



INTEGRATION OF THE INTERNATIONAL MANAGEMENT SYSTEM ISO 9001, THE ISO 14001 STANDARD, OHSAS 18001, AND THE INTERNATIONAL STANDARD ISO 31000 INTO AN INTEGRATED MANAGEMENT SYSTEM

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Article history:	Abstract:
<p>Received: 7th May 2024 Accepted: 4th June 2024</p>	<p>For improved quality management, many firms are now favoring the adoption of integrated management systems (IMS). This is demonstrated by the fact that many firms employed the ISO 9001 quality standard, ISO 14001 environmental standard, and OHSAS 18001 occupational health and safety management system as the foundation for the IMS, which was extensively adopted. It is also necessary to identify the management system that improves the effectiveness of IMS, which is the link between quality management and risk management. Consequently, as part of integration, the risk management system ISO 31000 was also given. The organization must suggest new standards and procedures in the current competitive climate due to mounting stakeholder or customer demands and pressure. The advantages of integration, convergent components of management systems, and implementation strategies are presented and discussed in this study. Eight specialists in the subject were interviewed in-depth as part of a series of interviews, and the data gathered was qualitatively assessed. The findings include the identification of sixteen implementation-related criteria for IMS and the application of the PDCA technique for an efficient IMS implementation. In summary, the study suggests integrating four management systems (ISO 9001, ISO 14001, OHSAS 18001, and ISO 31000) and utilizing the IMS to organize the quality management process towards sustainable practices inside the company.</p>

Keywords: Quality management, integrated management systems (IMS), risk management, ISO 9001, ISO 14001, OHSAS 18001, ISO 31000.

INTRODUCTION

One system that unifies the many business components is called the Integrated Management System (IMS) [1]. The ISO 9001 Quality Management, ISO 14001 Environment Management, and OHSAS 18001 Occupational Health and Safety Management are all included in the implementation of IMS, however they are not the only standards that are used [2]. Integration is the process of combining internal management practices into a single system; as a

result, the systems are interconnected and constitute a crucial component of the management system. Organizations must take action to comply with various standards or models governing management systems, as well as to share tools, processes, and manage various areas in a methodical manner [3]. The core of an IMS and an example of a standard that can be used to achieve integration are shown in Figure 1 below. In addition, the three systems have common features and the IMS is situated in their center [4].

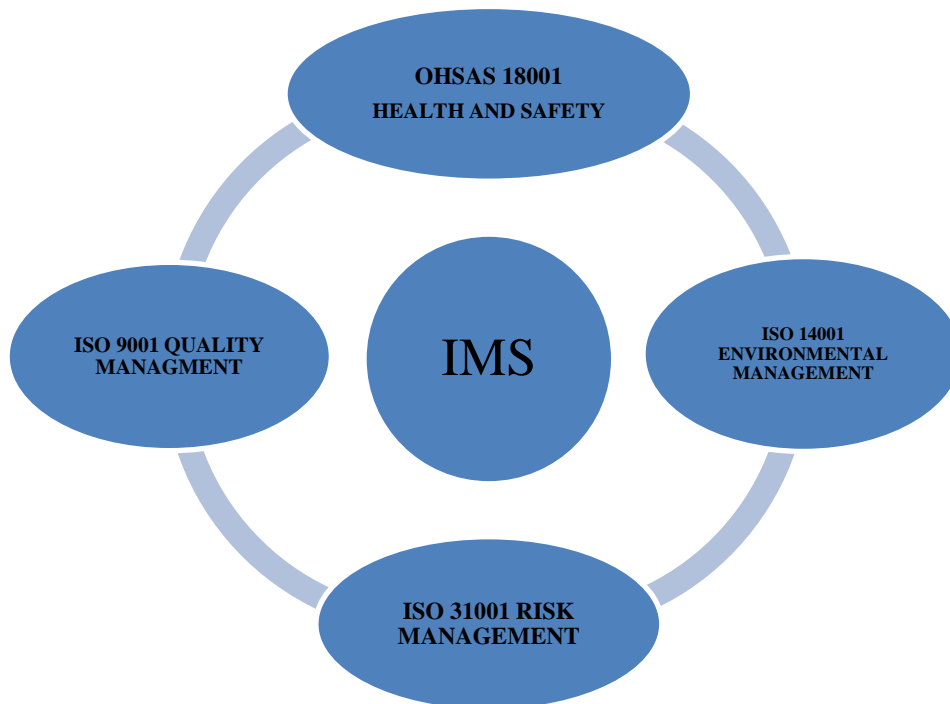


Figure 1. The researcher's proposal for the ISO 31000 Risk Management System, the essential components of the IMS, and examples of standards upon which it might be built.

IMS is a management system that integrates every aspect of a company into a single, all-inclusive system to help it fulfill its goals and fulfill its mission [5]. IMS, as previously said, is the integration of process, practices, documentation, and systems pertaining to quality, the environment, and occupational health and safety. Three primary management systems comprise the integration: OHSAS 18001, ISO 14001, and ISO 9001. It was suggested that the ISO 31000 Risk Management System be added to the IMS. An essential component that must be taken into account after a company has a certified Quality Management System (QMS) is the risk assessment [1]. Improvements in business focus, a comprehensive approach to managing business risk, fewer conflicts between different management systems, less duplication and bureaucracy, more effective and efficient internal and external audits, and easier facilitation of the requirements of any new

management system standard that the organization wishes to adopt are all benefits of implementing IMS [6]. In addition, the deployment of an IMS can simplify the certification procedure, reduce the need for human resources, lower management expenses, and simplify internal management [7]. System integration can help organizations save money and time [8]. Additionally, operational advantages, a better public image, increased customer happiness, and increased employee engagement are all benefits of having an integrated system [7, 9].

Methodology for Integrated Management System Implementation

The fundamental idea shared by the three standards—ISO 9001, ISO 14001, and OHSAS 18001—is continuous improvement based on Deming's cycle (Plan-Do-Check-Act) [7]. The standards are structurally identical and can be integrated using the PDCA method, as depicted in Figure 2.



Figure 2. The PDCA Cycle's Structure Source: [7]

The incremental problem-solving approach and ongoing business improvement philosophy are known as the PDCA cycle [10]. These four needs can serve as an implementation plan for IMS based on the step-by-step process of the process-of-death-approach technique (PDCA). The process of planning comes first. Planning entails both analyzing the present situation and making improvements and changes circumstance; potential repercussions should also be taken into consideration. This process entails defining the issue, gathering pertinent data, and determining the underlying cause of the issue [11]. The plan's execution is the next action to take. It is necessary to put the previously planned approach into action [11]. The process must be checked in the third phase in order to be controlled or improved. During this phase, it was necessary to report the findings and monitor the process as well as compare the outcomes to the goal and specification. The check phase entails a thorough analysis of the effects of implementation modifications and the development of conclusions regarding the efficacy of implementation [11]. Acting or assessing the implementation's functionality and efficacy is the last phase. The action that must be applied to the results in order to make additional changes is known as the Act phase [11].

Theoretical Framework

Based on in-depth interviews, this paper is an exploratory qualitative investigation. The qualitative technique gives ways to learn about people's

behaviors, knowledge, emotions, and thoughts through observation, interviews, and document analysis [12]. It is a methodology to investigate and comprehend the meaning that individuals or groups attach to the social world. Since the IMS is a practical technique, the researcher can get information from respondents about their experiences and ask for their opinions. The present research employs the case study methodology, with five participants from AUO SunPower Sdn Bhd (AUSP), a company engaged in the production of solar cell technology. For three years, this company effectively deployed the IMS. In addition, three respondents from SIRIM Bhd participated in the data gathering process, for a total of eight respondents from the two organizations. An appointed body for the Department of Standard Malaysia, SIRIM Bhd is responsible for the ISO-based Malaysian Standard. In this paper, the researcher was able to comprehend the variables influencing the deployment of the IMS and the components of the integrated management system from the perspective of Malaysian standards practitioners and industry practitioners, thanks to the interviews with respondents. Semi-structured interview questions were used to encourage participants to discuss their thoughts and experiences in an open and honest manner. In addition, this article used explanation building techniques for data analysis. A theoretical claim is intended to be tested by the explanation building [13]. The components of qualitative data



include: 1) presenting the data; 2) describing or summarizing the data; and 3) connecting themes or findings to pertinent research literature. 4) Analyzing the information. The data analysis employed is the explanation building methods, based on the statement. The techniques for developing explanations needed to complete the subsequent steps:

1. Create a theoretical claim that you plan to investigate further.
2. Gather information by doing a preliminary case study so that the results may be compared to this theoretically grounded claim.
3. If required, modify the theoretically based claim in light of the original case study's conclusions.
4. Conduct another round of data gathering to compare the results with the new proposal.
5. In light of the conclusions from the second case study, alter the proposal as needed.
6. Continue this method iteratively until a workable answer is found.

The explanation building method, which describes and arranges data based on theory, primary or secondary data, and the researcher's opinion, was used to analyze the data. Additionally, the sentences that were involved in or converged in the IMS were found using the content analysis method.

Discussions and Analysis

The conclusions about the information acquired for the IMS implementation are outlined in this section. The following were the primary areas of research to be looked at: 1) Benefit of IMS. 2) The management system components that came together, and 3) The IMS implementation strategy. According to Yin's explanation building techniques, which included theory, primary or secondary data, and the researcher's viewpoint, the data analysis was organized and explained.

Benefit of Integrated Management System

a) **Strengthen Your Business Focus.** IMS helps the organization become more focused because it encourages attention to the activities of the organization and strengthens the links between social responsibility, employee health and safety, and quality. The IMS can help the company and help it concentrate on its business objectives. "IMS is employed as a corporate direction instrument to accomplish the objective of emerging as an industry leader" (AUSP Manager 2). "IMS can enhance the management efficiency and in the long term improve business itself as well as changing and improving the organizational culture. Furthermore, business growth will occur within the organization itself as the organizational culture improves.(SIRIM Manager 1). It was decided by SIRIM

Manager 1 and AUSP Manager 2 that implementing IMS may enhance company focus. The researcher admits that IMS can give an organization implementing it a competitive edge since it can control managerial direction and enhance organizational culture in addition to business. A company's strategy can be directed to be more focused on organizational needs and enhance business focus through the integration of management systems.

b) **Control Business Risk.** A more comprehensive approach to controlling business risks can be obtained by integrating two or more management systems into an integrated management system (IMS). After the integration, the company can manage business risks more comprehensively. The primary three management systems in the IMS currently address the safety risks, environmental effects, and process failure modes, according to AUSP Manager 1. AUSP Engineer 1 acknowledges that the department has used IMS to guarantee audits and product quality and dependability. IMS can control company risk, according to AUSP Manager 1 and AUSP Engineer 1, because it covered the risk for various management systems. In IMS, the risk management system and the aspects of quality, environment, and occupational health and safety will be covered concurrently.

c) A reduction in conflicts between different management systems. Contradicting, ambiguous, redundant, or contradicting information in the documentation is identified and rationalized by IMS implementation, which also makes the competing goals clear. Additionally, IMS results in more efficient resource management, primarily because it assigns a single leader to oversee all IMS management rather than different leaders for each management system, including the certified one.

d) **Reduced Duplication and Bureaucracy.** The reduction of redundant processes inside the systems is one benefit of integration. By using distinct procedures or standards, the IMS enables firms to reduce the amount of paperwork and bureaucracy that results from work organization and control. "In my view, IMS can reduce the quantity of audits required in addition to a problem with documentation replication and an error or inconsistency between each procedure" (AUSP Manager 3). IMS can reduce the amount of audits, problems with duplication of paperwork, and errors or inconsistencies in procedures. The researcher thinks that once the IMS is put into place, documentation management will be better structured and managed, which will help to avoid problems with bureaucracy and duplication.



e) Improve Customer Satisfaction. A number of standards exist for quality management, and one of the components of IMS that focuses on evaluating and enhancing customer satisfaction is the Quality Management System (IMS), which offers guidelines for organizing, creating, executing, preserving, and enhancing processes to boost customer satisfaction. "The IMS should be integrated into the company's operations as requested by customers" IMS can raise

customer satisfaction, AUSP Manager 1 concurred. The researcher acknowledges that the use of the IMS as a component of the business system and management plan is necessary and demanded by the customers.

Converge Components for Integrated Management System

This is the clause that can be integrate for IMS. The clauses shared the same criteria that can converge together. The clause is as shown in Table 1

Table 1.

ISO 9001 (A)	ISO 14001 (B)	OHSAS 18001 (C)	ISO 31000 (D)	RESULTS
Scope (Clause: 1,4.3)	Scope (Clause: 1, 4.3)	Scope (Clause: 1, 4.3)	Scope (Clause: 1, 4.3)	A, B, C and D Integrated
General Requirement (Clause: 4.1, 4.2, 4.4, 4.4.1, 4.4.2, 5.1, 5.1.1)	General Requirement (Clause: 4.1, 4.2, 4.4, 5, 5.1)	General Requirement (Clause: 4.1)	General Requirement (Clause: 4.1)	A, B, C and D Integrated
Management System Policy (Clause: 5.2, 5.2.1, 5.2.2)	Management System Policy (Clause: 5.2)	Management System Policy (Clause: 4.2)	Management System Policy (Clause: 4.3.2)	A, B, C and D Integrated
Planning (Clause: 6, 6.2, 6.2.1, 6.2.2, 6.3) Planning (Clause: 4.3)	Planning (Clause: 6, 6.1.2, 6.1.3, 6.1.4)	Planning (Clause: 4.3)	Planning (Clause: 4.3)	A, B, C and D Integrated
Planning-Risk (Clause: 6.1, 6.1.1, 6.1.2)	Panning-Risk (Clause: 6.1, 6.1.1)			A and B Integrated
		Identification and evaluation of aspect, impacts and risks (Clause: 4.3.1)	Identification and evaluation of aspect, impacts and risks (Clause: 5.4.2)	C and D Integrated
		Identification of legal and other requirements (Clause: 4.3.2)	Identification of legal and other requirements (Clause: 3a)	C and D Integrated
		Contingency planning (Clause: 4.4.7) C and D Integrated	Contingency planning (Clause: 5.4.2, 5.5)	
Objectives (Clause: 6.2, 6.2.1, 6.2.2)	Objectives (Clause: 6.2, 6.2.1, 6.2.2)	Objectives (Clause: 4.3.3)	Objectives (Clause: 4.2)	A, B, C and D Integrated
Organizational structure, roles, responsibilities and	Organizational structure, roles, responsibilities and	Organizational structure, roles, responsibilities and	Organizational structure, roles, responsibilities	A, B, C and D Integrated



authorities (Clause: 5.3)	authorities (Clause: 5.3)	authorities (Clause: 4.4.1)	and authorities (Clause: 4.3.1)	
Operational control (Clause: 7.1.4, 8, 8.1)	Operational control (Clause: 8, 8.1, 8.2)	Operational control (Clause: 4.4.6)	Operational control (Clause: 5.3.4)	A, B, C and D Integrated
Management of resources (Clause: 7.1, 7.1.1, 7.1.2, 7.1.3, 7.2, 7.3)	Management of resources (Clause: 7.1, 7.2, 7.3)	Management of resources (Clause: 4.4.1, 4.4.2)	Management of resources (Clause:4.3.5)	A, B, C and D Integrated
Documentation requirement (Clause: 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.3.1, 7.5.3.2)	Documentation requirement (Clause: 7.5, 7.5.1, 7.5.2, 7.5.3)	Documentation requirement (Clause: 4.4.4, 4.4.5, 4.5.3)	Documentation requirement (Clause:5.7)	A, B, C and D Integrated
Communication (Clause: 7.4, 8.2.1)	Communication (Clause: 7.4, 7.4.1, 7.4.2, 7.4.3)	Communication (Clause: 4.4.3, 4.4.3.1)	Communication (Clause: 4.3.6, 4.3.7, 5.2)	A, B, C and D Integrated
Monitoring and measurement (Clause: 7.1.5, 7.1.5.1, 7.1.5.2, 9.1, 9.1.1)	Monitoring and measurement (Clause: 9, 9.1, 9.1.1)	Monitoring and measurement (Clause:4.5.1)	Monitoring and measurement (Clause:5.7)	A, B, C and D Integrated
Evaluation and compliance (Clause: 9, 9.1.2, 9.1.3)	Evaluation and compliance (Clause: 6.1.3, 9.1.2)	Evaluation and compliance (Clause:4.5.1)	Evaluation and compliance (Clause:5.4.4)	A, B, C and D Integrated
Internal audit (Clause: 9.2, 9.2.1, 9.2.2)	Internal audit (Clause: 9.2, 9.2.1, 9.2.2)	Internal audit (Clause:4.5.5)		A, B and C Integrated

Both the continuous improvement objective and many common needs are shared by the management systems. The approach and level of prescription change, but much of the requirements, vocabulary, and content of the ISO 9001, ISO 14001, and OHSAS 18001 standards are the same. Resources, roles, responsibility, training and awareness procedures; communication; operational control in environment management system/safety management system procedure; manufacturing process, monitoring and measuring process/products; audit procedure, legal and other requirements; EHS objective, target, and program procedure; manual; management review; resources management; document control and record; and performance measurement and monitoring procedure are among the components that can be integrated, according to AUSP Manager 1. Moreover, SIRIM Manager 1 acknowledges that, subject to organizational constraints, integration of all management system components is possible.

CONCLUSION

The researcher can conclude that the management system component that can be integrate is based on the requirements of the company, if the company makes use of the component then the component might be able to integrated together. Different system has different requirements and not all documents or component should be integrated, if cannot be integrate then the management will use it as a single management system. The industrial revolution has increased the level of competition in the industry. Integrating the management system to become more adaptable, efficient, and competitive in the market is one strategy for achieving sustainability. As previously stated by AUSP Manager 1, "The different systems have different requirements, not all document or component should be integrate, if cannot be integrate, then we will use it as a single management system," the components that can be integrated can be merged, while the components that cannot be integrated should be used as a single management system. There are a few factors in the IMS that can



provide the effectiveness in the management and the main point is towards the cost effective, improve management and system; and for the operational benefit. The IMS can be applied to any of the organization that implies the management system. Moreover, the PDCA approach is able to enhance the efficiency in IMS implementation for a better management in the organization. The integration is important in order to improve the organizational culture and gain the benefit from the synergies of the combined management system.

REFERENCES

1. C. Q. Institute, "Integrated management system," 2016. [Online]. Available: <http://www.thecqi.org>. [Accessed 20 September 2015].
2. B. S. Institution, "PAS 99 Integrated Management System," 2016. [Online]. Available: <http://www.bsigroup.com>. [Accessed 17 May 2016].
3. Simon I Villar, "An empirical analysis of integrated management system," 2012.
4. T. Stamao, "Integrated management systems in small medium-sized enterprises: theory and practice.," University of East England, 2003.
5. M. Olaru, D. Maier, D. Nicoară and A. Maier, "Establishing the basis for development of an organization by adopting the integrated management systems: comparative study of various models and concepts of integration," *Procedia-Social and Behavioral Sciences*, vol. 109, pp. 693-697, 2014.
6. Standard, "Combine existing quality, health & safety processes (ISO 9001 & ISO 14001 & OHSAS 18001) into an integrated management system (IMS).," 2016. [Online]. Available: <http://integrated-standards.com>. [Accessed 4 January 2016].
7. S. X. Zeng, V. W. Tam and N. L. Khoa, "Towards effectiveness of integrated management systems for enterprises," *Engineering Economics*, vol. 21, no. 2, 2015.
8. Zutshi and A. S. Sohal, "Integrated management system: The experiences of three Australian organisations," *Journal of Manufacturing Technology Management*, vol. 16, no. 2, pp. 211-232, 2005. S.
9. Alexandra, S. Karapetrovic and M. Casadesús, "Difficulties and benefits of integrated management systems. Management Review–General The Integration of the system leads the organization review about each management system as one system at the planned intervals, to ensure its continuing suitability, adequacy, and effectiveness. 020034-13Industrial Management & Data Systems," vol. 112, no. 5, pp. 828-846, 2012.
10. V. K. Singh, "PDCA cycle: a quality approach," *Utthan–Journal of Management Sciences*, vol. 1, no. 1, pp. 89-96, 2013.
11. M. Bugdol and P. Jedynek, *Integrated Management System*, Springer, 2015.
12. ISO, "International Organization for Standardization," [Online]. Available: <http://www.iso.org/>. [Accessed 20 June 2016].
13. G. Raisiene, "Advantages and limitations of integrated management system: the theoretical viewpoint.," *Socialines Technologijos*, vol. 1, no. 1, 2011.