Considerations on aspects related to inventory control in companies

Consideraciones sobre aspectos relacionados con el control de inventarios en las empresas

Janette Melvy Vallejos Araníbar[1], Katherine Alexandra Borja Jurado[1], Jorge Eduardo Riofrío Baquero[1], Jenrry Fredy Chávez-Arizala[1]

[1]Instituto Superior Tecnológico Adventista Del Ecuador. Santo Domingo. Ecuador.

ABSTRACT

Introduction: inventory control is the internal management of the merchandise or stock that exists in the company. The inventory, regardless of its function or nature, is an ordered, valued and classified list within a company or premises.
Objective: to characterize aspects related to the inventory control process in companies.
Method: a review of the bibliography available in databases such as SciELO, Scopus and ClinicalKey was carried out, of which a total of 14 related articles were consulted, empirical methods such as logical history and analysis and synthesis were used.
Results: there is no unique formula or method for carrying an adequate stock, but a correct application of those defined in the company. A Manual is a document that allows to synthesize, systematize and standardize procedures, norms, policies. A policy is a light that helps to see the path where you want to go, seeking to avoid making mistakes. Maintaining controls, policies, norms in the inventory is of utmost importance not only for its control but also helps in generating dividends for the company.
Conclusions: this process is currently deficient in many companies; adequate inventory control is reflected in cost reduction, improved cash flow and customer service, and increased operational efficiency and decision-making.

Keywords: Inventory Control; Policies; Standards; Economic Performance.

RESUMEN

Introducción: el control de inventario es el manejo interno de la mercadería o stock que existe en la empresa. El Inventario, independiente de la función o de su naturaleza, es un listado ordenado, valorado y clasificado dentro de una empresa o local.
Objetivo: caracterizar aspectos relacionados con el proceso de control de inventarios en las empresas.
Método: se realizó una revisión de la bibliografía disponible en bases de datos como SciELO, Scopus y ClinicalKey de las cuales se consultaron un total de 14 artículos relacionados, se utilizaron métodos empíricos como el histórico lógico y de análisis y síntesis.
Resultados: no existe una fórmula o método único de llevar un stock adecuado, pero una correcta aplicación de los definidos en la empresa. Un Manual es un documento que permite sintetizar, sistematizar y normalizar procedimientos, normas, políticas. Una política es una luz que ayuda a ver el camino por donde se quiere ir, buscando evitar que se comentan errores. El mantener controles, políticas, normas en el inventario es de suma importancia no solo para su control sino que ayuda en la generación de dividendos para la empresa.
Conclusiones: este proceso se manifiesta deficiente por en la actualidad de muchas empresas, un adecuado

control de inventarios se refleja en la reducción de costos, mejora el flujo de caja y los servicios al cliente, aumenta la eficacia operativa y en la toma de decisiones.

Palabras clave: Control de Inventarios; Políticas; Normas; Rendimiento Económico.

INTRODUCTION

Inventory control is the internal management of the merchandise or stock that exists in the company. *Inventory control* is how an organization manages the merchandise it keeps in stock by registering incoming and outgoing goods. Inventory management seeks to maintain the products required for the company and customers, so it involves coordinating the purchasing, manufacturing, and distribution areas. According to some authors, inventory management is considered a crucial element that business people should always monitor, given its influence on cost reduction and customer satisfaction.[1]

Internationally, many companies have implemented an internal inventory control system because it allows them to manage inventories correctly, thus avoiding deterioration, losses, waste, and stock depletion; however, this practice still needs to be implemented on a massive scale for better results. In some South American countries, inventories are one of the greatest assets within the organization since they contain marketing materials. One of the main causes of the failure of SMEs in Mexico is poor inventory control.[2]

Currently, in Ecuador, inventory control is a recurrent practice in SMEs; however, there are failures in the process caused by carelessness and deficiencies in the controls that cause fatal losses because most of the capital is invested in this asset.[3]

Inventory is one of the most important and costly assets of a company. Some managers think that good inventory control is fundamental to reducing costs and avoiding stock-outs since this would cause many economic problems for the company.[4]

Inventory, regardless of its function or nature, is an ordered, valued, and classified list within a company or premises that has the purpose of having a reserve or stock that allows the company to supply itself, either in its premises or in its warehouses, to have a stock that will help the production process in case it is needed at any given time.[5]

There are several ways to classify them according to their type, form, and use, but the most important are raw materials, semi-finished, and finished products. The inventory in a company must be executed with order. It must be adjusted to reality, and every company must carry it in an orderly and real way, without overvaluing or undervaluing either in cost or quantity, as it can cause inconveniences to other areas within the company. A well-done inventory allows us to determine at a given time what our stock is, which allows us to make decisions in production, costing, or replenishment. The inventory is managed through the company's accounting area. It is given by the entry and exit of material, without making a physical count of the product; for such reason, the generation of periodic controls according to the method used by the company is a necessity to validate what is in books with what is stored and validate the rotation of the product.[6]

Inventory management is the method by which a company or business carries out control of the merchandise that is stored, and that allows determining at any point in time the actual status in warehouses, which is why it is necessary to carry out controls from time to time. If these controls are done on a recurring basis, they can lead to excessive costs, so defining how and how often they will be carried out is essential. Adequate stock management in a company will allow it to reach adequate control of the inputs and outputs of products according to their demand, generating a timely output of the product, which will help the company maintain optimal thresholds of merchandise in case of need.[5]

Therefore, this review article aims to characterize aspects related to the process of inventory control in companies.

METHOD

The available literature was reviewed using articles retrieved from SciELO, Scopus, and ClinicalKey databases. Filters were used to select articles in English and Spanish, and empirical methods such as logical history, lysis, and synthesis were used to collect and understand the information obtained. The terms "Inventory Control," "Policies," "Standards," and "Economic Performance" were used as keywords in the article. A total of 14 references addressing different considerations on the inventory control process in companies were selected.

RESULTS

There is no single formula or method to keep an adequate stock. However, a correct application of those defined in the company, depending on the nature, life cycle, durability, etc., will help maintain adequate margins and optimal rotation levels that avoid waste, damage, or losses reflected in the company's income.

The importance of having a well-organized inventory allows us to have the location of our stock at all times, validate stock rotation, decision-making by top management, and provide accurate information about what we have. Some variables determine correct inventory management and allow a correct supply; among the main ones, we have quantified time according to the delivery time of a supplier, order placement, and warehouse reception, among the most important ones. Demand is based on how much a product will be ordered in the future so that the availability is efficient and profitable, and the expenses associated with the acquisition of a product to be supplied, its storage, and the demand not covered by having the product stored. This generates a cost overrun by needing a stock to be used if necessary.[5]

Arreaga Cotrina et al.[4] designed a manual of policies and procedures for inventory management and its influence on the management of purchasing, storage, and sales processes of the commercial company Asisco S.A., where its main objective was to design a practical and understandable manual of policies and procedures for inventory management. The work was executed in descriptive research, which consisted of collecting data regarding the current situation of each job and related to the corresponding processes within the company Asisco S.A. After designing the complete manual, they concluded that to carry out this type of proposal, they must first plan the research time of all the key points, thus making it easier to assemble the project without difficulties. In addition, after implementing this thesis, roles and responsibilities were assigned to the different work positions.

Ronquillo Ochoa et al, [7] in his unpublished thesis entitled "Inventory control and its effect on the company 'SERVICENTRO RONQUILLO' in the canton Santa Lucia," located in the city of Guayaquil, Guayas, Ecuador, for the academic degree in Accounting and Auditing Engineer - CPA at the Universidad Laica Vicente Rocafuerte de Guayaquil, the main objective that design policies for proper inventory control in the company "Servicentro Ronquillo" that have not been used previously. The study used a mixed analysis method, a quantitative approach with a descriptive level of research, and primary and secondary methods for data collection. They used the interview and survey technique; the sample was non-probabilistic because the entire population was used. Within their studies, they found that there is no adequate control of sales, products in stock, and best-selling products, the staff lacks adequate training, and the inventory is outdated and disorganized; all this has led to the loss of sales, loss of liquidity in the company since there is no control of the products that have been purchased and that are kept in warehouses and is reflected in the image that has been given to the consumer.

For example, the ABC system of inventories focuses on establishing inventories by category of need in the process, in such a way that it is called A those of greater urgency, price, or if it is of the first line in the development of the same. B are those that are required globally, and finally, C are those of minimum control, i.e., if it were to be missing, it would not delay the production or marketing process depending on the economic activity. It is possible to plot this classification in a Pareto diagram to organize it. The ABC diagram is based on the Pareto principle or 80/20 rule, i.e., it indicates that 20 % of the effort is responsible for 80 % of the result.[8,9]

Low inventory levels can achieve the objectives by selectively applying inventory policies to these different groups rather than a policy applied collectively to all products. This classification helps companies prioritize their inventory management efforts and optimize inventory control. This theory is related to the research conducted because, when creating a policy and standards manual for inventory control, this theory would be one of the first parameters to be included in the manual. The application of the ABC theory for merchandise control would be as follows: Data collection: To begin with, the company must collect data on its merchandise, including information on demand, cost, and product turnover. Classification of the items: Once the data is obtained, the items will be classified according to their importance or value.[10,11]

This classification is made by analyzing certain monetary value and demand criteria. Application of inventory policy: The company can establish inventory policies by category with the ABC classification. Category A: These are the most important and represent the highest value for the company. Category B: Items in this category are of intermediate importance. With these, the company can maintain a moderate inventory level, always ensuring that there are no excesses or shortages that affect the business activity and Category C: items in this category are of less value and, in general, can have a low stock because many times they are not directly involved in the production or sales processes. Periodic review and adjustments: A company needs to conduct periodic reviews of the ABC classification and adjust policies if necessary. The ABC theory is dynamic and can be adapted to changing market or company circumstances.[9]

Two criteria can be used to prepare inventories: Temporary, used in small companies because they do not have large quantities of products, and, if necessary, they can be manually counted. It is not a reliable system as there is no knowledge of how much is available, which generates problems in losses, supply, sales, etc. Cyclic or rotating: Its main characteristic is its counting at times determined by the company, generating product rotation and generating advantages for decision-making. It is used by marking all the products and using the ABC method; they were grouped according to cost or rotation to categorize them appropriately to obtain less invested capital.[12,13]

A manual is a document that allows synthesizing, systematizing, and standardizing procedures, standards, and policies in a clear, concise, orderly manner, as well as tasks performed in a given area at work. Its use in daily tasks allows the generation of guidelines within the organization that facilitate and generate good work practices. These must be designed correctly for their implementation to work within the organization since they help to optimize compliance with standards and internal controls when properly carried out. Their correct use allows organizations to save time and costs, avoid making mistakes, and help to create a culture of efficiency among workers.[14,15]

A policy is a light that helps to see where you want to go, seeking to avoid mistakes and slowness and that the response times to the tasks performed do not present delays. A policy is a unique decision-oriented guide to performing repetitive activities, giving a defined guideline that allows one to make adequate decisions in routine activities.[8]

Policies are attitudes created and imposed in an organization to maintain order within it, being thought and designed to improve and streamline tasks to be done correctly. Its main purpose is to create an environment where administrative bureaucracy is minimized and thus improve productivity to obtain better monetary results. Policies must govern any organization whose objective is efficiency, whether written or not, bearing in mind that organizations that have them formally defined generate better operating results than those that do not.[11]

González[16], in his unpublished thesis entitled "Inventory control and its impact on the profitability of the company CODILITESA S.A.," located in the city of Ambato, Tungurahua, Ecuador, for the degree of Engineer in Accounting, Auditing and Finance, CPA at the Universidad Regional Autónoma de los Andes, the main objective of the study was to design an inventory control system to improve the profitability of the company. The study was developed using an exploratory research methodology and a qualitative-quantitative design, conducting documentary and field research. For this, interviews, surveys, and observation were used; not a sample but the entire population since the 40 workers who are part of the company were used. The study found that there is a poor organization of the stored products, as well as the lack of a person in charge of handling the merchandise, which causes problems when registering incoming and outgoing products, and there is no established method to verify the inventory, which is causing significant economic losses.

León Paladines et al.[17], in the results obtained, showed that many shrimp farms in the city of Machala do not have effective procedures to help control inventories with supporting documents such as Kardex and production sheets, among others. This result also reinforced the point of view on inventory control policies, which considers determining maximum and minimum levels of production inputs, which is an indispensable component of inventory management. The study concluded that inventory control is an indispensable part of the production areas, maintaining the income and consumption of raw materials in an orderly and detailed manner, which allows for minimizing investment risk and maximizing profitability.

Maintaining inventory controls, policies, and standards is of utmost importance for its control and helps generate dividends for the company.[18]

CONCLUSIONS

Roles and responsibilities must be assigned to each member of the work team to maintain strict order, which is reflected in the efficiency and productivity of workers. This process is currently deficient in many companies; adequate inventory control is reflected in the reduction of costs, improves cash flow and customer services, increases operational efficiency and the decision-making process.

REFERENCES

1. Cárdenas Vergara O, Alfonso Llanes A, Soto Vidal Y. Diagnóstico de la gestión de inventarios en la Empresa de Aprovechamiento Hidráulico de Villa Clara. UNIANDES. 2021;8(3). Disponible en: https://revista.uniandes.edu.ec/ojs/index.php/EPISTEME/article/view/2169

2. Samaniego H. Un modelo para el control de inventarios utilizando dinámica de sistemas. UASB. 2019 ; Disponible en: https://revistas.uasb.edu.ec/index.php/eg/article/view/1305

3. Cevallos R. Modelo de inventarios para pymes del sector comercial en el Ecuador. UCE. 2018 ; Disponible en: https://www.dspace.uce.edu.ec/entities/publication/fd2f031c-f2c0-4a9c-9182-26ddfcb2991a

4. Arreaga Cotrina D, Ramírez Muñoz D. Diseño del manual de políticas y procedimientos para el manejo de inventarios y su influencia en la gestión de procesos de compra en la empresa Asisco S.A. UPS. 2011 ; Disponible en: https://dspace.ups.edu.ec/handle/123456789/1673

5. Cruz A. Gestión de inventarios. Books. 2017 ; Disponible en: https://books.google.com.cu/books/about/Gesti %C3 %B3n_de_inventarios_COML0210.html?id=s1cpEAAAQBAJ&redir_esc=y

6. Arenal C. Elaboración y gestión de inventarios. Books. 2020 ; Disponible en: https://books.google.com.cu/books/about/GESTION_DE_INVENTARIOS.html?id=py9JzgEACAAJ&redir_esc=y

7. Ronquillo Ochoa M, Saltos Aguirre J. Control de inventarios y su efecto en la empresa Servicentro Ronquillo en el cantón Santa Lucía. ULVR. 2022 ; Disponible en: http://repositorio.ulvr.edu.ec/handle/44000/5803

8. Chaves E. Administración de materiales. USAC. 2005 ; Disponible en: https://biblos.usac.edu.gt/opac/record/490200

9. Sánchez RM. Classcraft: The Impact of Gamification in Higher Education. Gamification and Augmented Reality 2025;3:100–100. https://doi.org/10.56294/gr2025100.

10. Ballou. Administración de la cadena de suministro. La Clase Dot Blog. 2004 ; Disponible en: https://laclassedotblog.wordpress.com/wp-content/uploads/2018/05/logistica_administracion_de_la_cadena_de_suministro_5ta_edicion_-_ronald_h-_ballou.pdf

11. Durán JFC, Paniagua RL. Water and Environmental Education: Pedagogical Field-Object in the Purépecha Indigenous Community of Naranja de Tapia, Michoacánagua. Southern Perspective / Perspectiva Austral 2025;3:40–40. https://doi.org/10.56294/pa202540.

12. Meana P. Gestión de inventarios. Books. 2017 ; Disponible en: https://books.google.com.cu/books/about/Gesti %C3 %B3n_de_inventarios.html?id=Ml5IDgAAQBAJ&redir_esc=y

13. Ramírez JL, Pullas KC, Zambrano PM, Nain E, Chávez-Arizala JF. Quality of life level of older adults at the MIES Gerontological Center. Southern Perspective / Perspectiva Austral 2025;3:55–55. https://doi.org/10.56294/pa202555.

14. Álvarez M. Manual para elaborar manuales de políticas y procedimientos. Perlego. 2006 ; Disponible en: https://www.perlego.com/es/book/3514214/manual-para-elaborar-manuales-de-politicas-y-procedimientos-pdf

15. Azam A, Rai S. Revolutionizing Home Price Forecasting Through Machine Learning. Land and Architecture 2025;4:153–153. https://doi.org/10.56294/la2025153.

16. González R. Control de inventarios y su incidencia en la rentabilidad de la empresa Codilitesa S.A. DSPACE. 2019 ; Disponible en: https://dspace.uniandes.edu.ec/handle/123456789/9709

17. León Paladines, Moreno Narváez V, Díaz Córdova J. El control de inventarios en el sector camaronero y su aporte en los estados financieros. Dialnet. 2020 ; Disponible en: https://dialnet.unirioja.es/servlet/articulo?codigo=7608923

18. Zapata J. Fundamentos de la gestión de inventarios. Acci Edu. 2014 ; Disponible en: https://www.accioneduca.org/admin/archivos/clases/material/manejo-de-inventario_1563983589.pdf

FINANCING

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.
Data curation: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.
Formal analysis: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.
Research: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero,

Jenrry Fredy Chávez-Arizala.

Methodology: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Project Management: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Resources: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Software: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Supervision: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Validation: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Visualization: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Writing - original draft: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.

Writing - proofreading and editing: Janette Melvy Vallejos Araníbar, Katherine Alexandra Borja Jurado, Jorge Eduardo Riofrío Baquero, Jenrry Fredy Chávez-Arizala.