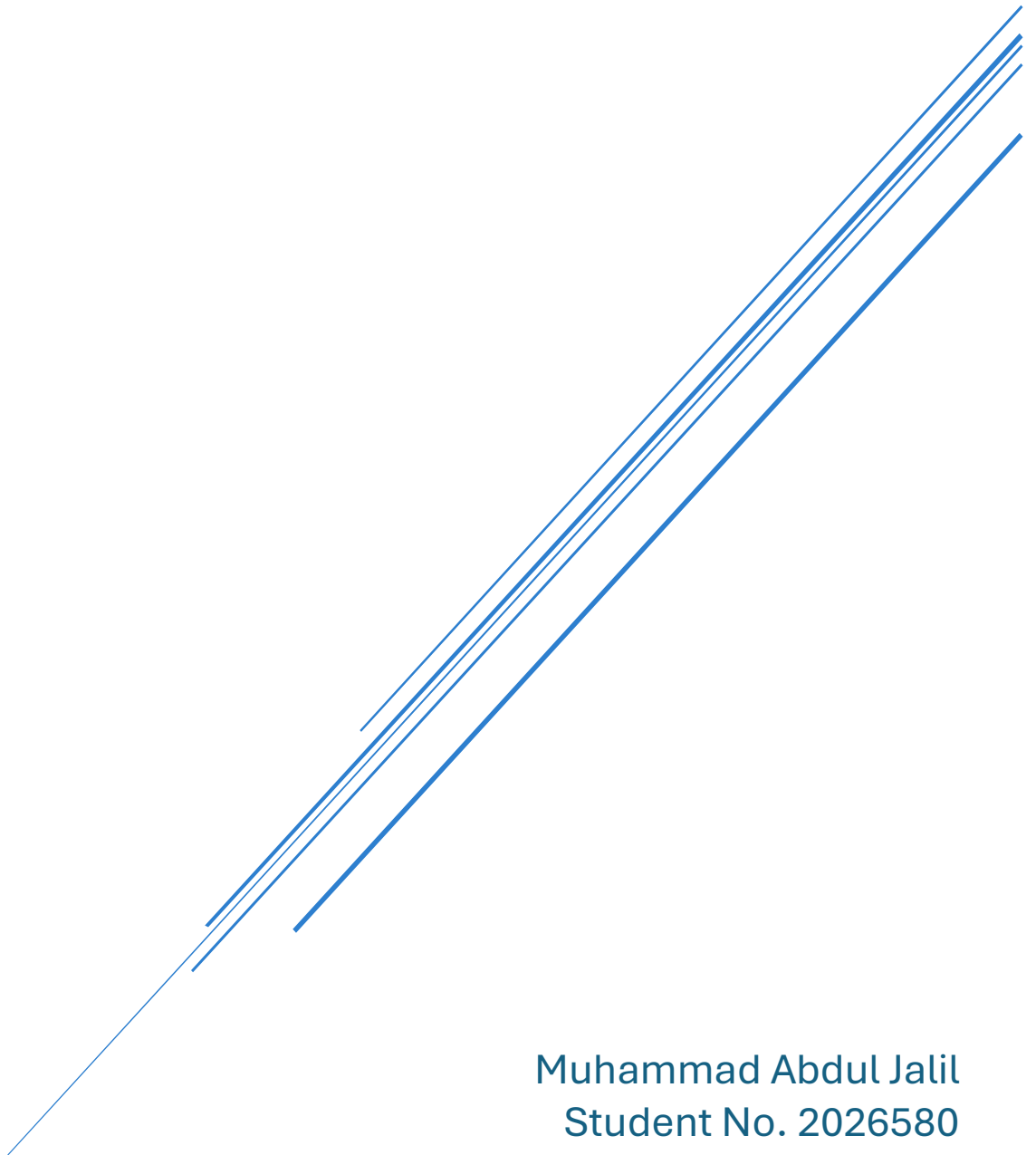


COMPONENT 2- INDIVIDUAL REPORT- INFORMATION SYSTEMS IMPROVEMENTS

Module code: LCLM5004



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Introduction

Information systems play an essential role in helping organisations improve efficiency, manage data effectively and support better decision-making. Modern businesses increasingly depend on integrated information systems to coordinate operations, improve customer service and remain competitive in a rapidly changing digital environment (Laudon and Laudon, 2022).

This report evaluates the operational challenges faced by Maldiva Ltd., a fictional consumer electronics retailer with 30 physical stores and an e-commerce platform. Although the company has experienced rapid sales growth, its outdated information systems have created several problems, including inaccurate inventory records, fragmented customer information, inefficient reporting processes, poor data security and weak communication between departments (UWTSD, 2026).

This report critically evaluates the company's existing information systems, recommends modern solutions and proposes an implementation plan to improve operational efficiency and sustainable organisational growth.

Evaluation of Existing Systems

Maldiva Ltd.'s existing systems support basic daily activities, but they are no longer suitable for a growing retailer with 30 stores and an e-commerce platform. The main problem is not simply that individual systems are old; it is that inventory, customer, sales and financial information are separated. An effective information system should combine people, processes, data and technology to support both operations and management decisions (Laudon and Laudon, 2022). Maldiva's systems do not achieve this integration.

Although the manual inventory system is inexpensive and familiar to employees, these advantages are outweighed by poor accuracy and limited scalability. Stock information is not updated consistently between stores and the website, allowing customers to purchase unavailable products. This causes refunds, complaints and damaged trust. Manual processes also make it difficult to identify overstocked and understocked products. Research shows that inaccurate inventory records can reduce product

availability and sales, while more regular and accurate stock checks can improve performance (Rekik et al., 2025). Nevertheless, replacing all manual controls would not automatically solve the problem; inaccurate data entry could continue unless the company introduces barcode or RFID controls, clear procedures and staff accountability.

The current customer relationship management process is similarly weak. Customer details and purchase histories are stored across disconnected systems. As a result, marketing staff cannot produce reliable personalised promotions, while customer-service employees may be unable to see previous purchases or complaints. Collaboration between marketing and information technology is important because shared knowledge and accessible data improve business decisions (Sleep et al., 2023). Maldiva's data silos therefore limit both customer service and organisational learning. Knowledge becomes valuable when employees can share and apply it, but technology alone is insufficient without trust, suitable processes and a supportive culture (Lartey et al., 2022).

Management reporting also depends heavily on spreadsheets. Spreadsheets are affordable, flexible and widely understood, making them useful for small-scale analysis (Laudon and Laudon, 2022; Baltzan and Phillips, 2026). However, manually combining information from several departments increases the risk of formula errors, duplicated entries and outdated reports, reducing the reliability of business information (Laudon and Laudon, 2022). This weakens sales forecasting and delays responses to changing customer demand, limiting the organisation's ability to react quickly to market changes (Baltzan and Phillips, 2026). By comparison, Walmart's use of integrated data analysis demonstrates how information collected from multiple business sources can support faster decision-making and improved supply chain performance (Laudon and Laudon, 2022; Walmart, 2025).

Finally, the existing systems create serious security and governance weaknesses. Poor access controls increase the possibility that employees may view or change customer information without a genuine business need. UK data-protection guidance requires organisations to restrict personal information according to employee roles and review access rights regularly (ICO, 2026). The lack of integration also forces employees to transfer information manually, increasing errors and creating

uncontrolled copies. Overall, Maldiva requires substantial modernisation. However, a phased upgrade may be less risky and more affordable than replacing every system at once, provided that the final solution creates reliable integration across the organisation.

Recommended Information System(s)

Maldiva Ltd. should implement an integrated, cloud-based Enterprise Resource Planning system, supported by Customer Relationship Management, Business Intelligence and stronger cybersecurity controls. A cloud solution is more suitable than developing separate systems because the company needs one reliable source of information across its 30 stores and e-commerce platform. Cloud ERP systems generally offer stronger scalability and flexibility than traditional systems; however, their benefits depend on careful integration, reliable internet access and effective governance (Lee and Lee, 2024).

Table 1: Current operational challenges and proposed information systems.

Current Problem	Proposed Solution
Manual inventory	ERP + Barcode/RFID
Separate customer databases	CRM
Spreadsheet reporting	Power BI
Weak access control	Multi-factor authentication (MFA) + Role-based access control
Separate systems	Cloud ERP

3.1 Cloud-based ERP system

Microsoft Dynamics 365 is recommended as the main platform because it can connect finance, sales, purchasing, inventory and customer service. When a product is sold in a store or online, stock levels would update automatically across the organisation. This would reduce overselling, unnecessary refunds and manual data transfer.

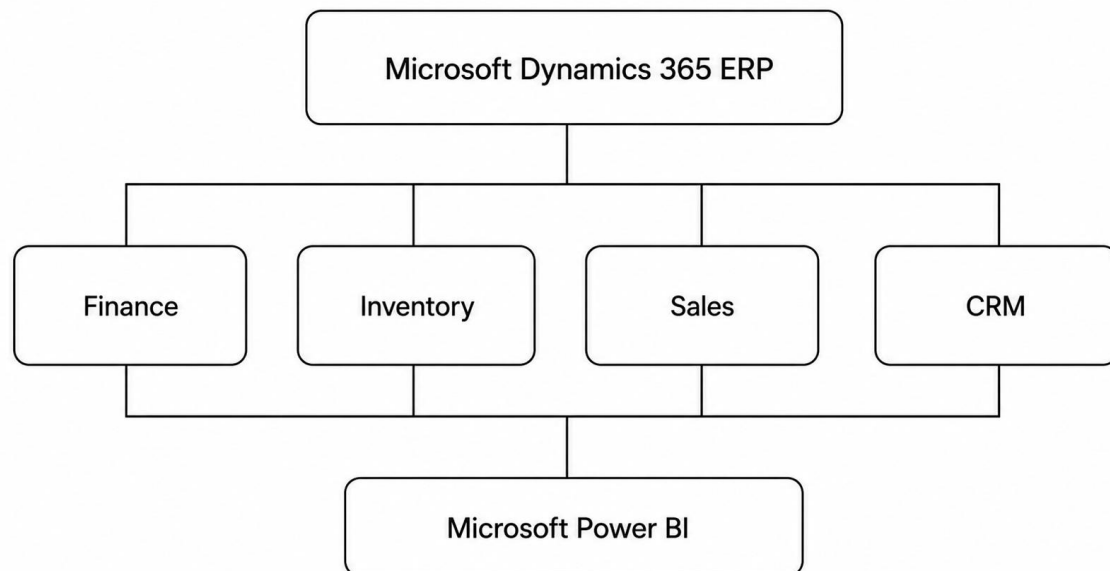


Figure 1: Proposed integrated information system for Maldiva Ltd.

Although an integrated ERP system could significantly improve Maldiva Ltd.'s operational efficiency by creating a single, reliable source of organisational data across inventory, sales, finance and customer service, implementation would involve considerable costs for software, data migration, employee training and ongoing support. It could also temporarily disrupt daily operations while staff adapt to new processes. An alternative would be to upgrade the company's existing systems individually; however, this would not fully resolve the current problem of disconnected departmental data. Therefore, a phased cloud-based ERP implementation is the most appropriate solution because it spreads implementation costs, reduces operational risks and provides long-term improvements in data accuracy, inventory visibility and managerial decision-making (Laudon and Laudon, 2022). Walmart's experience demonstrates that integrated supply-chain systems and data analysis can improve inventory processing, efficiency and decision-making (Walmart Inc., 2025). However, Maldiva should not copy Walmart's expensive in-house approach. Developing a completely customised system would require specialist employees, high investment and continuous maintenance. A configurable cloud package is more realistic for Maldiva's size.

Nevertheless, subscription fees, configuration, training and data migration must be included in the total cost of ownership. The Week 8 lecture explains that hardware and

software represent only part of technology costs because support, maintenance, training, downtime and infrastructure also matter (Adegbite, 2026). Therefore, management should compare at least three providers, including Dynamics 365, Oracle NetSuite and SAP Business One, rather than selecting software only because it is popular.

3.2 Customer Relationship Management

An integrated CRM system would improve customer loyalty by enabling personalised marketing, faster complaint resolution and a better understanding of customer behaviour. However, successful CRM depends on accurate and up-to-date customer information because poor-quality data can produce inappropriate recommendations and reduce customer trust. Another limitation is that excessive personalisation may raise privacy concerns if customers believe their personal information is being used inappropriately. An alternative would be to continue using separate customer databases, but this would maintain fragmented customer records and limit personalised services. Therefore, implementing an integrated CRM system with strong data governance, customer consent procedures and regular data-quality reviews provides the most balanced approach for improving customer satisfaction while protecting privacy.

3.3 Inventory and omnichannel management

Integrating inventory management with the ERP system through barcode scanning and selective RFID technology would improve stock accuracy, reduce manual errors and provide real-time visibility of products across stores and the e-commerce platform. Barcode technology is cost-effective, easy to implement and suitable for most retail products, making it an appropriate solution for Maldiva Ltd. However, RFID offers faster stock tracking and can scan multiple items simultaneously, but it requires higher investment in tags, readers and system integration. An alternative would be to rely entirely on barcode technology, which would reduce implementation costs but may not provide the same level of efficiency for high-volume or high-value inventory. Walmart's earlier experience with RFID also demonstrates that advanced technology does not always generate sufficient return on investment if implementation costs outweigh operational benefits (Smoak, 2016). Therefore, Maldiva should adopt barcode technology across the organisation while introducing RFID gradually for selected

product categories where the expected operational benefits justify the additional investment.

3.4 Business Intelligence

Integrating Microsoft Power BI with the ERP system would enable managers to monitor real-time sales, inventory levels and customer trends through interactive dashboards, leading to faster and more informed decision-making. However, the effectiveness of Business Intelligence depends on the accuracy, completeness and timeliness of organisational data. An alternative would be to continue using spreadsheet-based reports, which have lower implementation costs and require little additional training. However, spreadsheets are time-consuming, more susceptible to human error and cannot provide real-time business insights. Therefore, Power BI offers the most suitable solution for Maldiva Ltd. because its ability to deliver accurate, real-time information outweighs the additional investment and training requirements, provided that strong data governance procedures are maintained (Laudon and Laudon, 2022).

3.5 Security and GDPR controls

The recommended system should include encryption, automated backups, audit logs, role-based access control and multi-factor authentication to strengthen data security and support GDPR compliance. However, stronger security measures may increase implementation costs and require employees to complete additional authentication steps, which some users may initially find inconvenient. An alternative would be to maintain basic password-based security, as it is cheaper and easier to manage. However, this approach would expose Maldiva Ltd. to greater cybersecurity risks and potential regulatory consequences. Therefore, investing in comprehensive security controls is justified because protecting customer information, maintaining legal compliance and safeguarding the organisation's reputation provide greater long-term value than the additional implementation and operating costs (NCSC, 2024).

Implementation Plan

Maldiva Ltd. should implement the proposed system through a phased six-month programme rather than a "big-bang" approach. A phased implementation allows problems to be identified and resolved before the system is deployed across the entire organisation, reducing operational disruption and implementation risk. However, this approach requires more time and may delay the full realisation of business benefits. An alternative would be a big-bang implementation, where all departments move to the new system simultaneously. Although this could deliver faster organisational integration, it also carries a much higher risk of system failure, employee resistance and business interruption if unexpected problems occur. Therefore, a phased implementation is more appropriate for Maldiva Ltd. because it provides greater control, allows continuous evaluation and supports gradual organisational learning.

Table 2: Proposed six-month ERP implementation timeline (Author, 2026).

Month	Activity
Month 1	Requirements analysis & supplier selection
Month 2	Data cleansing & migration preparation
Month 3	Pilot implementation
Month 4	User training & testing
Month 5	Organisation-wide rollout
Month 6	Monitoring & evaluation

User participation is equally important because the Technology Acceptance Model suggests employees are more likely to adopt new technology when they perceive it as useful and easy to use (Adegbite, 2026).

Second, Maldiva should clean and standardise customer, product and supplier records before migration. Duplicate, incomplete and outdated data should be removed, followed by trial imports and reconciliation. Microsoft recommends preparing migration early and testing imported data repeatedly; otherwise, a working system may

still produce unreliable decisions (Microsoft, 2024). However, excessive cleansing could delay the project, so priority should be given to active records.

Third, a pilot should be introduced in the head office, e-commerce operation and two stores. Inventory, CRM, finance and Power BI connections should be tested through orders, returns and stock transfers. A pilot reduces disruption and allows lessons before wider rollout, although it may not reveal every problem across 30 stores. The system should then be released regionally, while the old system remains briefly available as a controlled backup.

Training should combine demonstrations, practical exercises, short guides and “super-users”. ERP success depends on management support, technical capability and user engagement, not software alone (Kusumawardhana et al., 2024). Security training should cover phishing, strong passwords, multi-factor authentication and incident reporting (NCSC, 2024).

Finally, managers should monitor stock accuracy, order fulfilment, complaints, user adoption and costs. Reviews after one, three and six months should address problems and determine whether further modules are required.

Conclusion

This report has shown that Maldiva Ltd.'s existing information systems are no longer suitable for a growing retail business. Manual inventory management, disconnected customer databases, spreadsheet-based reporting, weak data security and poor integration between departments reduce operational efficiency, increase costs and negatively affect customer satisfaction (Laudon and Laudon, 2022). Although the current systems provide basic operational support, they cannot meet the company's future business needs or support effective decision-making in a competitive digital environment.

To address these challenges, the report recommended implementing an integrated cloud-based ERP system supported by CRM, Business Intelligence, inventory management technologies and enhanced cybersecurity controls. These systems would improve operational efficiency, decision-making and customer service.

Ultimately, selecting the right technology alone will not guarantee project success. The long-term value of the proposed information systems depends on effective leadership, employee engagement, high-quality data and continuous performance monitoring. Although implementing an integrated ERP, CRM and Business Intelligence solution requires significant financial investment and organisational change, maintaining the current fragmented systems would likely result in greater operational inefficiencies, higher long-term costs and declining customer satisfaction. Alternative short-term improvements to individual systems may reduce immediate expenditure, but they would not address the underlying problem of disconnected information across departments. Therefore, investing in an integrated cloud-based information system represents a strategic business decision rather than simply a technology upgrade, supporting sustainable growth, competitiveness and better customer service.

References:

Adegbite, O. (2026) *LCLM5004 Managing Business Information: Week 8 – Emerging Technologies and Trends*. Module lecture slides.

Baltzan, P. and Phillips, A. (2026) *Business Driven Information Systems*. 9th edn. New York: McGraw Hill. Available at: McGraw Hill – Business Driven Information Systems (9th Edition) (Accessed: 12 July 2026).

Information Commissioner's Office (ICO) (2026) 'Access control'. Available at: <https://ico.org.uk/for-organisations/advice-and-services/audits/data-protection-audit-framework/toolkits/information-and-cyber-security/access-control/> (Accessed: 9 July 2026).

Kusumawardhana, R.H. *et al.* (2024) 'Identifying critical success factors in ERP implementation', *Journal of Risk and Financial Management*. Available at: Critical success factors in ERP implementation (Accessed: 14 July 2026).

Lartey, P.Y. *et al.* (2022) 'Importance of organisational tacit knowledge: Barriers to knowledge sharing', in *Recent Advances in Knowledge Management*. London: IntechOpen. Available at: <https://doi.org/10.5772/intechopen.101997> (Accessed: 10 July 2026).

Laudon, K.C. and Laudon, J.P. (2022) *Management Information Systems: Managing the Digital Firm*. 17th edn. Harlow: Pearson. Available at: Pearson – Management Information Systems: Managing the Digital Firm (17th Edition) (Accessed: 15 July 2026).

Lee, C. and Lee, K. (2024) 'A systematic literature review on the strategic shift to cloud ERP', *Electronics*, 13(14), p. 2885. Available at: Cloud ERP systematic literature review (Accessed: 11 July 2026).

Microsoft (2024) 'Manage configuration and migration data for Dynamics 365'. Available at: Dynamics 365 data migration guidance (Accessed: 8 July 2026).

Microsoft (2025) 'The future of retail with Dynamics 365 AI-powered ERP solutions'. Available at: Dynamics 365 for retail (Accessed: 13 July 2026).

Microsoft (2026) 'What is Power BI?'. Available at: Microsoft Power BI overview (Accessed: 10 July 2026).

National Cyber Security Centre (NCSC) (2024) 'Cyber security training for staff'. Available at: NCSC staff cyber-security training (Accessed: 14 July 2026).

National Cyber Security Centre (NCSC) (2024) 'Multi-factor authentication for your corporate online services'. Available at: NCSC multi-factor authentication guidance (Accessed: 9 July 2026).

Rekik, Y., Oliva, R., Glock, C. and Syntetos, A. (2025) 'Inventory record inaccuracy in grocery retailing: Impact of promotions and product perishability, and targeted effect of audits'. Available at: <https://arxiv.org/abs/2506.05357> (Accessed: 12 July 2026).

Sleep, S., Hulland, J. and Gooner, R.A. (2023) 'Removing silos to enable data-driven decisions: The role of marketing and IT knowledge', *Journal of Business Research*, 156. Available at: <https://doi.org/10.1016/j.ibusres.2022.113471> (Accessed: 8 July 2026).

Smoak, A. (2016) 'More than you want to know about Wal-Mart's technology strategy: Part 1'. Included in *LCLM5004 Week 9 Module Materials*.

Walmart Inc. (2025) *Annual Report 2025*. Bentonville, AR: Walmart Inc. Available at: <https://stock.walmart.com/financials/annual-reports/default.aspx> (Accessed: 13 July 2026).