**DESIGN AND IMPLEMENTATION OF ONLINE BOOKSTORE MANAGEMENT SYSTEM WITH PAYMENT INTEGRATION**

**(A CASE STUDY OF THE POLYTECHNIC IBADAN VENTURES BOOKSHOP)**

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**CHAPTER ONE**

**1.1 INTRODUCTION**

An online bookstore management system is a powerful and versatile software solution designed to revolutionize the way book retailers and customers interact in the digital age. This innovative platform seamlessly bridges the gap between brick-and-mortar bookstores and the convenience of e-commerce, providing an engaging and efficient shopping experience for book enthusiasts.

In today's fast-paced world, the demand for books spans a wide range of genres and interests, making it essential for bookstores to adapt to the ever-evolving landscape of the digital marketplace. An online bookstore management system not only facilitates the easy discovery and purchase of books but also streamlines inventory management, enhances customer engagement, and optimizes order fulfillment processes.

With the advent of technology, customers now expect the convenience of browsing, selecting, and purchasing books from the comfort of their homes, offices, or on the go. This system responds to these expectations by offering a user-friendly interface, advanced search capabilities, secure payment processing, and personalized book recommendations to cater to the diverse tastes of readers.

In addition to serving customers, the online bookstore management system empowers booksellers and administrators with robust tools for cataloging, pricing, and promoting their offerings. It provides valuable insights through analytics and reporting, enabling data-driven decisions that can lead to improved sales, customer retention, and profitability.

As the world increasingly embraces digital platforms for commerce and information, an online bookstore management system emerges as an indispensable asset for book retailers, authors, and readers alike. This system not only facilitates access to the vast world of literature but also fosters a dynamic and thriving ecosystem where the love for books can flourish in the digital age.

**Introducing an online bookstore management system:** In today's rapidly evolving digital landscape, the world of books has undergone a transformative journey. The emergence of online bookstores has not only revolutionized the way we discover, purchase, and enjoy literature but has also opened up a realm of possibilities for book retailers to thrive in the modern age. This introduction explores the significance of an online bookstore management system with references to key developments in the industry.

**The Digital Renaissance of Books:** The digital age has reshaped the book industry, challenging traditional brick-and-mortar bookstores to adapt to changing consumer preferences. In this era of e-commerce, where convenience and accessibility reign supreme, online bookstores have become a ubiquitous presence. According to a study by Statista, global e-book revenue is projected to reach $20 billion by 2026, underscoring the monumental shift towards digital reading.

**Meeting the Demands of the Digital Reader:** Online bookstores are not merely a marketplace but an immersive digital experience. Readers now have the power to explore an extensive catalog of books from the comfort of their homes, making informed choices with the click of a button. These platforms offer user-friendly interfaces, robust search functionalities, and personalized recommendations, redefining the way readers interact with literature.

**Empowering Booksellers and Authors:** An online bookstore management system empowers booksellers and authors with cutting-edge tools for cataloging, pricing, and promoting their literary works. It enables them to reach a global audience, build reader communities, and gain valuable insights into consumer preferences. Amazon's success, for instance, illustrates how authors and publishers have leveraged online marketplaces to access a vast and diverse readership.

**Efficiency, Analytics, and Customer-Centricity:** In the competitive world of e-commerce, efficiency is key. An online bookstore management system streamlines inventory management, optimizes order processing, and provides invaluable analytics and reporting. This data-driven approach empowers retailers to make informed decisions, enhance customer experiences, and drive growth.

Creating an online bookstore specifically tailored for higher education institutions, such as colleges and universities, presents a unique set of challenges and opportunities. The goal is to provide students, faculty, and staff with easy access to educational materials while ensuring the system is efficient, secure, and user-friendly. An online bookstore for higher education institutions should be tailored to meet the specific needs of students, faculty, and the institution itself. By providing an efficient and user-friendly platform, it can streamline the acquisition of educational materials and enhance the overall learning experience.

## 1.2 STATEMENT OF PROBLEM

This shift towards online book shopping presents a unique set of challenges for both booksellers and customers. Booksellers need efficient tools for managing their online bookstores, tracking inventory, processing orders, and engaging with customers effectively. Customers, on the other hand, seek intuitive, user-friendly platforms that offer a vast selection of books, personalized recommendations, and a seamless shopping experience.

Existing online bookstore management systems in the polytechnic Ibadan often lack the necessary features and usability to address these challenges comprehensively. Inadequate inventory management, poor user experience, and limited customer engagement tools hinder booksellers from maximizing their online presence and sales potential.

This project aims to develop a robust and user-centric online bookstore management system that addresses these limitations. The system will provide efficient inventory management, streamlined order processing, and advanced customer engagement features. By creating a comprehensive and user-friendly platform, we aim to empower booksellers to thrive in the digital marketplace and offer customers a compelling and convenient online book shopping experience.

## 1.3 JUSTIFICATION OF STUDY

Creating an online bookstore specifically tailored for higher education institutions, such as colleges and universities, presents a unique set of challenges and opportunities in the digital age of book retail. The goal is to provide students, faculty, and staff with easy access to educational materials while ensuring the system is efficient, secure, and user-friendly.

Implementation of Online Bookstore Management System will replace conventional old system, physical presence with online bookstore which would make purchase of academic books much easier. In other words, users would not necessarily need to be at the bookstore before knowing the books that are available for sale. Perhaps the most outstanding of this reason is the bridging of the gap between user and the bookstore.

## 1.4 AIM AND OBJECTIVES

Defining clear aims and objectives for an online bookstore management system project is essential for guiding its development and ensuring that it meets specific goals. Here are the aims and objectives for an online bookstore management system:

**1.4.1 The Aim:**

To develop and implement a comprehensive online bookstore management system that enhances the efficiency, user experience, and competitiveness of the bookstore while providing valuable data insights.

**1.4.2 Objectives:**

1. Efficient Catalog Management - Develop a user-friendly interface for bookstore staff to easily manage an extensive catalog of books, including adding, editing, and removing entries.

2. Streamlined Ordering and Checkout - Create a seamless and intuitive ordering process for customers, including a shopping cart, secure payment options, and efficient checkout.

4. User-Friendly Customer Profiles - Allow customers to create and manage profiles, access order histories, and set preferences for a personalized shopping experience.

5. Data-Driven Insights - Develop a reporting and analytics module to provide administrators with valuable data on sales trends, customer behavior, and inventory turnover.

6. Recommendation Engine - Integrate a recommendation system to suggest books to users based on their preferences and browsing history.

7. Security and Data Protection - Ensure robust security measures, including data encryption and secure payment processing, to protect customer information.

8. Mobile Responsiveness - Optimize the system for mobile devices, making it accessible and user-friendly on smartphones and tablets.

9. User Support and Resources - Provide various customer support channels, such as chat and email support, as well as access to educational resources for customers.

10. Integration with Payment Gateways - Integrate with secure payment gateways, such as PayPal for processing online payments.

11. Content Management - Enable efficient content management, including book descriptions, images, and promotional materials.

12. Financial Management - Implement features to track and manage financial transactions, including sales, discounts, and loyalty programs.

13. Scalability and Performance - Ensure that the system can handle increased traffic, transactions, and a growing catalog of books.

14. Accessibility and Compliance - Adhere to accessibility standards to make the system usable for individuals with disabilities and also comply with relevant data protection regulations and industry standards.

15. Environmental Sustainability - Promote digital textbooks and eTextbooks to align with environmental sustainability goals by reducing the consumption of physical resources.

16. User Feedback and Continuous Improvement - Encourage user feedback and commit to making continuous improvements based on user suggestions and evolving requirements.

## 1.5 SCOPE OF STUDY

This project work is majorly focused on providing an online bookstore management system, limited to The Polytechnic Ibadan Bookshop.

## 1.6 METHODOLOGY

In the development of any project, a very important requirement is the gathering of data for the project. It uses the following method to gather the necessary and required data for development.

Interview Method: This has to do with carrying out one to one interview with those involved, particularly the Lecturers and students so as to know their opinion as regard to the existing system.

Observation Method: This involves self-observation from the research to understand the current system and identify the short coming of the system in order to design the new system.

## 1.7 DEFINITION OF TERMS

### PHP:  PHP is an acronym for "PHP: Hypertext Preprocessor". PHP is a general-purpose scripting language especially suited to web development

### HTML: HTML stands for Hyper Text Markup Language · HTML is the standard markup language for creating Web pages

### DBMS: Stands for "Database Management System." In short, a DBMS is a database program. Technically speaking, it is a software system that uses a standard method of cataloging, retrieving, and running queries on data.

### Database: A database is an organized collection of data, generally stored and accessed electronically from a computer system. Where databases are more complex they are often developed using formal design and modeling techniques.

### Administrator: A person who monitor the users/clients that that make purchase on the website

### User: is the person that makes purchase on the website platform.

7. Bookstore: A place of business where books are the main item offered for sale.

8. Payment Gateway: A payment gateway is a technology used by merchants to accept debit or credit purchases from customer.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1 BACKGROUND OF STUDY**

The emergence of digital technologies and the shift towards e-commerce have revolutionized the way consumers access and purchase goods and services. In the context of the book retail industry, this transformation has led to a significant shift from traditional brick-and-mortar bookstores to online platforms, reshaping the landscape of book retailing globally.

According to Statista, the global e-book market has witnessed steady growth, with forecasts indicating continued expansion. The convenience and accessibility offered by online bookstores have contributed to this growth, with consumers increasingly opting for digital formats and embracing the convenience of browsing and purchasing books from the comfort of their homes or on-the-go via mobile devices (Statista, "E-book sales worldwide").

However, the transition to online book retailing presents its own set of challenges, particularly in the management of bookstore operations. Traditional bookstores face hurdles in efficiently managing their extensive book catalogs, optimizing inventory, providing a seamless user experience, and staying competitive in the ever-evolving digital marketplace.

In response to these challenges, the development and implementation of a robust online bookstore management system have become imperative. Such a system would encompass functionalities ranging from streamlined inventory management, user-friendly interfaces, secure payment gateways, data-driven analytics, and personalized user experiences.

Past studies, like those by McKinsey & Company ("E-commerce: Maturity is the key to growth"), highlight the significance of digital maturity and efficient e-commerce solutions in driving growth and sustaining competitiveness in today's retail landscape. This underscores the importance of an online bookstore management system that not only meets current industry standards but also anticipates future market demands and technological advancements.

Moreover, in the wake of global events such as the COVID-19 pandemic, the reliance on online platforms for retail has intensified, further emphasizing the need for resilient and adaptable online bookstore management solutions that cater to the evolving needs and preferences of consumers.

Higher educational institutions, including colleges and universities, serve a diverse population of students and faculty with varied academic needs. The acquisition of textbooks and educational materials is an integral part of the academic journey, essential for learning and research endeavors. Traditionally, campus bookstores have been the primary source for students to purchase course materials.

However, the landscape of higher education is evolving rapidly, driven by technological advancements and changing student preferences. The proliferation of e-commerce and digital content has reshaped the way educational resources are accessed and consumed. According to recent studies (Deloitte, "Digital media trends survey"), there is a growing trend among students to favor digital formats and online purchasing for textbooks and educational materials.

The challenges faced by higher educational institutions in managing bookstores and catering to the diverse needs of students and faculty have become more pronounced. Campus bookstores often grapple with issues such as limited physical space for book storage, the complexity of managing inventory for numerous courses, and the rising costs of printed textbooks.

In response to these challenges, the concept of an online bookstore management system tailored specifically for higher educational institutions emerges as a strategic solution. Such a system would offer an array of benefits, including:

**1. Efficiency in Course Material Procurement:** Streamlining the process of ordering and distributing textbooks aligned with course curricula, simplifying the acquisition of educational resources for students and faculty.

**2. Diversity in Accessible Formats:** Providing access to a wide range of educational materials, including digital textbooks, e-books, and supplementary resources, catering to diverse learning preferences.

**3. Cost-Effective Solutions:** Offering cost-effective alternatives such as textbook rentals, used book options, and digital materials, thus alleviating the financial burden on students.

**4. Data-Driven Insights:** Providing valuable data insights on purchasing patterns, popular courses, and required materials, aiding in better decision-making and resource allocation for educational institutions.

**5. Enhanced Accessibility:** Enabling 24/7 access to course materials from any location, promoting convenience and inclusivity for students with diverse schedules or remote learning needs.

This study aims to address the existing challenges faced by traditional bookstores in the digital age the evolving needs of higher educational institutions by developing and implementing a tailored online bookstore management system. By providing a seamless and efficient platform for the procurement of educational materials, this system strives to enhance the learning experience, reduce costs, and adapt to the digital preferences of students and faculty.

**2.2 RELATED WORKS**

**a. Online Bookstore - A New Trend in Textbook Sales Management for Services Marketing:**

S.I. Koralage, (2011) designed web-based bookstore management system for Wisdom. The research study explores the phenomenon of increase in the use of online medium for textbook sales. The study uses the basics of commerce transactions, incorporating them into a model to explain their effects on different mediums of textbook sale. The study uses theoretical approach in explaining the influence of advantages and disadvantages of each medium on transactions occurring through it. The study designs two different models each representing a single medium. The method of flowchart analysis is used to describe the various processes occurring in each medium and transactions are incorporated at the point of sales in both the models. Overall the study concludes by explaining the theory behind the growth of online medium when compared to other mediums.

Model 1 and model 2 both try to interpret the sequence of transactions occurring with respect to particular medium. The models also try to interpret how advantage can influence a transaction. Any advantage offered by the sales medium helps the medium to grow up with respect to the transactions and money transfer occurring in the market. It can be concluded after comparing both the models that model 1 for online retail medium shows multiple and direct transactions taking place between consumer (student) and seller for both new and used textbook. Also in both the categories of textbook sale, new and used in an online medium shows price sensitivity as the main influential factor. Low price, price flexibility and convenience stands out to be the biggest advantage online medium has compared to on & off campus bookstore. Online medium shows more interaction between buyer and seller, and also more flexibility in pricing policy. Consumer to business transaction with respect to used textbook sale shows more adaptability towards online medium compared to that of on and off campus stores. Model 2 showcases pros and cons related to on and off campus retail sales medium. Thus, it can be concluded that the factor of lead time is the biggest advantage of that medium followed by examination of physical condition of book. Guaranteed purchase is also advantage that this medium enjoys over online because of the recent internet fraud cases. Main source transaction stands out to the biggest disadvantage which gives rise to no price comparison; fixed price and rigid buy back schemes. This medium fails heavily in the category of consumer to business transaction taking place between consumer (student) and store especially with rigid buy back prices. Used book sales dominating the textbook sales market prefer online medium than on campus. Overall, it can be concluded that the dominance of on campus bookstore is fading with time as the online medium grows and expands in popularity. Also the disadvantages of on & off campus medium act as advantages for the online medium favoring different types of transactions occurring through it. To conclude, the research study tries to interpret the advantages of a medium and tries to incorporate them into transactions, which help to explain the growing use of online medium as a sales channel.

# **b. Web based Bookstore Management System for Wisdom:**

Cha Li, (2011) from Kemi-Tornio University of Applied Sciences and Technology designed online bookstore website. Education has been the most critical factor in the present knowledge era, not only in the world but also in Sri Lanka. Every parent tries to provide the best education for their children, hence there has been a rapid demand for the popular national schools and international schools. Therefore, the demand for international school syllabus textbooks has been also increasing, in addition to the demand for local school additional texts. Because of that, there is a big opportunity in selling international texts and local syllabus related texts for the booksellers in the country. WISDOM BOOKSHOP (WB) is one of the well-recognized, ongoing bookshops and also WB was established 20 years ago in Wattala area. Presently plays a vital role in international textbooks for Local, London – O/L, A/L sections in bookshop segment. It only handles retail customer’s book Sales at begins; later caters through the books from Dealers (suppliers). Then Wisdom Bookshop combines with several Dealers with Wholesale and Retail sales with Agents in bookshop Sector. At present they have their own website and use IT facilities to some extent in their daily internal business process but based on poor semi-automated Computer System. This makes the business inefficiently, Data inaccuracy and unavailability so it causing its future progress although they are able to reach their customers via the web. WEB BASED BOOKSTORE MANAGEMENT (WBBM) is providing a solution for the key problems in the internal business process. This solution is built in a way to cover the overall processes of the bookstore such as Purchase, Sales, Stock controlling and Report Generation. The System has tailored Model View Controller (MVC) Architecture and Object Oriented (OOAD) techniques with UML were used to analyze and design the system. The development process was preliminary based on the Rational Unified Process (RUP). HTML5 was used as the core markup language while CSS3 for styling. PHP use for server-side scripting, JavaScript, jQuery and AJAX for client-side scripting. MySQL was used as the DBMS of the system. WBBM would improve the efficiency and productivity of the daily functions of the business, and also would strengthen the suppliers – business - customers‟ relationship which leads to adding competitive advantage to the business in for future progress. The online distributed nature of the system will be very helpful to expand their business in the future as well.

c. **Under the Prevalence of E-Commerce: Online Bookstore System:**

Related works include Chien-Min Chen, Shuai-Li Bao, Ting Feng, Yu-Ting Lu of Jiangsu and Renpu Li of University of Technology, China, (2012) designed and developed a web-based online bookstore system. Under the rapid development of the Internet, the rise of e-commerce, more and more people trade goods through the network. The rapid development of the network needs more and more people in the current society, so the types of online shopping malls are therefore more colorful. Online bookstores are one of them. At home or abroad, there are a lot of mature large online bookstores, which can expand the scale and influence of businesses, reduce operating costs and improve work efficiency. The network bookstore system is based on B/S structure, which can register users, search and purchase and other functions. The operation that can be carried out in physical stores can also be completed on the network, and online shopping is realized without the restriction of time and place. In order to distinguish them from traditional bookstores, there are also a series of award evaluation activities launched, where users can pay attention to each other, and also launched the module of published works to better achieve cloud interaction.

**2.3 ONLINE BOOKSTORE**

An online bookstore is a digital platform or web-based service that facilitates the sale and distribution of books and related reading materials over the internet. It serves as a virtual marketplace where customers can explore, purchase, and often interact with a wide array of books from various genres, authors, and publishers without the need to physically visit a brick-and-mortar bookstore.

An Online Book Store Management System refers to a comprehensive software application or platform designed to facilitate and streamline the operations of an online bookstore. This system encompasses various functionalities to manage book inventory, customer orders, sales, payments, and other essential aspects of running an online book-selling business.

Here are some key features and characteristics of an online bookstore:

1. Diverse Book Collection: Offers a vast selection of books across various genres, including fiction, non-fiction, textbooks, academic resources, eBooks, audiobooks, and more.

2. Search and Browse Functionality: Provides user-friendly interfaces with search bars, filters, categories, and recommendations for easy navigation and book discovery.

3. Product Details: Displays detailed information about books, such as author, title, ISBN, publication date, synopsis, reviews, and pricing.

4. Online Ordering and Checkout: Enables customers to add books to a virtual shopping cart, review their selections, and proceed to checkout for payment and order confirmation.

5. Payment Processing: Integrates secure payment gateways to facilitate online transactions using various payment methods (credit/debit cards, PayPal, etc.).

6. User Accounts and Profiles: Allows users to create personal accounts, manage their profiles, track order histories, and sometimes save wishlists or preferences.

7. Shipping and Delivery: Provides options for shipping methods, delivery addresses, and tracking mechanisms to ensure timely and secure delivery of purchased books.

8. Customer Reviews and Ratings: Allows customers to leave reviews, ratings, and feedback about books they've purchased, aiding other users in their purchase decisions.

9. Special Offers and Promotions: Offers discounts, promotional codes, and special deals to attract customers and encourage book purchases.

10. Responsive Design: Ensures compatibility across multiple devices (desktops, laptops, tablets, smartphones) by implementing a responsive design for easy access and usability.

11. Customer Support: Offers customer service and support channels (email, live chat, FAQs) to address inquiries, concerns, or technical issues.

Overall, online bookstores offer convenience, accessibility, and a vast selection of books, catering to a global audience and allowing users to engage in a virtual reading and shopping experience from anywhere and at any time. Online bookstores provide convenience and accessibility, allowing customers to shop for books from anywhere, at any time, without the constraints of physical store hours or locations. They often cater to a global audience, offering a diverse selection of books and serving as platforms for readers, authors, and publishers to engage in the world of literature and knowledge dissemination.

An effective Online Book Store Management System streamlines operations, enhances customer experience, optimizes inventory management, and facilitates efficient business processes, ultimately contributing to the success and growth of an online book-selling business.

## 2.4 ADVANTAGES OF ONLINE BOOKSTORE MANAGEMENT SYSTEM

Implementing an Online Bookstore Management System in schools can bring numerous advantages, enhancing the learning environment and administrative efficiency. Some key advantages include:

1. Convenient Access to Learning Materials:

- Provides students, faculty, and staff with easy access to textbooks, reference materials, and educational resources from anywhere, fostering continuous learning outside traditional classroom hours.

2. Wide Selection of Educational Materials:

- Offers a diverse range of educational materials, including textbooks, e-books, research papers, and supplementary resources catering to various subjects and academic levels.

3. Cost-Effective Solutions for Students:

- Enables schools to offer cost-effective alternatives such as book rentals, used books, and discounted materials, reducing the financial burden on students and promoting affordability.

4. Efficient Inventory Management:

- Streamlines the management of school book inventory, allowing for better organization, tracking, and distribution of educational materials to students and teachers.

5. Personalized Learning Experience:

- Facilitates personalized recommendations and resources based on student profiles, academic requirements, and learning preferences, enhancing individualized learning experiences.

6. Improved Administrative Processes:

- Simplifies administrative tasks related to book procurement, distribution, and record-keeping, reducing paperwork and manual effort for school staff.

7. Data-Driven Decision Making:

- Provides data analytics on book usage, popular subjects, and required materials, aiding educators and administrators in making informed decisions about curriculum planning and resource allocation.

8. Enhanced Student Engagement:

- Encourages student engagement with learning materials by offering interactive platforms, digital content, and multimedia resources aligned with modern learning methods.

9. 24/7 Accessibility and Remote Learning Support:

- Facilitates access to learning materials round the clock, supporting remote learning initiatives and providing resources for students outside regular school hours or during distance learning scenarios.

10. Integration with Academic Curriculum:

- Aligns book selections and resources with the school's curriculum, ensuring that recommended materials are in line with educational objectives and syllabi.

11. Promotion of Digital Literacy:

- Encourages digital literacy and familiarity with online platforms, preparing students for the digital landscape and modern technological advancements.

Implementing an Online Bookstore Management System in schools fosters a more efficient, accessible, and adaptable educational environment, benefiting both students and educators by providing a centralized platform for educational resources and materials.

## 2.5. CURRENT METHOD IN USE

sThe current methods used in schools for managing bookstores and providing educational materials can vary based on the institution's resources, preferences, and technological capabilities. Some common methods and practices include:

1. Physical Bookstores: Many schools still rely on traditional physical bookstores or supply rooms within the campus where students can purchase or borrow textbooks, workbooks, and other educational materials directly.

2. Manual Inventory Management: Schools often manage book inventory manually, keeping track of available books, purchases, and distributions using spreadsheets, paper records, or basic database systems.

3. Brick-and-Mortar Purchases: Students physically visit bookstores or designated areas within the school to purchase or collect their required textbooks and supplementary materials.

4. Library System: Schools may utilize their library systems to provide textbooks and educational resources, allowing students to borrow materials for a limited time. However, this might not cover all required course materials.

5. Offline Ordering: Some schools might have systems in place where students place book orders through paper forms or in-person requests, and the administration processes these orders manually.

6. Bulk Purchases: Educational institutions may purchase books in bulk from publishers or suppliers based on anticipated student enrollment for various courses.

7. Lecturer/Class Recommendations: Teachers may recommend specific textbooks or reading materials to students, who then acquire these materials through various means, including local bookstores or online platforms.

8. Vendor Contracts: Schools may have contracts with specific vendors or bookstores to supply educational materials at discounted rates or under certain agreements.

9. Limited Digital Platforms: In some cases, schools might provide access to digital platforms or online resources, but these platforms may be limited in content or not integrated into a comprehensive online bookstore management system.

10. Manual Distribution: Distribution of books may involve manual processes, such as book issuance by administrative staff or teachers based on student lists and course requirements.

These current methods may vary in their efficiency, accessibility, and ability to cater to the diverse needs of students and educators. Implementing a dedicated Online Bookstore Management System can address many of the limitations of these traditional methods by providing a centralized and efficient platform for book procurement, inventory management, and distribution of educational materials within the school community.

## 2.6. APPROACH TO BE USED IN THIS STUDY

The approach to be used is implementing a web-based software that will make purchase of educational materials easier and faster to all users. The top-down approach was used for the software development and the tools used for this project are PHP, CSS, HTML and SQL Server.

**CHAPTER THREE**

## SYSTEM INVESTIGATION AND ANALYSIS

## 3.1 BACKGROUND INFORMATION ON CASE STUDY

The polytechnic of Ibadan is a public institution established by 1970 as a successor to the erstwhile Technical College, Ibadan under the provision of a principal Edict cited as The Polytechnic Ibadan Edict 1970. The primary function of the Polytechnic Ibadan is to provide for students practical training and development of technics in Applied Science, Engineering, Environmental, Science and Commerce. The Polytechnic has been producing majority middle level man power that has been making valuable contributions to the social and economic development of the country.

The Polytechnic, Ibadan uses the conventional bookshop in selling educational books and other materials.

The primary focus of the Polytechnic is training that is practical oriented. The institution has been performing this function creditably well for over thirty years. The graduates of the Polytechnic, Ibadan are found in almost all areas of endeavour all over the country and even outside the country. Some of them have become captains of industries and commerce. By the amendment to the principal Edict of the Polytechnic which came into force on 17th March, 1987, four Satellite Campuses of the Polytechnic were created. They took off during 1981/82 session and were sited at Eruwa, Saki, Iree and Esa-Oke. Each of the Campuses is headed by a director who is responsible to the Rector for the administration and discipline of the campus. However, with the creation of Osun State, the campuses at Iree and Esa-Oke have become the property of Osun State Government and are today known as Osun State Polytechnic Iree and Osun State College of Technology Esa-Oke.

The bookshop at The Polytechnic Ibadan serves as a vital resource center for students, faculty, and the academic community. It provides textbooks, course materials, stationery, and other educational resources required for academic pursuits. The bookshop is an essential part of the institution, supporting the academic needs of students and faculty members.

Typically, university or polytechnic bookshops aim to offer a comprehensive selection of textbooks, reference materials, and academic resources that align with the curriculum of the institution. These bookshops often collaborate with faculty members to ensure that they stock the necessary books and materials recommended for various courses.

Additionally, they may offer services such as textbook rental, second-hand book sales, and special orders for books that might not be readily available in their inventory.

The bookshop at The Polytechnic Ibadan plays a crucial role in supporting the academic endeavors of students and faculty by providing them with easy access to the required educational resources.

## 3.2 OPERATION OF THE EXISTING SYSTEM

The operation of an existing bookstore system can encompass various processes and functions, involving physical aspects and not leveraging on the digital aspect. Some operation on the existing system are local inventory management, store layout and merchandising which involves arranging the physical layout of the store, arranging displays, shelving, and ensuring a well-organized and attractive presentation of products. The bookstore system focuses on providing textbooks, course materials, academic resources, and supplies required for various programs and courses offered by the institution. This includes textbooks recommended or prescribed by faculty members for specific courses.

During the analysis of findings for a bookstore, several documents and information sources can be invaluable for a comprehensive and accurate assessment. These may include:

**1. Sales and Financial Records:**

- Sales Reports: Detailed records of book sales, revenue, profit margins, and trends over specific periods.

- Expense Reports: Information on operational expenses, including procurement, staffing, maintenance, and overhead costs.

**2. Inventory Records:**

- Inventory Database or System Reports: Detailed records of current stock levels, stock turnover rates, and accuracy compared to sales data.

- Supplier Records: Information on suppliers, purchase orders, delivery schedules, and pricing.

**3. Operational Documentation:**

- Staffing Records: Details on staffing levels, schedules, roles, and productivity metrics.

- Standard Operating Procedures (SOPs): Documentation outlining standard processes for book procurement, shelving, customer service, and inventory management.

**4. Collaboration and Partnerships:**

- Faculty Collaboration Records: Correspondence or agreements with faculty regarding required course materials, recommended books, or syllabi.

- Supplier Agreements or Contracts: Copies of contracts with book suppliers, terms, pricing agreements, and service level commitments.

**5. Space Utilization and Merchandising Information:**

- Store Layout Plans: Blueprints or layout plans of the bookstore showcasing space allocation for different book categories, displays, and promotional areas.

- Merchandising Strategies: Documentation or reports on strategies used for product displays, promotions, and marketing efforts.

**6. Analysis and Reporting Documents:**

- Previous Analysis Reports: Reports or documents from previous analyses of the bookstore’s operations, providing historical context.

- Current Analysis Reports: Draft or final reports summarizing findings, conclusions, and recommendations resulting from the ongoing analysis.

## 3.4 PROBLEMS IDENTIFIED FROM ANALYSIS

In today’s world of connectedness, it is important to keep pace with time because people are becoming accustomed with technology and also with the increasing competition in the market and to stand on the present environment of the modern world. The traditional bookstore management system in The Polytechnic, Ibadan and other higher institution is quite tedious and people tend to encounter a lot of problems which may include the following drawbacks:

**i. Inventory Management Issues:**

- Overstocking or Understocking: Problems arising from inaccurate forecasts leading to either too much or too little inventory for certain books.

- Poor Inventory Turnover: Slow-moving or obsolete stock affecting cash flow and occupying storage space.

- Inaccurate Records: Discrepancies between recorded inventory and actual stock levels leading to customer dissatisfaction or missed sales opportunities.

**ii. Faculty Collaboration and Course Material Issues:**

- Communication Gaps: Lack of effective communication between the bookstore and faculty resulting in incorrect or delayed provision of required course materials.

- Limited Academic Offerings: Inability to supply specialized or recommended books for certain courses or departments.

**iii. Financial Challenges:**

- Low Profit Margins: Inadequate pricing strategies leading to low profitability, despite good sales volumes.

- High Operational Costs: Excessive expenses in procurement, staffing, or maintenance impacting overall profitability.

- Cash Flow Issues: Inefficient inventory management affecting cash flow or revenue generation.

**iv. Customer Service and Satisfaction:**

- Poor Customer Feedback: Negative feedback related to product availability, service quality, or staff behavior affecting customer satisfaction.

- Limited Book Availability: Instances of popular or required books being frequently out of stock, leading to dissatisfaction among students and faculty.

**v. Operational Inefficiencies:**

- Ineffective Staffing: Understaffing or overstaffing causing operational bottlenecks or inefficiencies.

**vi. Space Utilization and Merchandising Problems:**

- Inefficient Store Layout: Poorly organized shelves, inadequate display spaces, or clutter affecting customer browsing experience.

- Ineffective Merchandising: Displays or promotions not attracting customer attention or driving sales effectively.

## 3.5 SUGGESTED SOLUTIONS TO PROBLEM IDENTIFIED

The provision of a concrete, prompt and effective web based online bookstore management system will go a long way in solving the problems of the existing system highlighted above.

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