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INCIDENCIA DE LA GESTIÓN DEFICIENTE DE ACTIVOS EN LA ACTUALIZACIÓN Y PRECISIÓN DE LOS DATOS FINANCIEROS

IMPACT OF POOR ASSET MANAGEMENT THE ACCURACY AND TIMELINESS OF FINANCIAL DAT

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RESUMEN

Muchas de las organizaciones se enfrentan a problemas críticos como la falta de control y gestión adecuada de los activos fijos, generando inconstancias en la información financiera, por ello los activos fijos representan una parte sustancial del patrimonio de muchas empresas, y su gestión eficiente es esencial para mantener la precisión de los datos contables. El problema de investigación se centra en cómo la ausencia de políticas claras de control de activos afecta negativamente la actualización y veracidad de los estados financieros. El objetivo principal de la investigación es analizar la incidencia de la gestión deficiente de los activos en la precisión de los datos financieros. Para ello, se empleó una metodología cuantitativa, que incluyó entrevistas al personal clave y la realización de un inventario físico de los activos, cuyos valores se compararon con los reportados en los estados financieros de la empresa. Los resultados revelaron que la falta de políticas adecuadas ha llevado a discrepancias significativas, incluyendo la omisión de bajas de activos y la falta de actualización en los registros contables tras la venta de equipos. Las conclusiones subrayan la necesidad de implementar controles más estrictos para la gestión de activos, destacando que la correcta administración de estos recursos mejoraría la precisión de la información financiera y, en consecuencia, la toma de decisiones operativas y estratégicas.

Palabras clave
Activos fijos, control, gestión, estados financieros

ABSTRACT

This article addresses a critical problem in many organizations: the lack of proper control and management of fixed assets, which generates inconsistencies in financial information. The background highlights that fixed assets represent a substantial part of the assets of many companies, and their efficient management is essential to maintain the accuracy of accounting data. The research problem focuses on how the absence of clear asset control policies negatively affects the updating and veracity of financial statements. The main objective of the research is to analyze the impact of poor asset management on the accuracy of financial data. To do so, a quantitative methodology was used, which included

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interviews with key personnel and the completion of a physical inventory of assets, whose values were compared with those reported in the company's financial statements. The results revealed that the lack of adequate policies has led to significant discrepancies, including the omission of asset write-offs and the lack of updating in accounting records after the sale of equipment. The findings highlight the need to implement stricter controls for asset management, highlighting that proper management of these resources would improve the accuracy of financial information and, consequently, operational and strategic decision-making.

Keywords

Fixed assets, control, management, financial statements

INTRODUCTION

“A fixed asset encompasses those goods of the company that do not form part of current assets. That is, those that do not have as their purpose immediate sale and do not belong to the main activity of the company, but are necessary to ensure its functioning” (1). The fixed asset of a company is a good that is acquired with the purpose of contributing to the fulfillment of the normal activities of the company, and it is intended that its duration be more than one year.

“It is also called non-current asset or fixed asset. It is the long-cycle asset (more than twelve months) destined for exploitation rather than commercialization. It includes plant, equipment, and intangible assets. In another way, it can be defined as the goods of the company that cannot be converted into liquid assets in the short term. These are goods not destined to be commercialized, but to be exploited by the company” (2).

Considering the importance of compliance with the regulations and guidelines of the control organisms that govern in our country, it is important to cite:

The Internal Tax Regime Law in its article 28 numeral 6 mentions:

a) The depreciation of fixed assets shall be carried out according to the nature of the goods, the duration of their useful life, and accounting technique. For this expense to be deductible, it may not exceed the following percentages:

✓ Real estate (except land), ships, aircraft, barges and similar 5% annually.

✓ Installations, machinery, equipment and furniture 10% annually.

✓ Vehicles, transport equipment and mobile road equipment 20% annually.

✓ Computer equipment and software 33% annually.

✓ In the event that the percentages established as maximums in this Regulation are higher than those calculated according to the nature of the goods, the duration of their useful life or accounting technique, the latter shall be applied (3).

b) When the taxpayer has acquired spare parts destined exclusively for the maintenance of a fixed asset, they may, at their discretion, charge directly to expense the value of each

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spare part used or depreciate all the spare parts acquired, regardless of their effective use, according to the remaining useful life of the fixed asset for which they are destined, but never in less than five years.

If the taxpayer sells such spare parts, they shall be recorded as taxable income.

The company BGS, a company dedicated to the sale of surgical supplies of a recognized brand, due to the nature of its business has fixed assets categorized as instruments and equipment that serve as support for the surgeries attended with the supplies sold as a plus of the company for the accompaniment and safety of the surgical processes; for this reason the handling and control of these assets is a primordial part for the operations of the company since these assets represent an important value within its financial statements.

The main findings indicate that the lack of adequate policies has led to problematic situations, such as the lack of control for the write-off of equipment, difficulties in identifying the location of assets, and the non-updating of accounting records after the sale of equipment. These deficiencies not only generate discrepancies in financial information, but also affect the operability and efficiency of the organization (10).

The lack of asset control and management policies is a critical problem that affects the accuracy and updating of financial information in organizations. Inadequate asset management can lead to accounting errors, lack of transparency, and, ultimately, poorly founded business decisions. This article examines how the absence of effective policies impacts the quality of financial information and proposes recommendations to improve asset management (11).

The primary objective of this research is to analyze the incidence of the lack of control and management policies for equipment and instrumental assets on the accuracy and updating of financial information. In the drafting of the article, the theoretical base will be established through an analysis of the literature related to the control of assets and their correct management, as well as the international standards that define and establish the guidelines for the handling and recording of assets; it is also important to consider the tax regulations of the country to have a deeper knowledge of the subject.

MATERIALS AND METHODS

The research is of a descriptive type; the problems identified by the lack of asset control and management policies and the impact on the presentation of financial information are detailed.

The research was carried out through a quantitative approach, with the objective of identifying and evaluating the incidence of the lack of control and management policies for fixed assets and their incidence on the accuracy and updating of financial information.

As a tool to obtain information for the study, interviews were conducted with personnel related to the handling of assets, which currently corresponds to three people: Warehouse Manager, Accounting Department Coordinator, and Inventory and Assets

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Analyst, to address related information. It was possible to identify that the company does not have policies for the control and management of assets such as equipment and instruments, which is why their handling has become a constant problem for the people who require this information for their work and presentation of information.

To evaluate the relationship between the real physical assets and the assets presented in the company's accounting books, the following data collection stages were carried out:

1. Physical Inventory: An exhaustive physical inventory of all the company's assets was carried out in the month of August 2024, recording the total value of the assets found. This process included a detailed review and precise valuation of each asset.

2. Accounting Data: The total values of the assets reported in the accounting books corresponding to the same closing period of the month of August 2024 were extracted. The data were obtained from the company's financial statements.

Data Preparation

✓ Data organization: The values obtained from the physical inventory and those reported in the accounting books were organized in an Excel base. A comparison was made of the physical assets versus the annex of the assets registered in accounting.

✓ Data verification: An exhaustive verification was carried out to ensure the accuracy and consistency of the data. Possible errors in data entry were reviewed and matches between physical assets and those reported in the accounting books were confirmed.

Statistical Analysis

To evaluate the relationship between the real physical assets and the assets reported in the accounting books, a Pearson correlation analysis was performed. The total value of the physical assets found during a physical count was collected and compared with the value of the assets reported in the accounting books. The analysis was carried out using Excel, following the steps detailed below:

• The Pearson correlation coefficient (12) was calculated to measure the strength and direction of the linear relationship between the two data sets.

The analysis revealed a Pearson correlation coefficient of 1, which indicates a perfect positive correlation between the physical assets and the assets reported in the accounting books. This means that there is an exact and positive linear relationship between both variables. Each increase in the value of the physical assets is proportionally reflected in the value of the assets reported in the accounting books.

Considerations: The presence of a coefficient of 1 may indicate an extremely strong relationship between the variables. Therefore, an additional review was carried out to confirm the accuracy of the data and the validity of the analysis.

Data Review: The data were reviewed to ensure that there were no entry errors and that the variables were independent and measured precisely.

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RESULTS

It is important to mention that in this case the value of the equipment and instrumental assets that it represents for the company is considerable and for this reason the importance of maintaining adequate controls for their management lies.

The results obtained are shown in Table 1, where the research work reflects that the lack of control policies and the management of assets, especially instruments and equipment, has caused some deficiencies in their handling and presentation of financial information, detailed below:

1. Lack of control for the write-off of equipment and instruments

One of the key findings of the research is the lack of control in the process of writing off equipment and instruments. It was observed that the accounting department is not always notified in a timely manner when an asset is written off. This lack of communication causes the necessary procedures not to be carried out to record the write-off in the accounting records, which causes a difference between the physical assets and the values reported in the financial statements.

Evidence collected

✓ During the investigation and analysis of the information, several cases were found in which equipment and instruments had already been written off from the physical inventory due to failure or damage, but had not been registered as written off in the accounting books.

✓ Interviews with the personnel of the accounting department confirmed that the notification of write-offs does not follow a systematic protocol, contributing to the lack of updating of the accounting records.

2. Difficulty in identifying the location of equipment and instruments

Another important problem that was identified is the difficulty in locating equipment and instruments due to the absence of a real-time tracking system. Currently, there is no file or management system that allows updating and consulting the location of assets efficiently.

Evidence collected

✓ A review of the registration files was carried out and it was verified that many pieces of equipment and instruments were not registered with precision regarding their current location.

✓ Interviews with the warehouse manager revealed that the lack of a centralized system for asset tracking has led to confusion and difficulties in finding specific equipment, which affects operational efficiency.

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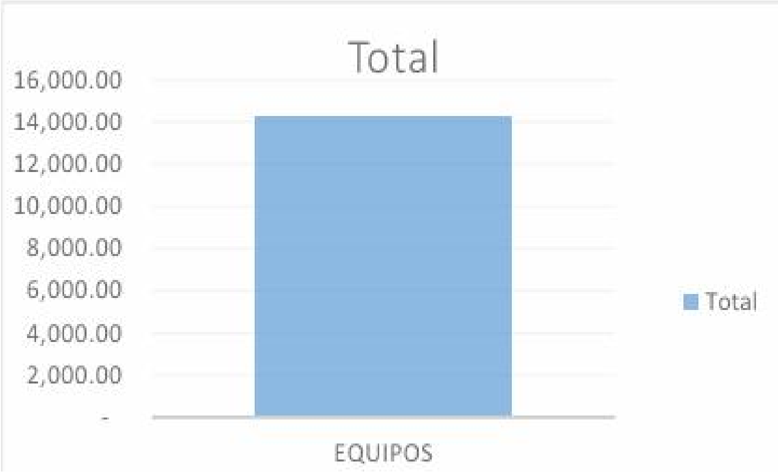

Figura 2. Valores de depreciación en equipos

Figura 3. Valores de depreciación en instrumentos

3. Equipment sold without updating in the accounting record

It was identified that some pieces of equipment and instruments that were sold to clinics have not been written off in the accounting records. Although these assets have been invoiced and sold, the absence of an update in the accounting records causes the values of the assets to continue appearing in the financial statements, generating overvaluation of the assets and incorrect depreciation.

These deficiencies generate significant discrepancies between the physical reality of the assets and the information presented in the financial statements, affecting the accuracy of the accounting data and, consequently, the decision-making of the organization.

DISCUSSION

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The lack of adequate policies for the control and management of fixed assets has a direct impact on the accuracy and updating of financial information. The omission of write-offs and the lack of updating of records after the sale of equipment lead to overvaluation or undervaluation of assets, which distorts the financial image presented to shareholders and other interested parties (24).

The lack of periodic updating of asset records not only affects the accuracy of financial data, but also increases the risk of loss or deterioration of assets. This implies that companies may underestimate or overestimate their net value, which in turn impacts financing and expansion decisions (25).

Proper management of fixed assets is essential to maintain the reliability of financial statements. The implementation of clear control policies, real-time tracking systems, and systematic communication protocols between operational and accounting areas is necessary to ensure that the information reflects the true economic situation of the organization.

CONCLUSIONS

The research carried out has allowed us to confirm that the lack of asset control and management policies has a significant impact on the accuracy and updating of the organization’s financial information. Through a quantitative approach and the exhaustive analysis of the collected data, several critical deficiencies in asset management have been identified, which are detailed below:

The absence of a clear regulatory framework for the control of equipment and instrumental assets has led to the identification of differences between physical assets and accounting records, creating differences in accounting information; the company must make an adjustment to record the write-offs of assets in order to bring its accounting balances into line with reality.

The non-existence of an updated tracking system hinders the identification and location of assets. This not only affects operational efficiency, but also prevents the correct management of resources, which can result in economic losses for the organization.

Deficient Updating of Accounting Records: It has been observed that sold equipment and instruments are not adequately reflected in the accounting records, which leads to an inaccurate presentation of the financial statements.

This lack of updating not only alters the representation of the total value of the assets, but also affects the correct depreciation of these; for this reason the company must make an adjustment entry to write off all the value of the depreciation registered even without having the assets in existence, as well as bring the accounting balances into line by writing off the items.

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RELACIÓN ENTRE FISCALIZACIÓN TRIBUTARIA Y SOSTENIBILIDAD FINANCIERA DE RIOBAMBA

RELATIONSHIP BETWEEN TAX AUDITING AND FINANCIAL SUSTAINABILITY IN DRIVING SCHOOLS OF RIOBAMBA

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RESUMEN

El crecimiento del sector de escuelas de conducción en Riobamba ha generado nuevos desafíos, especialmente en términos de sostenibilidad financiera debido a la rigurosa fiscalización tributaria a la que están sometidas. Este estudio analiza cómo la fiscalización impacta la rentabilidad de estas instituciones y propone soluciones para mejorar su viabilidad económica. El objetivo principal es identificar los factores clave que afectan el cumplimiento tributario y la sostenibilidad financiera de las escuelas de conducción. La investigación se llevó a cabo con cuatro escuelas de conducción, utilizando un enfoque mixto que combinó encuestas a administradores y entrevistas con expertos fiscales. Los resultados muestran una clara relación entre el uso de tecnologías contables y la reducción de errores fiscales, lo que mejora la rentabilidad de las escuelas. Conduespoch E.P., que implementa un 80% de tecnología contable, presentó el mejor desempeño con un margen de rentabilidad del 18%, mientras que Riovial, con un bajo uso tecnológico, reportó un margen de solo 10%. Además, se destacó que el acceso a asesoría fiscal regular también es crucial para la sostenibilidad financiera. Escuelas que reciben asesoría constante, como Conduespoch E.P., tienen una mayor capacidad para cubrir sus costos operativos. En conclusión, este estudio evidencia que la fiscalización tributaria, si bien necesaria, debe ir acompañada de recursos tecnológicos y asesoría fiscal especializada para asegurar la viabilidad económica de las escuelas de conducción.

Palabras clave
Fiscalización tributaria, sostenibilidad, conducción, competitivo

ABSTRACT

The growth of the driving school sector in Riobamba has generated new challenges, especially in terms of financial sustainability due to the rigorous tax oversight to which they are subject. This study analyzes how oversight impacts the profitability of these institutions and proposes solutions to improve their economic viability. The main objective is to identify the key factors that affect tax compliance and the financial sustainability of

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driving schools. The research was carried out with four driving schools, using a mixed approach that combined surveys of administrators and interviews with tax experts. The results show a clear relationship between the use of accounting technologies and the reduction of tax errors, which improves the profitability of the schools. Conduespoch E.P., which implements 80% accounting technology, presented the best performance with a profitability margin of 18%, while Riovial, with low technological use, reported a margin of only 10%. In addition, it was highlighted that access to regular tax advice is also crucial for financial sustainability. Schools that receive constant advice, such as Conduespoch E.P., have a greater capacity to cover their operating costs. In conclusion, this study shows that tax oversight, although necessary, must be accompanied by technological resources and specialized tax advice to ensure the economic viability of driving schools.

Keywords

Tax audit, sustainability, management, competitiveness

INTRODUCTION

Driving schools in the canton of Riobamba face a series of critical financial challenges, mainly derived from the rigorous tax auditing to which they are subject. The high tax burden imposed by the tax authorities, added to the complexity of complying with the various tax regulations, creates an uncertain financial environment.

This directly affects their capacity to operate profitably, since many of these institutions lack the necessary resources to meet tax obligations efficiently. Consequently, their financial sustainability is compromised, putting at risk not only the continuity of their operations, but also the quality of the training services they offer to drivers (1).

The lack of specialized tax advice and the limited adoption of modern accounting technologies further hinder compliance with tax obligations for these driving schools. The lack of adequate technological tools for accounting and tax management not only complicates tax administration, but also increases the risk of errors and omissions in declarations, which can lead to the imposition of severe economic sanctions.

These penalties aggravate the already precarious financial situation of the schools, creating a vicious cycle that further reduces their capacity for investment in operational and technological improvements. Therefore, it is crucial that these institutions receive adequate support in terms of tax advice and access to technology to improve their accounting management and ensure their long-term viability (2).

Riobamba, known as the “Sultana of the Andes,” is a city located in the center of Ecuador, in the province of Chimborazo. This city represents an important administrative, commercial, and cultural center in the Andean region, and possesses a rich history that dates back to the colonial era. It is surrounded by imposing volcanoes, including Chimborazo, which is the highest peak in the country, making it a tourist attraction and a relevant transit point toward other regions (1).

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The economy of Riobamba is based on sectors such as commerce, agriculture, and services. In recent years, it has also experienced growth in the educational sector, with several universities and technical training centers.

Driving schools

Driving schools in Riobamba play a fundamental role in the training of safe and responsible drivers, both in the professional and personal spheres. These institutions are regulated by the National Transit Agency (ANT) and must adhere to strict regulations regarding educational quality, infrastructure, and tax obligations.

Driving schools in Riobamba are numerous and face various financial challenges. Some of the most prominent include:

a) Centro de Capacitación y Conducción de Manejo Center Drive Cia. Ltda.: Located on Humberto Gallegos 10-12 and Duchicela streets, it offers high-quality training for drivers. It operates Monday to Friday from 8 AM to 6 PM.

b) Escuela George Washington: Located on Avenida Atahualpa, it also offers classes Monday to Saturday, with extended hours during the week.

c) Escuela de Conducción Riovial: On Avenida Celso Rodríguez and Bolívar Bonilla, Riovial has a strong presence in Riobamba and offers complete training services for drivers of all types.

d) Conduespoch E.P.: This school, linked to ESPOCH (Escuela Superior Politécnica de Chimborazo), stands out for its wide coverage of hours and its professional approach.

These schools represent key options for the training of new drivers in the canton, and their financial sustainability may be affected by tax requirements and the economic context (2).

Driving schools in Riobamba offer a broad educational offering, covering both professional and non-professional driving licenses. The programs they teach include a solid combination of theory and practice. In the theoretical part, topics such as traffic laws, road education, and basic notions of mechanics are covered, which is crucial so that drivers understand the legal framework and the obligations behind the wheel (2).

In the practical part, students have the opportunity to apply this knowledge in simulators and in real vehicles, under the supervision of trained instructors. This combination seeks to guarantee that future drivers not only acquire practical skills, but also a deep awareness of the responsibilities that driving entails. Schools such as Riovial and Center Drive stand out for offering these programs, adapting to the demands of the local market and ensuring that drivers leave prepared to face the challenges of driving in the region.

Regarding regulation, these institutions are under strict supervision by the National Transit Agency (ANT), which imposes a series of regulations that must be rigorously complied with. Among them are the standards that the facilities must have, the qualification of the instructors, and the characteristics of the vehicles used in practices. In

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addition to these regulations, the schools must comply with tax responsibilities, which adds a significant burden to their daily management.

Auditing by the tax authorities is constant, which implies periodic audits and reviews both in terms of educational quality and tax compliance. This regulatory burden, although necessary to guarantee a quality educational level and road safety, generates important administrative and financial challenges for these schools, which are forced to allocate considerable resources to comply with all current regulations (3).

Driving schools in the canton of Riobamba face strong fiscal pressure that includes income taxes, VAT, and other municipal contributions. These tax obligations constitute a significant part of their income, which limits their financial capacity to carry out operational improvements or expand their services. In addition, this high tax burden puts the profitability of the schools at risk, since any error or delay in payments can result in sanctions or additional interest that further increase costs (4).

The tax system in Ecuador is complicated and requires that companies, including driving schools, present detailed reports and comply with various regulations. This process requires a high level of technical knowledge and can generate confusion if there is not an adequate understanding of current tax laws.

The complexity of documentary requirements and strict deadlines also increases the risk of committing errors, which can lead to fines for non-compliance or tax audits that negatively impact the financial performance of the institutions (5).

Many driving schools lack access to a specialized tax advisor who guides them in the correct compliance with tax regulations. This results in inefficient tax management, with errors in tax declarations and the absence of strategies to take advantage of available benefits or tax deductions. The lack of adequate tax planning also limits the capacity of these institutions to optimize their finances and avoid sanctions, which considerably aggravates their financial situation (5).

The lack of adequate technological tools, such as accounting management software, hinders the automation of tax and accounting processes. This increases the probability of human errors in tax declarations and in the financial recording of driving schools. By depending on manual methods or obsolete systems, efficiency is lost, which not only affects tax compliance, but also the capacity to make informed financial decisions (5).

The administrators of driving schools, in many cases, do not have solid training in tax matters, which makes them vulnerable to the demands of the tax system. The lack of knowledge about tax rights and obligations, as well as about possible exemptions or benefits to which they could have access, reduces their capacity to efficiently manage financial resources. This lack of tax education causes a considerable dependence on external accountants, which increases costs and decreases control over their own finances (5).

At the same time as tax obligations, driving schools must deal with the increase in operating costs, such as the updating of vehicles, the maintenance of infrastructure, and

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the payment of salaries. These costs, combined with the tax burden and the lack of efficient management, generate constant financial pressure. Without adequate administration of these expenses, it is complicated for the schools to remain profitable, which increases their vulnerability to any sanction or tax fine.

In the construction of the conceptual framework of this study observed and researched by Pérez (6), three key theories are taken as reference that allow a deep analysis of the impact of tax auditing on the financial sustainability of driving schools in Riobamba. The Theory of Tax Management holds that efficiency in the fulfillment of tax obligations depends on the availability of technical resources and specialized advice in organizations.

In this context, the lack of specialized knowledge about the handling of tax obligations can lead to sanctions and fines that directly affect the profitability of driving schools. Therefore, companies that invest in trained personnel or tax consultancies can face tax requirements more effectively, thus reducing the financial risks associated with deficient tax management.

When speaking of tax culture, it is not limited solely to assuming responsibilities and complying with a law; rather, it implies a commitment of citizens toward the sustainable development of the country. In turn, the State has the mission of rewarding this effort through actions that ensure the common welfare of the population (6).

The Theory of Financial Sustainability complements this analysis by focusing on how organizations can remain operational and profitable through efficient management of resources. In the case of driving schools, this implies not only minimizing operating and tax costs, but also maintaining a balance between the income generated by training services and the expenses inherent to their operation, such as the maintenance of the vehicle fleet and the hiring of instructors.

This theoretical approach allows understanding how an efficient cost structure and adequate management of available resources contribute to the long-term economic viability of these institutions, even in the face of the tax burden (6).

The Theory of Technological Adoption explains how the incorporation of accounting and management technologies can significantly transform the capacity of an organization to comply with tax regulations. In the case of driving schools, the implementation of technological tools, such as accounting management systems or software for tax administration, can simplify tax compliance processes, reduce errors, and automate critical functions.

This theory underscores that, although the initial investments in technology may be considerable, the long-term benefits in terms of operational efficiency and cost reduction more than compensate, improving financial sustainability and facilitating compliance with tax obligations.

The present study has as its main objective to analyze the relationship between tax auditing and the financial sustainability of driving schools in Riobamba during the period 2023-2024. To this end, it seeks to evaluate the impact of tax compliance on the

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profitability margins of these institutions, identifying how the level of tax compliance can affect their economic performance.

Likewise, it is intended to analyze the adoption of accounting technology and its influence on the reduction of tax errors and sanctions, highlighting the role of digitalization in the improvement of tax compliance. Finally, it is proposed to study the relationship between tax advice and the capacity of the schools to cover their operating costs, evidencing how access to specialized advice can optimize tax management and ensure greater financial viability.

MATERIALS AND METHODS

Research design

This study will use a mixed approach, combining quantitative and qualitative data. Surveys will be conducted with the administrators of the driving schools and in-depth interviews with tax experts to obtain a complete understanding of the problem.

Data collection instruments

a) Structured surveys directed at administrators to evaluate tax compliance, the use of accounting technology, and the main tax barriers.

b) Semi-structured interviews with tax experts to analyze current regulations and propose improvements in tax processes.

c) Documentary review: Analysis of the tax regulations applicable to driving schools.

Procedure

a) Identification of the sample: 4 driving schools in Riobamba will be selected through intentional sampling.

b) Application of surveys: The surveys will be distributed in person and online to maximize the response.

c) Data analysis: Statistical tools will be used to process the survey data and a qualitative thematic analysis for the interviews.

Table 1. Detailed operationalization of variables

Variable	Definition	Indicators	Measurement instrument
Tax compliance	Level of compliance with tax obligations	Frequency of sanctions, errors in declarations	Survey, documentary review
Financial sustainability	Capacity of the schools to remain operational	Profitability margin, capacity to cover costs	Survey, accounting review
Tax advice	Access to technical	Number of hours of	Survey, interview

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	assistance on tax matters	advice received, perceived quality	
Use of accounting technology	Implementation of software for tax management	Percentage of schools that use management software	Survey

RESULTS

The results obtained from the study on the relationship between tax auditing and financial sustainability in the driving schools of Riobamba. The tables shown below present key data on tax compliance, the use of accounting technology, tax advice, and their impact on the profitability of these institutions. These results make it possible to identify the main tax barriers that the schools face and highlight how factors such as technology and tax advice can improve the capacity of the schools to comply with their tax obligations, avoid sanctions, and ensure their long-term financial viability.

Table 2. Tax compliance and its impact on profitability

Driving School	Number of Sanctions (2023)	Tax Compliance Percentage	Profitability Margin (%)
Center Drive	3	70%	12%
Escuela George Washington	1	90%	15%
Escuela Riovial	4	60%	10%
Conduespoch E.P.	0	100%	18%

The analysis of Table 2 shows a direct correlation between tax compliance and the profitability margin of the driving schools. Those institutions that comply to a greater extent with tax regulations present higher profitability margins. A clear example is the Escuela Conduespoch E.P., which with 100% tax compliance and zero sanctions maintains the highest profitability margin (18%). This result suggests that adequate compliance with tax regulations not only avoids sanctions, but also allows the schools to operate more efficiently and obtain greater economic benefits.

In contrast, Escuela Riovial, with low tax compliance (60%) and four sanctions in the year 2023, reports a lower profitability margin (10%). This evidences how recurrent sanctions can erode the income of the institutions, negatively affecting their financial sustainability. Escuela George Washington, which presents a compliance percentage of 90% and only one sanction, registers an intermediate profitability margin of 15%. This reinforces the idea that high tax compliance contributes directly to profitability.

Table 3. Use of accounting technology and tax compliance

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Driving school	Use of accounting technology (%)	Errors in tax declarations (%)	Number of sanctions (2023)
Center Drive	20%	30%	3
Escuela George Washington	60%	10%	1
Escuela Riovial	10%	40%	4
Conduespoch E.P.	80%	5%	0

Table 3 reveals the critical relationship between the adoption of accounting technologies and tax compliance. It is observed that those schools that have implemented a greater use of accounting technology have a lower number of errors in their tax declarations, which in turn reduces the number of sanctions received. Escuela Conduespoch E.P., which uses accounting technology in 80% of its processes, has the lowest percentage of errors in tax declarations (5%) and has not received sanctions. This data highlights the importance of the digitalization and automation of accounting processes to guarantee correct tax compliance. The implementation of accounting management software facilitates the correct presentation of tax documents, reduces human errors, and increases precision in the handling of tax data.

On the other hand, Escuela Riovial, which uses accounting technology in only 10% of its operations, presents the highest percentage of errors in tax declarations (40%) and is the institution with the most sanctions (4 in total). This indicates that the lack of investment in technological tools is directly related to a greater probability of committing tax errors, which increases the risk of receiving sanctions.

The schools that have invested in technology, such as Escuela George Washington (60% technology use), also show notable improvements in the precision of their tax declarations, with only 10% errors and one sanction.

Table 4. Tax advice and capacity to cover costs

Driving school	Hours of tax advice per month	Capacity to cover costs (%)
Center Drive	2	85%
Escuela George Washington	5	90%
Escuela Riovial	0	70%
Conduespoch E.P.	8	95%

Table 4 reveals the relationship between tax advice and the capacity of the driving schools to cover their operating costs. Those schools that access a greater number of hours of tax advice show a greater capacity to cover their costs, which contributes to their financial

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sustainability. Escuela Conduespoch E.P., which receives 8 hours of tax advice per month, has the greatest capacity to cover its operating costs (95%). This suggests that specialized advice allows better tax planning, optimizes the use of resources, and ensures correct management of tax obligations, which improves the financial stability of the institution.

On the contrary, Escuela Riovial, which receives no hours of tax advice, shows the lowest capacity for cost coverage (70%). The lack of support in tax matters exposes the institution to committing errors that result in sanctions and increases operating costs, affecting its profitability and economic viability.

Escuela George Washington and Center Drive, which receive 5 and 2 hours of tax advice respectively, present an intermediate capacity for cost coverage (90% and 85%). This reinforces the importance of having regular tax advice to adequately handle tax regulations and improve the capacity of the schools to remain financially viable.

DISCUSSION

The high tax burden and the complexity in complying with tax regulations constitute a considerable obstacle for many driving schools, especially those that lack the economic and technical resources necessary to face these responsibilities. This situation reflects a disconnection between the economic reality of small and medium-sized institutions and the tax requirements imposed by the State.

The majority of these schools operate with limited financial margins, and the additional costs associated with tax compliance increase the pressure on their finances, restricting their capacity to invest in operational improvements, such as technological modernization or the hiring of tax advisors (7).

It is relevant to note that, although tax auditing is essential to ensure a fair competitive environment and prevent tax evasion, the government should consider the implementation of measures that alleviate this burden for small educational institutions, such as tax incentives or technical assistance programs.

These policies could provide driving schools with the resources and knowledge necessary to comply with regulations without compromising their financial sustainability. The combination of auditing adjusted to the capacity of the organizations and more effective support in terms of technology and advice could contribute to improving the economic situation of these schools, promoting their growth and long-term viability (7).

In the short term, tax auditing has a direct impact on the profitability of driving schools, since it increases operating costs by obliging them to allocate more resources to compliance with tax regulations and to the payment of sanctions for possible errors or delays in tax declarations.

This economic pressure significantly reduces profit margins, making the institutions have to readjust their cost structure and, in many cases, sacrifice investments in key areas such as the training of instructors or the maintenance of the vehicle fleet. The environment

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becomes especially challenging for those schools with limited resources, which already face difficulties in remaining operational under the current market requirements (8).

In the long term, the consequences of these difficulties can be even more serious. Driving schools that fail to adapt to tax requirements could be forced to close, which would not only affect the owners of the institutions, but also the employees who depend on these jobs, generating an increase in local unemployment. In addition, the disappearance of these schools could lead to an increase in the offer of informal services, with less quality control and without the necessary legal support (9).

This would represent a risk both for road safety, by not guaranteeing correct training of drivers, and for the country's tax system, by losing tax revenues due to informality (10). The long-term sustainability of these institutions depends to a large extent on auditing that balances efficient collection with the necessary support so that they can comply with their obligations without being economically compromised (11).

Free or subsidized tax advice is a fundamental tool for driving schools, since it allows them to access specialized technical orientation on tax matters. This assistance not only facilitates compliance with tax regulations, but also helps to foster an environment of transparency and responsibility among educational institutions (12). By providing this type of support, it contributes to the schools better understanding their tax obligations and avoiding possible sanctions, which in turn promotes a more solid and reliable sector (13).

The simplification of the tax compliance process is another key aspect that can transform the way in which driving schools manage their tax obligations. Collaborating with the tax authorities to reduce the complexity of the specific requirements and processes of the sector can result in a significant decrease in errors (14). This simplification not only lightens the administrative burden, but also minimizes the risk of sanctions for non-compliance, allowing the schools to concentrate their efforts on improving the quality of the education they offer to their students (15).

The implementation of accounting technology represents a crucial advance in the tax management of driving schools (16). Training administrators in the use of accounting management software not only improves precision in the recording of transactions, but also speeds up compliance with tax obligations (17). With adequate technological tools, the schools can keep more efficient control of their finances, which allows them to make more informed and strategic decisions, in addition to reducing the time and effort dedicated to administrative tasks (18).

The creation of tax incentives can be a motor of positive change within the driving school sector. Proposing tax benefits for those institutions that adopt good practices in tax management and that implement adequate technology will not only stimulate more schools to follow these guidelines, but will also foster a generalized commitment to tax responsibility (19). These incentives can result in a virtuous circle where the improvement of tax practices leads to greater transparency and efficiency, thus benefiting the entire educational sector (20).

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The implementation of training programs in tax regulations directed at those responsible for driving schools is an effective strategy to strengthen their tax management capacity (21). By offering continuous training on changes in tax laws and best compliance practices, a greater understanding of tax obligations by administrators is facilitated.

This not only reduces the risk of errors and sanctions, but also promotes a more proactive approach to tax management, which positively impacts the financial stability of these institutions (22).

Fostering collaboration between driving schools and experts in tax matters is another important measure to optimize tax compliance (23). By having specialized advice on a regular basis, these institutions can stay up to date with current regulations and procedures, adapting to changes in the tax environment more efficiently (24). This collaboration contributes to better financial planning and to the identification of opportunities to optimize the tax burden, which can result in greater sustainability and competitiveness for the schools (25).

CONCLUSIONS

The study reveals a clear correlation between the level of tax compliance and the profitability of driving schools in Riobamba. Those institutions that strictly comply with tax regulations, such as Conduespoch E.P., experience a higher profitability margin (18%) and avoid sanctions, which allows them to operate more efficiently and sustainably. In contrast, schools such as Riovial, with low tax compliance (60%) and multiple sanctions, present significantly lower profitability margins (10%).

These results underscore that adequate tax compliance not only avoids economic sanctions, but also improves the financial stability of the institutions, allowing their growth and permanence in the market. To achieve this sustainability, it is essential that the schools invest in resources that ensure rigorous compliance with tax obligations.

The adoption of accounting technology is a key factor for improving tax compliance and reducing the risk of sanctions in driving schools. The institutions that have invested in advanced technological tools, such as Conduespoch E.P., which uses accounting technology in 80% of its processes, present a lower percentage of tax errors (5%) and have not received sanctions. In contrast, Riovial, which uses only 10% accounting technology, has the highest percentage of errors (40%) and has been sanctioned four times. This demonstrates that the implementation of accounting software significantly reduces errors in tax declarations, optimizing administrative processes and improving profitability. Schools that do not adopt technology run the risk of facing greater financial difficulties due to costly errors in compliance with their tax obligations.

Access to specialized tax advice has been shown to be fundamental for the capacity of driving schools to cover their operating costs. Institutions such as Conduespoch E.P., which receives 8 hours of tax advice per month, demonstrate a high capacity for cost coverage (95%), which allows them to maintain solid financial stability.

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On the other hand, the lack of tax advice, as in the case of Riovial, directly affects its viability, with only 70% capacity to cover its costs. Tax advice not only helps to avoid sanctions for non-compliance, but also facilitates efficient tax planning and the optimization of resources. This study evidences that schools that count on regular support from tax advisors manage to manage their tax obligations more effectively and, therefore, improve their long-term sustainability.

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FALTA DE CAPACITACIÓN CONTINUA Y SU EFECTO EN LA PERSONA CONTABLE DE LA COOPERATIVA DE BAÑOS

LACK OF CONTINUOUS TRAINING AND ITS EFFECT ON THE ACCOUNTING STAFF OF THE BAÑOS COOPERATIVE

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RESUMEN

La Cooperativa de Transporte y Turismo Baños enfrenta desafíos derivados de la compleja normativa tributaria en Ecuador, lo que ha derivado en la imposición de severas sanciones económicas por parte del Servicio de Rentas Internas (SRI). Esta situación pone de manifiesto la urgente necesidad de fortalecer las capacidades del personal contable de la organización. El problema de investigación radica en la carencia de capacitación continua en temas tributarios entre el personal contable de la cooperativa se ha transformado en un aspecto crítico que compromete el cumplimiento de las obligaciones fiscales y expone a la entidad a riesgos legales y financieros. El objetivo es analizar la relación entre una capacitación adecuada en temas tributarios dirigida al personal contable y las multas impuestas por el Servicio de Rentas Internas a la Cooperativa de Transportes y Turismo Baños. La investigación empleó una metodología de enfoque mixto, combinando técnicas cualitativas y cuantitativas, se aplicaron encuestas y entrevistas al personal contable de la cooperativa, complementado con la revisión de documentación oficial y literatura académica relevante. Los hallazgos revelan que la falta de capacitación continua ha afectado negativamente la calidad de la información financiera, la eficiencia operativa y el clima laboral, factores que han contribuido a la imposición de sanciones por parte del SRI. En conclusión, la implementación de un programa integral de capacitación tributaria para el personal contable emerge como una estrategia fundamental para prevenir infracciones, mejorar el desempeño organizacional y garantizar la sostenibilidad de la cooperativa a largo plazo.

Palabras clave

Capacitación contable, obligaciones tributarias, sanciones, gestión financiera

ABSTRACT

The Cooperativa de Transporte y Turismo Baños faces challenges derived from the complex tax regulations in Ecuador, which has led to the imposition of severe economic sanctions by the Internal Revenue Service (SRI). This situation highlights the urgent need to strengthen the capabilities of the organization's accounting staff. The research problem lies in the lack of continuous training in tax matters among the cooperative's accounting

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staff has become a critical aspect that compromises compliance with tax obligations and exposes the organization to legal and financial risks. The objective is to analyze the relationship between adequate tax training for the accounting staff and the fines imposed by the Internal Revenue Service on the Cooperativa de Transportes y Turismo Baños. The research employed a mixed approach methodology, combining qualitative and quantitative techniques. Surveys and interviews were applied to the accounting staff of the cooperative, complemented with the review of official documentation and relevant academic literature. The findings reveal that the lack of continuous training has negatively affected the quality of financial information, operational efficiency and the work environment, factors that have contributed to the imposition of sanctions by the IRS. In conclusion, the implementation of a comprehensive tax training program for accounting staff emerges as a fundamental strategy to prevent infractions, improve organizational performance and ensure the long-term sustainability of the cooperative.

Keywords

Accounting training, tax obligations, penalties, financial management

INTRODUCTION

The Cooperativa de Transporte y Turismo Baños, which began its operations on September 28, 1956 in the beautiful city of Baños de Agua Santa, has been a fundamental pillar in the field of interprovincial transport. Throughout its rich trajectory, it has facilitated not only the transfer of passengers, but also the management and shipment of parcels and packages, becoming an essential resource for the well-being of the local community.

As the cooperative has evolved, it has adapted its services to meet the growing demands of the population, contributing significantly to the economic and social development of the region. However, the complexity and dynamics of the tax regulatory framework in Ecuador have brought with them additional challenges that require careful attention and an adequate response from the organization (1).

In 2016, the Internal Revenue Service (SRI) issued resolution No. 118012019RREC031674, which establishes that companies dedicated to the collection of ordinary correspondence and packages are obliged to declare the Value Added Tax (VAT) corresponding to their operations (2). Although this activity has been an integral part of the cooperative since its beginnings, in 2022 the SRI notified the cooperative of the existence of an administrative act against it, based on non-compliance with this resolution during the years 2016 to 2019; therefore, this non-compliance has led to the imposition of severe economic sanctions that directly impact the financial stability of the entity, putting at risk not only its operability, but also its long-term sustainability (2).

The lack of continuous training in tax matters among the cooperative’s accounting staff has become a critical aspect that highlights the urgent need to establish adequate and effective training programs, since training is not only essential to guarantee compliance

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with tax regulations, but also influences considerably operational efficiency and the capacity for informed decision-making within the organization (3).

Various investigations (4), (5) have evidenced that continuous and properly updated training allows accounting staff to remain informed about current tax reforms and correctly apply the laws and regulations that govern their work. This not only significantly reduces the risk of facing sanctions, but also contributes to the sustainable and long-term development of the cooperative.

The justification of this research lies in the imperative need to carry out an exhaustive analysis of the relationship between the continuous training of accounting staff and the fines imposed by the SRI on the Cooperativa de Transportes y Turismo Baños, in order to identify the deficiencies in knowledge and skills that have contributed to non-compliance and to propose solutions that strengthen the capacities of the personnel and prevent future infractions.

The main objective of the research is to analyze the relationship between adequate training in tax matters directed at accounting staff and the fines imposed by the Internal Revenue Service on the Cooperativa de Transportes y Turismo Baños. Specific objectives include evaluating the current level of knowledge of the accounting staff regarding tax regulations, identifying the main deficiencies that have led to sanctions, and proposing a continuous training program that improves compliance and organizational performance.

MATERIALS AND METHODS

The research employed a mixed-methods approach, combining qualitative and quantitative techniques. Surveys and interviews were applied to the accounting staff of the cooperative, complemented with the review of official documentation and relevant academic literature.

The study population consisted of the accounting personnel of the Cooperativa de Transportes y Turismo Baños. Inclusion criteria focused on employees who perform accounting or financial functions and who have been with the cooperative during the period under study. Exclusion criteria included employees in external or internal training processes during data collection and individuals not directly involved in accounting functions.

An exhaustive review of the available literature was carried out using recognized and highly valued databases in the academic field, such as SCOPUS and LATINDEX. This review focused on collecting relevant and updated information on the effects of training on work performance, which complements and enriches the findings of the research.

The research was carried out in the context of the locality of Baños, which is located in the province of Tungurahua, Ecuador. This geographic and socioeconomic environment proves to be a propitious scenario for the analysis of the labor dynamics and the particularities that the accounting staff faces within the cooperative.

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For data collection, various methodological instruments were used, including structured surveys and semi-structured interviews. The surveys facilitated the obtaining of quantitative data on the perceptions that the staff has regarding continuous training, while the interviews allowed deepening into the individual experiences and the challenges that accountants face in their daily work. Key variables identified included the level of training received, seniority in the job position, and the incidence of fines related to Value Added Tax.

The research design was based on the collection of data from the Internal Revenue Service, as well as the review of various Resolutions, Regulations, and Reforms that have been issued throughout the years under study. A case study centered on the fines generated by Value Added Tax was carried out.

RESULTS

The present study analyzed the impact of the lack of continuous training on the accounting staff of the Cooperativa de Baños. To this end, a survey was applied to the team of the accounting department of the organization, whose most revealing findings are detailed below.

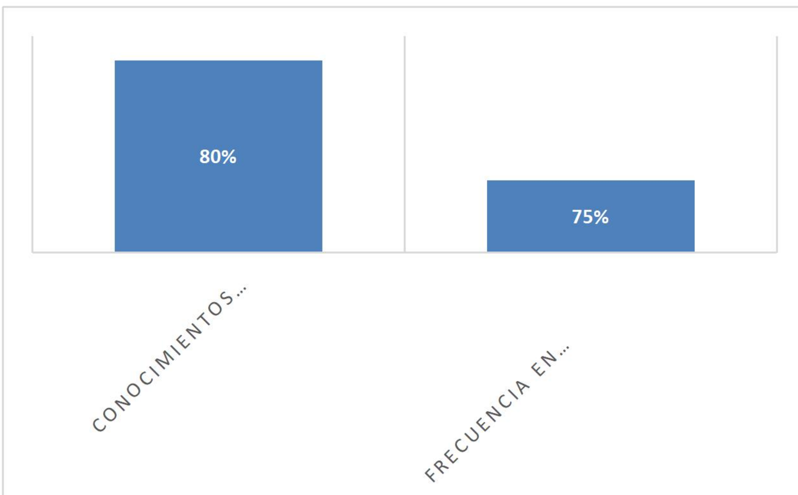

Figure 1. Informative deficiency among the respondents

As observed in Figure 1, a worrying 80% of the accounting collaborators stated that they possess outdated, obsolete, and insufficient knowledge regarding accounting regulations, processes, and technological tools, which seriously hinders the adequate recording, processing, and control of the financial operations of the cooperative. As a consequence of this alarming formative deficiency, 75% of the members of the accounting team frequently incur errors when preparing financial statements, performing bank reconciliations, generating accounting reports, and carrying out other key processes, considerably affecting the reliability, precision, and timeliness of the financial information that is presented to management and other interested parties, putting strategic decision-making at risk (9), (10), and (11).

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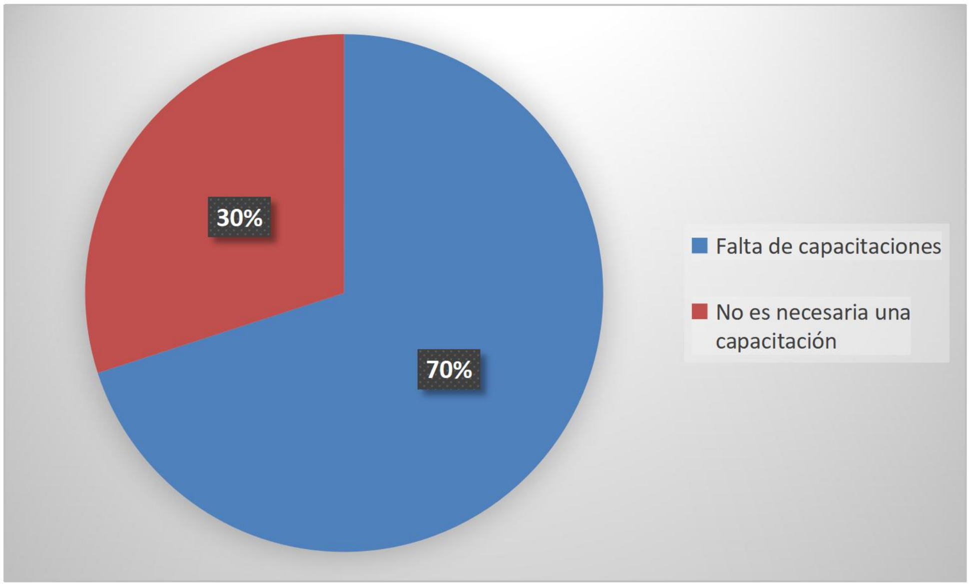

Figure 2. Opinion of the accounting staff

Likewise, in Figure 2, 70% of the accounting staff indicated that the lack of training has significantly reduced their efficiency, productivity, and performance in the development of activities, which translates into delays in the processing of information and in the timely delivery of reports to management, negatively impacting strategic decision-making (12).

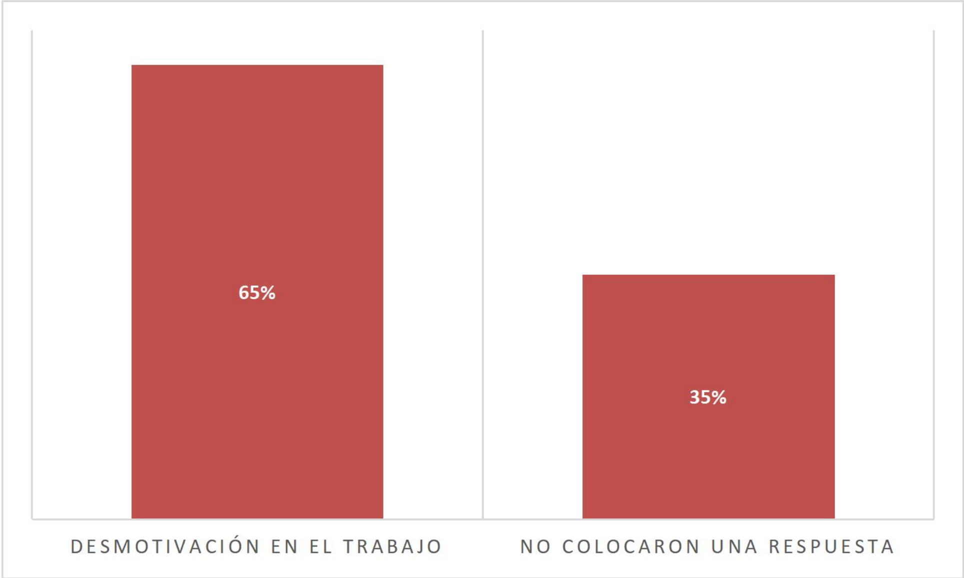

Figure 3. Lack of interest among the workers

Additionally, in Figure 3, 65% of the accounting collaborators stated that they feel demotivated, frustrated, and even emotionally disconnected due to the lack of opportunities for updating and perfecting their knowledge and skills, generating a tense, little collaborative work climate prone to conflicts that has affected the commitment, synergy, and productivity of the team (12).

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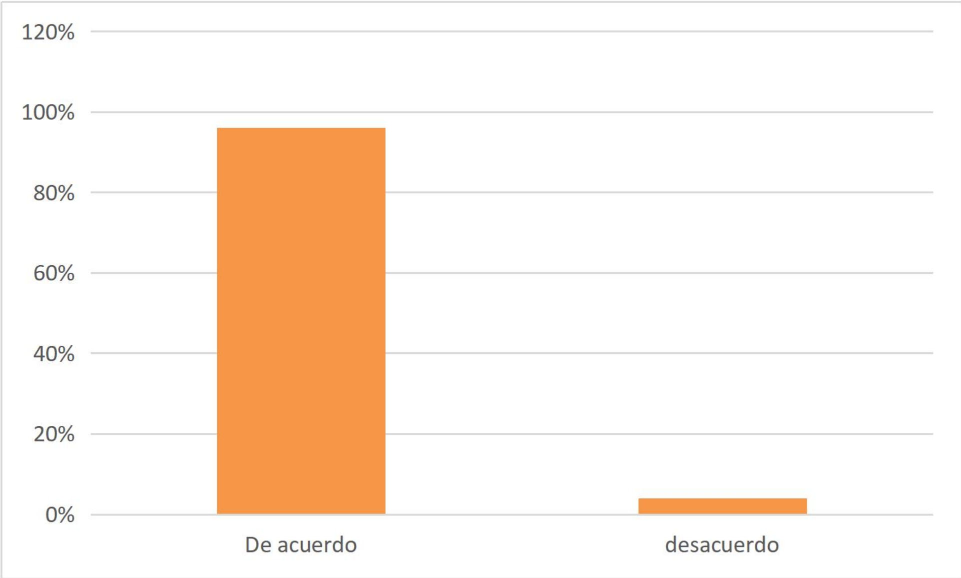

Figure 4. Fines

In addition, in Figure 4, concise results were obtained on how continuous training can contribute to the reduction of fines and sanctions imposed by the SRI. The findings indicate that the lack of continuous training is directly related to the incidence of errors in tax declarations and the consequent imposition of economic sanctions.

Finally, the findings of this study support the relevance of the support and backing of the cooperative's management toward the initiatives of training and development of the accounting staff, since this not only contributes to improving the performance of the team, but also generates a positive impact on the motivation, commitment, and retention of key talent within the organization (21), (22), and (23). Only in this way will the cooperative be able to count on a solid, efficient, and prepared accounting department to face the challenges and requirements of the regulatory and financial environment in constant evolution.

To conclude, the results of this research highlight the transcendental importance that continuous training of the accounting staff has in the context of the Cooperativa de Transportes y Turismo Baños, not only to prevent non-compliance with tax obligations and the imposition of sanctions, but also to improve the performance and operational efficiency of the organization in the long term.

These findings are relevant and applicable to other entities in the sector, since they evidence the imperative need to implement training and development programs that allow keeping key personnel updated and trained, in order to guarantee the sustainability and growth of organizations in an increasingly demanding and changing regulatory environment, where adaptability and specialized knowledge emerge as critical success factors (25).

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DISCUSSION

The results obtained confirm that the lack of continuous training of the accounting staff has multiple negative effects on the organization. The high percentage of staff with outdated knowledge (80%) and the frequent occurrence of errors (75%) demonstrate that the absence of permanent training programs directly compromises the quality of financial information and exposes the cooperative to significant tax risks.

The demotivation and deterioration of the work climate reported by 65% of the staff further aggravate the situation, since a demotivated team is less productive and more prone to errors. The relationship between the lack of training and the imposition of fines by the SRI is clear and consistent with previous studies that highlight the importance of continuous education for accounting professionals.

The support of management is a determining factor for the success of any training initiative. Without the commitment of senior management, training programs tend to be sporadic and insufficient. Therefore, it is essential that the cooperative's management allocate the necessary resources and establish a culture of continuous learning within the accounting department.

CONCLUSIONS

The research has revealed that the absence of a continuous training program directed at the accounting staff of the Cooperativa de Transportes y Turismo Baños has had a detrimental and multidimensional effect on the performance of the department.

This has manifested itself in a significant reduction in the quality and reliability of the financial information generated, a decrease in efficiency and productivity in key processes, and a deterioration of the work climate within the accounting team, which evidence the crucial importance that the continuous training and updating of the personnel in charge of accounting and financial functions has, since this not only affects the precision and timeliness of the reports, but also directly influences strategic decision-making by management.

Finally, the research concludes that the implementation of a comprehensive continuous training program for the accounting staff of the Cooperativa de Transportes y Turismo Baños emerges as a fundamental strategy to improve the financial and administrative management of the organization, and to have a solid, efficient, and properly prepared team to face the challenges and requirements of a constantly evolving regulatory environment.

Likewise, this training and development program must have the decisive support and backing of the cooperative's management, since this will not only contribute to elevating the technical and professional performance of the team, but will also generate a positive impact on the motivation, commitment, and retention of key talent within the entity, aspects that are crucial to guarantee the sustainability and long-term growth of the cooperative.

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EFECTIVIDAD DE LA AUDITORÍA FINANCIERA FORENSE EN EL CONTROL DE FRAUDE EN RIOBAMBA

EFFECTIVENESS OF FORENSIC FINANCIAL AUDITING IN FRAUD CONTROL IN RIOBAMBA

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RESUMEN

La auditoría financiera forense se ha convertido en una herramienta clave para la prevención y detección de fraudes, especialmente en el contexto de las pequeñas y medianas empresas (PYMES) que representan la mayor parte del tejido empresarial en Ecuador. Sin embargo, la falta de controles internos robustos facilita la aparición de actos delictivos. La presente investigación tiene como propósito examinar la efectividad de la auditoría financiera-forense como una herramienta preventiva en las PYMES de Riobamba, centrándose en su capacidad para identificar riesgos y mitigar las oportunidades que facilitan el fraude. El objetivo es evaluar el impacto de la auditoría forense en la gestión de riesgos y en la cultura organizacional de las PYMES, a fin de ofrecer un marco de referencia aplicable a otras organizaciones. La metodología empleada es un estudio explicativo y descriptivo, con enfoque cuantitativo. Se realizaron encuestas a 30 profesionales y servidores públicos de los gobiernos autónomos descentralizados de Riobamba. Los resultados resaltan la necesidad económica y la falta de ética son las principales motivaciones para cometer fraudes, mientras que la gestión de riesgos y la auditoría interna son las estrategias más efectivas para su detección. Existe consenso sobre la importancia de la auditoría financiera y forense en la prevención de delitos. En conclusión, la indagación confirma el papel crucial de la auditoría forense en la identificación y mitigación de fraudes, destacando la necesidad de fortalecer los mecanismos de control interno y promover una cultura de integridad.

Palabras clave
Auditoría financiera, auditoría forense, control interno, organismos públicos

ABSTRACT

Forensic financial auditing has become a key tool for the prevention and detection of fraud, especially in the context of small and medium-sized enterprises (SMEs) that represent the majority of the business fabric in Ecuador. However, the lack of robust internal controls facilitates the appearance of criminal acts. The present research aims to examine the effectiveness of financial-forensic auditing as a preventive tool in the SMEs of Riobamba, focusing on its capacity to identify risks and mitigate the opportunities that

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facilitate fraud. The objective is to evaluate the impact of forensic auditing on risk management and the organizational culture of SMEs, in order to offer a frame of reference applicable to other organizations. The methodology employed is an explanatory and descriptive study, with a quantitative approach. Surveys were conducted with 30 professionals and public servants of the decentralized autonomous governments of Riobamba. The results highlight that economic necessity and lack of ethics are the main motivations for committing fraud, while risk management and internal auditing are the most effective strategies for its detection. There is consensus on the importance of financial and forensic auditing in the prevention of crimes. In conclusion, the inquiry confirms the crucial role of forensic auditing in the identification and mitigation of fraud, highlighting the need to strengthen internal control mechanisms and promote a culture of integrity.

Keywords

Financial audit, forensic audit, internal control, public organisms

INTRODUCTION

Throughout history, irregularities and acts of corruption in the business sphere have emerged as persistent and recurrent phenomena, manifesting themselves in a wide range of forms that have led to the creation of international regulations designed specifically to regulate and control financial auditing (1).

This challenge not only affects individual organizations, but also impacts public confidence in institutions, the stability of markets, and the economic development of nations. Corporate corruption can be understood as a multifaceted phenomenon, which ranges from the embezzlement of funds to bribery and the manipulation of financial information, all of which have the potential to cause significant damage both to companies and to their employees, clients, and society in general (2).

In the context of Latin America, small and medium-sized enterprises (SMEs) play a crucial role in the economy, being responsible for a significant proportion of job creation and the drive of regional economic development; they are the engine of the local economy, since they contribute to economic growth, innovation, and job creation (3). However, despite their importance, SMEs often face unique and significant challenges that can put their long-term viability and sustainability at risk.

In the particular case of Ecuador, this predominant sector is constituted mostly by SMEs, while the presence of large companies is shown as a relatively restricted fraction. According to data from the National Institute of Statistics and Censuses of Ecuador, SMEs represent approximately 99% of all companies registered in the country, which underlines their critical importance in the national business landscape (4).

However, the insufficiency of robust internal controls in these organizations can facilitate the appearance of fraud and acts of embezzlement. This problem turns forensic financial

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auditing into an indispensable tool for the prevention of such criminal practices, especially in the city of Riobamba.

Forensic financial auditing, in particular, has become a field of growing interest and relevance in the accounting and auditing sphere. It is distinguished from traditional financial auditing by its focus on the investigation of irregularities, the collection of evidence that can be used in legal proceedings, and the prevention of future fraudulent acts through the strengthening of internal control systems and organizational culture.

The present research has as its purpose to examine the effectiveness of financial-forensic auditing as a preventive tool in the SMEs of Riobamba, focusing on its capacity to identify risks and mitigate the opportunities that facilitate fraud. The objective is to evaluate the impact of forensic auditing on risk management and the organizational culture of SMEs, in order to offer a frame of reference applicable to other organizations.

MATERIALS AND METHODS

The methodology employed is an explanatory and descriptive study, with a quantitative approach. Surveys were conducted with 30 professionals and public servants of the decentralized autonomous governments of Riobamba.

The sample, which is presented in Table 3, comprises a total of 30 respondents selected through intentional sampling among professionals linked to the financial, accounting, and control areas of the decentralized autonomous governments of the city of Riobamba.

Data collection was carried out through structured surveys designed to obtain information on the perceptions of the respondents regarding the motivations for fraud, the means of detecting economic crimes, the evaluation of the effectiveness of control measures, and the prevention of fraud.

The analysis of the data was carried out using descriptive statistics, presenting the results in absolute frequencies and percentages, which allowed identifying the main trends and consensus among the respondents.

RESULTS

1. Institutional frauds and their main causes

With the applied survey, it was determined that 10% responded that the absence of personal/professional ethics, 50% agree that economic necessity is the main cause that leads to committing fraud in companies, 23% consider that there is pressure from a third party, and 17% say that it is the absence of control, as shown in Figure 1. Therefore, it is concluded that the main cause is economic necessity in the companies that leads to committing fraudulent acts.

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Table 5. Detecting crimes

Options	Response	Percentage
Analysis of suspicious operations	2	7%
Internal Audit	6	20%
Active risk/fraud management	9	30%
By accident	1	3%
Corporate security	3	10%
Application by law	9	30%
Other detection methods	0	0%
TOTAL	**30**	**100%**

According to the results obtained in Figure 2, it was concluded that 33% of the respondents consider that active risk management allows detecting economic crimes in companies; 30% mentioned that internal auditing is very necessary and 17% mentioned that the application of the law is very indispensable to detect economic crimes.

Table 6. Evaluation of effectiveness

Options	Response	Percentage
Annual	11	37%
Every three months	4	13%
Every six months	15	50%
Every month	0	0%

In the investigation, it is evidenced in Figure 3 that 50% of the respondents consider that the evaluation of effectiveness with substantive and compliance measures should be applied every six months, while 37% consider that it should be annual.

Table 7. Fraud prevention

Options	Response	Percentage
Financial and forensic auditing	15	50%
Internal control systems	8	27%
Training and ethics	5	17%
Other	2	6%

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According to the results presented in Figure 4, it is evidenced that there is a broad consensus among the respondents regarding the importance of financial and forensic auditing as fundamental tools for the detection and prevention of fraud.

DISCUSSION

The results obtained confirm that economic necessity is the main motivation for committing fraudulent acts in institutions, followed by the lack of professional and personal ethics, as well as the pressure exerted by third parties and the lack of adequate controls. These results highlight the importance of strengthening the mechanisms of integrity and transparency in organizations.

Active risk and fraud management, together with internal auditing, are considered the most effective strategies for detecting economic crimes. Likewise, the application of the law is recognized as a key method for identifying and sanctioning this type of irregularities. These findings emphasize the need to implement robust internal control systems and rigorous audit processes.

There is a broad consensus among the respondents that financial and forensic auditing are fundamental tools for the detection and prevention of fraud. This result underlines the crucial role of forensic auditing in the investigation of financial crimes, the generation of evidence, and the promotion of a culture of integrity and transparency in companies.

CONCLUSIONS

The main motivation that drives the commission of fraudulent acts in institutions is economic necessity, followed by the lack of professional and personal ethics, as well as the pressure exerted by third parties and the lack of adequate controls. These results highlight the importance of strengthening the mechanisms of integrity and transparency in organizations.

Active risk and fraud management, together with internal auditing, are considered the most effective strategies for detecting economic crimes. Likewise, the application of the law is recognized as a key method for identifying and sanctioning this type of irregularities. These findings emphasize the need to implement robust internal control systems and rigorous audit processes.

There is a broad consensus among the respondents regarding the fact that financial and forensic auditing are fundamental tools for the detection and prevention of fraud. This result underlines the crucial role of forensic auditing in the investigation of financial crimes, the generation of evidence, and the promotion of a culture of integrity and transparency in companies.

The inquiry confirms the crucial role of forensic auditing in the identification and mitigation of fraud, highlighting the need to strengthen internal control mechanisms and promote a culture of integrity.

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BENEFICIOS Y DESAFÍOS DE LA DEVOLUCIÓN DEL IVA PARA LOS ADULTOS MAYORES EN ECUADOR

BENEFITS AND CHALLENGES OF VAT REFUNDS FOR SENIOR CITIZENS IN ECUADOR

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RESUMEN

En Ecuador, la devolución del Impuesto al Valor Agregado (IVA) a los adultos mayores se establece como una iniciativa para aliviar la carga fiscal que recae sobre este grupo vulnerable. A pesar de los esfuerzos legales por garantizar este beneficio, persisten desafíos en su implementación efectiva. El problema de investigación radica en que la eficacia de la política de devolución del IVA para los adultos mayores en Ecuador ha suscitado un intenso debate, evidenciando la necesidad de analizar en profundidad los beneficios y desafíos que conlleva esta medida. El objetivo es analizar los beneficios y desafíos de la devolución del IVA para los adultos mayores en Ecuador, explorando su proceso de implementación y los resultados obtenidos hasta la fecha. Para la metodología se utilizó un enfoque metodológico mixto, combinando métodos cualitativos y cuantitativos, se realizó un muestreo intencional de adultos mayores que cumplen con los criterios de inclusión establecidos, y se llevó a cabo un análisis de contenido de la información cualitativa, así como pruebas estadísticas. Los resultados revelan que la devolución del IVA tiene un efecto positivo en la mejora de la calidad de vida de los adultos mayores. Sin embargo, persisten desafíos relacionados con la falta de información y la complejidad de los trámites, lo que limita el acceso efectivo de esta población a este beneficio tributario. En conclusión, a pesar de los avances legales y las reformas, la devolución del IVA para los adultos mayores enfrenta barreras de información y acceso que deben ser superadas para maximizar su impacto social.

Palabras clave

Devolución del IVA, adultos mayores, beneficios tributarios, política fiscal

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ABSTRACT

In Ecuador, the refund of Value Added Tax (VAT) to senior citizens is established as an initiative to alleviate the tax burden that falls on this vulnerable group. Despite legal efforts to guarantee this benefit, challenges persist in its effective implementation. The research problem lies in the fact that the effectiveness of the VAT refund policy for senior citizens in Ecuador has sparked an intense debate, evidencing the need to analyze in depth the benefits and challenges that this measure entails. The objective is to analyze the benefits and challenges of the VAT refund for senior citizens in Ecuador, exploring its implementation process and the results obtained to date. For the methodology, a mixed methodological approach was used, combining qualitative and quantitative methods; an intentional sampling of senior citizens who meet the established inclusion criteria was carried out, and a content analysis of the qualitative information was conducted, as well as statistical tests. The results reveal that the VAT refund has a positive effect on improving the quality of life of senior citizens. However, challenges related to the lack of information and the complexity of the procedures persist, which limits the effective access of this population to this tax benefit. In conclusion, despite the legal advances and reforms, the VAT refund for senior citizens faces information and access barriers that must be overcome to maximize its social impact.

Keywords

VAT refund, senior citizens, tax benefits, fiscal policy

INTRODUCTION

In the socioeconomic context of Ecuador, the implementation of tax policies that favor vulnerable groups is of the utmost relevance. Within this framework, the refund of Value Added Tax (VAT) for senior citizens is established as an initiative aimed at alleviating the tax burden that falls on a population that, due to its condition of elderly persons, faces multiple and complex economic difficulties.

According to (1), tax benefits in Ecuador are designed with the purpose of offering preferential treatment to certain taxpayers, with senior citizens recognized as a priority attention group, as pointed out by (2). The VAT refund policy, instituted through resolution No. NAC-DGERCGC13-00636, is oriented toward the restitution of the VAT paid in the acquisition of goods and services of first necessity, with the intention of improving the quality of life of elderly persons (3).

During the last decades, Ecuador has experienced significant transformations in its tax regulations, directed toward the protection of the rights of older persons. The Law of the Elderly, promulgated in 2016, establishes that every person who has reached sixty-five years of age and who meets certain economic criteria will be exempt from the payment of fiscal and municipal taxes. This legislation, together with the Internal Tax Regime Law (4), contemplates the right of senior citizens to the refund of VAT, reflecting a genuine effort

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to guarantee that this sector of the population can access the goods and services they require to live with dignity.

(5) highlights that, at the international level, various countries have implemented regulations that favor the elderly, based on principles of equity and social justice. However, in Ecuador, the situation presents significant challenges that need to be addressed with urgency to ensure that senior citizens truly benefit from the tax policies designed specifically for them.

Nevertheless, despite the existence of these legal benefits, it is evident that the effectiveness of the VAT refund policy has sparked an intense debate. The lack of understanding on the part of senior citizens about this tax benefit has led many of them not to access it fully, which limits the social impact of the measure.

The main objective of this research is to analyze the benefits and challenges of the VAT refund for senior citizens in Ecuador, exploring its implementation process and the results obtained to date. Specific objectives include evaluating the level of knowledge of senior citizens about the benefit, identifying the main barriers to access, and examining the impact of the refund on the quality of life of the beneficiaries.

MATERIALS AND METHODS

A mixed methodological approach was used, combining qualitative and quantitative methods. An intentional sampling of senior citizens who meet the established inclusion criteria was carried out, and a content analysis of the qualitative information was conducted, as well as statistical tests.

The study population consisted of senior citizens (65 years of age or older) who are eligible for the VAT refund in Ecuador. Inclusion criteria focused on persons who have applied for or received the refund and who reside in the areas under study. Data collection included surveys and interviews to capture both quantitative data on the amounts refunded and qualitative perceptions about the accessibility and usefulness of the benefit.

Official data from the Internal Revenue Service (SRI) regarding the number of beneficiaries and the amounts refunded during the period 2016-2020 were also analyzed. This secondary information allowed identifying trends in access to the benefit and evaluating the impact of electronic invoicing and online procedures on the coverage of the policy.

RESULTS

The results reveal that the VAT refund has a positive effect on improving the quality of life of senior citizens. The majority of participants allocate the refunded amounts to cover essential expenses such as food and health, which evidences the positive impact of this fiscal incentive on their well-being.

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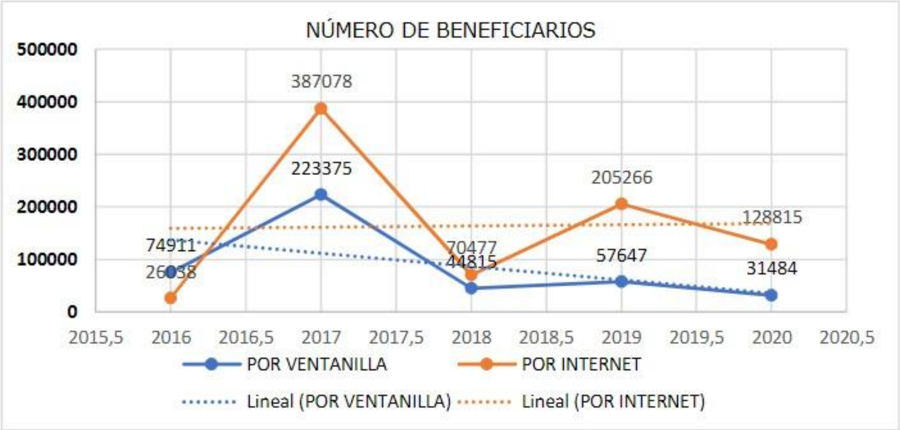

Figure 1. Number of beneficiaries for the VAT refund period 2016-2020

The data provided by the SRI regarding the number of beneficiaries (accepted applications of senior citizens) reflect a variation between years (13). Figure 1 shows the trend in the period 2016-2020 of access to the amounts refunded via the internet; this is due to the existence of places (cybercafés, internet sites, etc.) that offer senior citizens facilities to carry out the procedures in a simpler and faster manner.

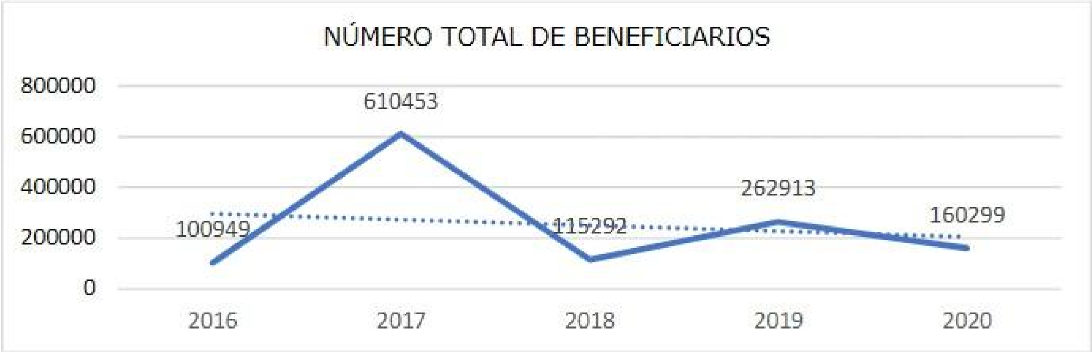

Figure 2. Behavior of the number of beneficiaries of the VAT refund during the period 2016-2020

In Figure 2 of the analysis of the trend in the number of beneficiaries between the years under study, variations are observed that reflect both the progressive digitization of the process and the remaining barriers of information and access.

Figure 3. VAT refund in USD

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The analysis of the amounts refunded shows that, although the policy has generated a positive impact, the magnitude of the economic benefit varies according to the consumption patterns of the beneficiaries and the effectiveness of the electronic systems implemented by the SRI.

However, important challenges persist related to the lack of information and the complexity of the procedures, which limit the effective access of this population to this tax benefit. A significant percentage of senior citizens are unaware of the details of the VAT refund process, which limits their capacity to access this benefit in a timely and efficient manner.

DISCUSSION

The findings confirm that the VAT refund represents a relevant tax benefit for the senior citizen population, since it contributes significantly to improving their quality of life by facilitating access to goods and services of first necessity. The results show that the majority of participants allocate the refunded amounts to cover essential expenses such as food and health, which evidences the positive impact of this fiscal incentive on their well-being.

However, important challenges persist regarding the effectiveness of the implementation of this public policy. A considerable percentage of senior citizens are unaware of the details of the VAT refund process, which limits their capacity to access this benefit in a timely and efficient manner. The lack of information and adequate orientation emerges as a significant barrier that must be addressed.

In addition, although the refunded amounts are valued positively by the participants, there is debate regarding the magnitude of the real economic impact that this incentive has on the financial situation of senior citizens. Some studies suggest that, although it represents support, its effect on the economic stability of this vulnerable group is not as transcendental as might be expected.

The progressive digitization of the process through electronic invoicing has improved efficiency and coverage, but it is necessary to complement these advances with information and accompaniment campaigns directed specifically at senior citizens, many of whom face difficulties in accessing digital technologies.

CONCLUSIONS

The VAT refund represents a tax benefit of great relevance for the senior citizen population, since it contributes significantly to improving their quality of life by facilitating access to goods and services of first necessity. The results show that the majority of participants allocate the refunded amounts to cover essential expenses such as food and health, which evidences the positive impact of this fiscal incentive on their well-being.

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Despite the legal advances and reforms, the VAT refund for senior citizens faces information and access barriers that must be overcome to maximize its social impact. It is recommended to strengthen dissemination campaigns, simplify procedures, and expand accompaniment mechanisms so that the benefit reaches a greater proportion of the eligible population.

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LA REVOLUCIÓN DE LA INTELIGENCIA ARTIFICIAL EN LA EDUCACIÓN: ¿UN CAMBIO ÉTICO?

THE REVOLUTION OF ARTIFICIAL INTELLIGENCE IN EDUCATION: AN ETHICAL PATH?

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RESUMEN

La inteligencia artificial (IA) ha evolucionado de ser un concepto teórico a una herramienta omnipresente que impacta diversos sectores, incluida la educación. El problema de investigación surge en que la proliferación de tecnologías basadas en IA genera preocupaciones sobre la deshonestidad académica, la falta de transparencia, la desinformación y el monopolio del conocimiento, poniendo en riesgo el valor del aprendizaje genuino. El objetivo de este artículo es abordar los desafíos éticos asociados con la IA en la educación, centrándose en su impacto en la deshonestidad académica, y explorar las implicaciones de la automatización en la integridad del aprendizaje, así como analizar las estrategias que las instituciones educativas pueden adoptar para fomentar un entorno académico ético. La metodología empleada se llevó a cabo adoptando un enfoque cualitativo, que se centró en la recopilación de percepciones, opiniones y experiencias de los participantes, utilizando bases de datos académicas reconocidas como Scopus, Web of Science, PubMed, ScienceDirect, Google Scholar. Los resultados revelan que la incorporación de la IA en la educación ha traído tanto beneficios como desafíos éticos, por un lado, la IA ha permitido personalizar el aprendizaje, detectar dificultades tempranas y ampliar el acceso a la educación. Sin embargo, también ha planteado serias preocupaciones en torno a la deshonestidad académica, debido al uso generalizado de herramientas como ChatGPT por parte de los estudiantes para elaborar trabajos carentes de autenticidad. En conclusión, las prácticas inapropiadas pueden menoscabar seriamente la integridad y credibilidad del profesorado, con consecuencias negativas en su relación con el alumnado y en su desarrollo profesional, por ello las instituciones educativas se enfrentan al desafío de establecer un sólido marco normativo que regule de manera clara y efectiva el uso de la IA en los procesos de enseñanza-aprendizaje mitigando los riesgos éticos.

Palabras clave

Inteligencia artificial, aprendizaje automático, educación, deshonestidad, marco normativo.

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ABSTRACT

Artificial intelligence (AI) has evolved from a theoretical concept to a ubiquitous tool impacting diverse sectors, including education. The research problem arises as the proliferation of AI-based technologies raises concerns about academic dishonesty, lack of transparency, misinformation, and monopoly of knowledge, putting the value of genuine learning at risk. The aim of this article is to address the ethical challenges associated with AI in education, focusing on its impact on academic dishonesty, and to explore the implications of automation on the integrity of learning, as well as to analyse the strategies that educational institutions can adopt to foster an ethical academic environment. The methodology employed was carried out by adopting a qualitative approach, which focused on collecting perceptions, opinions, and experiences of participants, using recognized academic databases such as Scopus, Web of Science, PubMed, ScienceDirect, Google Scholar. The results reveal that the incorporation of AI in education has brought both benefits and ethical challenges. On the one hand, AI has made it possible to personalize learning, detect difficulties early, and expand access to education. However, it has also raised serious concerns about academic dishonesty, due to the widespread use of tools such as ChatGPT by students to produce inauthentic work. In conclusion, inappropriate practices can seriously undermine the integrity and credibility of teachers, with negative consequences for their relationship with students and their professional development. Therefore, educational institutions face the challenge of establishing a solid regulatory framework that clearly and effectively regulates the use of AI in teaching-learning processes, mitigating ethical risks.

Keywords

Artificial intelligence, machine learning, education, dishonesty, regulatory framework

INTRODUCTION

Artificial intelligence (AI) has evolved from being a theoretical concept to becoming a ubiquitous tool that impacts various sectors, including education. From the first algorithm written by Ada Lovelace in 1842 to the development of complex systems capable of learning and adapting, AI has transformed our understanding and application of knowledge. However, this technological advance has also brought with it a series of ethical challenges that deserve critical attention, especially in the educational context, since education is the cornerstone of societies and a fundamental pillar in the fight against academic dishonesty (1).

However, the origin of the term "artificial intelligence" dates back to a historic conference at Dartmouth in 1956, organized by John McCarthy, Marvin Minsky, Claude Shannon, and Nathaniel Rochester, which marked a milestone in the history of AI, laying the foundations for the development of this field of study, standing out as an ancestral dream come true, since humanity has dreamed of machines capable of solving problems autonomously, imitating human behavior (2).

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However, it was not until the mid-20th century, with the advancement of computing, that this longing began to take shape. Given that the Turing test is established as a crucial starting point in the development of artificial intelligence (AI) (1).

The use of AI in education has increased in recent years, providing opportunities to personalize learning, detect difficulties early, and expand access to education. Nevertheless, the proliferation of AI-based technologies also generates concerns about academic dishonesty, lack of transparency, misinformation, and the monopoly of knowledge by large technology companies, due to the possibility that people access instant solutions, such as AI-generated essays or answers to exams, putting the value of genuine learning at risk (3).

The historical background and current context reveal that AI can be both an ally and an adversary in the educational sphere. On the one hand, it makes it possible to improve educational efficiency and offers innovative solutions to persistent problems. On the other hand, it poses ethical dilemmas that require in-depth analysis.

For example, the lack of transparency in AI algorithms can lead to erroneous decisions in student evaluation, perpetuating biases and inequalities. Furthermore, the ease with which misinformation can be generated through AI, as in the case of deepfakes and fake news, undermines trust in educational institutions and in knowledge itself (4).

As we enter the digital era, education faces a dilemma: how to integrate AI in a way that maximizes its benefits while mitigating its risks? UNESCO has underscored the importance of member states adopting strategies that harness the potential of AI technologies, ensuring their equitable and inclusive use (5). Therefore, this task is complex, as it requires a regulatory framework that contemplates the ethical and practical challenges that arise with the implementation of AI in education.

Consequently, AI presents both benefits and disadvantages. Among the most prominent advantages is the personalization of learning, where AI can analyze each student's learning style and pace, creating educational experiences tailored to their individual needs. In addition, AI enables the early detection of difficulties, identifying learning problems at initial stages and facilitating timely intervention by educators. Greater access to education is also highlighted, as AI can offer learning opportunities to students in remote areas or with disabilities, thus contributing to more inclusive education (6).

Nevertheless, the incorporation of AI in education is not without challenges. One of the main ones is unemployment, as automation could replace millions of workers in various occupations. It is estimated that by 2030, between 75 and 375 million workers, representing between 3% and 14% of the global labor force, may need to change jobs and acquire new skills (5).

This change poses serious risks of income polarization and increased unemployment, which could undermine trust in democratic institutions. Furthermore, the lack of transparency in AI algorithms can result in erroneous decisions and the perpetuation of biases, making it difficult to detect errors and generating ethical problems. Finally, misinformation becomes a significant challenge, as AI can be used to disseminate false content, underscoring the need for educational strategies and regulations that protect the truth in this digital era (7).

Therefore, the present research aims to address these ethical challenges associated with AI in education, focusing on its impact on academic dishonesty. The implications of automation on the integrity of learning will be explored, and the strategies that educational institutions can adopt to foster an ethical academic environment will be analyzed.

MATERIALS AND METHODS

Research method:

The present research was carried out by adopting a qualitative approach. The qualitative component focused on collecting the perceptions, opinions, and experiences of the participants in relation to the role of artificial intelligence (AI) in the educational field, allowing a more comprehensive understanding of the phenomenon under study.

Population or sample

The population selected for this study in bibliographic reviews was composed of students and teachers from higher education institutions, using recognized academic databases such as Scopus, Web of Science, PubMed, ScienceDirect, Google Scholar, and thesis repositories from various universities, taking into account certain criteria, such as:

Inclusion criteria:

a) Thematic relevance: Studies that directly address the relationship between artificial intelligence and education, as well as their applications, challenges, and opportunities in this field, will be included.

b) Type of study: Empirical research, peer-reviewed articles, academic books, and policy documents that provide relevant data, analysis, or recommendations on the topic will be considered.

c) Year of publication: Studies published in the last 5 years will be included to ensure that the information is current and reflects the latest advances and trends in artificial intelligence and education.

d) Accessibility: Sources that are accessible through recognized academic databases and reliable repositories that facilitate obtaining the information will be selected.

e) Geographic diversity: Studies representing diverse geographic perspectives will be sought, especially those analyzing the context of Latin America, in order to obtain a more complete and varied view of the implementation of AI in education.

Exclusion criteria:

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a) Thematic irrelevance: Studies that are not directly related to artificial intelligence in education will be excluded, as well as those that address tangential topics without a clear focus on the intersection of both fields.

b) Non-peer-reviewed studies: Articles, blogs, or documents that have not undergone a peer-review process will be discarded, as a high standard of quality and academic rigor will be sought to be maintained.

c) Older publications: Research published more than five years ago will be excluded, unless they are fundamental for establishing relevant historical background or contexts.

d) Limited access: Any study that is not available in accessible academic databases or that requires costly subscriptions that cannot be justified in the context of this research will be omitted.

e) Lack of empirical data: Studies that are purely theoretical or conceptual without offering empirical data or practical applications of artificial intelligence in the educational field will be discarded.

Setting:

The research was developed in a generic academic setting, representing various higher education institutions in Latin America. This choice made it possible to capture a variety of perspectives on the incorporation of AI, reflecting the particularities and challenges faced by educational institutions in this region.

Measurements:

For data collection, various techniques were used, such as the exhaustive review of scientific articles, technical reports, guides, and regulations issued by regulatory bodies. Once the relevant information was compiled, a critical analysis of the data obtained will be carried out, extracting and summarizing the key findings related to the level of familiarity with AI, the perception of its effectiveness, and expectations about its future use in the educational field.

RESULTS

The thorough analysis of the scientific literature has made it possible to unravel a diversity of findings regarding the impact that Artificial Intelligence (AI) exerts in the context of higher education, as well as the challenging ethical issues that its implementation in this field entails.

Therefore, the incorporation of Artificial Intelligence (AI) in the educational field has brought with it a diversity of benefits and opportunities to improve teaching-learning processes. On the one hand, AI has made it possible to adapt learning materials according to the individual needs of students, facilitating a more personalized approach adapted to different learning styles and paces. Likewise, AI systems can provide immediate and detailed feedback to students, which can significantly improve their understanding and academic performance.

However, it is important to mention that the widespread use of AI tools, such as the emblematic ChatGPT, by students has raised serious concerns regarding the integrity and authenticity of academic work, as mentioned in various studies that have documented a significant percentage of students who recurrently resort to these systems to prepare assessment tasks, which undermines the originality of the productions presented and threatens to erode the principles of honesty and rigor that should govern the academic sphere (8).

On the other hand, the teaching staff also faces ethical dilemmas regarding the use of AI in their professional duties. Although these tools can facilitate and streamline various tasks inherent to teaching work, such as the creation of educational materials or the automated correction of assignments, there is also the risk that teachers themselves engage in ethically questionable conduct, such as improperly appropriating others' ideas, manipulating research results, or violating users' privacy (9). These inappropriate practices can seriously undermine the integrity and credibility of the teaching staff, which, in turn, can negatively affect their relationship with students and their professional development, which could generate gaps in the comprehensive training of students and weaken the fight against dishonest academic conduct.

Consequently, from the institutional perspective, universities face the challenge of establishing a solid regulatory framework that clearly and effectively regulates the use of AI in teaching-learning processes and in the field of research, since the absence of guidelines and protocols that define ethical standards and academic integrity has led some institutions to opt for prohibiting the use of these systems, which could limit the opportunities they offer to improve the efficiency of administrative and educational procedures (10).

Likewise, institutions must guarantee data privacy, algorithm transparency, and equity in automated decision-making, in order to avoid the perpetuation of biases and discriminatory practices.

A first aspect of particular relevance is the risk of bias and lack of equity inherent in AI systems implemented in educational institutions. Given that these systems are fed with large volumes of data for their training, there is the possibility that they reflect and perpetuate prejudices related to gender, race, social class, or other protected characteristics, which could lead to discriminatory determinations in key processes such as student admission, performance evaluation, and even the detection of dishonest conduct (11).

Another critical aspect lies in the privacy and protection of student data involved in the handling of large volumes of personal, academic, and behavioral information of the students.

Finally, Table 1 presents a comparative analysis of how different organizations and companies are addressing the ethical challenges associated with the development and implementation of Artificial Intelligence. Although some differences are observed in the emphasis that each regulatory framework places on the different principles, the analysis

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reveals a high degree of overlap among them, which denotes considerable alignment and consensus around the ethical standards that should govern this field (24).

Organization	Beneficence	Non-maleficence	Autonomy	Justice	Explainability
UNESCO	Promote well-being, preserve dignity	Proportionality and do no harm, safety and protection	Human supervision and decision	Equity and non-discrimination	Transparency and explainability
OECD	Inclusive growth, sustainable development and well-being	Robustness, safety and protection	Respect human values and justice (includes autonomy)	Respect human values and justice	Transparency and explainability, responsibility
EU	Prevention of harm		Respect for human autonomy	Equity	Explainability
USA	Safety and protection			Equity and non-discrimination	Disclosure and transparency
CHINA	Harmony and friendship: promote common well-being	Privacy: respect and protect privacy	Privacy: respect and protect the right of individuals	Equity and justice	Security, transparency, explainability, traceability, reliability
Spain	Social well-being, Sustainability	Data and systems governance that respect fundamental rights and the autonomy of individuals	Social well-being: not reduce, limit or divert the autonomy of individuals	Inclusion	Transparency
Google	Benefit to society	Ensure the safety of intelligent systems, Incorporate privacy design principles	Be accountable to people: systems must be subject to adequate human control and direction	Avoid creating and reinforcing biases	Be accountable to people: provide adequate opportunities for response, explanation and appeal
Microsoft	Privacy and Security		Equity	Transparency, Responsibility	
Meta	Robustness		Equity and	Transparency	

	and security		inclusion	and control	

Table 1: Complete relationship of key ethical principles for AI

Source: (12), (23), (24)

Despite the particularities of each approach, a common core of values and guidelines can be identified that seek to guide the ethical use of AI. This suggests that, beyond nuances, there is a shared understanding of the fundamental principles that should guide the development and application of this technology.

DISCUSSION

Previous research highlights the multiple ethical dilemmas that arise with the adoption of artificial intelligence (AI) in the educational sector. Various recent studies, such as those conducted by (13) and (14), warn that the widespread use of AI tools by students can endanger academic integrity, as it facilitates the creation of work lacking authenticity and originality. This problem is also reflected in the findings of the present research, which highlights the concern about academic dishonesty that could derive from the automation of assessments.

On the other hand, (15) and (17) address the ethical dilemmas that educators face when incorporating AI into their professional practices, such as the possible improper appropriation of ideas and the invasion of students' privacy. These challenges reinforce the need to establish clear ethical guidelines that regulate the use of AI in the teaching field.

In turn, (16) argues that the lack of a regulatory framework has led some institutions to opt for prohibiting the use of AI technologies, which limits their potential to improve the quality and efficiency of educational processes.

In this context, (17) highlights that future teachers perceive the flexibility offered by AI as a valuable tool for personalizing learning and developing more inclusive educational resources. UNESCO (22) also supports this vision by affirming that AI contributes significantly to the achievement of a more equitable and quality education, aligning with the fourth Sustainable Development Goal proposed by the UN.

Furthermore, (18) indicate that university students have the capacity to carry out AI projects if they have adequate support, a finding that aligns with previous research on the creation of digital objects through Augmented Reality (AR). However, despite the transition to virtual teaching caused by health measures, students have positively valued the online seminar modality, considering that it facilitated their learning of the contents.

Finally, (19) and (20) underscore that, although students enjoyed their participation in AI projects, this enjoyment does not always translate into an improvement in the perception of the technology's usability. This suggests that training activities must be designed to be attractive and motivating, in order to foster greater student involvement.

Finally, (21) together with (25) agree that the integration of AI in education presents significant challenges that institutions and teaching staff must face. In this regard, the need to incorporate AI experiences in a wider variety of subjects, beyond those that are strictly technological, is noted, as well as the lack of resources that may hinder its implementation in educational centers. Additionally, the lack of time and insufficient teacher training is highlighted, which could negatively affect the adoption of new technological tools for designing updated digital resources.

CONCLUSIONS

The incorporation of artificial intelligence (AI) in the educational field has generated both benefits and ethical challenges. On the one hand, AI has made it possible to personalize learning, detect difficulties early, and expand access to education. However, it has also raised serious concerns about academic dishonesty, due to the widespread use by students of tools such as ChatGPT to produce work lacking authenticity.

From the teaching staff's perspective, the use of AI also faces ethical dilemmas, such as the improper appropriation of others' ideas, the manipulation of research results, and the violation of users' privacy. These inappropriate practices can seriously undermine the integrity and credibility of the teaching staff, with negative consequences for their relationship with students and their professional development.

Educational institutions face the challenge of establishing a solid regulatory framework that clearly and effectively regulates the use of AI in teaching-learning processes and in the field of research. The absence of guidelines and protocols that define ethical standards and academic integrity has led some institutions to opt for prohibiting the use of these systems, which could limit the opportunities they offer to improve the efficiency of administrative and educational procedures.

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