

MALDIVA LTD.

BUSINESS INFORMATION SYSTEMS REPORT

Modernising Information Systems through ERP, CRM, Business Intelligence,
Knowledge Management and Artificial Intelligence

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Introduction

Maldiva Ltd. is a retail company specialising in electronic equipment, operating approximately 30 physical stores and an expanding e-commerce platform. The growth in sales has created new opportunities, but it has also exposed limitations in the organisation's existing information systems. The company currently uses relatively independent applications for sales, inventory, customers, finance and reporting, requiring employees to perform manual updates and making it difficult to obtain reliable real-time information. The central problem is therefore not purely technological; it concerns the relationship between people, organisational processes, information and technology.

The approach of Laudon and Laudon (2012) is particularly useful because it presents information systems as management tools that connect technology, organisations and people in order to support operations and decision-making. From this perspective, Maldiva's modernisation should be treated as an organisational transformation rather than simply the purchase of software. The objective of this report is to propose an integrated information-systems architecture covering Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Business Intelligence (BI),

knowledge management, collaboration, cloud computing, cybersecurity and Artificial Intelligence (AI).

The proposal also considers the concepts presented in the Management Information Systems: Managing the Digital Firm material, including collaboration and communication systems, Knowledge Management Systems (KMS), intranets and extranets, enterprise applications, data management and Artificial Intelligence. The framework is consistent with the 12th edition of Laudon and Laudon (2012), which addresses e-business and collaboration, IT infrastructure, databases and information management, security, enterprise applications, knowledge management and AI (Laudon and Laudon, 2012).

1. Organisational Context and Problem Analysis

The first problem facing Maldiva is information fragmentation. The point-of-sale system may record a sale in a physical store while the online platform maintains different information about product availability. The financial system contains payment data, while managers may rely on spreadsheets to consolidate results. When these systems do not share data effectively, duplication, inconsistency and delays arise.

Inventory control provides a practical example. If the inventory of a store is not synchronised with the e-commerce platform, the website may show a product as available even though the physical unit has already been sold. This can lead to cancellations, delivery delays, excess inventory in some stores and shortages in others. In addition to financial consequences, there is a direct impact on customer experience.

The second problem concerns customer relationship management. Dispersed information makes it difficult to establish a single view of the customer. The company may know about an online purchase but may not be able to connect it with a complaint subsequently made in a store. Without an integrated view, marketing campaigns become less personalised and after-sales service becomes weaker.

The third problem is dependence on manual processes and spreadsheets. Spreadsheets can be useful for specific activities, but they become fragile when used as the main mechanism for consolidating information across an organisation with dozens of locations. Management needs information that is current, consistent and comparable.

These issues can be interpreted through a gap analysis: isolated systems create poor communication; manual processes reduce productivity; duplicated data create inconsistency; the absence of CRM limits customer management; and the absence of BI reduces analytical capability. The response must therefore integrate processes before expanding automation (Laudon and Laudon, 2012).

2. Information Systems as an Integrating Structure

Laudon and Laudon (2012) emphasise that enterprise systems can produce profound changes in the way organisations conduct business. For Maldiva, this means that ERP

should not be understood simply as a finance or inventory application, but as a platform connecting business processes.

The proposed architecture begins with Enterprise Resource Planning (ERP). The ERP should integrate sales, purchasing, inventory, finance, warehouses and supply-chain activities. Its principal benefit will be to establish an integrated source of operational information. When a sale occurs, the information can update inventory, generate the relevant order and feed the financial processes.

CRM should be implemented after internal processes have been stabilised. Its purpose is to consolidate customer information, purchase history, preferences, interactions, campaigns and service records. Integration between ERP and CRM will enable Maldiva to connect what customers purchase with how they interact with the organisation.

The third component is Business Intelligence. BI transforms operational data into management information. Dashboards can display sales by store, margin by category, inventory levels, slow-moving products and e-commerce performance. Management can therefore become less dependent on manually prepared reports.

The logic can be summarised as follows: ERP organises processes; CRM organises customer relationships; BI transforms integrated data into managerial information. This architecture is consistent with Laudon and Laudon's treatment of enterprise applications, data management and decision support (Laudon and Laudon, 2012).

3. Collaboration and Communication

The course material includes Systems for Collaboration and Teamwork, highlighting social networks, wikis, internet-based collaborative environments, virtual meetings, Google Apps, SharePoint and related tools. This topic is particularly relevant to Maldiva because an organisation with approximately 30 stores needs to ensure that knowledge and information circulate effectively between individual locations and central management.

A collaborative platform could provide a shared environment for procedures, documents, training, communication and projects. For example, if a store identifies a recurring problem with a product, the information could be shared with customer service, other stores and managers. This would reduce dependence on informal messages and strengthen organisational learning.

Collaboration is also important during implementation of the new systems. IT teams, managers, sales employees, logistics staff and customer-service teams need to work together when defining requirements, testing solutions and implementing the systems. Virtual meetings and shared environments can support communication between geographically distributed locations.

In this sense, collaboration is more than communication. It contributes to process coordination and the development of collective knowledge. The system should ensure that the right information reaches the right person at the right time. This approach is

aligned with Laudon and Laudon's treatment of e-business and collaboration (Laudon and Laudon, 2012).

4. Knowledge Management Systems, Intranets and Extranets

One of the most relevant elements of the course material is the concept of Knowledge Management Systems (KMS). Laudon and Laudon explain that some organisations perform better because they possess superior knowledge about how to create, produce and deliver products and services. Such knowledge can be difficult for competitors to imitate and can therefore create strategic value.

At Maldiva, important knowledge may exist only in employees' experience. A sales employee may know which products have the strongest demand in a particular region, which questions customers ask most frequently and how particular customers respond to promotions. If this knowledge is not recorded, the organisation may lose it when the employee leaves.

A KMS would allow Maldiva to capture, organise and distribute knowledge and experience. The intranet could provide an internal environment for manuals, policies, procedures, training materials, frequently asked questions and best practices. An extranet could support controlled relationships with suppliers by sharing authorised information about orders, forecasts, products and deliveries.

Knowledge management complements ERP and CRM. ERP provides operational data; CRM provides customer-relationship data; KMS preserves organisational knowledge and experience. The result is an organisation with stronger learning capability.

This perspective also reinforces the importance of organisational culture. Employees must be encouraged to record knowledge and share experiences. Technology without human participation cannot create effective knowledge management (Laudon and Laudon, 2012).

5. Business Intelligence, Analytics and Decision-Making

Once data have been integrated, Maldiva can develop a Business Intelligence structure. The objective is to transform large volumes of data into useful information for operational, tactical and strategic decisions.

At the operational level, managers can monitor inventory, orders and sales. At the managerial level, they can compare performance across stores, product categories and channels. At the strategic level, they can identify trends and support decisions about expansion, suppliers and investment.

Analytical development can be organised around four questions. First, "What happened?" is addressed through descriptive reporting. Second, "Why did it happen?" is addressed through diagnostic analysis. Third, "What is likely to happen?" is addressed through predictive analytics. Fourth, "What should we do?" is associated with prescriptive analytics.

This progression prepares the organisation for Artificial Intelligence. However, data quality is essential. Duplicate, incomplete or inaccurate data can produce inappropriate analysis. Before adopting advanced models, Maldiva should therefore establish data governance, quality standards, responsibilities and access controls. The relationship between databases, information management, business intelligence and decision-making is central to the architecture proposed by Laudon and Laudon (2012).

6. Artificial Intelligence and Automation

Artificial Intelligence can significantly extend Maldiva's information-system capabilities. Suitable applications include demand forecasting, anomaly detection, product recommendations, customer-service request classification and decision support.

Demand forecasting can analyse historical sales, seasonality, promotions and customer behaviour to estimate future requirements. This may reduce stock-outs and excess inventory. AI can also identify anomalies, for example when a store's sales pattern differs significantly from what would normally be expected.

Within CRM, AI models can support personalised recommendations, customer segmentation and prioritisation. In customer service, an AI tool could summarise a customer's history and suggest possible responses to an employee.

It is important, however, to establish a Human-in-the-loop principle. AI should support important decisions rather than automatically eliminating human responsibility. A system may recommend an exceptional purchase or identify unusual behaviour, but an authorised person should validate decisions that have financial or significant customer impact.

A more advanced future application is Agentic AI. An agent could detect low inventory, consult sales data, check supplier information and prepare a purchasing recommendation. However, the greater the level of autonomy, the greater the need for governance, monitoring, security and clearly defined responsibilities. Contemporary information-systems management should therefore treat AI as an extension of analytical and organisational capabilities rather than an automatic replacement for management (Laudon and Laudon, 2012; Tabassi, 2023).

7. Cloud Computing, Cybersecurity and Data Governance

Maldiva's expansion requires scalable infrastructure. Cloud computing can provide storage, processing capacity and system access without requiring all infrastructure to be installed locally. This can facilitate connections between stores, e-commerce and central administration.

However, cloud adoption does not eliminate risk. The organisation should implement multi-factor authentication, access management, encryption, backups, monitoring, vulnerability management and incident-response plans.

Data governance should also be established from the beginning. Maldiva needs to define who can access particular data, who is responsible for data quality, how errors are corrected and how long information is retained.

For personal data, Maldiva must consider applicable data-protection obligations, including principles relating to minimisation, purpose, security and transparency. AI systems using customer data should also be assessed for privacy, bias, explainability and human oversight. Treating security as an integral part of systems architecture is consistent with Laudon and Laudon, while the NIST AI Risk Management Framework provides a contemporary structure for managing AI-related risks (Laudon and Laudon, 2012; Tabassi, 2023).

8. Implementation and Change Management

The transformation should be gradual. A realistic implementation period is approximately 12 to 18 months.

Phase 1: assessment of processes, requirements, data and risks.

Phase 2: ERP implementation and stabilisation.

Phase 3: CRM implementation and integration of customer data.

Phase 4: development of BI, dashboards and performance indicators.

Phase 5: introduction of AI applications after data and processes have been stabilised.

Training, communication and support should operate in parallel. Employee resistance is an important risk. The organisation should explain why the systems are being introduced and how they are intended to improve employees' work.

Implementation should also be evaluated using clear success criteria. The project should not be considered complete merely because software has been installed. The real objective is user adoption, process improvement and measurable organisational outcomes. This concern with the development, management and evaluation of information systems is consistent with Laudon and Laudon (2012).

9. Ethics, Responsibility and Business Value

Modernising information systems also requires consideration of the ethical and social dimensions of technology. Laudon and Laudon treat ethical and social issues as an integral part of information-systems management. For Maldiva, this means that efficiency should not be achieved at the expense of customer privacy or appropriate working conditions.

CRM may concentrate a large amount of personal information. The organisation should therefore establish legitimate purposes for using such data and avoid collecting information that is unnecessary. When AI is used, the company should also assess potential bias in datasets and models. An automated recommendation could favour

particular products or customer groups inappropriately if historical data contain distorted patterns.

There is also an employee dimension. Automation can reduce repetitive tasks but can also create concerns about job displacement. The strategy should present AI as a tool that enhances human capability, particularly in analysis, customer service and forecasting. Training should enable employees to understand not only how to use the system but also when to question an automated recommendation.

Investment evaluation should include both financial and non-financial benefits. Cost reduction, lower inventory losses and increased sales are important outcomes, but improvements in customer satisfaction, information quality, response speed and organisational learning should also be considered. The transformation will be successful when these benefits are sustainable and measurable. The EU Artificial Intelligence Act further reinforces the importance of responsible AI governance and risk management in relevant contexts (European Union, 2024).

10. Integrated Model for Maldiva

At the first level are the data generated by transactions, customers, suppliers and operations. The second level contains ERP and CRM, integrating processes and customer relationships. The third level contains BI and analytics, transforming data into management information. The fourth level contains KMS, enabling the organisation to preserve and share knowledge. The fifth level contains AI and automation, supporting forecasting, recommendation and selected tasks under appropriate supervision.

This architecture demonstrates that the systems should not be viewed as independent components. Value emerges from integration. For example, an AI forecast becomes more useful when it uses reliable sales and inventory data, customer context supplied by CRM and accumulated organisational knowledge.

The logic can therefore be represented as:

****Data → Information → Knowledge → Intelligence → Decision → Business Value****

This sequence is the principal strategic recommendation of this report. It also moves Maldiva closer to the concept of the “digital firm”, in which technology becomes embedded in processes, management and organisational competitiveness (Laudon and Laudon, 2012).

11. KPIs, Benefits and Evaluation

Success should not be measured simply by whether the systems have been installed. Maldiva needs to evaluate business outcomes.

Recommended KPIs include inventory accuracy, stock-out rate, inventory turnover, order-processing time, customer satisfaction, customer retention, customer-service

resolution time, system availability, security incidents, demand-forecast accuracy and employee system adoption.

These indicators allow the organisation to compare its position before and after transformation. For example, Maldiva could establish targets to increase inventory accuracy, reduce order-processing time and improve customer retention. Continuous monitoring will allow problems to be corrected and provide evidence of return on investment. The use of performance indicators also reinforces the connection between information systems and business performance (Laudon and Laudon, 2012).

12. Conclusion

The analysis demonstrates that Maldiva's principal problems are associated with fragmented systems, manual processes, duplicated information, the absence of an integrated customer view and limitations in management analytics. The solution should not be the isolated acquisition of technologies but a coordinated organisational transformation.

The recommended architecture begins with data management and ERP, progresses to CRM and BI, incorporates collaboration and knowledge management, and subsequently uses Artificial Intelligence for forecasting, recommendation and automation. Cloud computing provides scalability, while cybersecurity and data governance provide protection and control.

The principal contribution of Laudon and Laudon's approach to the Maldiva case is the demonstration that information systems must be analysed through the interaction of people, organisation, processes and technology. Maldiva can achieve competitive advantage when it transforms operational data into information, information into knowledge and knowledge into better decisions.

AI should therefore not be presented as a substitute for management. It should be implemented as an advanced capability within an integrated architecture, supported by human oversight and effective governance. This approach will allow Maldiva to modernise its operations, improve customer relationships, reduce inefficiencies and establish a technological foundation capable of supporting sustainable growth.

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