

# The Implementation of Integrated Management System in Automotive Service Industry: A Review

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## Abstract

The implementation of safety management, environmental management and the certification of quality management has become the prerequisite for an organization in transforming itself into becoming an organization which has competitiveness and sustainability factors. It also becomes a measurement gauge in determining their organizational performances. The integration of these management systems within an automotive services industry has neither been prominent nor transformational. Further to that, there are some organizations in the industry that do not apply these systems completely. In this paper, the influence factors in implementing these integrated management system is discussed. While the obstacles ascertained related to the implementation are also highlighted. A conceptual model on the implementation of an integrated management system within the automotive service industry is proposed. The model is expected to be a reference guide for all future implementations of integrated management system intended within the automotive service industry.

**Keywords:** Integrated management system, Safety management system, Environmental management system, Quality management system, Automotive service industry.

## INTRODUCTION

The automotive industry in Malaysia is aimed to become a world-class industry based on the various and tremendous initiatives taken by the government. The National Automotive Policy is constantly being reviewed and becomes the main focus in order to upgrade this industry from time to time. Not only focusing on manufacturing sector, the services sector also need a huge revamp in order to be classified as being at equal terms and complementing the efforts of manufacturing sector. In this regard, both sectors are highly valued because both are definitely interrelated and thus their interdependence against each other ensures the targeted goal is more than likely achievable as planned out by the governing authorities.

In order to fulfill this intended strategy, the main focus should be labored towards shaping a definite type of a management system that is highly able to be implemented in a cohesive and

effective way whilst being one that can be measured in-terms of its effectiveness.

Based on the study conducted by Sampaio et al. (2012), a management system was defined as “a set of inter-related organizational processes, sharing resources to achieve several organizational goals which include planning, product/service realization, monitoring and improvement activities” [1]. Meanwhile, the integration of management systems is defined as the organizational structure, resources and procedures that supports the planning, monitoring, quality control, safety and environmental activities of an organization [2-3].

Quality management system, environmental management system and also safety management system can be identified as the main factors needed to be succinctly engaged by organizations in other to be defined as achieving success. According to Zeng et al. (2007), they are viewed as symbol for success and prerequisite for survival [4]. According to Sampaio et al. (2012), by integrating the quality, safety and environmental management systems, the performance of organization will improve tremendously due to the high commitment needed in implementing this integration system [1]. Thus, the idea of integrating this three management systems has become more popular and is seen as the best way to achieve continuous improvements within an organization. As such, an implementation of an integrated management system needs to be emphasized in order to best affect an internal change within the automotive services sector itself. This should redefine how the automotive industry should behave and tweak its inner-workings, and thus should uplift the industry onto new levels of world-acknowledged standards or at least in terms of the Malaysian context.

In this paper, the influencing factors in implementation of these integrated management system is discussed. While the obstacles ascertained related to the implementation are also highlighted. A conceptual model on the implementation of an integrated management system within the automotive service industry is also proposed. The model is expected to be a reference guide for all future implementations of integrated management system intended within the automotive service industry.

## **THE IMPLEMENTATION OF INTEGRATED MANAGEMENT SYSTEM IN AN ORGANIZATION**

The integrated management system (Quality Management System, Environmental Management System and Occupational Health and Safety Management system) have become increasingly important in an organization as the customers are looking towards and demanding the high standards of quality and commitment in delivering the products or services to them. Besides the customers, this integrated management system shows the commitment from the top management towards their workers in protecting them from illegal or unsafe practices [5]. Source from ISO (2013) showed that the number of organizations that implemented all of these management system are increasing every year [6]. Basically, ISO 9001 QMS, ISO 14001 EMS and OHSAS 18001 OHSMS are the most widely used by the organizations. Instead of having the different certification processes, the organization preferred the integration amongst all of these certification [6]. The reason for having these integration of management system is also because of the pressure in having the effective utilization of organizational resources including personnel, time and investment value in an organization [7]. Furthermore, as mentioned by Asif et al. (2013), at the strategic level, the integrated management system provides a mechanism for increased interaction with stakeholders by understanding their demands and a way to restructure the effective and efficient way in managing the organizational resources.

Integrated management system will provide a huge impact on the needed changes that should be encompassing various stages of the industry, and provide some revolutionary effect that should create betterment for the industry as a whole [8-9]. This is why, having an integrated management system is highly recommended for this industry.

## **DRIVING FACTORS IN THE IMPLEMENTATION OF INTEGRATION MANAGEMENT SYSTEM**

Based on the previous researches conducted, several factors were identified as the influences factors or driving factors towards the implementation of integration management system. In the study conducted by Asif et al. (2009) as quoted by Maria & Katerina (2015), the implementation of integration management system may be derived from various sources including regulatory, financial, marketing, social and operational [7,10]. Other influence factors in the implementation of integration management system in an organization are such as anticipation of a more effective and simpler management structure as well as a tighter connection between specific disciplined management aspects [10-11]. Besides these, the market needs, human resources and continual improvement are also among the driving factors in implementing the integrated management system [12-13]. According to Jørgensen et al., (2006) and Fresner and

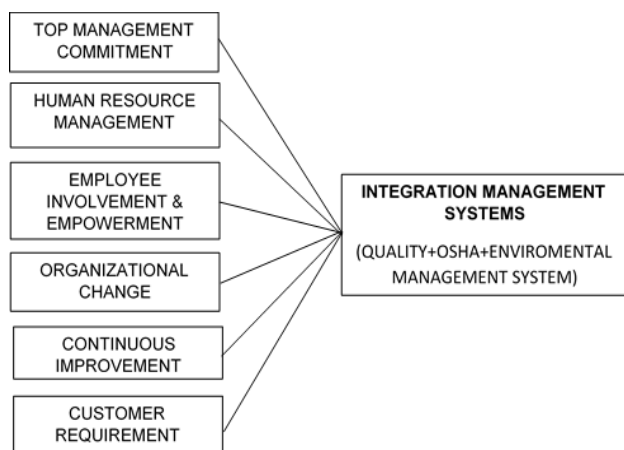
Engelhardt, (2004), the purposes of having these three management system is that it overlaps among each other [14-15]. They all require the definition of roles and responsibilities, to train personnel, to define written procedures, to control and keep records of documentation and data, to continuously improve by applying "root cause" analysis to corrective and preventive action, to perform internal audits, and so on [16,9]. Thus, the integration of all three management system will benefit the organization itself.

In other research that measures the success factors in implementation of integration management system, a few distinct and important factors were identified. These factors needs to be given emphasis and a well-planned implementation strategy is needed to be structured, that is effective enough to have any kind of justified success. In a study conducted by [17], they have found that 4 important factors in implementation of integration management system [17].

The approach and involvement of the top management is the main important factor for an organization. This is including the high commitment and supports in overall implementation strategy and activities [17]. Besides the top management commitment, organizational change is also an important change factor related to a successful implementation of integrated management system. This changes include restructuring of the organization and defining the responsibilities of each staff in a clear manner. The work culture and communication flow can also be included as one of the priority in the organizational change activity towards the successful implementation of an integrated management system [17].

Moreover, the effective development and implementation of integrated management system is also influenced by the employee involvement and empowerment [18]. Employee involvement is a behavioral oriented technique that involves individuals or groups in the upward communication flow and decision-making processes within the organization by the participation level of the employees. Since, the employees are close to the works or task that they have been responsible for, thus they are the best qualified persons to make suggestions for improvements, they can be consulted before making final decisions, and especially for those decisions that affects the employees. This empowerment of workers provides them with authority, responsibility and accountability for required decisions in implementing all the business strategies related to the organization [18].

Thus the employee involvement and empowerment should not be taken lightly within an organization and makes both variables a crucial factor in determining a successful outcome of a set strategy. Besides than that Customer requirements is also a contributing factor in an implementation activity [18]. Figure 1 shows the summarization of influences factors in an implementation of the integrated management system.



**Figure 1:** Influencing Factors in Integrated Management System

### BARRIERS FOR THE IMPLEMENTATION OF INTEGRATION MANAGEMENT SYSTEM

Undertaking change in an organization would surely not be an easy and simple process. Normally, the decision to begin integration is preceded by an analysis of the advantages and difficulties that the integration will pose to the organization [19].

Implementation of integration management system within an organization will be subjected to multiple barriers. In previous studies conducted by [20]) and [19, among the barriers that were identified were insufficient harmonization between management systems (Quality, Safety and Environmental), different operational management for all these management systems [20], poor in human resource, lack of collaboration between the departments/units in an organization, lack of time in integration, and limited resources, i.e. financial, human resource and technology [19]. Analysis of barriers from previous studies or experiences from other successful organization will help the organization to strategize their own process in implementation of the integrated management system. Table 1 shows the main barriers identified in implementation of integrated management system.

**Table 1:** List of the Main Barriers in Implementation of Integrated Management System

No.	Barriers
1	Insufficiently harmonized between management systems
2	Different operational management for all these management systems
3	Poor in human resource
4	Lack of collaboration between the departments/units
5	Lack of time for integration
6	Limited resources – financial, human resource, technology

### BENEFITS FROM THE IMPLEMENTATION OF INTEGRATION MANAGEMENT SYSTEM

An integration of system, in whatever form, should always lead to a more effective system [20]. In the previous studies, it clearly shows that the organization will obtain some benefits from the integration management system. Among the benefits that manifest with having an integration of the management system are things such as, significant cost reduction in implementation processes as well as certification processes [16], organization work cultures and time saving in obtaining the certification processes [5].

In a study conducted by [5], implementation the three management systems gave an impact that was huge in the organization. According to the researcher, there were roughly 12 benefits that was achieved by an organization that subjected itself to this integrated system. Among the benefits identified were:

1. Optimized resources (financial and humans) to maintaining a single goal, vs. multiple systems with the same goals;
2. Management costs reduction;
3. Unification of internal audits;
4. Increased employee training;
5. Better definition of management responsibilities and authority;
6. Simplified management systems resulting in less confusion, redundancy and conflicts in documentation;
7. Reduction of bureaucracy;
8. Easier compliance of legislation;
9. Increased performance and efficiency;
10. Improved organization;
11. Improved external image of the company;
12. Better and easier communication system.

Besides that, Karapetrovic (1998) has highlighted that the integration of management system also gave a big improvement upon its technology development and transfer process; operational performance; internal management methods and cross-functional teamwork; higher staff motivation, lower inter-functional conflicts; multiple audits reduced and streamlined; enhanced confidence of customers and positive market/community image; reduced costs and more efficient re-engineering [20]. Meanwhile Sambasivan and Fei (1998) suggested that the integration system also lead to the improvement in profit, performances and new business opportunity to the organization [17].

Bernadoa et al (2012) on the other hand, was able to consolidate other great advantages reported from several other

papers pertaining to the benefits gained through other literatures. The summarization of the studies is showed in Table 2 as adapted from [19].

In general, the integration is proven to be beneficial to the internal cohesion, the use and performance of the systems, the corporate culture, image and strategy and the stakeholders' implication [12]. Thus the implementation of integration management system in automotive services industry will reap in benefits that is meaningful and one that makes a huge difference in this industry.

### CONCEPTUAL MODEL OF INTEGRATED MANAGEMENT SYSTEM FOR AUTOMOTIVE SERVICES INDUSTRY

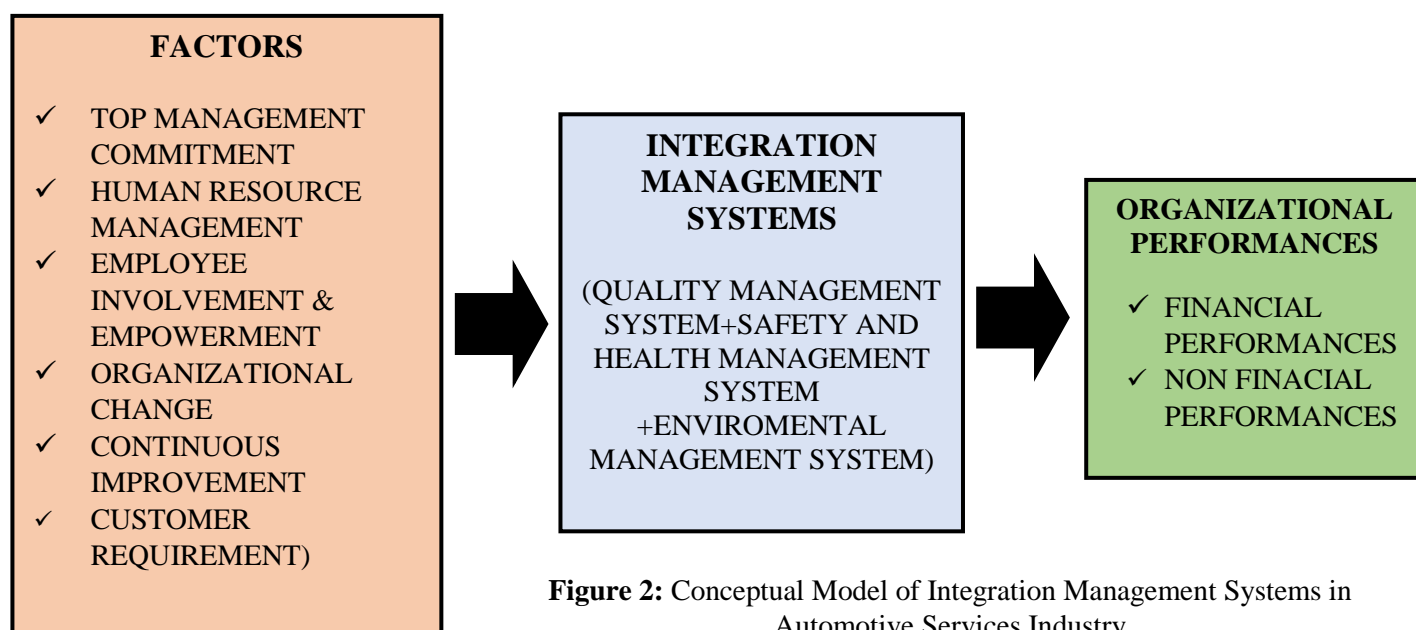
Based on the review of multiple literatures that are available, the structured framework in implementation of integration

management system specifically for the automotive services industry is needed in order to ease the industry for the implementation plan. Thus, a conceptual model for the implementation of integration management system is proposed [21-22]. Further study on identifying the relevant influencing factors and integration of each managements systems (Quality Management System, Safety and Health Management System and Environmental Management System) via development of hypothesis testing will be needed in achieving the aims of the study. A more comprehensive study via the use of a case study in measuring the implementation level in an organization is needed in order to gain the benefits from the integration commitment.

Figure 2 shows the conceptual model of implementation of integration management system in the automotive services industry.

**Table 2:** Benefit Gain from Integration Management System – adapted from Bernadoa et al (2012).

Benefits Gain from Integration Management System	Sources
Greater flexibility and opportunities to include other systems	(Karapetrovic and Willborn,1998a; Beckmerhagen et al., 2003)
Avoiding duplication of effort	(Wilkinson and Dale, 1999b, 1999c; Beckmerhagen et al., 2003; Zutshi and Sohal, 2005b; ISO, 2008a; Zeng et al., 2011),
Making greater use of the synergies among standards	(Karapetrovic and Willborn,1998b; Beckmerhagen et al., 2003)
Audits are integrated	(Beckmerhagen et al., 2003; ISO, 2008a)
Auditors are multi-functional	(Douglas and Glen, 2000),
Reducing the amount of documentation	(Beckmerhagen et al., 2003; Zeng et al., 2005, 2011)
Optimising resources	(McDonald et al., 2003; Zutshi and Sohal, 2005b; Salomone, 2008)



**Figure 2:** Conceptual Model of Integration Management Systems in Automotive Services Industry

## CONCLUSION

The implementation of Quality Management System, Safety and Health Management System and Environmental Management System are important and being a prerequisite for an organization in becoming competitive and towards being sustainable within the industry. The idea of having an integrated management system is a method that is best suited for a manufacturing organization that strives to improve itself. The automotive services industry in Malaysia needs to be given a well-deserved inoculation of fresh system-methods and also a paradigm shift from the preceding technologically-focused ideas, for it to be correctly propelled forward and having the ability to follow drastic industry automotive (manufacturing) changes in this country. Therefore, being left behind of this development is not an option. So, an implementation of an integrated management system can be seen as an initial step towards giving new life to the industry, and should set a precedence for all will-be future management system. Overall, based on the previous studies consolidated and presented above, it is feasible to derive elements that need to be looked into and scrutinized further in order to tackle the idea of having successful integrated management system implementation within the automotive services industry. The known factors that have been cited by numerous foreign research can also be used as informational resources in developing this conceptual model further, with regards to an implementation strategy. Thus, the understanding of these factors directs researchers to investigate further, the other relevant issues pertaining to this integration management system implementation in the chosen industry, its difficulties, perceived barriers, work culture, monetary restraints, knowledge base and its understanding.

The compatibility among different management systems for an effective integration should also be done precisely with some moderation. The proposed conceptual model will be the initial start-off point and is expected to contribute as a comprehensive guideline for integration management system implementation efforts, within an organization, specifically for the Malaysian automotive services industry.

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