

APPLICATION OF INTEGRATED MANAGEMENT SYSTEM IN MANUFACTURING ORGANISATION:A NEW CONCEPT

Deepak Sharma

Department of Mechanical Engineering, J.C. Bose University of Science and Technology,
YMCA NH-2, Sector-6, Mathura Road, Faridabad- 121006 Haryana (India)
Email: deepakbhardwaj345@gmail.com

Abstract

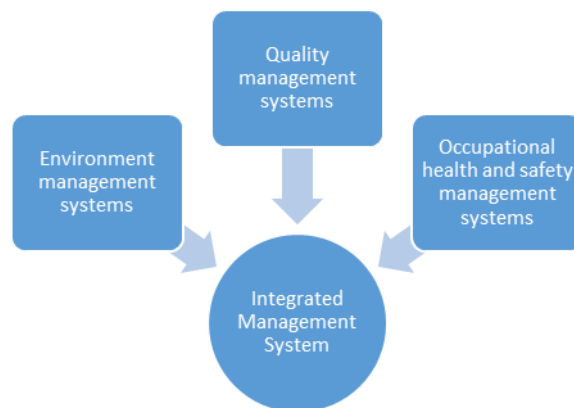
Organizations are ending up progressively mindful of the significance of Integrated Management Systems (IMS). Combining at least two the board frameworks into one can have more suitable. The Integrated Management System (IMS) is a reasonable procedure to deal with numerous frameworks that need to address the issues and desires for different stakeholders. The basic aim provided by this paper is to study about the integrated management system and various developments that have been made in the field of integrated management system (IMS) by researchers along with its benefits in the organisation.

INTRODUCTION

In the present situation, the system of safety, quality and environment has turned into a pivotal essential in the industry to remain in competition. This is a fact that future accomplishment of an organisation is depending on the ability to upgrade its operation by continual improvement (Hitt, 1991). We actualize Integrated Management Systems (IMS) to endure and remain in competition. Traditionally, management systems such as quality, environmental, and occupational health and safety are independently controlled by different department of organisation leads to redundancies and high costs to organizations so the concept of integrated management system is introduced. Integrated Management System is a solitary structure utilized by organisation to deal with their procedures or exercises that change contributions of assets into an item or administration which meet the organization's objectives and fulfil the stakeholders quality, health, safety, environmental, security, or any other identified requirement.

The most common management systems that are integrated include quality (ISO 9001), environmental (ISO 14001) and occupational health and safety (ISO 45001) standards have common characteristics to relatively easy integration (Kauppila, 2015). The implementation of the system based on international standards and widespread practice among

organisations according to the demands of a variety of stakeholders



Literature review

- Domingues,(2015) show the main constraints of non-integrated management systems (IMSs),the principle inspirations driving an IMS execution, the major obstacles faced,and the critical success factors along with resultant benefits.
- Almeida, (2014) try to focus on critical success factors (CSFs) assessment and difficulties faces during the implementation of IMS along its benefits. Additionally he identifies some critical factor (i.e. Top management involvement, human and financial resources availability and training) in Portuguese certified companies. The methodology used for data collection is semi structure interview with management system manager.
- Kopia, (2016) study focus on the organisation which operates with atleast two ISO based management system and analysis the approaches for implementing and operation. The result is based upon two approaches i.e. survey method and case

study. The special focus put on the integration aspect in the regard of the high level ISO based structure.

- Bernardo, (2016) study and analyse the integration of management system in the country with low no. of certification and proposed a new agenda towards improving the competitiveness in the organisation, implemented the multiple management system. A case study approach is employed to explore patterns, similarities and difference among the organisation.
- Giacomello,(2014) implemented the integrated management system in the small construction company in brazil and develop the isolated management by observing the different sites .As a result, reduction in the waste has been observed in the production process.
- Sui, (2018) implement the integration of occupational health and safety environment (OHSE 18001) and ISO 14001 in an operating nuclear power plant in china. A functional management system was designed to overcome the difficulties in implementing the IMS
- Simon, (2012) study the relationship between the different level come into contact with the integration and difficulties faced during the process along with benefits and exploratory factor analysis (EFA) is provided on survey data collected form 76 organisations.
- Rebelo,(2016) Present the case study in regard with previously build model and check it feasibility at the manufacturing site of an international enterprises.
- Bernardo, (2014) has two aim of his study, first one is to classify the integration of management system as a part of innovation and other one is to analysis the relationship and proposed a model to check impact between innovation management performance and integrated of management system.
- Rebelo, (2015) identify and explore the critical success factor (CSF's). These factors are considered in the proposed model and case study which contribute in better understanding of critical success factor and provide an insight on preventive management.
- Nunhes, (2018) objective is to establish the guiding principle and essential element for its development. Out of 28, 6 principles are syntheses that are 1) Systemic Management;

2) Standardization; 3) Strategic, tactic and operational integration; 4) Organizational learning; 5) DE bureaucratization; and 6) Continuous Improvement. These help the manager for better target their effort in management.

- Poltronieri, (2018) present an instrument to access the management system and its effect on sustainable performance.
- Abrahamsson ,(2010) presented a conceptual model for integrating all stakeholder need is presented in value network. This paper also look the advantage, problem and possibility of fully developed integrated management system(IMS)
- Mohammad, (2006) discusses the strategies and factor that are critical for the implementation of management system. Some approaches such as total quality approach (TQA), plan-do-check-act (PDCA) approaches are applied for basis integration, meanwhile some critical factor commitment and leadership, resources management, focus on stakeholders, education and training,performance measurement, systems and processes, and continual improvement are identified.
- Rajković,(2008) analysis reason advantage and barrier in the implementation of integrated management system in small micro enterprises (SME's)
- Abad,(2016) study the difficulties that result from the integration of management systems and employ an analysis based on nonparametric tests to detect the role of strategic actions and organisational factors on the difficulties-integration relationship

Elements of integrated management system

1. Quality management systems (ISO 9001):

ISO 9000 is a quality management system which can be used in manufacturing, servicing, private and public organisation (sitki,2012).Quality management systems have turned out to be practically necessary in numerous parts of industry over the most recent couple of years(Rajkovic,2007).The primary aggressive edge these days shifts from just applying the ISO 9001 standard to effectively executing a quality management system (QMS) in the wake of getting the certification(Lee et al., 2009; Wahid and Corner, 2009; Psomas et al.,

2013). It give direction and instruments to organizations and associations who need to guarantee that their items and administrations reliably meet client's prerequisites, and that quality is reliably improved. It can be utilized by any organisation, large or small, regardless of its field of activity. It improve product quality, reduce waste and save money.

2. Environmental management systems (ISO 14001):

Inadequate management system have been the reason for natural harm and have cost firms and organisation vigorously as far as tidy up expenses and awful notoriety. These days, as opposed to being viewed as the reason for the environmental issue, industry must react and show itself to be the answer for the issue. (Radonjic G. et al.2006;Fischer, K et al.1993; Billatos, S.B et al.1997).ISO 14001 become a most influential standard to take measure of environment management process.(Radonjic ,2006).Its aim to improving environmental performance by eliminating and reducing the impact by enforcing it.(Amal,2017) It is the global standard ought to be utilized by any association that desires to set up, improve, or keep up a natural administration framework to adjust to build up ecological approach and prerequisites.it improve resourse efficiency ,client trust and natural commitment

3. Occupational health and safety management systems (ISO 45001):

Measurement of safety is a difficult process but it cannot be ignored .It is a continuous process which help to minimize the risk of worker and visitors. Occupational Health and Safety Management is international standard which specify that how occupational health management system should be developed, implemented, control and diminishing the dangers related with wellbeing and security inside the working environment(Khodabocus, 2010). OHSAS 18001 has been replaced to the newly issued ISO 45001:2018. Execution of standard will send a reasonable flag to partners that you see worker's wellbeing and security as a need inside your organisation.

It Improves corporate image and credibility among stakeholders, regulators, customers, prospective clients and the public.(Rajaprasad,2015)also Reduces accident and incident rates by reducing or eliminating workplace hazards(Ghahramani,2015)

Benefits of IMS

After a basic investigation of the writings on this point, it very well may be contended that the advantages can be assembled into two classifications: inside Benefits and, outside Benefits. The inside

Benefits are identified with the inner capacity and procedures of the organization, while the outside ones are related with the outside exercises of the organization. Moreover inside Benefits can be separated into three classes:organizational, financial and people benefits (Rajkovic D.et al., 2007).In the organisation it result to optimized resources by keeping up a solitary framework with a single and Improve interior proficiency, adequacy and nature of the executives by down-measuring three practical divisions to one and diminishing fluffy administration limits between individual frameworks (Jewalikar A Det al., 2017). Reduction in documentation provide homogeneity in the executives procedures (Dahlin,G et al.,2017). It includesFinancial Benefits such as outside affirmation cost, review costs are decreased by providing a single structure result in increase in overall revenue.Increase new clients/fulfill existing ones and Improvement of organization's picture, relations with partners, quality, environmental and health and safety, reduction in wastage are some Outside Benefits.

CONCLUSION

Integrated management system is a unitary system used to fulfil the desire of customers.

By good design and implementation of IMS, even in the present of risk, gives possibility for success and resulting efficiency of the system is increased.

References

- Amal Laaraifi, MahjoubAouane, ZouhirSaadoune, AbdelazizChaouch, AdilEchchelh(2017). Impact of the ISO 14001 Certification on the Environmental Performance: Case Study of Two Moroccan Companies. International Journal of Agricultural and Environmental Sciences. Vol. 2, No. 4, 2017, pp. 43-48.
- Almeida, J., Domingues, P., &Sampaio, P. (2014). Different perspectives on management systems integration. Total Quality Management & Business Excellence, 25(3-4), 338-351.
- Abad, J., Cabrera, H. R., & Medina-León, A. (2016). An analysis of the perceived difficulties arising during the process of integrating management systems. *Journal of Industrial Engineering and Management (JIEM)*, 9(3), 860-878.

- Abrahamsson, S., Isaksson, R., & Hansson, J. (2010). Integrated management systems: advantages, problems and possibilities. In 13th Toulon-Verona Conference (pp. 1-12).
- Billatos, S.B. and Basaly, N.A. (1997), Green Technology and Design for the Environment, Taylor and Francis Publishers, Washington, DC.
- Bernardo Vilamitjana, M., Gotzamani, K., Vouzas, F., & Casadesús Fa, M. (2016). A qualitative study on integrated management systems in a non-leading country in certifications. Total Quality Management & Business Excellence, 2016.
- Bernardo, M. (2014). Integration of management systems as an innovation: a proposal for a new model. Journal of Cleaner Production, 82, 132-142.
- Domingues, J. P. T., Sampaio, P., & Arezes, P. M. (2015). Analysis of integrated management systems from various perspectives. Total Quality Management & Business Excellence, 26(11-12), 1311-1334
- Dahlin, G., & Isaksson, R. (2017). Integrated management systems—interpretations, results, opportunities. The TQM Journal, 29(3), 528-542.
- DuraiAnand Kumar, D. V. B. (2011). A study on ISO 9001 Quality Management System Certifications – “Reasons behind the failure of ISO certified Organizations. Global Journal of Management and Business Research, 11(9).
- Fischer, K. and Schot, J. (1993), Environmental Strategies for Industry: International Perspectives on Research Needs and Policy Implications, Island Press, Washington, DC.
- Ghahramani, A., & Summala, H. (2015). A study of the effect of OHSAS 18001 on the occupational injury rate in Iran. International Journal of Injury Control and Safety Promotion, 22(11), 1-7.
- Giacomello, H., González, M. A. S., & Kern, A. P. (2014). Implementation of an integrated management system into a small building company. Revista de la Construcción. Journal of Construction, 13(3), 10-18.
- Hitt, M. A., Hoskisson, R. E., & Harrison, J. S. (1991). Strategic competitiveness in the 1990s: Challenges and opportunities for US executives. Academy of Management Perspectives, 5(2), 7-22.
- Jewalikar, A. D., & Shelke, A. (2017). Lean Integrated Management Systems in MSME Reasons, Advantages and Barriers on Implementation. Materials Today: Proceedings, 4(2), 1037-1044.
- Lee, P.K.C., To, W.M. and Yu, B.T.W. (2009), “The implementation and performance outcomes of ISO 9000 in service organizations: an empirical taxonomy”, International Journal of Quality and Reliability Management, Vol. 26 No. 7, pp. 646-62.
- Sitkiilkay, M., & Aslan, E. (2012). The effect of the ISO 9001 quality management system on the performance of SMEs. International Journal of Quality & Reliability Management, 29(7), 753-778.
- Kopia, J., Kompalla, A., & Ceausu, I. (2016). Theory and practice of integrating management systems with high level structure. Quality-access to success, 17(155), 52-29.
- Kauppila, O., Härkönen, J., & Väyrynen, S. (2015). Integrated hseq management system: Development and trends. International Journal for Quality Research, 9(2).
- Khodabocus, B. F., & Constant, K. C. (2010). Implementing OHSAS 18001: 2007:-A Case Study of Hazard Analysis from the Printing Industry. In International Journal of Engineering Research in Africa (Vol. 1, pp. 17-27). Trans Tech Publications
- Mohammad, M., Osman, M. R., Yusuff, R. M., & Ismail, N. (2006). Strategies and critical success factors for integrated management systems implementation. In Conference on computers and industrial engineering (Vol. 35, pp. 1391-1396)..
- Mohammad, M., Osman, M. R., Yusuff, R. M., & Ismail, N. (2006). Strategies and critical success factors for integrated management systems implementation. In Conference on computers and industrial engineering (Vol. 35, pp. 1391-1396).
- Nunhes, T. V., Vilamitjana, M. B., & Oliveira, O. J. (2018). Guiding principles of integrated management systems: towards unifying a starting point for researchers and practitioners. Journal of Cleaner Production
- Poltronieri, C. F., Gerolamo, M. C., Dias, T. C. M., & Carpinetti, L. C. R. (2018). Instrument for evaluating IMS and sustainable performance. International

- Journal of Quality & Reliability Management, 35(2), 373-386.
- Psomas, E., Kafetzopoulos, D. and Fotopoulos, C. (2013), "Developing and validating a measurement instrument of ISO 9001 effectiveness in food manufacturing SMEs", Journal of Manufacturing Technology Management, Vol. 24 No. 1, pp. 52-77.
 - Psomas, E. L., Pantouvakis, A., & Kafetzopoulos, D. P. (2013). The impact of ISO 9001 effectiveness on the performance of service companies. *Managing Service Quality: An International Journal*, 23(2), 149-164
 - Radonjič, G., & Tominc, P. (2006). The impact and significance of ISO 14001 certification on the adoption of new technologies: the case of Slovenia. *Management of Environmental Quality: An International Journal*, 17(6), 707-727.
 - Rajaprasad, S. V. S., & Chalapathi, P. V. (2015). Factors influencing implementation of OHSAS 18001 in Indian construction organizations: interpretive structural modeling approach. *Safety and health at work*, 6(3), 200-205.
 - Rajkovic, D., Milicevic, R., & Malbašić, S. (2007). Integrated management systems: QES model and small medium-sized enterprises. *Proceedings of the Quality Festival*, 16-21.
 - Wahid, R.A. and Corner, J. (2009), "Critical success factors and problems in ISO 9000 maintenance", *International Journal of Quality and Reliability Management*, Vol. 26 No. 9, pp. 881-93.
 - Rajković, D., Aleksić, M., Milićević, R., & Čudić, S. (2008). IMS IN SMES-REASONS, ADVANTAGES AND BARRIERS ON IMPLEMENTATION. *International Journal for Quality Research*, 2(3), 307-316.
 - Rebelo, M. F., Silva, R., Santos, G., & Mendes, P. (2016). Model based integration of management systems (MSs)—case study. *The TQM Journal*, 28(6), 907-932.
 - Rebelo, M. F., Santos, G. I. L. B. E. R. T. O., & Silva, R. (2015). Integrated management systems: critical success factors. *Journal of Global Economics, Management and Business Research*, 5(2), 109-124.
 - Simon, A., Karapetrovic, S., & Casadesús, M. (2012). Difficulties and benefits of integrated management systems. *Industrial Management & Data Systems*, 112(5), 828-846
 - Sui, Y., Ding, R., & Wang, H. (2018). An integrated management system for occupational health and safety and environment in an operating nuclear power plant in East China and its management information system. *Journal of Cleaner Production*, 183, 261-271.