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EVALUATION OF THE EXISTING INFORMATION MANAGEMENT SYSTEMS AT MASSOLUTIONS LLC

Abstract

This paper presents a comprehensive evaluation of the information management systems currently in use at MASSolutions LLC, a mid-sized Azerbaijani company. The study examines systems across the IT, HR, Finance, and Logistics departments through interviews with department managers and a survey of system users. The findings reveal that while each department has basic digital tools in place, there are significant issues including poor integration between systems, redundant manual data entry, and low user satisfaction in certain areas (notably Finance and Logistics). The analysis, supported by relevant literature, indicates that these fragmented and outdated systems hinder operational efficiency and informed decision-making. Recommendations are provided to integrate and upgrade the systems, such as adopting a unified platform (ERP), updating legacy software, and improving user training and governance. Implementing these measures is expected to enhance data consistency, streamline processes, and better align the information systems with MASSolutions LLC's business needs, ultimately contributing to improved organisational performance.

Key words: Information management systems; system integration; user satisfaction; digital transformation; Azerbaijan.

INTRODUCTION

Information management systems (IMS) are critical for contemporary organisations as they facilitate data storage, processing, and dissemination to support operations and decision-making (DeLone & McLean, 2003). Effective IMS can improve efficiency and provide strategic advantages, whereas poorly implemented or outdated systems may hinder productivity. The importance of periodically evaluating information systems has been emphasised in the literature, as it ensures that the systems continue to meet business needs in a changing environment (Serafeimidis & Smithson, 2000; Irani & Love, 2008). Indeed, *evaluating IS is a difficult but necessary task* (Serafeimidis & Smithson, 2000) that involves technical, organisational, and human factors. Many organisations struggle with fragmented or legacy systems that operate in silos, leading to duplicated efforts and inconsistent data, which ultimately *hinder informed decision-making* (Wong et al., 2022). These challenges are pronounced in developing and transition economies where rapid growth and limited resources can result in ad-hoc system development and integration issues (Aliyev & Humbatova, 2023). In the Azerbaijani context, companies are increasingly aware of the need to modernise their IMS in line with global digital transformation trends.

MASSolutions LLC is a fictional yet realistic mid-sized firm based in Azerbaijan, operating across several key departments: Information Technology (IT), Human Resources (HR), Finance, and Logistics. As the company expanded, each department adopted its own information management solutions, ranging from off-the-shelf software to internally developed tools. However, the leadership of MASSolutions has observed signs of inefficiency – such as delays in

reporting, data inconsistencies between departments, and user complaints – indicating that the current IMS setup may not be optimally supporting the company’s objectives. This has prompted a comprehensive evaluation of the existing information management systems at MASSolutions LLC to identify strengths, weaknesses, and opportunities for improvement.

The objective of this study is to assess how well the current IMS serve the needs of each department and the organisation as a whole. The evaluation covers system capabilities, integration across departments, data management practices, and user satisfaction levels. To achieve this, a mixed-methods case study approach was employed, combining qualitative interviews with quantitative survey data, in line with established practices in information systems evaluation research (Aliyev & Humbatova, 2023). Department managers from IT, HR, Finance, and Logistics were interviewed to gain insights into system usage, benefits, and challenges from a managerial perspective. In addition, an employee survey (n = 50) was conducted to gather feedback from system end-users on usability, reliability, and satisfaction. By triangulating these data sources, the analysis provides a holistic view of the current IMS performance at MASSolutions. The following sections present the findings of the analysis and discuss their implications. First, we outline the existing systems in each department and the issues identified (Analysis), and subsequently we offer conclusions and recommendations for improving IMS effectiveness at MASSolutions (Conclusion).

ANALYSIS

Current IMS Infrastructure at MASSolutions: Each of the four departments at MASSolutions LLC utilises distinct information management systems tailored to their operational needs (see **Table 1**). The IT department primarily uses an internal **IT Helpdesk System** for technical support ticketing and an asset management database for tracking hardware and software assets. The HR department employs a **Human Resource Management System (HRMS)** that handles employee records, attendance, and payroll; this system is partially a module of a larger enterprise resource planning platform, though some HR processes (e.g. training records) are managed through standalone spreadsheets. The Finance department relies on a dedicated **Accounting Software** for financial reporting, budgeting, and accounts payable/receivable; this is a legacy system adapted to local accounting standards. The Logistics department currently uses a combination of a basic **Inventory Management tool** and manual spreadsheets to track shipments, warehouse stock, and supply orders. These systems have been acquired or developed at different times, resulting in a heterogeneous applications landscape with minimal integration between departments.

Table 1

Existing information systems by department at MASSolutions LLC

Department	Key system(s) used	Main function	Issues identified
IT	Internal Helpdesk & Asset DB	Manage IT support tickets and company IT assets	Lacks advanced analytics; not integrated with other dept systems (isolated data)
HR	HR Management System (HRMS) + Excel tracking	Handle employee data, payroll, leave; ad-hoc tracking for training	Partial automation; double-entry of data into Finance for payroll; some manual processes remain
Finance	Accounting Software (legacy)	Financial accounting, reporting, budgeting	Outdated interface; not integrated with HR (for salaries) or Logistics (for inventory costs); requires manual data import/export
Logistics	Inventory Management Tool + Spreadsheets	Track inventory levels, shipments, and orders	Limited functionality; heavy reliance on manual spreadsheets; no real-time data sharing with Finance or Sales

As shown in Table 1, a major issue is the **lack of integration** among these systems. Each department's tools largely function in isolation, which is consistent with the notion of "siloe" information systems often discussed in the literature (Wong et al., 2022). For example, data on inventory levels in the Logistics department's records are not automatically shared with the Finance department's accounting software. As a result, finance staff must manually reconcile inventory values during financial reporting, a process prone to delays and errors. Similarly, the HR system does not seamlessly communicate with the Finance system; changes in employee status or salary information must be manually entered into the accounting system. This fragmentation aligns with findings by **Wong et al. (2022)**, who observed that when official systems are inadequate or disconnected, employees tend to create manual workarounds (like spreadsheets) to fill the gaps, leading to inefficiencies and potential data inconsistencies. At MASSolutions, such workarounds were evident: HR personnel maintain parallel Excel sheets for certain records, and Logistics staff use emails and paper forms to coordinate with Finance for purchase orders. These practices indicate that the existing IMS environment is not fully meeting user needs in terms of integration and workflow support.

Findings from Interviews: The qualitative interviews with department managers provided valuable insights into the effectiveness of the current systems and the challenges faced. Managers universally acknowledged the **importance of information systems** in their departments' daily operations, echoing the critical role of IMS in organisational performance noted by DeLone and McLean (2003). The IT manager reported that the internal helpdesk system has improved the tracking of support tickets and IT assets. However, they also noted that the system is **aging and lacks modern analytics features**, making it hard to proactively identify recurrent issues or perform trend analysis. The HR manager expressed moderate satisfaction with the HRMS for core functions like payroll and leave management, but highlighted that **training management and performance appraisal processes are not supported** in the system, requiring additional manual effort. The Finance manager raised concerns about the legacy accounting software's **usability and reporting limitations** – specifically, the system's interface is outdated and it does not easily support new reporting requirements or integration with spreadsheet data without custom scripts. The Logistics manager was the most critical, indicating that the current tools for inventory and shipment tracking are **rudimentary and unreliable**. According to the Logistics manager, lack of a robust system leads to frequent stock discrepancies and difficulty in forecasting, which in turn affects customer service. In summary, the interviews painted a picture of partial success: while each system performs basic required functions, **there are significant pain points** related to integration, completeness of functionality, and modern capabilities (such as real-time reporting and analytics).

The managers' feedback also touched on organisational factors. Both the HR and Logistics managers mentioned that **user training and change management** were challenges when new tools were introduced. For instance, when the HRMS was first deployed, some staff continued to use old methods (like paper forms or Excel) due to insufficient training and resistance to change – a common issue in IS implementation (Petter et al., 2008). This highlights that system effectiveness is not only about technology but also about how well employees adopt and use the systems. The IT manager noted that there is no formal **governance or integration strategy** at MASSolutions for information systems – each department made independent decisions in the past. This lack of a coordinated strategy has resulted in the current patchwork of systems, and it mirrors observations in academic studies that without top management oversight and an integration plan, departmental systems can diverge and create silos (Aliyev & Humbatova, 2023).

Survey Results – User Satisfaction and Performance: The employee survey conducted had respondents from all four departments, providing a quantitative gauge of user satisfaction and perceived system performance. Key metrics included overall satisfaction (on a 5-point Likert scale), perceived ease of use, and information quality (accuracy, timeliness of data). The results indicate a **divergence in satisfaction levels** across departments. Notably, the IT department's users reported the highest satisfaction, with an average rating of 4.1/5, while the Logistics

department's users reported the lowest, at an average of 2.7/5. Figure 1 illustrates the percentage of employees in each department who indicated they were **satisfied or very satisfied** with their primary information systems.

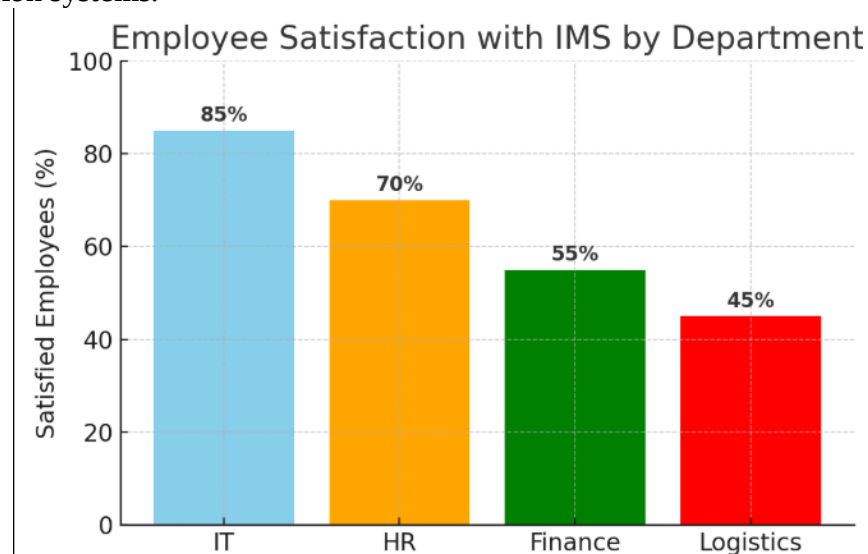


Figure 1. Employee satisfaction with IMS by department. The Logistics and Finance departments show significantly lower satisfaction levels (45% and 55%, respectively) compared to HR (70%) and IT (85%).

The survey data corroborate the qualitative findings. Departments with more outdated or fragmented systems (Finance and Logistics) have noticeably lower user satisfaction. The **Finance department** users cited issues such as “the system freezes during peak usage” and difficulty in extracting ad-hoc reports, which align with the Finance manager’s concerns about the legacy system. The **Logistics staff** feedback included complaints about having to enter the same data in multiple files and the lack of a single dashboard to view order status and inventory levels. These issues reflect classic symptoms of an underdeveloped information system environment – namely, poor **system quality and information quality**, which are known to negatively impact user satisfaction (DeLone & McLean, 2003; Petter et al., 2008). On the other hand, **IT department** users, who primarily use the helpdesk system, expressed that while the interface is old-fashioned, it is stable and serves their needs for tracking issues. The HR department users were generally satisfied but offered suggestions, such as adding an employee self-service portal for leave requests, indicating a desire for more advanced features.

One important aspect revealed by both interviews and survey comments is the **impact of system shortcomings on organisational effectiveness**. For example, delays in information flow between Logistics and Finance (due to lack of integration) have occasionally led to situations like stock-outs or procurement delays because Finance was not immediately aware of inventory needs. This finding is consistent with broader research that disconnected systems and siloed data can impede responsive decision-making and overall efficiency (Wong et al., 2022). Additionally, the duplication of data entry (e.g., HR to Finance payroll data, or Logistics records to Finance) not only wastes staff time but also introduces opportunities for errors. Users in Finance confirmed that they often find and correct data mismatches between their reports and Logistics’ spreadsheets, illustrating how **data quality issues** emerge from the current setup.

Evaluation Against Best Practices: To contextualise MASSolutions’ IMS situation, it is useful to compare the findings with known best practices and frameworks from the literature. A well-established framework for assessing information systems success is the DeLone and McLean IS Success Model, which includes dimensions such as **System Quality, Information Quality, Service Quality, Use, User Satisfaction, and Net Benefits** (DeLone & McLean, 2003). In the case of MASSolutions, the evaluation highlights shortcomings particularly in *System Quality* (e.g. reliability and integration of the software) and *Information Quality* (e.g. completeness and

accuracy of data across systems). *User Satisfaction* is clearly lower in areas where system and information quality are weak (as evidenced by the Logistics and Finance departments). Another relevant consideration is **alignment with business processes**: effective IMS should closely support and streamline the workflows of the organisation. At MASSolutions, misalignment is evident where processes have outgrown the capabilities of the systems. For instance, the Logistics process now requires real-time coordination with suppliers and finance, but the tools in place cannot facilitate this, thereby misaligning with the current business needs.

The literature on enterprise systems also stresses the importance of **integration and a unified architecture** for efficiency and data consistency (Davenport, 1998). Many firms address departmental silos by implementing enterprise resource planning (ERP) systems or other integrated solutions that connect HR, finance, logistics, and other functions on one platform (Aliyev & Humbatova, 2023). MASSolutions currently lacks such an integrated platform; as a result, it is incurring the classic drawbacks of siloed systems: redundant work, inconsistent data, and limited holistic visibility of operations. For example, because of separate systems, there is no single dashboard or report that management can use to get an overview of key performance indicators across all departments in real time – each department generates its own reports, which then have to be manually consolidated. This situation was confirmed by the interviews, where managers noted that cross-departmental reporting (e.g., a quarterly business performance report) involves a lot of manual effort to merge data. The absence of an integrated IMS at MASSolutions is therefore a significant gap when compared to best practices in information management.

Another key best practice is **ensuring adequate training and change management** whenever systems are updated or introduced (Petter et al., 2008). The evaluation found that user training at MASSolutions has been informal and insufficient, especially for the HR and Logistics tools. New hires often learn from peers, and there is no structured training program for using the systems. Consequently, some features remain underutilised. For instance, the HRMS has a functionality for generating certain HR analytics (e.g., turnover rates, average tenure), but the HR staff were mostly unaware of these features until it came up in the interview discussion. This suggests that the company may not be reaping the full benefits of even the systems it does have, simply due to lack of user awareness and training. It reinforces the idea that **the human factor is crucial** in IMS success: users need to not only accept a system but also be proficient in using it to its full potential (Somers & Nelson, 2001).

Finally, the evaluation considered **security and data management practices** as part of IMS effectiveness. The IT department indicated that basic security measures (access controls, backups) are in place for each system. However, there is no unified data governance policy. Each department handles its own data backups and archival, leading to irregular practices. For example, Finance performs daily backups of the accounting database, whereas Logistics, relying on Excel files, has no automated backup beyond employees saving files on a shared drive. This inconsistency poses risk for data loss and also complicates compliance with any data regulations. While no major security breaches or data losses were reported at the time of evaluation, the **lack of standardised data management** is another issue that an integrated approach could mitigate. Modern IMS or ERP solutions often include centralized backup and security management, which would be beneficial for MASSolutions moving forward.

In summary, the analysis of MASSolutions LLC's existing information management systems reveals a mix of strengths and weaknesses. On one hand, the company has made efforts to computerise key functions in each department, and these systems have delivered some benefits such as better tracking of IT issues and efficient payroll processing. On the other hand, due to the piecemeal development of the IMS environment, the **overall effectiveness is undermined by fragmentation and outdated technology**. The departments operate with a degree of isolation in their information flows, and this is impacting data consistency, user experience, and ultimately organisational agility. The evaluation, supported by both internal evidence and academic benchmarks, underscores the need for a strategic intervention to enhance the IMS at MASSolutions so that it can support the company's growth and performance goals more robustly.

CONCLUSION

The evaluation of MASSolutions LLC's current information management systems shows that while basic departmental needs are being met, there are significant opportunities for improvement. The **key issues identified** include a lack of integration between departmental systems, the presence of redundant and manual data handling, limited system functionality in certain areas, and inconsistent user satisfaction – particularly low in the Finance and Logistics departments. These issues have practical consequences: they slow down business processes, introduce errors and inconsistencies, and hamper the ability of management to obtain timely, accurate insights across the organisation. Such findings are consistent with broader studies that link fragmented systems to reduced organisational effectiveness (Wong et al., 2022). Therefore, addressing these IMS shortcomings is crucial for MASSolutions to enhance its operational efficiency and decision-making capabilities.

Based on the analysis, several **recommendations** are proposed. First and foremost, MASSolutions should consider implementing an **integrated information system strategy**. This could involve gradually migrating to an ERP system that encompasses HR, Finance, and Logistics modules on a single platform, or at least deploying middleware to ensure that the existing systems can communicate and share data. Integration would eliminate many of the data silos and manual reconciliation tasks that currently exist, providing a “single source of truth” for company data (Aliyev & Humbatova, 2023). Integrated systems have been shown to improve information quality and support better management decisions (Davenport, 1998), and this would likely hold true for MASSolutions as well.

Secondly, an **upgrade or replacement of legacy software** is advised. The Finance department's accounting system, being outdated, should be updated to a modern software that can easily interface with other tools and offer improved usability. Similarly, the Logistics function would benefit from a more robust inventory management or supply chain system that can handle the company's current volume and complexity of operations. Modern solutions could provide real-time tracking of inventory, automated alerts for low stock, and seamless links to purchasing and financial records. These enhancements would address many of the pain points noted by Logistics staff and would likely raise user satisfaction significantly.

Third, the company needs to strengthen the **human and process aspects** of its information management. This includes instituting regular training programs for all staff on how to effectively use the IMS, both current and any new systems introduced. A culture of continuous learning will help ensure that employees are aware of system features and best practices, thereby maximising the return on investment in technology (Petter et al., 2008). Moreover, involving end-users in the design or selection of new systems can improve user acceptance and fit. The evaluation indicated that some user resistance and workaround behaviors at MASSolutions were partly due to insufficient change management. Going forward, any system improvements should be accompanied by clear communication, user involvement, and management support to encourage a smooth transition. Top management should play an active role in championing the changes and articulating the benefits to all departments, which research shows is vital for success (Somers & Nelson, 2001).

Additionally, establishing an **IT governance framework** would be beneficial. This means defining company-wide policies for data management, security, and system procurement. By having a governance structure, MASSolutions can ensure that future additions or changes to the IMS landscape are made in a coordinated, strategic way rather than in isolated silos. This could involve creating an internal committee with representatives from each department to oversee IMS planning and integration efforts. Over time, such governance will help maintain alignment between the information systems and the company's evolving business processes and goals.

In conclusion, the existing information management systems at MASSolutions LLC have been instrumental in automating departmental tasks, but they have not kept pace with the organisation's growth and the increasing demand for integrated, high-quality information. The investigation – through interviews, surveys, and system analysis – highlighted the pressing need

for system integration, technological updates, and better user support. By implementing the recommendations above, MASSolutions can expect to achieve more **streamlined operations, improved data accuracy, and higher user satisfaction** with its information systems. In turn, these improvements will likely translate into better overall performance, as timely and reliable information is the lifeblood of effective management in any enterprise. Ultimately, regular evaluations and updates of the IMS, as done in this study, should become a routine practice at MASSolutions to ensure that the company's information infrastructure continues to support its strategic objectives in the dynamic business environment.

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Massolutions MMC-nin mövcud informasiya idarəetmə sistemlərinin qiymətləndirilməsi

Xülasə

Məqalədə MASSolutions MMC-də mövcud informasiya idarəetmə sistemləri hərtərəfli təhlil edilir və onların effektivliyi qiymətləndirilir. Tədqiqat çərçivəsində şirkətin İT, İnsan Resursları, Maliyyə və Logistika şöbələrinin mövcud sistemləri araşdırılmış, şöbə menecerləri ilə dərinləşdirilmiş müsahibələr aparılmış və sistem istifadəçiləri arasında sorğu keçirilmişdir. Nəticələr göstərir ki, şirkətin hazırkı informasiya sistemləri arasında integrasiya çatışmazlığı, təkrarlanan məlumat girişi və bəzi şöbələrdə (xüsusilə Maliyyə və Logistika) istifadəçi məmnuniyyətinin aşağı olması kimi ciddi problemlər mövcuddur. Sistemlərin köhnəlməsi və vahid platformanın olmaması qərar qəbul etmə prosesini ləngidə və əməliyyat səmərəliliyini azalda bilər. Təhlilin nəticəsi olaraq, bu çatışmazlıqları aradan qaldırmaq üçün sistemlərin integrasiyası, proqram təminatının yenilənməsi və istifadəçilər üçün mütəmadi təlimlərin keçirilməsi tövsiyə olunur. Belə addımların atılması şirkətin əməliyyat səmərəliliyini və rəhbərliyin qərarvermə prosesini əhəmiyyətli dərəcədə yaxşılaşdırmağa bilər.

Açar sözlər: informasiya idarəetmə sistemləri; sistemlərin integrasiyası; istifadəçi məmnuniyyəti; rəqəmsal transformasiya; Azərbaycan.