credit, and customer payments stemming from the global health crisis.
Huayna & Paucar, (2021)	The impact of the COVID-19 pandemic had a severe impact on sugar companies, resulting in reduced sales, profitability, and cash flows. This harmed their liquidity and ability to meet short-term obligations. To withstand these and other crises, companies implemented measures to strengthen their financial resilience, such as optimizing working capital, reducing costs, and restructuring debt. Companies also sought to diversify revenues and improve inventory management. All of these measures allowed companies to conserve cash and operate during the crisis; thus, liquidity became a crucial indicator of companies' resilience in the face of adverse conditions. Overall, the pandemic underscored the need for sound and proactive financial management.
Moreyra & Ortiz (2020)	The liquidity impact caused by the COVID-19 pandemic has been severe for a variety of companies, especially in the agro-industrial and international trade sectors. The drop in

	sales and associated transit difficulties seriously disrupted their supply chains and business activities. In this regard, financial credit proved to be a very profitable decision, allowing companies to inject funds into their accounts to pay employees' salaries and maintain active production. Furthermore, thanks to credit, businesses were able to acquire new real estate, create new jobs, and distribute their products internationally. At the same time, the effectiveness of credit directly depended on appropriate financial literacy and government support. During the pandemic, soft credit programs were guaranteed or state-owned employers were used, bypassing banks and lending themselves. As a result, these manufacturing measures have allowed companies to overcome the crisis, as well as their own ability to reawaken and compete in global markets. In other words, financial credit is one of the crucial factors that has allowed companies to gain liquidity and remain robust during the pandemic.
Barrientos & Flores (2022; )	The impact of COVID-19 generated significant challenges for the financial sustainability of companies, especially in the agribusiness sector. In this case, the company analyzed faced the crisis through key strategies that ensured its liquidity and operational continuity. It leveraged technology and innovation to optimize processes, improve productivity, and efficiently manage time. Furthermore, it implemented an appropriate distribution of financial resources, focusing on technological improvements, debt refinancing, and investment in working capital. These decisions allowed the company to anticipate contingencies, maintain a healthy cash flow, and ensure its financial sustainability during the pandemic. The combination of prudent financial management and the adoption of technological tools were essential to overcoming the liquidity challenges posed by the health crisis.
Diaz & Gallardo (2022)	The impact of COVID-19 severely affected the global economy, reducing the liquidity of the country's exporting companies due to falling demand, logistical restrictions, and market uncertainty. In this context, key strategies were identified to reactivate exports, such as market diversification, adaptation to international regulations, and supply chain improvements. These actions allowed companies to regain liquidity, increase their competitiveness, and strengthen their presence in markets such as the Netherlands, thus contributing to the post-pandemic economic recovery.
Aranda (2023)	COVID-19 had a significant impact, generating financial challenges for many companies, affecting their liquidity and payment capacity. In this context, strategic financial planning is presented as a key tool to improve resource management and ensure economic sustainability. Through the analysis of financial ratios, it was identified that, although the company showed solvency, it faced difficulties in meeting immediate obligations and relied heavily on external financing. The implementation of adequate strategic financial planning made it possible to optimize liquidity, reduce dependence on third parties, and improve decision-making. These strategies not only strengthen the company's financial position but also contribute to its stability and growth in a post-pandemic environment.
Rodriguez (2022)	The impact of the COVID-19 pandemic exacerbated liquidity challenges for many companies, increasing the risk of being unable to meet their financial commitments. In this context, the adoption of effective financial strategies, such as offering early payment discounts, extending payment terms to suppliers, and resorting to factoring, proved essential to mitigate liquidity risk. These measures shortened collection periods, optimized cash flow, and improved debt management. As a result, not only was financial stability strengthened in the short term, but greater resilience was also ensured to face future crises, promoting sustainability and competitiveness in a post-pandemic economic environment.
Toledo (2020)	The COVID-19 pandemic had a severe impact on the economy, affecting the liquidity of several companies, including those dedicated to the sale of products such as hardware and paint. In this context, the lack of a robust internal control system exacerbated financial difficulties, hindering efficient resource management and the fulfillment of short-term obligations. This resulted in lower-than-expected liquidity, highlighting deficiencies in areas such as risk management, supervision, and communication. Implementing adequate internal control would not only improve liquidity but also



	strengthen the company's capacity to withstand future crises, ensuring its sustainability and competitiveness in a post-pandemic environment.
Altamirano (2020)	The COVID-19 pandemic had a severe impact on the economy, particularly affecting the liquidity of companies, such as those in the transportation sector. A lack of knowledge about financial procedures and inefficient communication between management and accounting made cash management difficult, reducing profitability and limiting access to operating resources. The health crisis exacerbated this situation, as available funds were not used effectively, exacerbating liquidity issues. This highlighted the importance of improving internal management and financial processes to optimize the use of resources and ensure the company's sustainability in a post-pandemic scenario.
Sánchez & Rebaza (2024)	The COVID-19 pandemic had a severe impact on the economy, affecting the liquidity of several companies. In this scenario, poor accounts receivable management exacerbated financial difficulties, hindering the conversion of these assets into cash and limiting the company's ability to meet its short-term obligations. The absence of adequate credit policies and insufficient liquid assets increased financial risk, impairing the company's operations and stability. Although a slight improvement was recorded in 2023, liquidity challenges persisted, highlighting the need to adopt more efficient strategies to optimize accounts receivable management and strengthen liquidity in a post-pandemic context.

Regarding the objective of writing the post-Covid-19 impact on the liquidity of the company Agroindustrial Laredo SAA of the La Libertad Region, during the period 2022 and 2023

## Interview results

**Table 2. Interview results**

No.	Post Covid-19 Question	Answer
1	How has your remote or hybrid work policy evolved since the pandemic?	During the pandemic, we implemented remote work in administrative, planning, and technical support areas, while field and plant operations continued with strict biosafety protocols. We have currently adopted a hybrid model that combines office days with remote work for non-operational roles. This approach has allowed us to maintain productivity while offering greater flexibility to our employees. To ensure its effectiveness, we have invested in digital tools and time management training.
2	Do you plan to maintain any flexible format long term?	Yes, we have decided to maintain the hybrid model as a permanent policy for non-operational roles. This format has proven beneficial for both the company and employees, as it reduces operating costs (such as office expenses) and improves job satisfaction by allowing for a better work-life balance. Furthermore, we have observed that flexibility has helped retain talent and attract new professionals who value these conditions.
3	What health and safety measures did you implement during the pandemic, and which ones have you maintained in the post-COVID environment?	During the pandemic, we implemented a comprehensive biosafety protocol that included regular COVID-19 testing, mandatory mask use, social distancing, constant disinfection of common areas, and the installation of handwashing stations throughout our facilities. We also provided personal protective equipment (PPE) for field and plant workers. In the post-COVID environment, we have maintained measures such as regular disinfection of common areas, vaccination promotion, and the availability of rapid testing for suspected cases. These measures have helped maintain a safe environment and prevent outbreaks.
4	How has the pandemic affected the company's productivity, and what strategies have you implemented to recover or	Initially, the pandemic impacted our productivity due to mobility restrictions, reduced plant staff, and supply chain delays. To recover, we implemented several strategies: Training: We trained our staff in new technologies and processes. Automation: We invested in machinery and

	improve it?	software to optimize production and reduce dependence on manual labor. Logistics: We restructured our supply chain to minimize delays. These actions not only allowed us to recover productivity but also exceed pre-pandemic levels in some respects.
5	What tools or technologies have you adopted during the pandemic that have proven essential to your current operations?	During the pandemic, we adopted several technological tools that are now essential to our operations: Inventory management software: To optimize the control of raw materials and finished goods. Communication platforms: Such as Microsoft Teams and Zoom, which facilitate collaboration between remote and in-person teams. Remote monitoring systems: To monitor the status of crops and equipment in real time. Data analysis tools: To make informed decisions based on market trends and operational performance.
6	How has the company culture changed after the pandemic?	Our organizational culture has evolved toward a more humane and flexible approach. We now prioritize the emotional and physical well-being of our employees, encourage open communication, and promote adaptability to change. We have also incorporated values such as resilience and innovation, which have become essential in this new environment. The pandemic taught us the importance of being agile and empathetic, and these principles are now embedded in our corporate culture.
7	Have you implemented new practices to foster well-being and connection among employees?	Yes, we've implemented several initiatives to improve employee well-being and connection: Mental health programs: We offer psychological therapy sessions and stress management workshops. Team-building activities: We organize virtual and in-person events to strengthen team bonds. Flexible scheduling: We allow employees to adjust their schedules to better balance their work and personal lives. These practices have improved employee morale and engagement.
8	What actions have you taken to retain your employees in a significantly changed work environment?	To retain our employees, we have implemented several measures: Additional benefits: Such as productivity bonuses, expanded health insurance, and wellness programs. Growth opportunities: We offer training and career plans for employees to develop professionally. Recognition: We implement programs to recognize our employees' efforts and achievements. These measures have helped reduce turnover and maintain a motivated team.
9	What has been the financial impact of the pandemic on the company, and what strategies have you used to recover?	The pandemic had a significant financial impact, with a decrease in sugar demand and an increase in operating costs due to biosafety protocols. To recover, we implemented the following strategies: Product diversification: We expanded our offering with sugarcane-derived products, such as natural sweeteners and ethyl alcohol. Cost optimization: We reduced unnecessary expenses and renegotiated contracts with suppliers. Access to financing: We obtained loans at preferential rates to maintain liquidity. These actions allowed us to regain financial stability and prepare for future challenges.
10	How has the way you interact with your customers changed after the pandemic?	The pandemic forced us to digitize our customer interactions. We implemented online sales platforms, virtual customer service, and social media to stay connected. We also improved our communication channels to offer faster and more personalized responses. These adaptations not only allowed us to stay close to our customers during the pandemic, but also to improve their experience in the long term.
11	Have you implemented new channels or services and what were they?	Yes, we launched an online sales platform for sugarcane-derived products, such as organic sugar, molasses, and alcohol. We also expanded our offering with sustainable and fair trade products, responding to growing consumer demand for more responsible options. We also implemented a home delivery system to reach end customers directly.

12	Has the company incorporated any sustainability or social responsibility initiatives as a result of the lessons learned during the pandemic?	The pandemic made us aware of the importance of sustainability and social responsibility. We have strengthened our initiatives in these areas: Efficient water use: We implemented drip irrigation systems on our crops to reduce water consumption. Renewable energy: We invested in solar panels to reduce our carbon footprint. Support for local communities: We launched food aid and education programs for communities affected by the pandemic. These initiatives not only benefit the environment and society, but also strengthen our reputation as a responsible company.
13	What plans or protocols have you established to be better prepared for potential future crises, whether health-related, economic, or otherwise?	We have developed a business continuity plan that includes: Financial reserves: We maintain an emergency fund to cover unforeseen expenses. Updatable health protocols: We have established flexible guidelines that can be adapted to future health crises. Ongoing training: We train our staff in crisis management and organizational resilience. Market diversification: We have expanded our presence in international markets to reduce dependence on any single market. These plans allow us to be better prepared to face any future challenges.
No.	Liquidity Question	Answer
1	What are the main strategies for optimizing cash management in a company, and how do they impact short-term liquidity?	To optimize cash management, we implemented strategies such as: Accelerating collections: We encouraged customers to pay more quickly by offering early payment discounts. Negotiating terms with suppliers: We extended payment terms to keep more cash available. Expense control: We reduced unnecessary costs and prioritized critical investments. These actions have improved our short-term liquidity, allowing us to meet our financial obligations without difficulty.
2	How can a company properly balance maintaining sufficient cash for operations and investing surpluses to generate returns?	To achieve this balance, we follow an approach based on: Reserve fund: We maintain a percentage of our cash in a liquidity account to cover operating expenses. Low-risk investments: We invest surpluses in financial instruments such as certificates of deposit or liquidity funds, which offer returns without compromising cash availability. This approach allows us to generate additional income without jeopardizing our operating capacity.
3	How is net working capital calculated and what information does it provide about a company's financial health?	Net working capital is calculated as: Current Assets - Current Liabilities. This ratio allows us to assess a company's ability to cover its short-term obligations. A positive value indicates that the company has sufficient resources to operate smoothly, while a negative value may indicate liquidity difficulties.
4	What strategies can be implemented to improve working capital management without compromising the company's liquidity?	Some effective strategies include: Inventory optimization: Reducing inventory levels without affecting production. Credit policies: Establishing shorter collection periods for customers and longer payment terms with suppliers. Expense control: Identifying and eliminating unnecessary costs. These actions improve cash flow without compromising liquidity.
5	How do credit policies for customers and suppliers affect efficient working capital management?	Credit policies have a direct impact on working capital: Customer credit: Offering long terms can increase sales, but it also slows down cash flow. Supplier credit: Negotiating longer terms allows for more cash to be kept on hand. Finding a balance between the two policies is crucial to maintaining efficient working capital management.
6	What are the main challenges companies face when managing their working capital in volatile economic environments?	Key challenges include: Demand uncertainty: This makes inventory and production planning difficult. Rising costs: Volatile input prices affect profit margins. Access to financing: In volatile environments, obtaining credit can be more difficult and expensive. To address these challenges, proactive and flexible management is key.
7	Which financial indicators, such	The most useful indicators are: Current ratio: Current assets / Current

	as the current or liquidity ratio, are most useful for assessing a company's short-term payment capacity?	liabilities. This measures the ability to cover short-term obligations with current assets. Acid ratio: $(\text{Current assets} - \text{Inventories}) / \text{Current liabilities}$ . This assesses the ability to pay without relying on inventory sales. These ratios provide a clear view of short-term financial health.
8	How can a company improve its short-term payment capacity without negatively impacting its long-term operations or investments?	To improve short-term payment capacity, we recommend: Optimizing inventories: Reduce excess inventory without affecting production. Speeding up collections: Encouraging customers to pay more quickly. Controlling expenses: Eliminating unnecessary costs. These actions improve liquidity without compromising future operations or investments.
9	What impact does efficient inventory and accounts receivable management have on short-term payment capacity?	Efficient inventory and accounts receivable management frees up trapped cash, improving liquidity. For example: Inventory: Reducing inventory levels frees up cash that can be used to pay debts. Accounts receivable: Accelerating collections increases available cash flow. These practices are key to maintaining a healthy payment capacity.
10	What are the risks of maintaining insufficient short-term payment capacity, and how can illiquidity situations be prevented?	Risks include: Non-compliance with obligations: Can damage reputation and relationships with suppliers. Lack of credibility: This makes it difficult to access future financing. To prevent illiquidity, it is crucial to maintain cash reserves, monitor liquidity indicators, and proactively manage working capital.

**Source:** Prepared by the authors based on the questionnaire applied to the authorized representative of the company agro-industrial Laredo SAA

The following case is presented below in which this is verified; likewise, for a better understanding of PROFITABILITY, the following case is presented:

**Table 3.** Laredo agro-industrial financial statements 2022-2023, extracted from the superintendency of markets and securities of Peru - SMV

Consolidated Statement Of Financial Position As OF DECEMBER 31				Horizontal analysis (2021-2022)		Horizontal analysis (2022-2023)	
Account	2021	2022	2023	Variation	%	Variation	%
Assets							
Current Assets							
Cash and Cash Equivalents	7,424	8,894	8,032	1,470	19.8	-862	-9.69
Commercial Accounts Receivable	33,477	26,812	30,107	-6,665	-19.91	3,295	12.29
Accounts Receivable from Related Entities	474	438	535	-36	-7.59	97	22.15
Other Accounts Receivable	6,417	11,113	13,280	4,696	73.18	2,167	19.5
Inventories	17,011	22,841	26,428	5,830	34.27	3,587	15.7
Biological Assets	35,224	42,552	50,040	7,328	20.8	7,488	17.6
Other Non-Financial Assets	3,300	3,422	3,221	122	3.7	-201	-5.87
Total Current Assets Other than Non-Current Assets or Groups	103,327	116,499	131,643	13,172	12.75	15,144	13
Total Current Assets	103,327	116,499	131,643	13,172	12.75	15,144	13
Non-current Assets							
Other Accounts Receivable	422	223	74	-199	-47.16	-149	-66.82
Inventories	482	482	0	0	0	-482	-100



Biological Assets	1,900	2,216	2,744	316	16.63	528	23.83
Investment Properties	54,652	54,731	54,840	79	0.14	109	0.2
Property, Plant and Equipment	683,117	697,600	714,099	14,483	2.12	16,499	2.37
Other Non-Financial Assets	1298	1,036	917	-262	-20.18	-119	-11.49
Total Non-Current Assets	741,871	756,288	772,674	14,417	1.94	16,386	2.17
TOTAL ASSETS	845,198	872,787	904,317	27,589	3.26	31,530	3.61
Liabilities and Equity							
Current Liabilities							
Other Financial Liabilities	30,646	35,619	39,710	4,973	16.23	4,091	11.49
Trade Accounts Payable	33,816	33,139	25,655	-677	-2	-7,484	-22.58
Accounts Payable to Related Entities	358	368	404	10	2.79	36	9.78
Other Accounts Payable	24,399	22,037	38,080	-2,362	-9.68	16,043	72.8
Other Provisions	1,781	1,472	1,318	-309	-17.35	-154	-10.46
Income Tax Liabilities	5,453	9,085	3,757	3,632	66.61	-5,328	-58.65
Total Current Liabilities Other than Liabilities Included in Groups	96,453	101,720	108,924	5,267	5.46	7,204	7.08
Total Current Liabilities	96,453	101,720	108,924	5,267	5.46	7,204	7.08
Non-current liabilities							
Other Financial Liabilities	120,359	120,592	126,847	233	0.19	6,255	5.19
Deferred Tax Liabilities	91,224	88,140	88,534	-3,084	-3.38	394	0.45
Total Non-Current Liabilities	211,583	208,732	215,381	-2,851	-1.35	6,649	3.19
Total Liabilities	308,036	310,452	324,305	2,416	0.78	13,853	4.46
Heritage							
Total Assets	537,162	562,335	580,012	580,012	580,012	580,012	580,012
TOTAL LIABILITIES AND EQUITY	845,198	872,787	904,317	904,317	904,317	904,317	904,317

## Liquidity calculation at the laredo agroindustrial company SAA

### Year 2022

#### Liquidity ratios

$$\text{Liquidity ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Liquidity ratio} = \frac{116,499}{101,720} = 1.15$$

A liquidity ratio greater than 1 indicates that the company can cover its short-term debts with its current assets, suggesting immediate solvency. However, a value close to 1 (such as 1.15) implies a tight margin: if assets include slow-moving

inventories or risky receivables, actual liquidity could be lower.

#### Acid test

$$\text{Acid Test} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current liabilities}}$$

$$\text{Acid Test} = \frac{116,499 - 482}{101,720} = 1.15$$

1.15 Acid Test: The company covers its short-term debt. 1.15, but with a tight margin. Although solvent, it is close to the recommended minimum (1.2), which makes it vulnerable to unforeseen events. Key Action: Increase available cash (accelerate collections or negotiate terms) to improve the safety margin.

### Working capital

$$\begin{aligned}\text{Working capital} &= \text{Current assets} - \text{current liabilities} \\ \text{Working capital} &= 116,981 - 101,720 = 15,261\end{aligned}$$

Working capital of 15,261 demonstrates that the company maintains a positive liquidity position, capable of covering its short-term obligations and sustaining its daily operations, although its adequacy will depend on the sector and the efficiency of current asset management.

### Year 2023

#### liquidity ratios

$$\begin{aligned}\text{Liquidity ratio} &= \frac{\text{Current assets}}{\text{Current liabilities}} \\ \text{Liquidity ratio} &= \frac{131,643}{108,924} = 1.21\end{aligned}$$

A liquidity ratio greater than 1.21 indicates that the company has a solid short-term financial position, with more liquid assets, which provides a safety cushion to cover obligations and unforeseen events.

#### Acid test

$$\begin{aligned}\text{Acid Test} &= \frac{\text{Current Assets} - \text{Inventory}}{\text{Current liabilities}} \\ \text{Acid Test} &= \frac{131,643 - 0}{108,924} = 1.21\end{aligned}$$

An acid-test ratio of 1.21 indicates that the company can comfortably cover its short-term debt with its most liquid assets, demonstrating immediate solvency without relying on inventories. This is an adequate level, but it's worth comparing it with the industry average to assess its competitiveness.

### Working capital

$$\begin{aligned}\text{Working capital} &= \text{Current assets} - \text{current liabilities} \\ \text{Working capital} &= 131,643 - 108,924 = 22,719\end{aligned}$$

A working capital ratio of 22,719 indicates that the company has sufficient liquid assets to cover its short-term debts and operate without immediate

financial difficulties, demonstrating short-term financial health. However, its optimization will depend on factors such as the sector, operating cycle, and efficient inventory and accounts receivable management.

### Discussion

The COVID-19 crisis severely impacted corporate liquidity, reflected in difficulties in meeting financial obligations, accumulated liabilities, and reduced cash flow, especially in productive and export sectors. In light of this, the authors agree that liquidity has become a strategic pillar of resilience, albeit with different approaches. Luque et al. (2021) emphasize market diversification, technological innovation, and organizational reengineering as key mechanisms. Moreyra & Ortiz (2020), on the other hand, assign a central role to external financing, particularly government soft credit programs. Rodríguez (2022) proposes an internal perspective, focused on collection and payment management through discounts, term extensions, and factoring. Finally, Huayna & Paucar (2021) agree on the negative impact but prioritize structural strategies such as working capital optimization, cost reduction, and debt restructuring in the sugar sector. Taken together, the findings show that, although they differ in the weight given to external financing or internal management, they all conclude that the pandemic transformed financial management, redefining liquidity as the axis to guarantee sustainability and competitiveness in crisis contexts. In this way, it is observed that the complementarity of the proposals from diversification and innovation (Luque et al., 2021), external credit (Moreyra & Ortiz, 2020), operational tactics (Rodríguez, 2022; Jam et al., 2025) and financial restructuring (Huayna & Paucar, 2021; Mansoor et al., 2025) offers a comprehensive view of how companies faced the situation, demonstrating that resilience depends on combining immediate measures with structural strategies that strengthen sustainability in the long term.

Agroindustrial Laredo Saa adapted its operations during the pandemic with a hybrid model, combining remote administrative work with field activities under biosafety protocols, supported by investment in technology and training. Aste & Mego (2021) point out that many companies saw their liquidity affected by increased obligations, lower demand, and poor

expense management, which deteriorated their solvency. In contrast, LAREDO implemented financial restructuring, cost optimization, diversification, and rigorous working capital management, achieving greater efficiency and resilience. Toledo's (2020) study shows that weak internal controls aggravated the liquidity crisis in the retail sector, while the LAREDO case shows how a combined strategy of operational innovation, robust financial controls, and organizational strengthening allowed them not only to mitigate risks but also to transform adversity into sustainable competitive advantages.

### Cash management

The COVID-19 pandemic had a significant impact on the cash management of sugar agroindustrial companies in Peru, due to the contraction in demand, supply chain disruptions, and increased operating costs. To maintain liquidity, companies implemented strategies such as debt refinancing, renegotiating with suppliers, and optimizing working capital, ensuring minimum cash flows to operate in an uncertain environment. Furthermore, many turned to state support programs and emerging credit lines to cover immediate financing needs. In the post-pandemic phase, cash management has focused on strengthening financial resilience through revenue diversification (such as the production of ethanol and renewable energy from bagasse) and the adoption of technologies to improve operational efficiency. Leading companies such as AGROINDUSTRIAL LAREDO SAA also prioritized reducing logistics costs and recapturing international markets, which allowed them to recover and stabilize their cash flows. However, challenges such as international price volatility and climate risks persist, requiring liquidity reserves and conservative financial planning to ensure long-term sustainability.

### Working capital management

The COVID-19 pandemic affected the liquidity of sugar agroindustrial companies in Peru due to a drop in demand, logistical disruptions, and higher costs. To sustain operations, they resorted to renegotiating with suppliers, optimizing inventories, accelerating collections, and accessing emergency credit measures that guaranteed a minimum cash flow. In the post-pandemic phase, working capital management is geared toward resilience, combining

operational efficiency and revenue diversification. AGROINDUSTRIAL LAREDO SAA stands out for its adoption of technologies in inventories and accounts receivable, as well as for its production of ethanol and renewable energy to stabilize flows. However, risks associated with international price volatility and climate factors persist, requiring conservative planning and liquidity reserves. These practices demonstrate an evolution in working capital management, which prioritizes both immediate survival and preparation for future crises.

### Short-term payment capacity

The short-term payment capacity of Peruvian sugar agroindustries reflects their ability to cover immediate obligations with liquid assets, a critical indicator in the post-pandemic era. This sector faces challenges such as seasonality, price volatility, and climate dependence, which require active management of working capital through inventory optimization, negotiation of terms with suppliers, and the use of byproducts to generate additional income. Immediate liquidity is sustained with current ratios above 1.2, achieved through efficient accounts receivable management, factoring, prompt payment discounts, and access to revolving credit lines. Furthermore, the establishment of dollar reserves strengthened financial resilience during the crisis. However, challenges such as the concentration of maturities during harvest periods and the need for bridge financing persist, necessitating the implementation of defensive strategies such as currency hedging and refinancing agreements with banks, which are especially relevant for medium-sized producers with limited access to capital.

### Conclusions

The pandemic impacted AGROINDUSTRIAL LAREDO SAA's liquidity in 2022 due to a drop in consumption and higher operating costs. However, strategies such as product diversification, debt renegotiation, soft loans, inventory optimization, and expense streamlining helped stabilize cash flow and improve working capital. In 2023, the company consolidated its resilience by accelerating collections, extending supplier terms, creating a reserve fund, and investing in liquid instruments, which strengthened its cash position. Process automation and supply chain improvements increased the acid ratio, reducing its

dependence on inventories. Although risks from cost volatility and demand instability persist, the company has strengthened its financial structure through balanced credit policies and rigorous expense control, ensuring stable liquidity and greater responsiveness to future crises, as evidenced by the growth in its operating cash flow between 2022 and 2023.

## Recommendations

It is suggested that the hybrid model be strengthened through digital collaborative management tools, virtual support for new employees, and goal-based performance indicators. It is also recommended that an in-person innovation center be established for strategic work. In the financial sphere, the

Aliaga, P., Munilla, F., & Otamendy, M. (2021). Profit conversion and liquidity in Cuban business organizations. *Ciencias Holguín*, 27 (1), 76-88. Retrieved March 9, 2025, from <https://www.redalyc.org/journal/1815/181565709007/>

Altamirano, N. (2020). *The system of deductions and its influence on the liquidity of micro and small transport companies in Peru: The case of Transportes Sandrita*. Trujillo, 2018. Trujillo: Universidad Católica Los Ángeles de Chimbote. Retrieved March 8, 2025, from <https://hdl.handle.net/20.500.13032/16001>

Abbas, M., Khan, T. I., & Jam, F. A. (2025). Avoid Excessive Usage: Examining the Motivations and Outcomes of Generative Artificial Intelligence Usage among Students. *Journal of Academic Ethics*, 1-20.

Aranda, C. (2023). *Strategic financial planning and its impact on the liquidity of Sencon Servicios, Negocios y Construcción SAC*, Trujillo 2022. Trujillo: National University of Trujillo. Retrieved March 18, 2025, from <https://hdl.handle.net/20.500.14414/21737>

Aste, G., & Mego, C. (2021). *Financial impact of COVID-19 on the liquidity of Metzer Perú SAC – Lima*. Pimente: Señor de Sipán University. Retrieved March 10, 2025, from <https://hdl.handle.net/20.500.12802/9239>

Barrientos, O., & Flores, I. (2022). *Financial Sustainability in an Agroindustrial Company During the COVID-19 Crisis in 2021*. La Libertad: Technological University of Peru.

digitalization of collections and payments would optimize cash flow, while a stabilization fund would cushion the volatility of the sugar market. Diversification through sugarcane-derived products, in partnership with biotechnology companies, would open up new markets and revenue streams. In terms of sustainability, it is recommended that health protocols be evolved into a comprehensive risk management system, as well as the implementation of clean energy and regenerative agricultural practices, which would reduce costs, improve international positioning, and facilitate access to sustainable financing on advantageous terms.

## Bibliographic References

Retrieved from <https://hdl.handle.net/20.500.12867/6734>  
Dargent, E. (2017). *History of sugar and its derivatives in Peru*. Lima. Retrieved from <https://repositorio.urp.edu.pe/server/api/core/bitstreams/070403ef-300f-4402-9ca8-e4b50334e521/content>

Diaz, A., & Gallardo, B. (2022). *Post-COVID-19 Pandemic Marketing Strategies to Improve Hass Avocado Exports from Lambayecan Companies to the Netherlands Market, 2022*. Chiclayo: César Vallejo University. Retrieved from

<https://hdl.handle.net/20.500.12692/137775>

El Peruano. (March 15, 2020). Supreme Decree No. 044-2020-PCM. *Supreme Decree declaring a State of National Emergency due to the serious circumstances affecting the life of the Nation as a result of the COVID-19 outbreak*, pp. 10-13. Retrieved from [https://cdn.www.gob.pe/uploads/document/file/566448/DS044-PCM\\_1864948-2.pdf?v=1584330685](https://cdn.www.gob.pe/uploads/document/file/566448/DS044-PCM_1864948-2.pdf?v=1584330685)

Firlej, C., Zuzek, D., Luty, L., & Firlej, A. (2024). Assessment of the financial situation of selected companies of the Polish sugar industry 2016-2022. *SILESIA UNIVERSITY OF THE EFFECT OF TECHNOLOGY PUBLISHING HOUSE*, 195, 121-140. Retrieved March 10, 2025, from <https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-505222e1-5acc-4288-a5ec-61f47de6303f>



- Gestión. (June 22, 2020). 54% of Peruvian companies would cut salaries as a financial relief measure in the face of the COVID-19 crisis. *Gestión Editorial Team*. Retrieved February 17, 2025, from <https://gestion.pe/economia/coronavirus-peru-el-54-de-empresas-peruanas-recortaria-sueldos-como-medida-de-alivio-financiero-ante-el-covid-19-nndc-noticia/>
- Gonzales Renteria, Y. G. ., Garcia Saldana, S. ., Síchez Muñoz, V. A. ., & Gonzales Flores, D. Y. . (2025). Internal Control and Its Impact on the Accounting Management of Small Companies in the Service Sector in Peru. Case Study - 2023. *Journal of Ecohumanism*, 4(2), 2057 -. <https://doi.org/10.62754/joe.v4i2.6601>
- Gonzales Renteria, Y. G. ., & Aniceto Gonzales, L. M. . (2025). Research on the Impact of Internal Control on Small Business Management: A Case Study In Peru - 2023. *Journal of Ecohumanism*, 4(2), 2369 -. <https://doi.org/10.62754/joe.v4i2.6634>
- Jam, F. A., Ali, I., Albishri, N., Mammadov, A., & Mohapatra, A. K. (2025). How does the adoption of digital technologies in supply chain management enhance supply chain
- Moreyra, Z., & Ortiz, C. (2020). *The Impact of Financial Credit on Business Development: A Literature Review*. Lima: Technological University of Peru. Retrieved March 10, 2025, from <https://hdl.handle.net/20.500.12867/3474>
- Pintado-Castillo, C., Valiente-Saldaña, Y., & Gonzales-Rentería, Y. (2024). Capital de trabajo y su influencia en la rentabilidad de una empresa constructora. *CIENCIAMATRIA*, 10(18), 35-44. <https://doi.org/10.35381/cm.v10i18.1220>
- Quintana, P. (2021). *Financial Management for Increasing Liquidity in an Agro-Industrial Entity, Lima 2021*. Lima: Norbert Wiener University. Retrieved February 18, 2025, from <https://hdl.handle.net/20.500.13053/5516>
- Rodriguez, M. (2022). *Financial strategies to minimize the liquidity risk of McMark Tecnología de Avanzada SRL, Trujillo 2020*. Trujillo: Universidad Privada del Norte. Retrieved March 9, 2025, from <https://hdl.handle.net/11537/30825>
- Ruiz, M., Linares, J., & Rodríguez, L. (2022). *Collaborative work between academia and health authorities during COVID-19: performance? A mediated and moderated model*. *Technological Forecasting and Social Change*, 219, 124225.
- Luque, B., Salazar, K., & Lanchipa, T. (2021). Impacts of COVID-19 on agriculture and security. *Agricultural Research Center*, 48 (1), 72-81. Retrieved March 10, 2025, from [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0253-57852021000100072](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0253-57852021000100072)
- Mansoor, M., Khan, T. I., Jam, F. A., & Alasmari, M. (2025). From donations to devotion: how cause-related marketing frames drive brand evangelism through cognitive and social pathways in hospitality. *International Journal of Contemporary Hospitality Management*.
- Ministry of Agrarian Development and Risk. (2010). *Sugarcane production 2008-2009*. Retrieved February 16, 2025, from Ministry of Agrarian Development and Risk: <https://www.midagri.gob.pe/portal/29-sector-agrario/azucar/243-produccion>
- Moghavvemi, S., & Jam, F. A. (2025). Unraveling the influential factors driving persistent adoption of ChatGPT in learning environments. *Education and Information Technologies*, 1-28.
- Experience in Santander, Colombia*. Santander, Colombia: Industrial University of Santander. doi:<https://doi.org/10.18273/saluduis.55.e:23007>
- Sanchez, A., & Rebaza, G. (2024). *Accounts receivable and their impact on the liquidity of S&A Group Naturist Pharmacy SAC, Trujillo, 2022-2023*. Trujillo: Universidad Privada del Norte. Retrieved March 9, 2025, from <https://hdl.handle.net/11537/39351>
- Sineace. (2020). *Characterization of the La Libertad Region*. Retrieved February 16, 2025, from <https://repositorio.sineace.gob.pe/repositorio/bitstream/handle/20.500.12982/6219/Caracterizaci%C3%B3n%20Regional%20La%20Libertad.pdf?sequence=1&isAllowed=y>
- Toledo, V. (2020). *Internal control and its impact on the liquidity of the commercial company Inversiones y Servicios Horizonte SAC of the city of Trujillo - 2019*. Trujillo: Señor de Sipán University. Retrieved on March 2025, 2025, from <https://hdl.handle.net/20.500.12802/9969>