

RETAIL STORE STOCK INVENTORY ANALYTICS

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, especially in organizations dedicated to retail. 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.

According to, “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”. This because the realizable asset occupies a significant percentage within the Total Assets. Hence, its correct ordering and administration imply being able to minimize the risk of contracting results that may put the health of the company at risk.

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”. Moreover, these new functionalities can collaborate in the most effective handling of materials and better manage the cycle of purchase - reception - allocation in production. 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. For this, the application of the Fink and the Population, Interventions, Controls, and Outcome (PICO) methodologies were developed, which suggests different steps and stages, to solve the problems and research questions raised. To answer these questions, a great variety of digital databases were used. Thus, conference and journal articles concerning inventory control and management in retail companies were

retrieved. The articles selected were analyzed through the Atlas.ti software. Finally, a qualitative and quantitative analysis was performed to answer the research questions raised.

LITERATURE REVIEW:

1. RESEARCH METHODOLOGY :

To accomplish the goals described above, the study follows the Fink methodology. It consists of seven main tasks: (1) choosing research questions, (2) defining bibliographic or article databases, (3) selecting search terms, (4) applying practical screening criteria, (5) applying methodological screening criteria, (6) doing the review, and (7) synthesizing the results. Therefore, the systematic literature review starts establishing the particular needs for knowledge or research questions. For this purpose, the PICO methodology was used. In this case, 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? and 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, namely: Emerald, Science Direct, Scopus, and Taylor & Francis. Based on the research questions, the search terms were defined (Step 3) and the searching string was established as follows: retail AND inventory AND SMEs AND (model OR management OR industry OR technology OR cost OR control OR maintenance OR system OR optimization OR rotation OR turnover OR software OR trend OR tendency OR tool OR tics. This chain searching was examined in the title or abstract document, and the selection was limited to conference and journal articles, in English and the period 2015-2019 (Step 4). It is worth noting that duplicate articles were removed.

The final sample articles consisted of 312 potentially relevant studies. The full text of each document was retrieved for detailed evaluation to discard those that did not fulfill the selection criteria with the inventory

management and control topic in retail companies. To determine the article's contribution, the main sections, such as abstract, results, discussions, and conclusions, were analyzed in-depth (Step 5). As a result, 42 primary studies were subsequently selected for doing the review using the Atlas.ti software (Step 6). In each article, information extracted was the following: (1) demographics information (title, authors, journal name, country and year), and (2) information related to the study (enterprise activity, implementation sector, theoretical foundation). The data were collected through 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 (Step 7).

RESULTS AND DISCUSSION:

- a) Actual inventory and its relationship with the company's information system.
- b) Inventory level.
- c) Shortage of scarcity.
- d) Product reordering or replenishment.
- e) Service level.
- f) Availability of products.
- g) Product replacement.
- h) Excessive inventory.
- i) Items on the shelf, Response level, and Income level – earnings.
- j) Lost items, incorrect scanning, and verification of the amounts received, and complexity and operational performance.
- k) Preference, Purchase Decision - Sales Data, and Inventory Balance.
- l) Incorrect deliveries and Returns.
- m) Adaptive, flexible inventory, and proper planning.

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