Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the study, significant findings, conclusion, and recommendations for future improvements for the Iligan City Social Welfare and Development Office Inventory Management and Monitoring System with Decision Support.

Summary Findings

- The researchers were able to create and launch a centralized inventory
 management and monitoring system with specific decision support tailored
 to the needs of the Iligan City Social Welfare and Development Office. In
 such a system, actual inventory levels can be monitored in real-time along
 with the supplies.
- 2. The system developed is able to track the state of the inventory correctly, thus allowing users to view the status of items, quantities, and activity logs. This accuracy reduces errors associated with manual tracking processes and provides reliable data for decision-making.
- 3. Indeed, the system used decision support features through iterative testing and evaluation. This feature allows the users to make decisions about restocking and purchasing inventory in a manner that improves operational efficiency and minimizes resources wasted.
- 4. The system is built with a focus on the ISO/IEC 25010 software quality

standards. It ensures an "Extreme Quality" ranking for all its critical characteristics such as usability, performance efficiency, security, and maintainability. The system is thus robust, friendly, and scalable for future needs.

5. The web integration makes it easy to access inventory details and functionality since authorized users can access remotely.

Conclusions

- The Iligan City Social Welfare and Development Office Inventory
 Management and Monitoring System with Decision Support meets the
 study's goals effectively. It streamlines the process of tracking inventory,
 enhances accuracy, and reduces manual intervention effort.
- 2. The decision support capabilities added significantly improve the process of inventory management. The users can plan the restocking schedule and avoid situations such as stock outs or overstocking.
- 3. Another positive assurance of ISO 25010 quality standards is the reliability and the efficiency in which this system could be made available as the operating needs of the CSWD.
- 4. By leveraging modern web technologies, the system provides accessibility, flexibility, and scalability, this makes it a practical solution for inventory management in dynamic environments.

Technology has made it easier to keep track of our inventory. The Iligan

City Social Welfare and Development Office Inventory Management and

Monitoring System with Decision Support is a web-based system that makes keeping track of your inventory easier. The user can request items and also view its stocks from their inventory.

Recommendations

The following recommendations are made to further enhance the system

- Incorporate advanced analytics to further enhance the decision support abilities by incorporating predictive analytics and demand forecasting. It could forecast future inventory needs by learning about historical usage trends and patterns.
- 2. Enable real-time notifications of low inventory levels or expired items to improve proactive inventory management.
- 3. Implement multi-factor authentication (MFA) to make the process of authenticating the users stronger. The system will be checked frequently for security, and that will keep it safe from future threats.
- 4. Scalability for future adoption This could potentially be scaled to other areas in the city government through usage in other departments and offices. It would achieve uniformity in inventory handling practices in the units involved.

Reference

- [1] D. S. Wynn, "The Financial Impact of Manual Inventory Record Errors," vol. 12, no. 10, 2021.
- [2] T. Unicommerce, "How E-commerce Dashboards Help Your Business Maximize Visibility & Profitability," unicommerce.com. Accessed: Aug. 28, 2024. [Online]. Available: https://unicommerce.com/blog/top-manual-inventory-management-challenges-solutions-in-philippines/
- [3] S. Holloway, Impact of Digital Transformation on Inventory Management: An Exploration of Supply Chain Practices. 2024. doi: 10.20944/preprints202407.0714.v1.
- [4] H. K. Sama and R. Mdemu, "Effects of Inventory Management on Service Delivery in Public Sector: A Case of Office of Registrar of Political Parties," *Int. J. Bus. Econ. Soc. Dev.*, vol. 5, no. 2, Art. no. 2, May 2024, doi: 10.46336/ijbesd.v5i2.606.
- [5] Of and A. Devis, "Inventory Management And Organizational Performance Of Manufacturing Firms In Mbarara City, Uganda," vol. 3, pp. 313–322, Jan. 2024.
- [6] "City Profile." Accessed: Jul. 03, 2023. [Online]. Available: https://www.iligan.gov.ph/knowiligan/cityprofile?1807583460
- [7] N. Jahic, "Everything To Know About Hunger in the Philippines," The Borgen Project. Accessed: Jul. 03, 2024. [Online]. Available:

- https://borgenproject.org/update-on-hunger-in-the-philippines/
- [8] "Social Welfare: How It Impacts (and Changes) People's Lives." Accessed: Jul. 03, 2024. [Online]. Available: https://childhope.org.ph/what-is-social-welfare/
- [9] "Social Welfare Programs in the Philippines," DSWD Assistance Philippines. Accessed: Aug. 28, 2024. [Online]. Available: https://dswdcashassistance.ph/social-welfare-programs-in-the-philippines/
- [10] D. A. Sankar, D. S. Bhaskaran, and D. J. R, "THE IMPACT OF INVENTORY MANAGEMENT TECHNIQUES ON SERVICE QUALITY MEASURES WITH REFERENCE TO SERVICE SECTOR," *J. Res. Adm.*, vol. 6, no. 1, Art. no. 1, Jan. 2024, Accessed: Aug. 26, 2024. [Online]. Available: https://journlra.org/index.php/jra/article/view/1312
- [11] D. Djohan and Stefvy, "The Impact of Inventory Managementon Customer Satisfaction at Apotik Global Medan," *Int. J. Health Econ. Soc. Sci. IJHESS*, vol. 5, no. 2, Art. no. 2, Apr. 2023, doi: 10.56338/ijhess.v5i2.3610.
- [12] Z. Dentzel, "How the Internet Has Changed Everyday Life," OpenMind. Accessed: Jul. 03, 2024. [Online]. Available: https://www.bbvaopenmind.com/en/articles/internet-changed-everyday-life/
- [13] M. Mohamed and N. E. Saber, "Intelligent Decision Support Machine

- Learning Based Optimizing Inventory Management," Am. J. Bus. Oper. Res., vol. 9, no. 2, pp. 41–50, 2023, doi: 10.54216/AJBOR.090205.
- [14] L. N. B. Long, H.-S. Kim, T. N. Cuong, and S.-S. You, "Intelligent decision support system for optimizing inventory management under stochastic events," *Appl. Intell.*, vol. 53, no. 20, pp. 23675–23697, Oct. 2023, doi: 10.1007/s10489-023-04801-3.
- [15] S. Teerasoponpong and A. Sopadang, "Decision support system for adaptive sourcing and inventory management in small- and medium-sized enterprises," *Robot. Comput.-Integr. Manuf.*, vol. 73, p. 102226, Feb. 2022, doi: 10.1016/j.rcim.2021.102226.
- [16] E. Devi, "Role of Information and Communication Technology (ICT) in
 Good Governance Process," Turk. J. Comput. Math. Educ. TURCOMAT, vol.
 12, Apr. 2021, doi: 10.17762/turcomat.v12i10.5486.
- [17] D. Kadewandana and R. Kaligis, "The Role of Information and Communication Technology (ICT) in E-Government: A Literature Review of Sustainable Development Aspects," Cover. J. Strateg. Commun., vol. 14, pp. 91–101, Mar. 2024, doi: 10.35814/coverage.v14i2.6339.
- [18] P. W. House, "The Impact of ICT on the Public Sector: Five Questions from a Decade of Experience," *FUTURE Glob.*, 2022.
- [19] P. W. House, "The Impact of ICT on the Public Sector: Five Questions from a Decade of Experience," *FUTURE Glob.*, 2022.

- [20] "Manual Data Entry Challenges & How to Avoid Them (2024-2025)."Accessed: Aug. 26, 2024. [Online]. Available:https://www.invensis.net/blog/manual-data-entry-challenges
- [21] "What Is Inventory Management? Benefits, Challenges, and Methods,"
 Coursera. Accessed: Aug. 26, 2024. [Online]. Available:
 https://www.coursera.org/articles/inventory-management
- [22] "Descriptive Research." Accessed: Jul. 03, 2024. [Online]. Available: https://www.librarianshipstudies.com/2022/10/descriptive-research.html