Development of a Web-Based Smart Store Management System for Retail Store

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**Introduction**

Today, our lives are becoming more and more inseparable from stores, which have become a part of our lives. It is a traditional retail business organization, which not only has the convenience of supply in the alley and retail stores on the street, but also has the way of open-shelf sales and chain operation, and it is developing very rapidly all over the world. With the continuous development of computer technology and network technology, the individual stores belonging to the chain are gradually adopting information management, mainly responsible for the management of the store's merchandise, inventory and sales, and, as more and more people change their shopping habits, from the original offline shopping to online shopping, thus making this form of consumer-centric, and the use of data and information technology for retail is gradually becoming popular and becoming a derivative of the new era. Therefore, many retail companies have started to realize synchronized online and offline marketing by laying out this new retail model, building a complete business platform and formulating marketing strategies that can maximize the effect, so as to achieve the improvement of corporate brand image and the expansion of product sales.

**Objectives**

The objectives are of this study are as follows:

1. To study the current existing store management systems and identify the strengths and weaknesses of the existing systems.
2. To develop a web-based intelligent store management system application that allows store managers to manage their stores more easily and efficiently
3. To analyse the main challenges currently faced by retail companies in store marketing by creating a combination of both online and offline sales channels to address the issue of the limited number of customers that can be reached by traditional offline retail stores.
4. To use the store management application to solve the current challenges faced by retail stores in inventory management
5. To evaluate the performance of the developed web-based smart store management system.

**Methods**

The development methodology used in this study is SDLC (Software Development Life Cycle) Waterfall Methodology. The SDLC Waterfall Model was chosen because SDLC allows developers to analyse requirements and helps developers to produce the highest quality software products in the shortest time and at the lowest cost. In addition, a random questionnaire was also used in this study, and the sample consisted of 110 retail store managers or store owners from different countries and regions. By collecting a large amount of information to help developers study the needs and desires of users and to determine the status of the application to be developed, which is essential for the development of the system.

**Results**

Based on this survey, it can be concluded that most retail business managers or store owners would like to have a better tool to help them achieve effective management of their stores, thus improving store management efficiency and performance and reducing the retail operation cost of their stores. In addition, most participants also want their stores to be able to sell their products through online channels. For example, the current operation of traditional retail stores is labour-based for the most part, and as store rent and labour costs rise year by year, coupled with the impact of Internet e-commerce, it makes physical stores less and less patronage, and this program will be able to help them greatly by enabling store managers to synchronize online and offline merchandising and develop marketing strategies that maximize results, which not only can provide store customers with more choices of purchasing methods, but also help to increase store sales and profits.

**Conclusion**

Finally, it can be said that the system has been carried throughout the project's many stages of development, first we studied existing store management systems and literature in order to analyse the problems and limitations in the current existing systems, then we conducted a questionnaire survey on this to understand the needs of store managers or store owners and analysed the results to summarize them. These methods enabled the effective development of the project and achieved the main objective of this research, which is to develop a web-based intelligent store management system application that enables store managers to achieve effective management of their stores. For the proposed application has been implemented on a web-based platform and is compatible with leading browser applications such as Chrome, Microsoft Edge, etc. According to the feedback from the participants who took part in the user acceptance tests, it has successfully met all the objectives and improved the user experience. As the needs of future users of the proposed system may change at any time, the application can be further developed and enhanced in the future based on it to ensure that the system will always meet the needs of the users.