**CHAPTER II**

**REVIEW OF RELATED LITERATURE AND STUDIES**

This chapter presents the relevant literature and studies that the researchers considered in strengthening the importance of the present study. It also presents that synthesis of the art to fully understand the research for better comprehension of the study.

**Foreign Literature**

**Order Management System for Time and Quantity Saving of Recipes Ingredients Using GPS Tracking Systems**

Order management systems were considered an essential part of supply management, significantly affecting customer satisfaction and company profit. Previous studies indicated that traditional ordering processes required customers to visit stores or restaurants, consuming excessive time and manual effort, often resulting in errors, mismanaged records, and customer dissatisfaction. However, few studies addressed the lack of applications that allowed users to order groceries efficiently with direct communication to delivery personnel, highlighting a research gap in grocery-focused online ordering systems with integrated rider booking and SMS notifications. To address this, a descriptive research design was employed, using surveys and system simulations as instruments to gather data on ordering efficiency, delivery time, and customer satisfaction. The statistical analysis revealed that the proposed system reduced delivery time by 45%, minimized ingredient wastage by 30%, and improved overall customer satisfaction by 25%. These findings concluded that implementing a structured online order management and delivery system with rider booking and SMS notifications could save time, reduce losses, and provide faster and more reliable service to consumers (Sohail et al., 2021).

**Real-time customer communication in e-commerce: improving customer experience, satisfaction and loyalty**

The study investigated the impact of real-time customer communication on the success of e-commerce businesses, focusing on how prompt and efficient communication increased customer satisfaction, reduced cancellation rates, and enhanced competitive advantage. Despite the growing use of chatbots, live chat, and social media, the research identified a gap in understanding how integrated omnichannel communication strategies could address issues of fragmented platforms, delayed responses, and lack of customer trust. A survey was conducted among e-commerce business owners and managers, supported by a review of existing literature, to gather data on communication practices. Using statistical analysis, the results revealed that companies with effective real-time communication strategies reported significantly higher customer satisfaction ratings and lower order cancellation rates compared to those relying on traditional channels. The findings concluded that adopting cohesive and well-integrated real-time communication systems provided businesses with measurable improvements in customer engagement and operational efficiency, though challenges in system integration and resource allocation persisted (Muhammad, & Stukalina, 2024).

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**e-SEVA for LPG Delivery**

Mobile applications had become essential tools for daily life, transforming business and marketing by enabling consumers to purchase goods online rather than in physical stores. Despite these advancements, previous literature indicated that the delivery of essential items, such as water cans and gas cylinders, often remained inefficient due to manual ordering processes, causing delays and inconvenience for both suppliers and customers. Studies suggested that integrating technology into the ordering and delivery process could improve efficiency, convenience, and customer satisfaction. Moreover, selecting suppliers based on proximity to customers was highlighted as a potential approach to enhance service delivery and reduce operational challenges. These findings underscore the importance of mobile applications in bridging gaps between suppliers and consumers, demonstrating their role in modernizing ordering and delivery systems (Akkasaligar et al., 2020).

**Local Literature**

**Angels and Lemons' E-Ordering: Development of a Web-Based Ordering System for Angels and Lemons**

This research presents the development of "Angels and Lemons’ E-Ordering," a web-based ordering system designed for Angels and Lemons, a lemonade-selling business. The system aims to streamline the ordering process, reduce errors in order-taking, and enhance customer experience. Key features include a carting mechanism for orders, mock-ups of payment gateways (specifically G-Cash and PayMaya) to mitigate the risk of bogus buyers, and a customer-staff-admin-manager interface for efficient order fulfillment. Customers can place their orders on the web site or upfront. In the web site, they may only place pick-up orders by which they can choose their preferred pick-up times for their orders. The staff actor is responsible for preparing and fulfilling all orders, including handling upfront orders where cash payments, in addition to the e-wallet options, are accepted. The admin-manager functionalities include product management (addition, editing, and archival). The system also generates essential business reports, such as sales data, product performance trends, and order method comparisons. The findings of this study underscore the advantages of adopting a web-based ordering system to enhance order accuracy and streamline the ordering process for small businesses. It is developed for demonstration purposes and is not intended for operational use.(Rozel Avila et al., 2024).

**ONLINE ORDERING AND PAYMENT SYSTEM WITH SMS NOTIFICATION FOR NINA CLOTHING ACCESSORIES**

Online payment remains a significant factor in today's e-business sector. Since businesses are expanding globally and also offering online options, the need for alternative forms of payment is quite substantial. The use of online payment systems has increased substantially and has changed the way consumers do business. Online payment systems have also catalysed new business formations and social practices. The term electronic money was formed from online payment systems, electronic ordering and payment system. The Online Ordering and Payment System with SMS Notification for Nina Clothing Accessories is a system that can order through online. The admin part of the system can monitor sales order including customer’s information. The customer would find their experience most enhanced when the online system gives flexibility for the customer to choose the delivery method and receive the SMS Notification on the ordering status.( Louie F. Agustine et al., 2019).

**Dynamic Online Ordering and Data-Driven Inventory Management System with SMS for Security**

With this modernization in the online market, ordering from websites are just a few clicks away. Due to the convenience and efficiency provided by technology, our lives have improved significantly. The researchers thought of a system that could solve the problems of the manual process in managing the inventory of a particular company in the region called Ryan & Son's Winery. The researchers developed an online ordering system that was recommended by the business owner. After understanding the process, the researchers reviewed all the problems regarding the usage of the current system. It takes an assessment of the existing system, conduct of interview, gathering information, and documentation of the kinds and types of data processed by the system. The researchers came up with constructing "Dynamic Online Ordering and Data-Driven Inventory Management System with SMS for Security."( Jenefer P. Bermusa et al., 2020)

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**Related Studies**

**Foreign Study**

**Simultaneous Customer Interaction in Online Booking Systems for Attended Home Delivery**

In many delivery and service settings, customers had to be home when the provider arrived, and if they were not, the delivery or service failed, forcing providers to return later and thereby creating additional vehicle miles and emissions. To prevent such missed deliveries, it had become common for providers to let customers choose from narrow time slots, yet the research gap lay in the inability of existing booking systems to efficiently handle multiple customers interacting simultaneously, which often caused waiting times and invalid service offers. To address this problem, the researchers developed new approaches using a systematic methodology that involved identifying the limitations of current state-of-the-art procedures, designing improved booking algorithms, and implementing these in a simulated online system. The development process included modeling customer arrivals, integrating decision-making rules for time-slot allocation, and testing the system under real-time conditions. The evaluation results, based on thousands of customers arriving over short periods, demonstrated that the proposed methods reduced waiting times, minimized invalid offers, and improved the feasibility of delivery schedules. In conclusion, the system outcome showed enhanced efficiency and reliability of online booking systems, thereby contributing valuable insights for future research and development in delivery and service logistics (Thomas et al., 2019).

**Managing Concurrent Interactions in Online Time Slot Booking Systems for Attended Home Delivery**

Many goods and services required the customer to be at home to receive the delivery, and in the context of attended home delivery, customers typically chose from a menu of delivery time slots. The research gap lay in the lack of strategies to handle multiple customers interacting with the booking system simultaneously, which often created conflicts in delivery scheduling and validation. To address this problem, the researchers developed a concurrency control strategy combined with several fast route planning approaches, using a methodology that focused on real-time slot management while considering fleet capacity. The development process involved designing algorithms for slot allocation, integrating background procedures that optimized the use of time between successive order placements, and implementing validation mechanisms to minimize conflicts. Evaluation through detailed computational experiments with realistic delivery scenarios demonstrated that the proposed methods reduced waiting times, increased the number of valid orders, and limited invalid bookings. In conclusion, the system outcome showed that concurrency control strategies and background optimization significantly enhanced the efficiency, accuracy, and reliability of online delivery booking systems, while opening new research directions in time slot management (Visser et al., 2024).

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**Operational Impact of Driver Booking at Ifood: Driver Booking Systems in Food Delivery Platforms: Data-Centered Approaches to Exploring Effects in Supply Predictability**

Food delivery digital platforms had long been challenged by the difficulty of predicting rider availability and ensuring operational efficiency, yet existing systems lacked mechanisms to increase visibility of drivers’ work intentions, creating a research gap in supply predictability and scheduling. To address this problem, iFood introduced a booking system that allowed drivers to gain increased order priority by scheduling shifts in advance. The development methodology involved applying statistical inference tests, training predictive models using newly available data from the booking system, and comparing these models to the company’s existing operational frameworks. The development process included analyzing driver interaction data, integrating booking-related variables into predictive models, and testing the models to measure their impact on delivery efficiency. Evaluation results demonstrated that although the newly introduced variables had a relatively small quantifiable effect, the predictive models achieved higher accuracy and better test performance than the internal models currently in use. In conclusion, the system outcome showed that the booking system improved supply predictability and operational performance, while providing valuable insights for refining future models and enhancing the overall efficiency of food delivery platforms (Ramos, 2022).

**Local Study**

**ONLINE SHOPPING: E-SERVICE QUALITY AND CUSTOMERS’ TRUST AMONG ACCOUNTANCY, BUSINESS, AND MANAGEMENT STUDENTS OF TACURONG NATIONAL HIGH SCHOOL**

Similarly, customers' trust in online shopping was also perceived as high, implying that they often trust the platforms. Moreover, the study revealed a significant relationship between e-service quality and customers' trust. This study can benefit ABM students inclined towards online shopping, as it highlights the advantages they can enjoy, such as convenience, time savings, access to product reviews, and opportunities to find discounted items. Additionally, future researchers investigating similar variables can use this study as a reference for their literature review and source material for their research papers.(Sarine L. Candido et al., 2023)

**A Study of Stakeholders Perception of Factors Affecting Online Food Delivery Service Industry in the Philippines**

The online food delivery service is in the limelight nowadays as the O2O e-commerce industry is extending its range to the food. Beyond the food ordering system where only fast food was accommodated to be delivered to customer’s doorstep, thousands of different foods from various restaurants can be delivered with just one click through the online food delivery (OFD) App. Together with its fast growth, it is inevitable to avoid some issues that happen among the major stakeholders - the App firm, couriers, and customers. In this study, the Business Model Canvas (BMC) and factorial Uni-variate analysis of variance (ANOVA) was used to identify the significant factors that affect the OFD industry. Using the tests of Between-Subjects effects, independent variables (Ease of Use, Responsiveness, Assurance, Safety, Reliability, Convenience) that has a value less than a p-value of 0.05 were selected as the significant factors. The study showed from each of the stakeholder’s approach that timeliness and convenience are the most significant factors and suggested the improved integrated system based on the significant factors identified. Finally, the study would be able to contribute to the enhancement of the OFD industry itself where all three stakeholders can have mutually beneficial relationships.(Lim & I. Noroña, 2021)

**Enhanced Mobile-Based Records Management and E-Payment with SMS Notification: A Performance Evaluation**

In the current digital era, educational institutions face pressure to update administrative processes to meet stakeholder demands. Manual school registrar record-keeping poses challenges such as inefficiencies, delays, and security risks. An online request and e-payment system for school records management with SMS notification was developed to address these issues. This solution aims to enhance efficiency by streamlining record requests and payments, leveraging SMS gateways and online payment platforms. Key objectives include designing a user-friendly application and implementing SMS notifications for fee and request updates. While offering convenience to students, alumni, faculty, and staff, challenges such as network coverage and platform compatibility were acknowledged. The study was conducted at Bato Institute of Science and Technology, Inc. with a population of 2129 and a sample size of 100 respondents was selected using simple random sampling. The researcher used quantitative and qualitative methods to evaluate the system’s performance. Based on the gathered and analyzed data, the researcher concluded that the developed system was graded as excellent in functionality, reliability, usability, efficiency, maintainability, portability, security, and compatibility. Thus, the system was successfully designed and developed as envisioned. ( Mary Jane Pagay-Cierva et al., 2025).

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