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ALIGNMENT OF INTEGRATED MANAGEMENT SYSTEMS WITH MODERN MANAGEMENT TRENDS: A FACT-BASED REVIEW

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Abstract

In today's dynamic business environment, organizations are increasingly adopting Integrated Management Systems to streamline their operations and enhance performance across various domains. However, implementing Integrated Management Systems is challenging due to the complexity of integrating various management systems and overcoming cultural resistance within organizations. Additionally, limited understanding of how Integrated Management Systems align with emerging trends such as lean management, sustainability and agile management, hindering organizations' ability to leverage integrated systems to effectively navigate complexities and capitalize on opportunities in the rapidly evolving business landscape. This study synthesizes existing research to examine how Integrated Management Systems can be improved with alignment of the modern management trends by analysing the literature. In this review, the relationship between IMS and sustainability, the impact and contribution of agile and lean management on the environmental, social and economic dimensions of sustainability were determined. The findings underscore that while Integrated Management Systems implementation enhances efficiency, its success hinges on overcoming integration complexities and cultural resistance. This review reveals that aligning it with contemporary management trends not only supports continuous improvement but also strengthens environmental, social, and economic sustainability. Key insights emphasize the importance of agility and risk anticipation, as well as the critical role of human and cultural factors in every process. These findings offer valuable implications for both theory and practice, providing a foundation for future research to foster resilience and adaptability in today's dynamic business environment.

Key words: environmental management systems, integrated management system, lean management, strategic management, sustainability

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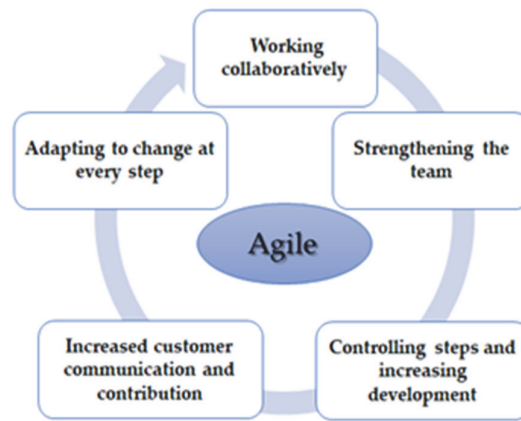


Fig. 8. Core values of the Agile management approach, emphasizing teamwork, collaboration, flexibility, customer orientation, and continuous improvement

If the four agile practices criteria are generalized; each project should be broken down into smaller, easier to manage and understand pieces to increase communication and in-formation sharing. In this way, the team can easily access comments and information from customers through different meetings held during the development phase. Self-organization should be ensured and everyone should share responsibilities. Self-retrospective study should be done. After each iteration, there should be a self-evaluation of the goals achieved and the required goals (Asprion et al., 2023). The requirements of the 12 agility principles can be explained as follows (Beck et al., 2001):

- The most important step is to satisfy the customer through short delivery times.
- Fulfilling needs that may change during the development phase.
- Always welcoming changing needs during development steps.
- In shorter periods, the number of deliveries is frequent.
- Choosing face-to-face meetings to convey information is more effective and efficient.
- To make collaboration work, managers, stakeholders and business developers must work together at every step of the project.
- To create environments that provide motivation, to create and support projects with motivated individuals.
- Agile approach steps contribute to sustainability.
- Attaching importance to technical excellence and well-designed projects increases agility.
- Trying to be simple is essential.
- Self-managed and organized teams create the best architectures and designs.
- The team always thinks at regular intervals to be more effective and takes steps accordingly.

Agile project management methodologies have proven to be much more sustainability-oriented, especially in the research and development, education and consulting, media and telecommunications,

investor, administration and industry sectors, demonstrating that managers can create value for stakeholders. Both the theoretical framework and the empirical research results presented prove that organizational sustainability can be achieved through agile management. In particular, the research results show that on-time delivery, increased productivity and improved work atmosphere are also very important for sustainability.

Within the scope of the literature, when the relationship between the traditional principles and principles of agile management and corporate sustainability is examined; short-term and long-term trends have been analysed in terms of better understanding and meeting customer needs, a better working environment and employee engagement, adoption of collaborative working models, increasing innovation potential, improving quality, being more creative and saving time, valuing and taking into account the interests of all relevant stakeholders, value and speed orientation, and positive results of the practices supporting sustainability have been obtained (Gomes Silva et al., 2022; Kasauli et al., 2021; Zakrzewska et al., 2022). In this way, organisations can successfully manage current challenges, can be focused on value creation and analyse future opportunities.

4. Discussion and findings

A literature review conducted in this study showed that it is still a critical issue that the IMS in organizations is manageable but not fully measurable and sustainable. Because the most important points that can always be an obstacle in the integrated management system are; insufficient human resources or lack of knowledge and training, lack of support from senior management, lack of IMS strategy, insufficient people to audit, lack of audit method, lack of IMS awareness and lack of motivation of employees, lack of instructions for IMS implementation, lack of common procedures for IMS, different personalities and different cultures make integration difficult. In addition, the most critical points are that employees do not accept a new system,

are not aware of new changes, do not work together, and are not ready for change (Ispas and Mironeasa, 2022). Therefore, managing the IMS with an agile and lean management system approach will ensure sustainability (Silva et al., 2020) and at this point, the performance of the IMS can be measured at every step.

It seems necessary to first conduct an impact study on the social, economic and environmental dimensions that form the basis of sustainability.

Therefore, the institutional context and the needs and expectations of interested parties need to be well analysed. With the work-together approach of agile management, Fig. 9(a, b) show an example analysis of the needs and expectations of the relevant parties by determining the internal and external corporate context, internal and external interested parties and the subject of the context. By controlling the steps at every stage and adapting to change at every step with the understanding of work together; many expectations such as providing timely and accurate supply, meeting variable demands quickly, making products, services and payments in accordance with specifications, reliability, innovation, survival, easy communication with the company for questions and complaints, emission reduction studies on climate change and sustainability, cooperation in audits and studies, being transparent, being open to information and document sharing and support in managing the operation can be given as examples.

Determine the subject of the context according to needs and expectations; identification of risks and opportunity analysis by relevant parties will also support agile management. Because the relevant parties know their risks in advance and will be prepared and flexible for all changes. Many risks such as decreased sense of customer-oriented work and decreased service efficiency, inability of the personnel to respond to the customer, inadequacy in the subject they serve, insufficient perception of customer conditions, insufficient studies on employee awareness, failure to regularly review strategies and targets according to changing factors, insufficient knowledge of the personnel, lack of training, failure to complete the project as a result of not following the projects correctly can be given as examples. The fact that the actions for these risks have already been determined will enable companies to remain agile against risks. In other words, conducting risk and opportunity analyses, monitoring and predetermining the actions to be taken show that modern management trends are applied and thus sustainability will be ensured. It is necessary to ensure that the context of the organization is fully understood and how organizations should determine their internal and external considerations. Then, as shown in Fig. 10. respectively; identify interested parties, define their requirements and expectations, define the scope of the IMS and the processes and procedures needed for the IMS, have top management leadership and commitment to the IMS and a policy with IMS objectives that is aligned with the strategic direction,

identify risks and opportunities that need to be addressed through planning. Agile and lean management will be adopted and environmental, social and economic sustainability will be ensured at every step by planning the roadmap to be followed to achieve the objectives, determining the resources required for the establishment, implementation, maintenance and continuous development of the IMS, and correctly implementing the support, operation, performance evaluation and improvement steps.

In the impact assessment; to achieve sustainability in economic, environmental and social dimensions and to achieve goals; it is clearly seen that there is a need for the synergy brought by modern management approaches such as lean and agile management. Because, with these modern management approaches, in the social dimension of sustainability; it is understood how important employees are to be motivated, to have comfortable communication, to solve problems together and to work as a team, in other words, the human factor.

Collaboration and team empowerment are also the most important elements that create agile values in agile management. Because the human factor, the attitudes of the organization's stakeholders, the organization's rules and employee participation create and affect the corporate culture. The corporate culture affects the IMS; this is clearly seen in the models proposed in the literature. This is because cultural differences also influence the integration process and this influence is important for the involvement of employees and the viability of the system. Different communication styles, direct transparent communication or inadequate communication can affect the co-operation of the parties. In addition, some cultures may be cost and result orientated, while other cultures may be quality service and process orientated. These differences may cause difficulties or opportunities in the aims and objectives of the system. In addition, differences in organisational culture, such as the decision-making structure in the organisation, employee resistance to change or openness to innovation, also affect the IMS. Therefore, managers can contribute to determining the social dimension, which is the most sensitive point of sustainability. While companies evaluate the social dimension; it is important to note to social actions to maintain the three dimensions of sustainability (Nadae and Carvalho, 2019; Silva et al., 2021; Simon, 2023).

For example; as IMS resources and within the scope of the social dimension of sustainability; in the study of Maletič et al. (2016), which focuses on Stakeholder Theory and Resource theory; in terms of corporate sustainability perspective, has been analysed that identifying resources and stakeholders, establishing the relationship of resources and stakeholders with IMS, meeting all stakeholder demands and how to manage the demands increases corporate sustainability performance.

Related Parties	Impact of Related Party	Needs & Expectations of Related Parties
Customer Company Owner Shareholder Governance Employees Suppliers Certification Bodies	Work together Strong team Controlling steps Increased communication Adapting to change	• Timely and accurate supply, fast response to changing demands, products/services meeting specifications, prices & payments. • Cooperation in audits and studies, transparency, openness to information and document sharing, support in managing the operation. • Reliability, innovation, survival. • Easy communication with the company for questions and complaints. • Timely response/resolution to questions and complaints. • Emission reduction efforts on climate change and sustainability. • Fulfillment of the set Objectives and Strategies. • Compliance of personnel with the specified conditions (quality, legislation, workplace rules, etc.). • Appropriate working environment (optimum temperature, working and rest periods, peaceful and harmonious working environment, etc.). • Ensuring the security of all shared information, including personal data. • Timely payment, increase in volume and scope of procurement, long-term supply and work contract, continuity, notification for future purchases and new projects. • Cooperation in audits and studies, transparency.

(a)

Internal Context	• Organizational work culture, policies, procedures and instructions. • Education levels, knowledge, knowledge and experience of the organization's employees, organizational policies, procedures and instructions. • Financial resources of the organization. • Organizational structure acquired customer contact information. • Increased awareness of employees on this issue • Strategies, Targets, Resources, Budget, Organizational culture, policies and procedures. • The organization's work culture, policy, financial resources, compliance with legal regulations, fringe benefits, environmental measurements, OHS security, and measures related to the security of personal data. • Establishment of organizational structure acquired information. • Organization financial resources, and administrative assets. • Implementation of standards
External Context	• External providers (suppliers and external subcontractors), legal requirements set by legal authorities, customer requirements. • External providers with sector-specific training programs, government incentives. • Customer special conditions. • Technological elements. • Resources (financial and human resources) that the organization will provide on climate change and sustainability. • Market conditions, economic factors, geopolitical factors and neighbors, competitors, external providers. • Rules set by legal authorities, economic factors. • Elements of contract and working procedures. • Management Systems and certification of the laboratory

(b)

Fig. 9. Example analysis of organizational context and stakeholder expectations under agile management, showing identification of internal and external factors, needs, risks, and opportunities

Understanding the context of the organization	Describe the parameters taken into account when determining internal and external aspects and how they are determined
	Management policy and process performance compliance with indicators, formation and continuity of IMS documentation
Understanding the needs and expectations of relevant parties	Identify relevant parties and define their requirements and expectations
Determining IMS coverage	Determining IMS coverage and boundaries, where coverage is defined
IMS and Processes	Identifying the processes and applications needed for IMS, determining the sequence and interactions of the processes, monitoring, measuring and analyzing the processes, implementing the necessary activities for continuous improvement of the processes, identifying risks and opportunities, identifying process needs
Leadership	Leadership and commitment from senior management for the IMS, senior management identifying and securing customer requirements and applicable legal and regulatory requirements, policy with IMS objectives aligned with the strategic direction of the organization
	Determination of corporate duties, authorities and responsibilities
Planning	Identification of risks and opportunities that need to be addressed to provide assurance that the intended outcomes of the IMS can be achieved
	Formation of objectives within the IMS, ensuring that the objectives are measurable and consistent with the management policy, planning the path and resources to be followed to achieve the objectives
	Change planning, determining the necessity of changes to the IMS and the methodology for implementation, resource availability, job descriptions, IMS system as a whole, and evaluation of changes
Support	The organization should identify the resources (including people, environment and infrastructure requirements) necessary to establish, implement, maintain and continuously improve the IMS
	The IMS contains the documented information required by the standard and the documented information deemed necessary by the organization for the effectiveness of the IMS, and the document list is up-to-date.
	Documented information required by the IMS and standards is accessible, protectable and available, IMS records are kept
	Determining the list of outsourced documents, defining procedures
Operation	The organization plans and delivers to the process owners the processes needed to meet the requirements and perform the activities to deliver products and services, collecting information.
	Customer-related processes, design and development of products and services, satisfaction measurement.
	Planning of design and development, identification and control of inputs and outputs of design and development
Performance Evaluation	Monitoring, measuring, analyzing and evaluating, internal audit, management review, performance monitoring, customer satisfaction
	Conducting internal audits on whether the IMS is effectively implemented.
	Conducting management meetings for the improvement of IMS and having minutes of the meeting.
	Management reviews inputs and outputs
Improvement	Planning and follow-up of remedial actions, initiating actions to correct nonconformities when non-conformities related to processes are detected, keeping records of nonconformities
	Continuous improvement means that the organization decides how to address the need to continuously improve the relevance

Fig. 10. Roadmap for implementing an Integrated Management System (IMS) aligned with agile and lean principles, covering stakeholder identification, leadership commitment, planning, risk analysis, and continuous improvement

One of the other approaches of agile management; it can be clearly seen that the relationship between evaluating stakeholder demands step by step and communicating at every stage in ensuring corporate sustainability (Gianni et al., 2017;

Maletić et al., 2016). In addition, as the literature studies emphasize on the human factor; with the perspective that modern management approaches will bring; employees with high job ownership, who feel competent and sufficient, highly motivated and strive

at all levels will emerge. Therefore, the following steps can be suggested for the establishment of a sustainable IMS in line with modern management trends:

1. Establishing an IMS team, identifying quality representatives and sharing tasks, providing IMS system training to increase employee awareness:
2. Preparation of IMS documentation, identification of gaps for IMS requirements:
3. Expanding documentation and creating an integrated documentation structure in accordance with IMS requirements:
4. Preparation of implementation records in compliance with IMS requirements:
5. Analysis of the organization's site and system infrastructure and documentation in terms of IMS requirements.
6. Providing ISO Standards Basic and Internal Auditor Training to employees and conducting process analysis.
7. Checking the compliance of employee contracts with IMS requirements.
8. Conducting Risk Analyses in terms of Quality, OHS, Environment and Information Security dimensions.
9. Submission of the prepared Risk Report to senior management.
10. Establishment of Quality, OHS, Environment and Information Security policies, regulations and boards.
11. Expansion of internal regulations to meet IMS requirements.
12. Establishment of a disciplinary board and preparation of disciplinary regulations.
13. Initiation of IMS implementations.
14. Adding definitions related to IMS to employee job descriptions.
15. Reviewing internal processes, identifying IMS requirements and restructuring the necessary process steps.
16. Ensuring that IMS internal audits are conducted and reported.
17. Informing about keeping the necessary forms and records.

Establishing an IMS team ensures coordination between departments, awareness of responsibility and holistic progress of processes. Experts in different fields offer a more comprehensive perspective and can develop suggestions for improvement. In addition, the identification of quality representatives, clarification of responsibilities, realisation of goals and strong communication within the team can provide strong communication and quick solutions.

Providing trainings to employees for IMS awareness and sharing information at regular intervals is of great importance for the system to be sustainable and effective. Thanks to trainings, employees can contribute by understanding and adopting the requirements, objectives and benefits of IMS. With increased motivation and awareness, it stays connected to the system, can help to implement the processes with the right steps, increase the quality and

improve the performance of the organisation. The competencies gained through training and information flow between teams facilitate integrated processes and can also improve sustainability awareness in corporate culture (Bernardo and Simon, 2014; Savino and Batbaatar, 2015).

Determining the policy, establishing procedures, instructions and forms, determining the management of records, analyzing the current situation, creating, implementing and reviewing action plans to identify and analyze deficiencies are important stages in the implementation of the IMS. In addition, analyzing the standards, establishing the hierarchical structure of the documentation, determining its scope and purpose, determining responsibilities within the senior management team to increase the effectiveness of the system and the traceability of the processes, conducting risk analyses, conducting internal audits and presenting them to senior management, and monitoring the extent to which sustainability goals are achieved by senior management are other important steps.

This is because the role of leadership commitment is crucial for the successful operation of IMS and CS. While setting strategy, leaders can create the necessary environment and culture and raise awareness among employees to increase employee motivation and encourage their participation, which is important not only for environmental and economic but also for the social dimension of sustainability. They can also support their sustainability goals by making investments and providing financial or human resources. In addition, tracking and monitoring performance indicators and targets, communicating and collaborating with all stakeholders, and encouraging continuous development and innovation are the most critical points for a leadership role.

Apart from the resources that make up the IMS, covering the integration process; it can be seen that integration strategy, integration methodology, integration level and integration of control systems are directly related to corporate sustainability performance (Bernardo et al., 2015). Because the strategy of a successful IMS must be strong. Integration and procedures must be defined, legal obligations, objectives and steps to be followed must be well determined. On the other hand, method components; planning, measuring the integration of the management system and decision-making points must be well determined (Ispas and Mironeasa, 2022). Like this; strong strategy and continuous improvement activities will contribute to sustainability performance. Because to fully establish and maintain the relationship between IMS and sustainability in a positive way; it is important that social, economic and environmental performances are measurable and constantly improving (Santos et al., 2019).

To ensure continuous improvement and constantly increase sustainability performance; modern trends aimed at continuous improvement, such as agile and lean management, will need to be adopted and implemented. Collaboration and work

sharing, team empowerment, motivation and transparent communication, sharing responsibility, self-evaluation of goals and results, increased development activities, increasing customer participation and always adapting to change, performing better quality and less costly work in a short time; it will create a sustainable IMS.

For a sustainability-oriented IMS; how can the impact and contribution of lean and agile management be, how can the relationship be evaluated, and which stages should be focused on, organizations need to understand these first. Therefore, the relationships between them are discussed in detail in the light of the existing literature. Since there is limited research examining the relationship between lean and agile management approaches and IMS, determining the processes, practices and interactions that will ensure sustainability and are needed for IMS will guide organizations. In addition, the importance of the social dimension of sustainability, corporate culture and human factors are emphasized, as well as the activities required for continuous improvement of processes, how continuous improvement can contribute to sustainability, and showing again that identifying risks and opportunities in advance can be an important part of the agile management approach.

5. Future research directions

The main purpose of this study is provide an essential information to companies and managers by reviewing IMS from different perspectives. It is believed that this study will help companies in gaining a deeper understanding about the competitive advantage in terms of IMS implementation. However, companies often have diverse strategies, which can pose challenges when integrating management systems. In order to overcome these challenges and ensure that the IMS operates effectively, it's crucial to establish guidelines or frameworks for integration. These guidelines provide a structured approach for aligning different management perspectives, processes, and objectives within the IMS framework. They help in streamline operations, minimizing duplication of efforts, and ensuring that all components of the organization work cohesively towards common goals. Without such guidelines, the integration process can become disjointed, leading to inefficiencies and suboptimal outcomes. For this reason, as a future study it is aimed to develop a guideline for companies to facilitate the integration of their management systems.

Potential future researches could also explore several critical aspects of implementing sustainable IMS. One of the promising area is the analysis of its effectiveness when adding lean or agile methodologies to sustainable IMS dimensions in different sectors. Examining the role of leadership styles in shaping the understanding and implementation of sustainable IMS within organizational cultures is another essential area. Different leadership approaches can significantly

influence how sustainability principles are integrated into management systems, impacting employee engagement and commitment to sustainable practices. Measuring the impact of sustainable IMS on supply chain flow and sustainability performance, or comparison of the measurability of sustainable IMS models in different geographical regions can be considered as another potential research area. This research could highlight regional best practices, challenges, and variations in the implementation of sustainable IMS, providing a broader perspective on its global applicability. Focusing on these analyses will provide valuable information to improve the theoretical understanding and practical applications of sustainable IMS in various organizational structures.

Since digital technologies are reshaping the way businesses operate, one of the most crucial area for future research is the impact of digitalization on IMS. Digital technologies offer unprecedented opportunities for enhancing efficiency, optimizing processes, and driving innovation within IMS frameworks. But, this transformation not only streamlines operations through automation but also fosters collaboration across departments, creating a unified approach to achieving CS goals. Digital tools enable organizations to collect and analyse vast amounts of data regarding their operations and sustainability metrics thus allows for immediate insights into resource consumption, emissions, and overall sustainability performance. In this regard, the intersection of digitalization with IMS and CS, enables a holistic approach. Project management platforms can streamline communication and coordination among teams, ensuring that sustainability considerations are embedded in every operational facet. However, digital transformation also brings challenges, particularly in data management and governance. Future studies aimed at analysing the effect of digitalization on IMS will provide valuable insights for companies striving to adapt and thrive in the digital age.

6. Conclusions

Businesses face the challenge of balancing environmental and social sustainability responsibilities with the imperative of safeguarding and augmenting shareholder value. However, apart from issues related to the environmental and social impacts of business activities, organizations also demand measures for benchmarking performance from a corporate social and environmental perspective across different industrial business shares. Investors also demand disclosure of significant environmental risk factors and associated compliance costs, responsibilities and liabilities. Organization managers are constantly searching to enhance triple bottom line performance and evaluate the right choices between often overlapping financial, environmental and social aims. As a result, it is required to expand its environmental, social and economic performance to include it in its management control systems.

In light of all these problems; there is a need to integrate existing management systems. However, they face the problem of sustainability because simply integrating is not enough. Therefore, by changing their perspective on the management style; applying agile management, which has become popular in recent years, and the lean management approach, which has indisputably brought countless benefits especially, in production areas, at every step can ensure that the IMS they need is sustainable.

The conducted literature review revealed the synergies and benefits that lean management and agile management will add to the IMS and ensure its sustainability. Literature evaluations suggest that when examining the development methods and analyses recommended for an IMS, several key approaches emerge. In general, integration of these modern management trends with IMS can undoubtedly provide many benefits that can significantly enhance organizational performance.

Adopting modern management practices can lead to remarkable time efficiency by streamlining processes and eliminating redundancies. This allows organizations to allocate resources more effectively and focus on core activities that drive value. Integration facilitates long-term planning by providing a structured framework that aligns organizational goals with strategic objectives, supporting sustainable growth and ensuring preparedness for changing market conditions. A consistent commitment to these integrated practices fosters a strong organizational culture characterized by reliability and accountability. This environment encourages employees to take ownership of their roles, leading to improved performance and higher employee satisfaction. Ongoing evaluation and feedback are crucial in this context, as they enable organizations to assess the effectiveness of their strategies, identify areas for improvement, and adapt to evolving challenges. This continuous loop of evaluation ensures that the IMS remains dynamic and responsive to the organization's needs.

The focus on value creation nurtures a culture of continuous development and innovation. By promoting an atmosphere that encourages creativity, organizations can enhance their innovation capabilities, enabling them to stay competitive in a rapidly evolving marketplace. Lastly, establishing an IMS cultivates a learning organization where a disciplined work environment promotes ongoing education and adaptability. This approach not only empowers employees but also strengthens collaboration across departments, creating a cohesive working model that maximizes effectiveness and adds meaning to the organizational mission. By aligning quality management systems with other operational functions, companies can ensure consistent delivery of better quality products and services to customers. In addition, this approach can contribute to policy makers and institutional leaders designing more effective, flexible, open to change and innovation-encouraging policies, effective use of resources, and

the creation of an agile, efficient and sustainable competitive environment.

While businesses recognize the importance of establishing a comprehensive and successful IMS, the resources and competencies may not be sufficient to achieve this goal. Limitations in resources or expertise can hinder the full practical application. Due to their corporate structures and cultures, businesses may prioritize a single dimension of sustainability, while neglecting other critical aspects. This narrow focus can limit the evaluation and integration of other dimensions, resulting in a fragmented approach to sustainability. Management attitudes or business processes can pose significant barriers to the implementation as well. Resistance to change, lack of leadership commitment, or insufficient training can prevent organizations from fully embracing the principles of an integrated approach. To overcome these limitations, businesses must take proactive steps to enhance their resources and capabilities in sustainability. This may involve investing in training programs to build expertise, acquiring new technologies, or reallocating resources to support a more holistic implementation of an IMS.

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