**Available Online at www.ijcsmc.com**

**International Journal of Computer Science and Mobile Computing**

**A Monthly Journal of Computer Science and Information Technology**

**ISSN 2320–088X**
**IMPACT FACTOR: 7.056**

***IJCSMC, Vol. 15, Issue. 4, April 2026, pg.124 – 132***

# A Web-Based Solution for Sales Monitoring, Product Management, and Customer Feedback Uncle Brew Online Ordering System

**Clifford C. Sarabia[1]; Juancho S. Palomar Jr.[2]; Kathleen Geri T. Espina[3]; Dino L. IIustrisimo,** PhD**[4]; Jorex N. Sarraga[5]; Ma. Jolette Ofqueria[6]; Nicole Santillan[7]; Riza Salinas[8]; Ronyl Parochel[9]; Kurt Bryan S. Alegre,** MIT (C)**[10]**

[1 2 3 5 6 7 8 9]Bachelor of Science in Information Technology Students, Madridejos Community College, Madridejos, Cebu, Philippines
[4]Dean, School of Information Technology in Madridejos Community College, Madridejos, Cebu, Philippines
[10]Instructor, School Information Technology in Madridejos Community College, Madridejos, Cebu, Philippines

[1] cliffordsarabia03@gmail.com; [2] juanchopalomar1@gmail.com; [3] kathleengeriespina@gmail.com; [4] dino.ilustrisimo@mcclawis.edu.ph; [5] rexsarraga12@gmail.com; [6] ofqueriamj8@gmail.com; [7] Nicole.santillan@mcclawis.edu.ph; [8] rsalinasrizaybanez45@gmail.com; [9] ronylparochel9tle@gmail.com; [10] kurtbryan.alegre@mcclawis.edu.ph

**DOI: https://doi.org/10.47760/ijcsmc.2026.v15i04.014**

**ABSTRACT: This study presents a developmental research project entitled Uncle Brew Online Ordering System, a web-based solution developed to improve sales monitoring, product management, and customer feedback for Uncle Brew Coffee Shop located in Binaobao, Bantayan, Cebu. The system was designed to address issues encountered in manual operations, such as delays in order processing, inaccurate sales recording, and difficulty in managing inventory and customer transactions. The developed system includes key features such as an online ordering platform, an administrator dashboard for sales and inventory tracking, and a customer feedback module to enhance user interaction. The system was**

 

**evaluated using the ISO/IEC 25010 Software Quality Model, focusing on functional suitability, performance efficiency, compatibility, reliability, and security. In addition, usability was assessed using the USE Questionnaire in terms of usefulness, ease of use, ease of learning, and user satisfaction. Results showed that the system achieved an overall mean rating of 4.94 (Very Satisfactory) in software quality and 4.94 (Strongly Agree) in usability. These findings indicate that the system performs efficiently, is reliable, and is highly acceptable to users. Furthermore, the system functionality evaluation also showed a high overall mean of 4.93 (Excellent), confirming that the system effectively performs its intended features such as order processing, product management, and dashboard monitoring. The study demonstrates that the implementation of a web-based ordering system significantly improves business operations by reducing manual errors, enhancing transaction accuracy, and providing a more convenient ordering experience for customers. The system proves to be an effective digital solution for supporting the growth and efficiency of small coffee shop businesses.**

**Keywords: Online ordering system, web-based application, sales monitoring, product management, customer feedback, coffee shop management, system evaluation, ISO/IEC 25010**

## I. INTRODUCTION

The Uncle Brew Online Ordering System is a web-based application designed to facilitate the management of a coffee shop. The system helps administrators effectively manage transactions, track sales, products, and overall business performance. Web-based ordering systems have been recognized to effectively enhance transactional accuracy, data organization, and efficiency compared to traditional methods of conducting businesses [8], [3]. Uncle Brew Coffee Shop, situated at Binaobao, Bantayan, Cebu, began its iced coffee venture in 2023. Being a newly opened coffee shop, it adopted traditional methods of conducting transactions. Manual methods of conducting transactions have been recognized to be prone to errors, inefficiencies, and difficulties, especially when the number of customers seeking services from such businesses increases [1], [7]. This challenged the newly opened coffee shop to maintain accurate records while delivering efficient services to customers.

To address these problems, the Uncle Brew Online Ordering System is created to provide a solution to automate business processes. The system has some important features, such as an online ordering system, an administrative panel to monitor business sales and inventory, and a customer feedback system. Other studies have shown that the implementation of online ordering systems is important to manage business processes, increase customer convenience, and grow the business [2], [6].

Moreover, the implementation of a web-based management system is important to manage the business processes, increase sales tracking, and improve decision-making by organizing the data [4], [5]. In addition, the implementation of this type of management system is important to create a more interactive environment with customers, where they can easily interact with the business.

By implementing the Uncle Brew Online Ordering System, the business processes in the coffee shop can be improved, reducing errors in business transactions and increasing customer satisfaction. The study shows the importance of implementing a web-based management system to grow the business, particularly in the coffee shop industry, which is growing rapidly in the business environment.

### 1.1 Objectives of the Study

General Objective

The general objective of this study is to develop and evaluate the Uncle Brew Online Ordering System as a web-based solution for improving sales monitoring, product management, and customer feedback.

Specifically, it aims to:

1. Develop a system which:

1.1 Develop a system that performs CRUD operations for products, orders, inventory, and customer feedback.

1.2 Provide an administrator dashboard that displays daily, weekly, and monthly sales, inventory status, and best-selling products.

1.3 To allow customers to browse products, place orders, and manage their cart efficiently.

1.4 Provides accurate order processing and real-time updates of transactions.

 

2. Evaluate the system based on ISO/IEC 25010 software quality characteristics.
3. Assess the system usability using the USE Questionnaire in terms of usefulness, ease of use, ease of learning, and satisfaction [9].

**Conceptual Framework of the Uncle Brew Online Ordering System**

The conceptual framework outlines the operational flow of the Uncle Brew website by detailing the relationship between specific inputs, procedural steps, and expected results. It serves as a visual guide for the sequence of data processing required to achieve the project's goals.

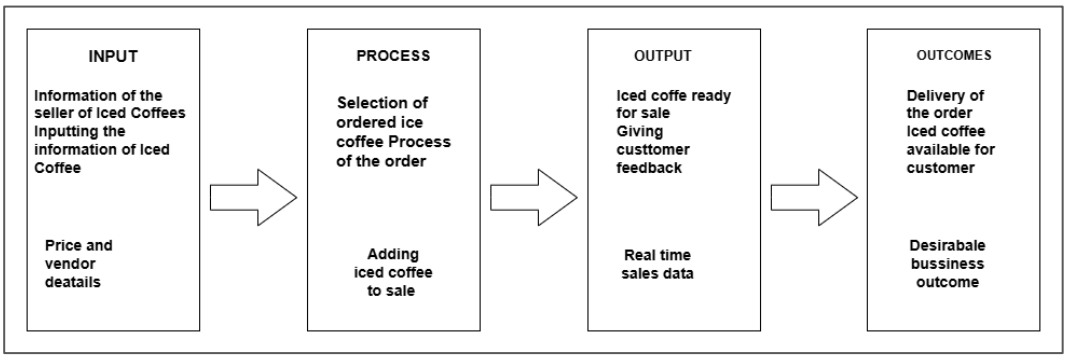


**Figure 1: Conceptual Framework (IPO Model)**

This framework illustrates the mandatory information that must be integrated into the website to produce the intended outcomes. The research emphasizes that the inputs must be practical and comprehensive covering price, product details, and coffee varieties to ensure that once the data is processed, the system effectively manages everything from selection to final delivery.

## II. METHODOLOGY

This study used a developmental research design to create and evaluate the Uncle Brew Online Ordering System. This type of research focuses on designing, developing, and testing a system to solve real-world problems and improve existing processes [10]. In this study, the system was developed to improve sales monitoring, product management, and customer feedback of Uncle Brew Coffee Shop in Binaobao, Bantayan, Cebu.

**Software Life Cycle Model**

The development of the Uncle Brew Online Ordering System followed the Rapid Application Development (RAD) model, a system life cycle approach that emphasizes fast development, user participation, and continuous feedback

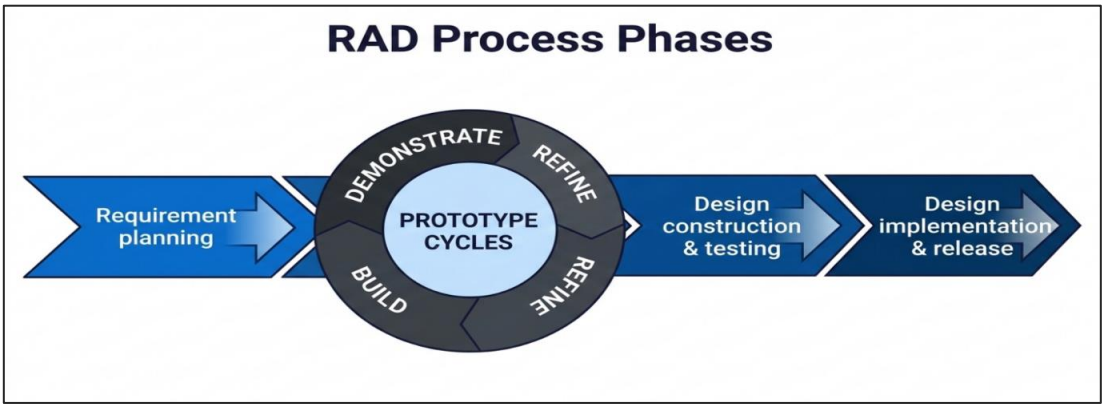


**Figure 2: Rapid Application Development (RAD)**

 

**Rapid Application Development (RAD) Process Phases**

The study adopted the Rapid Application Development (RAD) model, which emphasizes fast development, user involvement, and continuous feedback. RAD is widely recognized as an effective approach for developing web-based systems because it reduces development time and allows iterative improvements based on user feedback [4].

The RAD model consists of the following phases:

**Planning Phase** - Identifying system requirements, objectives, and problems in the existing manual process.

**User Design Phase** - Creating system designs such as interface layouts, database structure, and system flow based on user needs.

**Construction Phase** - Developing the actual system using web technologies, including coding the front-end, back-end, and database integration.

**Cutover Phase** -Testing, deployment, and implementation of the system in the actual business environment.

**System Architecture**

The application architecture of the Uncle Brew online ordering system shows a visual overview of how the system is built and functions. It includes the tools and technologies used in developing the system**.**

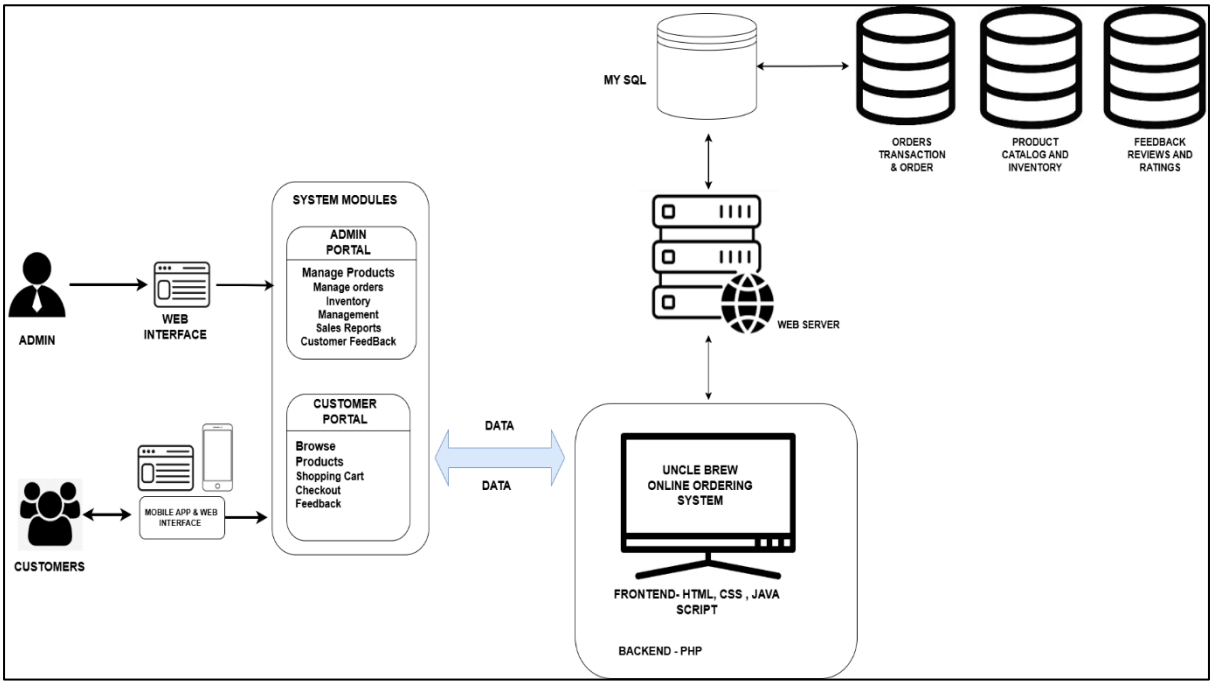


**Figure 3. System Architecture**

System architecture explains how the back-end hardware and software components of a system are organized. It also shows how different parts of the system, such as the middleware and database, interact with each other. The system was mainly designed to support a business structure that promotes flexibility and competitiveness [5]. Additionally, analyzing and classifying the application architecture helps identify gaps in its current use, especially in relation to system activities and research design.

 

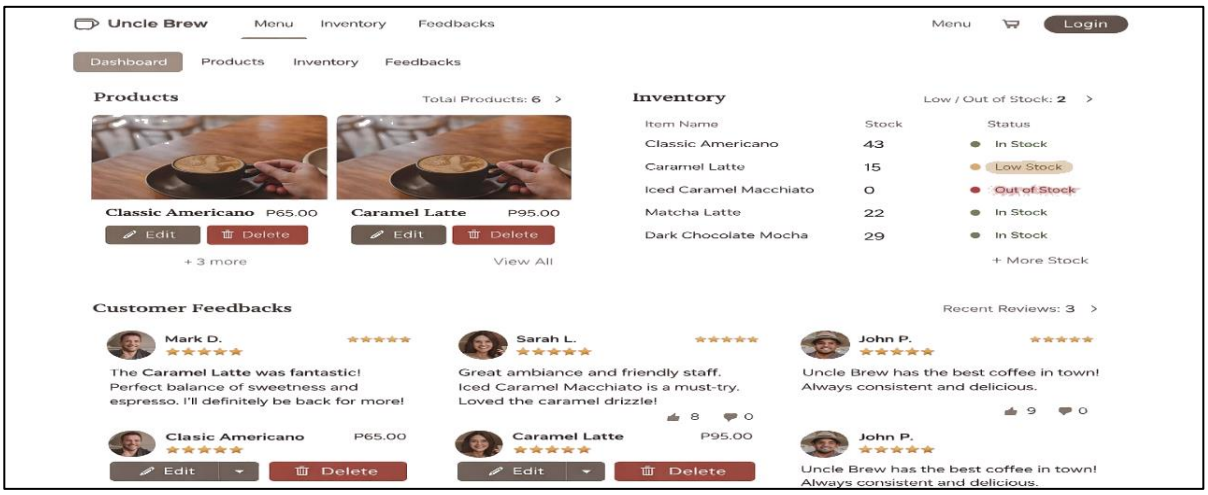


**Figure 4. Uncle Brew Online Ordering System Products, Orders, Inventory, and Customer feedback.**

Figure 4: shows the image shows the administrator dashboard of the Uncle Brew Online Ordering System. It presents key features such as product management, order tracking, inventory monitoring, and customer feedback. The dashboard includes summary cards, sales, reports, inventory lists, and recent orders, allowing administrators to perform CRUD operations and monitor business performance efficiently.

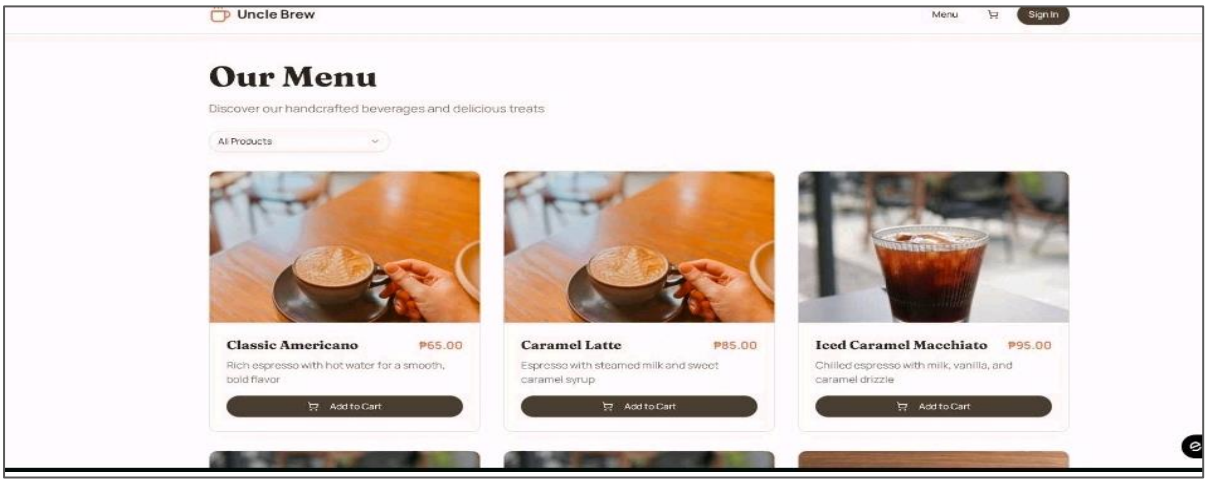


**Figure 5. Uncle Brew Online Ordering System Menu Page**

Figure 5 shows the menu section of the Uncle Brew Online Ordering System where customers can browse the available coffee products offered by the shop. In this page, users can view different beverages along with their images, names, and prices. Customers can select a product and add it to their cart for ordering. This functionality allows users to easily explore and choose their preferred drinks before proceeding to checkout.

 


**Figure 6. Uncle Brew Online Ordering System Dashboard**

Figure 6 shows the dashboard section of the Uncle Brew Online Ordering System where management users can view the overall status of the system. In this page, administrators can see summarized information such as the number of products, orders, and other system data. The dashboard helps management users easily monitor activities and quickly access different sections of the system for managing products and orders.

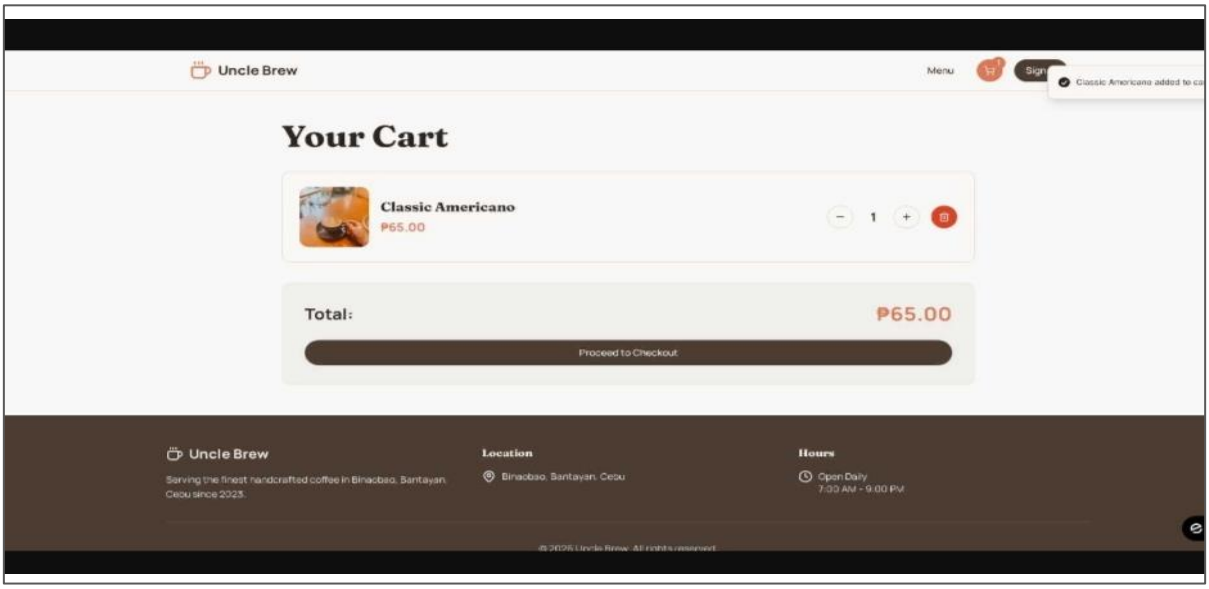


**Figure 7. Customer Cart and Checkout Page**

Figure 7 shows the cart section of the Uncle Brew Online Ordering System where customers can review the items they have selected before placing an order. In this page, users can see the product name, price, and quantity of the selected item. Customers can increase or decrease the quantity of their order and view the total amount to be paid. The page also includes a "Proceed to Checkout" button which allows customers to continue the ordering process.

 

## RESULTS

**Table l. Scoring Range of Likert Scale of the Survey**

| Range | **Verbal Interpretation** |
|---|---|
| 4.50 – 5.00 | Strongly Agree / Strongly Satisfied / Excellent |
| 3.50 – 4.49 | Agree / Slightly Satisfied / Moderately Functional |
| 2.50 – 3.49 | Neutral / Undecided / Functional |
| 1.50 – 2.49 | Disagree / Slightly Dissatisfied / Slightly Functional |
| 1.00 – 1.49 | Strongly Disagree / Strongly Dissatisfied / Not Functional |

The Likert scale shows how respondents evaluate the system. Scores of 4.50–5.00 indicate strong satisfaction and excellent performance, while 3.50–4.49 reflect general satisfaction with minor improvements needed. Ratings of 2.50–3.49 are neutral, and scores below 2.49 indicate dissatisfaction. Overall, higher scores mean more positive user feedback.

**TABLE ll. Evaluation of Uncle Brew Online Ordering System Functionalities**

| ***Criteria*** | **Mean** | **Verbal Interpretation** |
|---|---|---|
| 1).Perform CRUD operations such as create, read, update, and delete product information, order details, and customer feedback. | 4.95 | Excellent |
| 2).The system displays the administrator dashboard showing daily, weekly, and monthly sales, inventory status, and best-selling products. | 4.93 | Excellent |
| 3).The system allows customers to browse products, place orders, and manage their cart efficiently. | 4.92 | Excellent |
| 4). The system provides accurate order processing and real-time updates of transactions. | 4.94 | Excellent |
| **Overall mean** | **4.93** | **Excellent** |

The results show that all core functionalities of the Uncle Brew Online Ordering System achieved a overall mean score of 4.93, interpreted as Excellent. The system successfully performs CRUD operations for product management, order transactions, and customer feedback. Additionally, the dashboard effectively displays sales reports and inventory status, allowing administrators to monitor business performance efficiently.

**TABLE III. Results of the System Evaluation Based on ISO/IEC 25010 Software Quality Model**

| ***Criteria*** | **Mean** | **Verbal Interpretation** |
|---|---|---|
| Functional Suitability. | 4.91 | Very Satisfactory |
| Performance Efficiency | 4.95 | Excellent |
| Compatibility | 4.92 | Very Satisfactory |
| Reliability | 4.94 | Excellent |
| Security | 4.96 | Excellent |
| Total | 4.94 | Very Satisfactory |

The evaluation results indicate that the Uncle Brew Online Ordering System achieved an overall mean score of 4.94, interpreted as Very Satisfactory based on the ISO/IEC 25010 software quality model. Performance efficiency, reliability, and security obtained high scores, demonstrating that the system operates efficiently, reliably, and securely. Functional suitability and compatibility were rated very satisfactory, showing that the system effectively meets the operational needs of the coffee shop

**Table IV. Usability Evaluation Based on USE Questionnaire**

| ***Criteria*** | **Mean** | **Verbal Interpretation** |
|---|---|---|
| Usefulness | 4.96 | Strongly Agree |
| Ease of Use | 4.94 | Strongly Agree |
| Ease of Learning | 4.92 | Strongly Agree |
| Satisfaction | 4.95 | Strongly Agree |
| Total | 4.94 | Strongly Agree |

 

The usability evaluation results show that respondents strongly agree that the Uncle Brew Online Ordering System is useful, easy to use, easy to learn, and satisfying to use. The system achieved a total mean score of 4.94 across all usability dimensions, indicating that users can easily navigate the system, place orders efficiently, and manage business operations with minimal difficulty. These usability dimensions are consistent with the USE questionnaire framework which measures usefulness, ease of use, ease of learning, and satisfaction as key indicators of system usability [9].

## DISCUSSION

The results show that the Uncle Brew Online Ordering System successfully achieved its main goal of improving sales monitoring, product management, and customer feedback. Based on the system functionality evaluation (Table II), the system obtained an overall mean of 4.93 (Excellent). This indicates that the system effectively performs key functions such as CRUD operations, order processing, and dashboard reporting. These features are essential in improving business operations, especially in managing daily transactions and product data.

The high functionality result supports the idea that web-based systems improve business efficiency by automating manual processes. Similar studies also found that online ordering systems help improve transaction accuracy and data management in food and beverage businesses [2], [6]. In addition, inventory and sales tracking systems have been proven to reduce errors and improve business decision-making [1]. Furthermore, the system was evaluated using the ISO/IEC 25010 Software Quality Model. The results showed an overall mean of 4.94 (Very Satisfactory). The system performed highly in terms of performance efficiency, reliability, and security. This means the system can process transactions quickly, operate consistently, and protect user data effectively. These findings suggest that the system is stable and suitable for real business use.

This result is consistent with Ibrahim et al. [4], who stated that web-based systems improve operational efficiency and support better business management. It also aligns with Mudafri [5], who emphasized that well-designed web-based systems help organize business processes and improve system reliability. In terms of usability, the system achieved a total mean of 4.94 (Strongly Agree) based on the USE Questionnaire. This indicates that users find the system easy to use, easy to learn, and satisfying. The results suggest that both customers and administrators can interact with the system without difficulty, which is important for system adoption. According to Lund [9], usability is a key factor in determining system success because it affects user satisfaction and acceptance. The findings of this study confirm that a user-friendly interface improves the overall experience of both customers and business owners.

Overall, the results show that the Uncle Brew Online Ordering System reduces manual errors, improves transaction accuracy, and enhances business efficiency. The system also improves customer experience by providing a faster and more convenient ordering process. These findings are supported by previous studies which highlight that web-based ordering systems significantly improve service quality and operational performance in small businesses [3].

## CONCLUSION

This study successfully developed and evaluated the Uncle Brew Online Ordering System as a web-based solution for sales monitoring, product management, and customer feedback. As discussed earlier, the study aimed to address the challenges of manual operations such as delays, inaccurate records, and inefficient inventory management. The results confirmed that the developed system successfully performs its intended functions, including CRUD operations for products, orders, inventory, and customer feedback, as well as real-time sales monitoring through the administrator dashboard.

Furthermore, the high evaluation scores in functionality, software quality, and usability demonstrate that the system achieved its general objective of providing an efficient, reliable, and user-friendly web-based solution. These outcomes validate the importance of implementing an online ordering system, as emphasized in the introduction, in improving business operations, enhancing customer satisfaction, and supporting decision-making. Based on the evaluation results, the system obtained an excellent functionality rating of 4.93, a very satisfactory ISO/IEC 25010 quality rating of 4.94, and a high usability rating of 4.94 (Strongly Agree). These results show that the system is efficient, reliable, secure, and user-friendly.

The findings confirm that the system effectively supports business operations by automating transactions, improving sales tracking, and simplifying product management. It also enhances customer experience by providing a convenient online ordering platform and feedback system. This supports the idea that digital systems significantly improve business efficiency and reduce human errors in traditional operations [1], In addition, the study shows that web-based technologies play an important role in modernizing small businesses. As supported by Roslina et al. [2] and Diyaolu et al. [8], online ordering systems improve service delivery, increase customer satisfaction, and enhance overall business performance.

 

Therefore, it can be concluded that the Uncle Brew Online Ordering System is an effective and reliable solution for improving coffee shop operations. The system not only enhances internal processes but also provides better service to customers, making it a valuable tool for small business digital transformation and growth.

**ACKNOWLEDGEMENT**

The researchers would like to express their heartfelt gratitude to Mr. Kurt Bryan S. Alegre for his guidance, support, and encouragement throughout the completion of this study. His advice and insights played a big role in helping the researchers successfully accomplish this project. The researchers would also like to thank the owner and staff of Uncle Brew Coffee Shop for their cooperation and time during the data gathering process. Their willingness to share information greatly helped in completing this study.

Special thanks are given to the faculty members of the Department of Information Technology, Madridejos Community College for providing the knowledge and guidance needed in developing this research. The researchers are also deeply thankful to their families and friends for their continuous support, understanding, and motivation throughout the entire process. Lastly, the researchers would like to thank all the users and respondents for their patience and valuable feedback. Their responses helped improve the system and made this study more meaningful.

# REFERENCES

**[1].** Alifadillah, A., & Supriatna, H. (2023). Web-based coffee inventory application: Case study on one of the coffee shop in Sukabumi. Majalah Bisnis & IPTEK, 16(2), 309–317. https://doi.org/10.55208/xbbys974

**[2].** Roslina, W., Zalany, S., Ngah, N. H., & Yacob, A. (2025). An online order and pickup web-based system for Coffee Lalu VKiosk. International Journal of Synergy in Engineering and Technology, 6(2), 16–26. https://tatiuc.edu.my/ijset/index.php/ijset/article/view/259

**[3].** Sari, I. P., Ramadhani, F., Satria, A., & Apdilah, D. (2024). Perancangan sistem informasi pemesanan coffeshop berbasis web. Portal Riset dan Inovasi Sistem Perangkat Lunak, 2(2), 62–70. https://doi.org/10.59696/prinsip.v2i2.43

**[4].** Ibrahim, H., Azhar, P., & Martikasari, A. (2025). Website design as an online trading media at the "Coffee On The Way" shop. Journal of Engineering Science and Technology Management (JES-TM), 5(2), 282–293. https://doi.org/10.31004/jestm.v5i2.297

**[5].** Mudafri, H. A. (2024). Design of a Web-Based Coffeeshop Ordering Information System. Hanif Journal of Information Systems, 1(2), 55-61. https://doi.org/10.56211/hanif.v1i2.12

**[6].** Andryani, D., Indriani, D., & Maulida, R. (2023). Web-based food and beverages ordering information system at cafe in Bekasi. IJST, 2(1), 34-43. https://doi.org/10.56127/ijst.v2i1.613

**[7].** Syafariani, R. F., Defranata, D., & Hayati, E. N. (2019). Web Based Information System of Sales and Purchases on Cafe. Manajemen Informatika (JAMIKA), 9(2), 104-113. https://doi.org/10.34010/jamika.v9i2.2168

**[8].** Diyaolu, A. M., Ogunode, R. S., Olaniran, R. A., Alawode, M. O., & Ganiyu, A. A. (2025). AN ONLINE FOOD ORDERING FOR ACE RESTAURANT IN OYO TOWNSHIP. International Journal of Advanced Research in Computer Science, 16(2). https://doi.org/10.26483/ijarcs.v16i2.7212

**[9].** Lund, A. (2001). Measuring usability with the USE questionnaire. Usability and User Experience Newsletter of the STC Usability SIG. https://garyperlman.com/quest/quest.cgi?form=USE

**[10].** Richey, R. C. (1994). Developmental research: The definition and scope. Paper presented at the Proceedings of Selected Research and Development Presentations at the 1994 National Convention of the Association for Educational Communications and Technology, Nashville, TN, United States. https://files.eric.ed.gov/fulltext/ED373753.pdf

 