LITERATURE SURVEY

Project Title : Inventory Management System for Retailers.

Team ID : PNT2022TMID43150

ABSTRACT:

In recent years, the correct management of inventories has become a fundamental pillar for achieving success in enterprises. Unfortunately, studies suggesting the investment and adoption of advanced inventory management and control systems are not easy to find. In this context, this article aims to analyze and present an extensive literature concerning inventory management, containing multiple definitions and fundamental concepts for the retail sector. A systematic literature review was carried out to determine the main trends and indicators of inventory management in Small and Medium-sized Enterprises (SMEs). This research focuses specifically on the retail sector. The primary outcomes of this study are the leading inventory management systems and models, the Key Performance Indicators (KPIs) for their correct management, and the benefits and challenges for choosing or adopting an efficient inventory control and management system. Findings indicate that SMEs do not invest resources in sophisticated systems; instead, a simple Enterprise Resource Planning (ERP) system or even programs such as Excel or manual inventories are mainly used.

I. INTRODUCTION

Nowadays, organizations, and especially those performing activities in the retail sector, face multiple challenges in the planning and management of their resources. For this sector, having efficient management of human, technological, or material resources refers to the performance that companies characterized by the experience gained in their management could obtain over time. Therefore, the correct inventory management has become essential.. The determination of the optimal inventory level is a fundamental part of the life of organizations due to the high investment that it represents at the time of its acquisition, administration, and maintenance.The role of inventory management is to ensure that stocks of raw material or other supplies, i.e., work in-progress and finished goods, are kept at levels that provide maximum service levels at minimum costs" . Various technologies have been developed over time for inventory management, going from basic manual reporting to an integrated information system (IS), which can help to " decide how and where orders should be fulfilled to improve service levels while decreasing total costs" .

This article aims to present an extensive literature review concerning inventory control

and management in the retail sector. First, the paper includes a systematic literature review regarding the Key Performance Indicators (KPIs) of inventory control and management in retail companies. Second, the main systems, methodologies, and tools used for inventory management are described. Finally, the current trends in inventory handling and management in retail companies are outlined.

II. RESEARCH METHODOLOGY

Population refers to retail companies; Intervention relates to inventory control and management; Comparison refers to identifying systems, methodologies, and tools, and Outcomes refers to answer the research questions.

Therefore, the research questions addressed in this study are the following:

What are the main KPIs of inventory control and management in retail companies?

What are the systems, methodologies, and tools aimed at inventory control and management in retail companies?

What are the current trends in inventory control and management in retail companies?

As a second step, a relevant set of digital databases were selected. It was decided to use both specific and general digital databases.

III. RESULTS AND DISCUSSION

In this section, the results of the systematic literature review and current trends in inventory management for retail companies are reported and discussed. First, the results of the metadata analysis are presented. Finally, the research questions are answered in the second part of this Section. The data were collected thought suitable codes such as technology, inventory type, cost, stock type, order form, control method, reposition, information levels, planning, and policies. This information was used to construct code nets and to establish the main topics of this contribution. Finally, a quantitative (metadata analysis) and qualitative (content) analysis was performed.

Content analysis:

Actual inventory and its relationship with the company's information system:
A retail store must have the same data in all its records, that is, the data that has been recorded in the information system must be the same data that is physically held. This is considered necessary due to continuous inconsistencies that exist between the physical inventory record and the inventory that appears in the system, incurring operational consequences. Furthermore, this inaccuracy of inventory registration causes an increase in the number of shortages, which could be improved by providing inventory information to the customer. In this way, the level of quality of service received by the customer can be projected and, in turn, the existence of the product is ensured.

Inventory level.

When an assortment planning problem arises, it is essential to develop an optimization model that considers the optimal assortment and the inventory level. At the beginning of a season, the inventory level must be lower to avoid that in the end it is sold at a low price, this is a consequence of keeping the product at a fixed level throughout the season. Therefore, maintaining a low inventory level of a product can create pressure among customers causing the immediate purchase of the product

New Product - Actual Sales
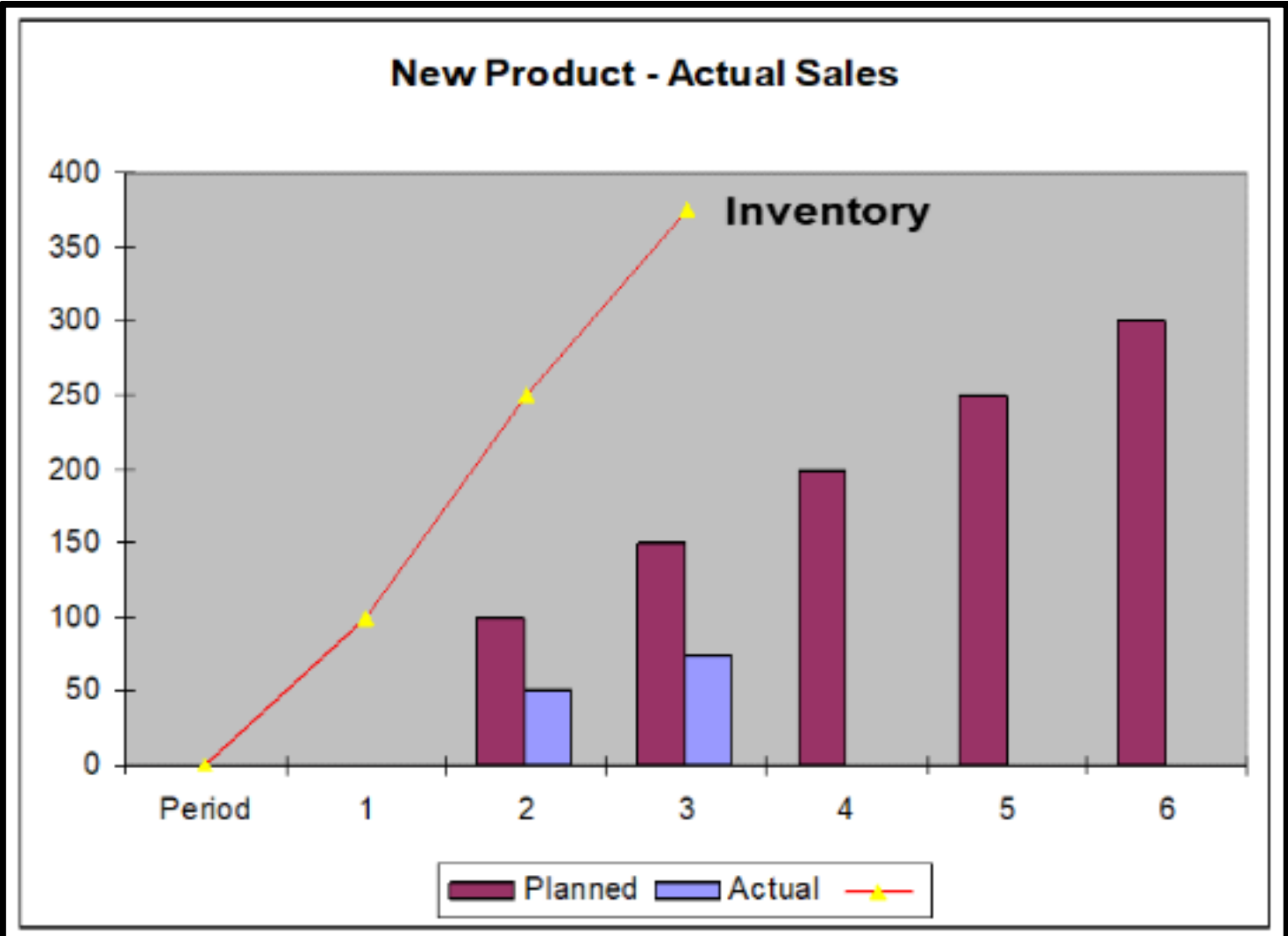
		Purchases			Sales			Balance		
Date	Activity	Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost
1/1/2019	Begin Inventory							600	5.00	3000.00
1/3/2019	Sale				400	5.00	2000.00	200	5.00	1000.00
1/4/2019	Purchase	1600	6.00	9600.00				200	5.00	1000.00
								1600	6.00	9600.00
										10600.00
1/7/2019	Sale				1000	6.00	6000.00	200	5.00	1000.00
								600	6.00	3600.00
1/10/2019	Purchase	1000	6.50	6500.00				200	5.00	1000.00
								600	6.00	3600.00
								1000	6.50	6500.00
										11100.00
1/15/2019	Sale				600	6.50	3900.00	200	5.00	1000.00
								600	6.00	3600.00
								400	6.50	2600.00
										7200.00

IV. CONCLUSION

Retail companies have acquired significant importance within several countries due to their high economic contribution. Therefore, the need to analyze their KPIs becomes highly significant, as well as their different systems, methodologies, and tools used within inventory management and optimization. From the aspects mentioned above, the main trends in inventory management within companies were defined.

Regarding KPIs, findings reveal 22 important indicators within inventory management that must be considered when retailers evaluate their stock. Among them, ten primary

indicators were founded: inventory level, actual inventory and its relationship to the company's information system, shortage or shortage frequency, frequency of product reordering or replenishment, service level, replacement frequency, product availability, inventory in excess, number of items on the shelf and level of income or profit. These indicators allow the organization to know the state of the stock, to be managed appropriately, and show an excellent service quality and product availability image to the customer. The importance of evaluating an inventory management system using indicators is reflected in the main advantages, i.e., the decrease in monetary loss, higher operating performance, and a higher profit.

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