Abstract

Purpose – The purpose of this paper is to investigate the implementation of integrated internal audit management (IIAM) and compare the implementation of IIAM by Malaysian firms with different certifications (ISO 9001, ISO 14001 and OHSAS 18001).

Design/methodology/approach – This study involves three studies on the implementation of integrated internal audit processes. Furthermore, this study compares the implementation of the audit in the selected firms. The qualitative research methodology was adopted to analyse the data.

Findings – This study is an exploratory study and the findings indicate the differences between the implementation of the internal audit process across different firms. All the firms are highly motivated and demonstrate resource management whilst implementing the IIAM while firms experiencing the same difficulties. The study also found that all of the firms are enjoying similar benefits.

Research limitations/implications – The scope of this research paper is limited to three Malaysian manufacturing firms with different quality certifications: ISO 9001, ISO 14001 and OHSAS 18001. Thus, the finding cannot be generalised to all firms in Malaysia. However, the findings are significant as they present an interesting comparison between the implementation of IIAM by manufacturing firms in Malaysia.

Originality/value – Although the integration of management systems has been analysed many times, this study focussed on the comparison of firms’ practices of the IIAM.

Keywords Manufacturing firms, Integrated internal audit, Management system

1. Introduction

Increasing competitiveness and economic demands have driven many firms to adopt various management tools. There are various benefits of adopting management tool including improving product quality, streamlining processes and the reduction of environmental damages (Simon et al., 2014). Firms seek quality certifications, such as ISO 9001 Quality Management Systems (QMS), ISO 14001 Environmental Management Systems (EMS) and OHSAS 18001 Safety Management System and Occupational Health (OHSAS) to gain competitive advantages and, subsequently, increase their business growth (Sampaio and Neves, 2012). In the Malaysian context, while the implementation of the integrated management system (IMS) is rather new compared to other developed countries, its implementation has helped create a more dynamic management system in Malaysia (Arifin et al., 2009). In this light, the IMS has been considered as a system that can minimise workload, cost and human resources in the context of middle-income countries like Malaysia (Arifin et al., 2009).

IMS is defined as “a set of interconnected processes that share a pool of human, information, material, infrastructure, and financial resources in order to achieve a composite of goals related to the satisfaction of a variety of stakeholders” (Karapetrovic and Willborn, 1998). Rajendran and Devadasan (2005) recognised the need to adopt an integrated standard
for auditing systems, such as QMS, EMS, and Occupational Safety and Health Management System (OHSAS) which are some of the most widely implemented standards around the world (Domingues et al., 2015).

For many years, firms have used individual certification to increase their management systems. However, scholars have argued that this approach is often marred with bureaucracy, high cost and redundancy. Kymal (2015) claimed that quality standard certifications are expensive to obtain where each standard certification costs around $50,000–$70,000, while the cost of maintaining the standard is around $30,000–$35,000. In response to this issue, various studies have focussed on the establishment of IMS (Nunhes et al., 2016). Over the years, IMS audit or integrated internal audit management (IIAM) has been acknowledged as an efficient management system which saves time, eliminates bureaucracy and reduces the use of human, technical and financial resources (Abad et al., 2014; De Oliveira, 2013; Karapetrovic and Casadesús, 2009; Zeng et al., 2007).

Therefore, this study aims to investigate and compare the implementation of IIAM by different firms in the Malaysian manufacturing industry. Each of these firms has been awarded at least two MS standards. The comparison made in this study will help to identify the implementation pattern of the audit process in selected firms and help to propose other factors that could affect this process.

2. Literature review

Perhaps the most widely used definition of an audit is presented in Karapetrovic and Willborn (1998b) where it is defined as “systematic examination to determine whether activities and related results conform to planned arrangements and whether these arrangements are implemented effectively and are suitable for the organisation’s policy and objectives”. Thus, organisations with IMS status are expected to implement integrated internal and external audits (Bernardo et al., 2017; Karapetrovic and Willborn, 1998; Kraus and Grosskopf, 2008; Savino and Batbaatar, 2015; Simon et al., 2014).

Past studies argued that integrating the different management systems’ audits could encourage continual improvement activities and, at the same time, enhance efficiency (Simon et al., 2011; McDonald et al., 2003). Therefore, audit integration can be defined as “managing the processes, improving firm performance, cutting costs, as well as driving continual improvement” (Kraus and Grosskopf, 2008). It was observed that IIAM assists firms to ensure the quality and safety attributes of the products and services offered to achieve business sustainability (Simon and Yaya, 2012).

2.1 Integrated internal audit management (IIAM)

Figure 1 illustrates the stand-alone standardisation system. Several studies indicate that the adoption of integrated systems is becoming more common than the stand-alone systems (see e.g. Bernardo et al., 2009; Karapetrovic and Casadesús, 2009). Studies have also reported that many organisations implement different standards certifications and adopt IMS to overcome the limitations of single standardisation. According to Bernardo et al. (2015), the integration of audit processes is part of IMS. In this light, the implementation of an
An integrated approach could help increase audit efficiency as audit processes can be conducted together with fewer auditors (Chaney and Kim, 2007; Helpert and Lazarine, 2009; Brand and Sagett, 2011). In this regard, the integrated process considers risk and audits (Kymal, 2015) and Figure 2 illustrates an IMS.

### 2.2 Integrated audit process

According to ISO 19011: 2012 (clause 3.1), an “audit” is defined as a “systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled”. According to this standard (clause 3.1, Note 3), “an integrated audit” occurs when “two or more management systems of different disciplines (e.g. quality, environmental, occupational health and safety) are audited together”. Integrating these stand-alone standards into a single management system will result in fewer documentation and processes that need to be managed, which in turn, will save the cost to implement and maintain the standards (Kymal, 2015). Refer to Figure 3.

The integration of management systems can be defined as “putting together different function-specific management systems into a single and more effective MS” (Beckmerhagen et al., 2003). Hence, integration allows processes, procedures, work instructions and checklists to be combined to cut cost and enjoy combined benefits.

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![Figure 2. Integrated management systems](source: Kymal (2015))

![Figure 3. Integration in one site](source: Kymal (2015))
2.3 Motivations

Previous studies have highlighted that firms are driven to obtain the IMS certification by both internal and external factors (Domingues et al., 2015; Llopis and Tari, 2003; Park et al., 2007). Therefore, it is time to determine what the relationship is between internal and external motivations and how it influences the adoption of IMS audits. This study may assist firms in identifying the factors hindering the success of their IIAM implementation (Jang and Lin, 2008).

Numerous studies have investigated firms’ motivations for implementing MSs, their implementation experiences and the benefits received. Studies advocated that the implementation of an integrated system has many benefits, such as cost savings, reducing financial loss, more streamlined operations, better external image, improved customer satisfaction, compliance with legislation, effective allocation of responsibilities and enhanced employee motivation (Asif et al., 2010; Douglas and Glen, 2000; Karapetrovic and Willborn, 1998; Rocha et al., 2007; Salomone, 2008; Zeng et al., 2011; Zutshi and Sohal, 2005). Furthermore, a study by Crowder (2013) highlighted that firms implement IMSs to fulfil their desire to improve their services and increase quality within the organisations.

2.4 Benefits and difficulties

The implementation of an IMS has many different objectives. Past studies have emphasised that IMS implementation increases a firm’s efficiency and effectiveness (e.g. Karapetrovic and Casadesús, 2009; Curkovic et al., 2008; Khebila et al., 2010). Numerous recommendations have been made to reduce operational costs by combining audit tasks and documentation (e.g. Bamber et al., 2004). Other than that, plenty of discussions have been made on the perceived benefits of implementing the IMS (Bernardo et al., 2009; Karapetrovic and Willborn, 1998; Zeng et al., 2007). In this light, IMS promotes good teamwork, minimises administration costs and, at the same time, improves efficiency in managing the systems. Moreover, IMS allows firms to reduce redundancy and duplication of activities, remove unnecessary tasks and responsibilities, as well as increase resource management efficiency. The combined implementation of an IMS and IIAM can ensure higher efficiency and effectiveness when carrying out audits (Simon et al., 2011).

Despite the several benefits cited above, there are some difficulties in the process of integration of an internal audit (Karapetrovic and Willborn, 1998). These difficulties have been discussed in studies like Asif et al. (2009), Karapetrovic et al. (2006) and Zutshi and Sohal (2005). Later, it is known as the deficiency of human resources and government support. Other internal difficulties highlighted included cross-functional issues, lack of resources and limited employee participation, and this could hinder the implementation of IIAM (Asif et al., 2009; Matias and Coelho, 2002; Karapetrovic and Willborn, 1998; Zutshi and Sohal, 2005).

3. Research methodology

Three firms located in the Klang Valley were selected as the sample for this study. To achieve the research objectives, the case study method was applied. The method was used as it allows the identification of cases, processes, as well as behavioural effects (Yin, 2009). A case study is defined as an “empirical inquiry that investigates contemporary phenomenon within its real-life context, when the boundaries between the phenomenon and context are not clearly evident, and where multiple sources of evidence are used” (Yin, 2009). In this case, while prior studies used the quantitative approach to get answers from the management representatives, this study used the qualitative method similar to Abad et al. (2014) and Karapetrovic et al. (2006). The data collected through this method are able to support the analysis of the existing databases.
3.1 Case selection
All three firms involved in the research received at least two MS certifications. This is to assure the multiple MSs and, hence, the possibility of their integration. To ensure the cross-organisational comparability of the findings, the selected firms have been certified according to the latest standards. This is important because there are significant differences between the different versions of the standards.

The selected cases were examined from the comparative cross-organisational perspective. Thus, comparative case studies could be engaged to examine the processes and determinants of IIAM effectiveness in organisations across different industries (Yiu and Pun, 2012). The organisational perspective may influence the employees to set personal and professional objectives, task completions and resource management within an organisation to attain the set goals (Lok and Crawford, 2004). In this regard, a comparative analysis was done to study the relationships amongst the cases and the aspects (variables) identified (Keman, 1993). The qualitative comparative analysis was first introduced by Charles Ragin in 1987 to overcome the basic problem in cross-case analyses (Ragin, 1987). The comparison was made between the exploratory and observation unit of analysis (Ragin, 2014). The scope of the case studies is limited to a small number of cases (Ragin, 2014). In this light, the IIAM practices in each firm were investigated and then compared. Thus, the unit of analysis for this study is the firms that have implemented IIAM.

3.2 Data collection and the analysis of the findings
The data were collected using a semi-structured questionnaire which is widely used in qualitative studies (Yin, 2009). Information was extracted through closed- and open-question responses during the interviews. These questions encouraged the interviewees to expand on the topic being discussed. The interview questions were adapted from Asif et al. (2010) (see Appendix). The informants included employees assigned to manage the MSs, i.e. the senior manager, head of auditors and internal auditors who are in charge of the matters of the MSs.

The interview questions focussed on the implementation of IIAM and were divided into two sections. Section A was comprised of questions on general company information, the number of resources invested, motivation to carry out the IMS, the audit process and the anticipated benefits that led to the decision to implement the IIAM, the benefits gained and the difficulties encountered by the organisations. Section B of the questionnaire required the participants to rank the factors listed based on motivation, stakeholder influence, and the difficulties and benefits of the IIAM implementation.

Interviews were conducted as part of the preliminary study to verify the tentative model developed based on the literature review. The semi-structured questions found to be more effective way to encourage respondents to talk openly about their thoughts and experience (Muzaimi et al., 2017). Three interviews were conducted with managers of the selected manufacturing firms. The interviews were conducted either in the researcher’s house or the interviewees’ offices based on their convenience.

Only three firms were selected for this study. The sample size was kept small because there was no database or directory that listed manufacturing firms that had implemented IMSs. This made it hard to find firms with at least having two management systems in place (e.g. QMS and EMS/QMS and OHSAS/EMS and OHSAS). Consequently, manufacturing firms implementing the IMS were selected from the Federation of Malaysian Manufacturing (FMM) 2017 Directory (Federation of Malaysian Manufacturers, 2017). The study also involved firms that were not FMM members, the firms were identified using the SIRIM QAS International Directory of Certified Products and Firms 2015 (SIRIM, 2015). Prior to conducting the interviews, the senior manager, head of auditors and internal auditors of the firms were contacted via phones to obtain their consents. The interviews were conducted from late April to May 2018.
The cases were chosen from a convenience sample of three firms that had received MS certification. The firms were chosen based on the relationship established between the firms and the researcher from an earlier cooperation. This good relationship made it easier for the researcher to conduct the interviews with the firms' management or the management representatives.

Table I details the interviews, including type of the firms, interviewees' names and their positions. Two out of three interviews were conducted using a video call or a phone call, whilst the third interview was conducted face-to-face.

Table II highlights the characteristics of each case study. The names of firms are not disclosed to protect the privacy of the companies. Each firm was coded with letters of A, B or C, respectively. Each interview lasted between 95 and 120 min. In addition to the interviews, the researcher also kept some field notes. The interviews were transcribed and the field notes were cross-checked afterwards. The documents, records and archives of the IMSs were thoroughly assessed to verify the data. The document assessment involves scanning (superficial examination), reading (thorough examination) and interpretation. This approach combines elements of content analysis and thematic analysis. Content analysis is the method of organising data into categories that correspond to the central questions of the research (Bowen, 2009) while thematic analysis helps recognise the pattern within the data and the emerging themes become the categories for analysis (Fereday and Muir-Cochrane, 2006).

Furthermore, records of internal audits, minutes of ISO management reviews, quality plans, plants' sales records, etc. were used to establish the integration levels of the audits conducted as well as the benefits and challenges of the IMS implementation. Data triangulation involves multiple sources, i.e. interviews, documents, observations, site visits and websites, were used to substantiate the level of the top management commitment, the human and other resources allocated for the IMS initiatives and planning for future adoption of other TQM tools and merging them into existing IMS.

The qualitative approach was adopted for the data analysis to examine different concepts, such as experience in managing various ISO standards and the integration “in terms of their meaning and interpretation in specific contexts of inquiry” (Denzin and Lincoln, 2005). Finally, the collected data were categorised into the specific themes and compiled in the form of written case reports. The reports were sent to each participant for validation. The validated cases are presented in the results section. The “convergent lines of inquiry” was carried out to ensure construct validity (Yin, 2009). The tests of validity and reliability conducted in this study are summarised in Table III.

<table>
<thead>
<tr>
<th>No.</th>
<th>Position</th>
<th>Location</th>
<th>Date of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>General manager</td>
<td>Shah Alam, Selangor</td>
<td>18 April 2018</td>
</tr>
<tr>
<td>B</td>
<td>Manager (quality)</td>
<td>Puchong, Selangor</td>
<td>23 May 2018</td>
</tr>
<tr>
<td>C</td>
<td>Head of auditor</td>
<td>Shah Alam, Selangor</td>
<td>25 May 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Firm</th>
<th>Main product</th>
<th>Sales turnover (2017)</th>
<th>Firm origin</th>
<th>Others TQM tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Manufacturer for fabrication of copper tubes and precision machine parts and tools</td>
<td>RM270,222,765</td>
<td>Japan</td>
<td>Kaizen, 5S, and Lean</td>
</tr>
<tr>
<td>B</td>
<td>Manufacturer of OEM and ODM automotive parts and components</td>
<td>RM34,690,765</td>
<td>Malaysia</td>
<td>Lean, 5S, Kanban, Kaizen, ICC and Safety</td>
</tr>
<tr>
<td>C</td>
<td>Manufacturer of power cables</td>
<td>RM203,000,000</td>
<td>Malaysia</td>
<td>5S, TPM and Pull System</td>
</tr>
</tbody>
</table>
4. Findings and discussion

The results of the cross-case analyses are presented below. Table IV presents the comparisons of the cases and themes developed to help identify the patterns (Creswell, 2013; Yin, 2009). In this research, the results of the case studies are classified into similar and different patterns (Bernardo et al., 2017). The table illustrates the data and findings about IIAM adopted in each firm, which allows the researcher to make comparisons between these firms.

<table>
<thead>
<tr>
<th>Validity/reliability</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal validity</td>
<td>Specification of a clear research framework</td>
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<td></td>
<td>Inferences and pattern matching in relation to prior research</td>
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<td></td>
<td>Triangulation of analysed data and discussion amongst the researchers</td>
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<tr>
<td>External validity</td>
<td>Cross-case analysis extending previously conducted within case analysis</td>
</tr>
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<td></td>
<td>Explanation of rational for the case selection</td>
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<tr>
<td></td>
<td>Detailed case background information</td>
</tr>
<tr>
<td>Reliability</td>
<td>Established interview protocol</td>
</tr>
<tr>
<td></td>
<td>Comparable questionnaire items</td>
</tr>
</tbody>
</table>

Source: Adapted from Schneider et al. (2014)

<table>
<thead>
<tr>
<th>Version</th>
<th>Aspect</th>
<th>Firm A</th>
<th>Firm B</th>
<th>Firm C</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 14001:2015</td>
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<td>OHSAS 18001</td>
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<td></td>
<td>2. Supplier</td>
<td>2. Regulators</td>
<td>2. Regulators</td>
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<td></td>
<td></td>
<td>5. Top management</td>
<td>5. Top management</td>
<td>5. Workers</td>
</tr>
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<td></td>
<td>Top 5 benefits</td>
<td>1. KPI</td>
<td>1. Eliminate waste</td>
<td>1. KPI</td>
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<tr>
<td></td>
<td></td>
<td>2. Improve image</td>
<td>2. KPI</td>
<td>2. Improve image</td>
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<tr>
<td></td>
<td></td>
<td>3. Reduction of audits</td>
<td>3. Improve risk management</td>
<td>3. Improve risk management</td>
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<td></td>
<td></td>
<td>4. Improve relationships with</td>
<td>4. Firm visibility</td>
<td>4. Firm visibility and</td>
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<td></td>
<td></td>
<td>stakeholders</td>
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<td></td>
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<td>5. Eliminate waste</td>
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<td></td>
<td>Top 5 difficulties</td>
<td>1. Inadequate HR</td>
<td>1. Resistance to change</td>
<td>1. Resistance to change</td>
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<tr>
<td></td>
<td></td>
<td>2. Lack of internal competencies</td>
<td>2. Lack of IMS standard</td>
<td>2. Organisational structure</td>
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<td></td>
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<td>3. Organisational structure</td>
<td>3. Organisational structure</td>
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<tr>
<td></td>
<td></td>
<td>5. Resistance to change</td>
<td>5. Lack of internal competencies</td>
<td>4. Inadequate HR</td>
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<tr>
<td></td>
<td>Different Process</td>
<td>Integrated process systematically</td>
<td>Eliminate some process for</td>
<td>Manage MS process</td>
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<tr>
<td></td>
<td></td>
<td>(fully)</td>
<td>standardisation (partial)</td>
<td>individually (not integrated)</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
<td>People, methods and budget</td>
<td>People and technology</td>
<td>People and technology</td>
</tr>
</tbody>
</table>

Table IV. Comparative case analysis
4.1 Similar patterns
The discussion shows the same patterns across the firms.

4.1.1 Motivation. The firms have listed their top five motivations that have driven the firms to implement IIAM. As shown in Table IV, all three firms implemented IIAM due to the requirements of internal and external stakeholders. Two (firm A and B) out of three firms have listed customers, international requirements, competitors and top management as their motivations for IMS adoption. One exception is firm C where IIAM adoption is basically based on internal factors, such as the top management and employee demand. Various studies have revealed that firms seek certification to gain higher profits (Kim et al., 2011; Llopis and Tari, 2003; Singels and Water, 2001; Terziovski et al., 2003; Yahya and Goh, 2001). Various management systems have been implemented to fulfill the requirements and preferences of different stakeholders (Ahsen, 2014). However, based on the stakeholder theory, firms integrate their management systems efforts with the demands of the stakeholders. This allows them to contribute to the economy, environmental protection and social development. These efforts are effective when there is an integrated system to facilitate the MSs across different parties (Donaldson and Preston, 1995).

In regards to the motivation of firm A, the general manager described that:

The role of the IMS is to facilitate continuous improvement of our quality and environmental management systems, including safety and communication and to motivate employees to achieve customer satisfaction through meeting their requirements & product specifications, as well as to achieve our yearly budget targets and also corporate social responsibility (e.g., preserving the natural environment).

Firm B motivated its employees by acknowledging that IIAM is “the tools to save cost and resources needed, and to improve the efficiency of management systems”. Meanwhile, firm C considered IIAM as a tool “to fulfil customer requirements”.

4.1.2 Benefits. All the representatives of the firms agreed that the implementation of IIAM has helped to fulfill the firms’ key performance indicators (KPIs), enhanced the firms’ image and visibility, improved risk management, as well as eliminating wastage. The manager of firm B highlighted the practiced process elimination as the firm implements the IIAM:

We had to combine and eliminate some processes and procedures to meet the IMS requirements. After some time, we noticed there were some reductions, especially in resources used, waste, time, and cost of operation as a whole. At the same time, it has improved firm image, opened more opportunity for new business and improved environment protection.

Firm C is aware that achieving the KPI was one of the ultimate goals in pursuing the IIAM. The head of auditor of firm C shared that:

If people get the buy in of the IMS, the implementation will help to achieve firm performance (KPI) as a whole, this includes the reduction of costs, time savings, and behavioural changes. Later, it will improve the firm’s image in the long run.

The general manager of firm A highlighted the importance of IIAM in ensuring that firms are able to manage their daily operations efficiently and effectively:

With the integration, the firm operates more efficiently and effectively. This generates profit improvement as we gain a better corporate image. These activities will lead to improvement of quality, productivity, delivery, yield ratio, and inventory control. Its implementation will also lower the cost of operations and save time.

4.1.3 Difficulties. In addition to the benefits of implementing IIAM, the firms also have to take into account the difficulties they faced in its implementation. They highlighted several
difficulties, including the resistance to change, lack of human resources, inadequate internal competencies, unclear organisational structure and lack of product diversification. The head of auditors of firm C summarised:

Employees play important roles as change agents in any improvement activities carried out by an organisation. Thus, educating them well before implementing the IMS will speed up the process of integration. If the employees are ready to change, the IMS could contribute to better productivity, processes and performance.

Firm A also discussed the obstacles of its implementation. The general manager stated that:

However, during the process of integration, there were some obstacles encountered. Amongst them were the lack of competencies in implementing the IIAM and too many layers of structure in the firm. These issues hindered the firm-wide implementation of the IIAM.

This statement is also supported by a study that highlighted the difficulty faced by auditors who are not qualified to perform integrated audits (Bernardo et al., 2017).

4.2 Different patterns
The differences between the three firms are related to the process of audit integration and the resources used in IMS adoption.

4.2.1 Audit process. Integrated audits allow firms to achieve an efficient audit process while obtaining the benefits gained from the audits, such as process improvements (Hoy and Foley, 2015). While the process of audit integration varies across firms, typically, the audit process involves planning, conducting, report writing and following up any corrective or improvement actions (Gryna et al., 2007). For firm A, the firm has implemented a systematic IIAM and has received a strong support from its management. The general manager stressed that:

The essential feature of IMS is that the top management must be committed to implement quality initiatives, facilitate continuous improvement, and at the same time, innovate the management system from time to time to sustain/improve their competitive advantage. Motivation, commitment, and participation from all employees are some of the important factors. The process of implementing the IMS was smooth as we are an ISO certified firm and the process of standardisation can be integrated systematically, especially internal audit. Consequently, this process will improve the quality of our products, enhance customer satisfaction, and increase profit.

This statement is supported by Bernardo et al. (2017) who found that integrating the audit process varied across firms and countries. Firm B has implemented partial IMS and while the audit process is still not fully integrated with all other systems, it is moving towards that direction. According to the quality manager of firm B:

To survive in this industry, we have to fulfil customer expectations and at least be on par with our competitor. In this firm, we are very flexible to ensure the IMS implementation success. For example, we have set up many internal audits (even though only partially integrated) and management reviews, as well as setting up the KPI that needs to be achieved each year. We work based on the target that we set. It is very helpful because it will reduce redundancies and improve the efficiency and effectiveness of the operations.

The head of auditors of firm C shared the firm’s audit practices and the MS implemented in the firm. The firm’s management has the intention to integrate the MS in the future as they believe that integration cannot be achieved overnight. It was highlighted that:

The firm has various types of management systems such as ISO9001, ISO14001 and ISO18001, however we are not practicing the IMS (including when performing audits) due to some difficulties.
We acknowledge that the benefits of the audit process have improved the internal process when implementing individual management systems. The firm believes that the IMS provides more benefits and we are looking for integration in the future.

This statement is supported by Fernández-Muñiz et al. (2012) who mentioned that the audit process helps firms comply with their legal obligations, improve their organisational system and documentation system, while MS certification improves their corporate images since the certification can bring positive publicity for firms.

4.2.2 Resources. The representatives of the three case study firms agreed that people (employees) are one of the most important resources in the implementation of IIAM. According to Rebelo et al. (2014), human resources are the most valuable resources of any company or country, but not always the most valued. Thus, the greatest assets of any organisation, any region or any country, are the people with their technical know-how (Santos and Escanciano, 2002). In the dynamic capabilities theory, firms can integrate, build and reconfigure their competencies and resources (Teece et al., 1997) which are perceived as strategic options. Firms will be able to execute strategic changes to adapt to new environment (Zahra et al., 2006). Thus, in this study, integrated resources, such as audit teams, procedures and processes, were able to improve firm performance.

This can be viewed based on the statement made by firm A:

In regard to the resources deployed in implementing the IMS and IIAM, firm A has allocated some budget to sustain and improve the QMS, EMS, safety, 5S, Lean, etc. At the same time, the firm has also been conducting training of the firm’s staff to create awareness and ensure that the methods applied are appropriate and right the first time. This may improve firm performance.

Firms B and C embrace technology as one of the resources that can expedite their daily operations. Firm B agreed that resources are a very important component in IIAM. The manager highlighted:

Implementing integration activities has increased efficiency and each procedure has been simplified accordingly. IMS also encourages employees to come out with ideas to solve the problems. The firm could easily utilise the resources (human, technology, and others) to maximise the profit.

According to the head of auditor, firm C wants to fulfil:

The mission of the firm is to provide customers worldwide with superior cable solutions based on state-of-the-art technology and consistent excellence in execution, ultimately delivering sustainable growth and profit through the implementation of integrated audits.

The comparative analysis between the three cases of IIAM implementation by individual firms shows that there are more similarities than differences (Table IV). Here, the same aspects could be easily identified based on the similar patterns, except for the internal audit process and resources used. These findings are in line with a previous study that reported that dissimilarities were mostly observed in integrated internal audits as compared to external audits (Simon and Douglas, 2013).

5. Conclusion
The study shows that, in general, the implementation of internal audit integration across the firms was similar. In this light, all firms have at least two MS certifications for audit integration. All three firms also show a similar motivation to implement IIAM, gained the similar benefits and faced the same difficulties in the implementation of IIAM. All of these aspects reflect the common IIAM implementation patterns across the three firms.

Some small differences in the patterns of implementation have been identified. These differences include different IIAM processes and the resources used. In this light, Firm A has
implemented a full integration system, firm B has implemented a partial integration system and firm C has implemented a stand-alone system with the intention to implement an integrated system in the future. In regards to the resources used, all of the firms agreed that human resource was an important factor to ensure the success of IIAM. At the same time, other resources, like integrated methods, financial resources and technology capabilities are needed to support its implementation. Therefore, it has been revealed that there are similarities and differences that need to be investigated further as the implementation patterns identified may be used by other firms to start their integrated internal audit in the future.

The findings of this exploratory and qualitative study can be beneficial to academics, industry players and certification bodies. In the academic field, this study has contributed to a better understanding of IIAM and further examined its relationship with a firm performance by considering other relevant variables. Furthermore, as internal auditors need to integrate their audit processes, the present study has examined whether internal factors derived from the dynamic capability theory, such as capabilities, play important roles in IIAM. Meanwhile, theories such as the stakeholder theory could be used to discuss the influence of external factors, including stakeholders’ pressure, in the implementation of IIAM as it is essential to identify the internal factors of IIAM that could be manipulated to achieve a fully integrated system. This study might also benefit practitioners/auditors/managers and help them to develop an appropriate framework to enhance IIAM in the manufacturing industry. Lastly, it can help certification bodies to train auditors (internal and external) to become more competitive, capable and skilful.

A limitation of this study is its small sample size. As the study only focuses on three cases, the findings cannot be generalised to the whole population of MS certified firms in Malaysia. Thus, future studies could include more firms to overcome this limitation. In addition, it will be good to focus on how IIAM could influence firm performance and other aspects like business sustainability.

References


Further reading


Appendix

SET A
Survey questions:

(1) General company information plant employment? Plant sales for the last three years? Products made at plant? Single/multiple plants? Company origin? When IMS been practiced?

(2) Motivation for integration of MSs What type of MSs that organisation employs? What is the role of IMS in the overall management system of organisation? What is your motivation for integration of MSs?

(3) What are the resources invested in implementing IMS?

(4) Did any stakeholder demand this MS? What do you think is the most important factor in the decision to carry out integration of MSs?

(5) What are the imperatives/essential features of this IMS? Process and outcomes of integration of MSs? How the integration of MSs proceeds and affects the operations?

(6) What changes take place sequentially during integration? What types of operational improvements have resulted (if any)? How the integration results in these business sustainability and competitive advantage? What types of savings resulted after integration of MSs?

(7) Could you please give a few examples? What is the impact of IMS on social and environment? How the integration affected the relationship with stakeholders? With suppliers, customers, regulators and others? What type of supplier practices prevail in organisation? What is the impact of integration on the customers and customer-related aspects?

(8) How integration affects the productivity, efficiency, cycle time, setup time and other performance metrics used in your organisation?

(9) What is the role of employees in an IMS?

(10) How do you manage the product flow? What options are commonly used for this purpose?

(11) What type of improvement strategies are used in organisation? What about quality circles, 5S, SPC and TPM?
Please rank your answers based on the number of questions. (e.g: 1 (most important) and 13 (less important))

### Question 1 — Importance of the twelve identified factors as motivation for the implementation of the IMS

<table>
<thead>
<tr>
<th>The twelve factors identified on the questionnaire</th>
<th>Rank Your answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1- Improve the company’s image, near its customers and other stakeholders</td>
<td></td>
</tr>
<tr>
<td>1.2 - Rationalize and optimize the management of the several resources</td>
<td></td>
</tr>
<tr>
<td>1.3 - Facilitate the management of the three components of sustainable</td>
<td></td>
</tr>
<tr>
<td>1.4 - Development of the company versus the business</td>
<td></td>
</tr>
<tr>
<td>1.5 - Increasing requirements of customers and other stakeholders</td>
<td></td>
</tr>
<tr>
<td>1.6 - Competitive advantage</td>
<td></td>
</tr>
<tr>
<td>1.7 - Strategic vision of the business</td>
<td></td>
</tr>
<tr>
<td>1.8 - Natural evolution of the MSs in the company</td>
<td></td>
</tr>
<tr>
<td>1.9 - The continuous improvement of the QMS, EMS, and others MSs goes through the integration</td>
<td></td>
</tr>
<tr>
<td>1.10 - Having the MSs implemented separately results in additional costs, creating unnecessary bureaucracy, and an organizational structure less efficient and less lean</td>
<td></td>
</tr>
<tr>
<td>1.11 - Growing appreciation of the IMSs by the major customers</td>
<td></td>
</tr>
<tr>
<td>1.12 - As consequence of the globalization and the growing business requirements</td>
<td></td>
</tr>
<tr>
<td>1.13 - Another — what? (write your suggestion)</td>
<td></td>
</tr>
</tbody>
</table>

### Question 2 — Influence of stakeholders on the performance and evolution of the IMS

<table>
<thead>
<tr>
<th>The nine stakeholders identified on the questionnaire</th>
<th>Rank Your answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1- Guidelines, policies, and objectives of the international group in which the company is inserted</td>
<td></td>
</tr>
<tr>
<td>2.2 - Customers</td>
<td></td>
</tr>
<tr>
<td>2.3 - Competitors</td>
<td></td>
</tr>
<tr>
<td>2.4 - Insurers</td>
<td></td>
</tr>
<tr>
<td>2.5 - Suppliers</td>
<td></td>
</tr>
<tr>
<td>2.6 - Official entities related to the issues of Quality, Environment, Occupational Health, and Safety</td>
<td></td>
</tr>
<tr>
<td>2.7 - Workers and/or their representatives</td>
<td></td>
</tr>
<tr>
<td>2.8 - Financial institutions</td>
<td></td>
</tr>
<tr>
<td>2.9 - Group of directors and managers of the company</td>
<td></td>
</tr>
<tr>
<td>2.10 - Another — what? (write your suggestion)</td>
<td></td>
</tr>
</tbody>
</table>

### Question 3 — Main difficulties in the context of the development and implementation of a model for IMS-QES

<table>
<thead>
<tr>
<th>The seven</th>
<th>Rank Your answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1- Deficit of human and material resources due to the strongly</td>
<td></td>
</tr>
<tr>
<td>Difficulties identified on the questionnaire</td>
<td>Competitive environment and costs reduction</td>
</tr>
<tr>
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</tbody>
</table>

**Question 4** — Potential benefits resulting from the implementation of the IMS

| The eleven benefits identified on the questionnaire | 4.1 - Better and greater visibility of operation of the company in the concerned MSs | 4.2 - Elimination of conflicts between individual MSs, and consequent resources optimization, namely human resources | 4.3 - Elimination of several organizational and operational waste, resulting from an individual implementation of each MS | 4.4 - Common management policy, objectives, goals and key process indicators (KPIs) related to the performance of MSs | 4.5 - Improvement of the internal and external image and credibility of the company with focus in the areas of QMS, EMS and OHSAS | 4.6 - Involvement and consolidation, by all collaborators, of a culture of continuous improvement, attitudes and values in the scope of the concerned MSs | 4.7 - Reduction of the number of internal and/or external audits | 4.8 - Improvement at the level of the risk management through an integrated and systematized approach | 4.9 - Greater employee valorization and motivation as a result of greater scope of its competencies, tasks and responsibilities with consequent “empowerment” | 4.10 - Integrated management of the several components of sustainability | 4.11 - Improvement of the partnership relationships with suppliers and of dialogue and compromise with others relevant stakeholders, contributing to the competitiveness of the company | 4.12 - Another – what? (Write your suggestion) |

Others suggestions: (write your suggestions)

**Question 5** — Do you agree that 5S can be one of quality initiatives in achieving IMS? Or other quality initiatives implemented, please specify:

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