

An integrated Safety, Health, Environment and Quality Management System for a Multi-Business Packaging Organisation in South Africa

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ABSTRACT

Organisations operate in challenging and competitive environments that are primarily driven by the markets that the organisations serve, and these organisations rely on management systems to provide strategic direction that aligns with the goals of the organisations. However, organisations typically and progressively implement independently managed safety, health, environment, and quality management systems that are not synergised. These standalone management systems work in isolation but can achieve improved outcomes if integrated into one coherent integrated management system (IMS) that is aligned to the strategic goals of the organisation.

The theoretical framework of this study was based on the systems theory that views an organisation as an open system, that consists of these sub systems that are sequenced and interact to form a holistic system that contributes to an output. This study reviewed the challenges and benefits experienced by organisations globally in implementing an IMS. Mixed, quantitative, and qualitative research methods were used to gain an in-depth understanding of the current independent management systems and the challenges that the researched organisation faces in implementing an IMS. Based on the literature review and the qualitative and quantitative research, recommendations and proposed strategies were articulated, that the organisation may adopt to implement an integrated management system.

Key words: Integrated management system, safety, health, environment, quality, ISO 9001:2015; ISO 14001:2015; ISO 45001:2018.

INTRODUCTION

Safety, health, environment, and quality (SHEQ) management systems have become important to ensure a high level of product quality, a high level of commitment to environment sustainability and the protection of employees' health and safety (de Oliveira, 2013, p.124). However, for organisations to deploy independent business management systems for SHEQ using the same business processes is counterproductive (Mariouryad *et al.*, 2015, p. 18) and quite often, at the same time, these organisations may duplicate costs and fail to harness opportunities for synergy that could accrue from a more integrated management systems approach (Basaran, 2018, p. 2). Whilst organisations benefit from the traditional independent SHEQ business management systems, greater resource utilisation, organisation performance benefits and cooperation can be achieved by integrating these independent systems into one coherent system (Talapatra *et al.*, 2019, p. 1037).

This research is based on a case study of a metal packaging organisation that currently has independently managed SHEQ management systems. The objective of this study was to evaluate the real situation, motivations, advantages, disadvantages, and limitations of stand-alone SHEQ management systems (MS) and to develop a coherent and integrated SHEQ MS.

PROBLEM STATEMENT

Customers are not only concerned about product quality but are also increasingly concerned about the product life, together with environmental sustainability, human rights, and the development of society (Ahidar, Sarsri and Sefiani, 2018, p.183). Thus, in a highly competitive business environment, where the triple bottom line concept is a growing customer requirement, organisations must manage independent SHEQ systems with limited resources. Independent management systems require resources in the form of independent system maintenance costs, documentation costs, human resource allocation, independent management systems auditing and certification fees. Thus, to avoid the duplication of costs, the gravitation towards an IMS seems to be a natural solution. However, although the benefits in implementing an IMS seems to be obvious, consideration must be given to the challenges that organisations face when implementing an IMS. Hence, the aim of this study was to ascertain the challenges in implementing an IMS, at a metal packaging organisation, with the view to formulate strategies to overcome these challenges.

LITERATURE REVIEW

To sustain the long-term interest of an organisation and to remain profitable in global competitive markets, management systems have become a prerequisite and a key contributor to business success (Mariouryad *et al.*, 2015, p.18). Although ISO management systems standards are voluntary, it is considered a strategic tool for organisations that want to be successful; managing ISO standards as holistic integrated business management system could be beneficial to the organisation (Basaran, 2018, p. 1). The combination of multiple business management systems into one coherent business management system to achieve the strategic goals of an organisation is referred to an IMS (Muzaimi, Chew and Hamid, 2017, p.1). The implementation of an IMS is a strategic decision that is driven by the motivation to minimise SHEQ risks, improve health and safety, improve environmental performance, achieve cost efficiency, simplify SHEQ administrative processes, to provide the basis for continual improvement or to implement organisational structural changes (Field, 2019, p.12).

There has been an acceleration in the pace of global change and only organisations that can respond to match or beat this pace of change can succeed (British Standards Institute, 2018). The fourth industrial revolution is epitomised by a disruptive effect on production systems, support service and value chains, and organisations must therefore implement strategies to manage change and develop autonomous and dynamic operations to enable the mass production of highly customized products (Asif, 2020, p.1).

A theoretical framework for a research study acts as a sieve or lens, providing guidance on data to focus on, filtering what critical data requires focus, clearly expressing the meaning or existing theory and revealing the strength and weaknesses of the research study (Given, 2012, p.872). The theoretical framework adopted for this study was based on systems theory using the process approach.

According to Cornell and Jude (2015, p.1), a system is a network of interrelated processes interacting as a link, in synergy to achieve a common goal. Figure 1 illustrates the theoretical framework for the research study.

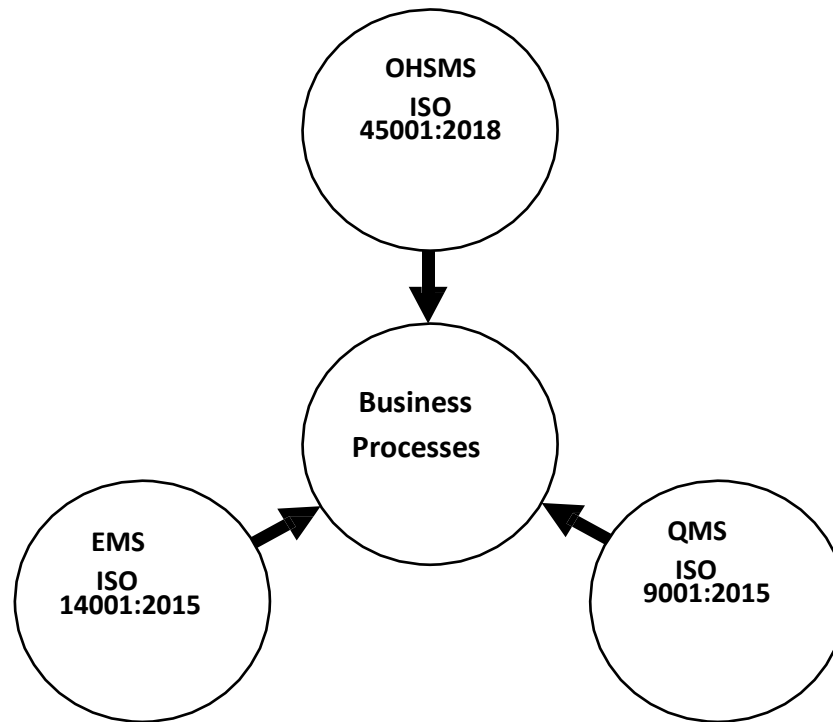


Figure 1: Theoretical Framework

Source: Author's own construct

While there are currently three independent management systems for SHEQ, most noteworthy is that each of these systems support the same business processes. According to Steedman (2015, p.3), there is no need to create silos within an organisation with each management standard working independently, competing for resources and commitment. According to Kopia, Kompalla and Ceaşu (2016, p.52), there are similarities among ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 management systems and the high-level structure (HLS), annex statutory limits (ASL), which can be used as a tool to aid with the integration, given the same ten generic clauses for all three ISO standards. Thus, the justification for integration becomes more obvious when considering the HLS, ASL.

Several studies reiterate the benefits of implementing an integrated management system, as summarised according to four broad benefit categories shown in Table 1.

Table 1: Summary of the benefits of an integrated management system

Benefits	Explanation of benefits	Authors
Enhances organisational effectiveness	Provides a holistic perspective to manage business risk and to strategically align SHEQ to harness the synergy among the requirements of the SHEQ management systems, thus averting clashes between individually managed systems.	Pardo, Francisco, Pino and Garcia (2016, p.217); Ahidar, Sarsri and Sefiani (2018, p.183);
Improves competitiveness	Assures confidence in stakeholders, attracts new customers, enhances customer loyalty, and improves brand image.	Chountalas and Tepaskoualos (2018, p.14);
Reduces costs	Optimises human resource allocation and the assignment of responsibilities, decreases system management costs and certification costs, and minimises the duplication of paperwork and meeting time.	Kopia, Kompalla and Ceauşu (2016, p.52); Nunhes, Motta and de Oliveira (2016, p.1234);
Facilitates continuous improvement	Facilitates a unified management review that allows for more rational decision making by streamlining and the better coordination of processes.	Muzaimi, Chew and Hamid (2017, p.2)

Source: Author's own construct

While the benefits of IMS are noteworthy, organisations that plan to embark on an IMS journey are tempered by implementation challenges, which have been summarised from many previous studies, as depicted in Table 2.

Table 2: The challenges of implementing and IMS

Challenges	Explanation of challenges	Author/s
Complexity of integration	The lack of IMS implementation model and know how approach to integrating the management system requirements into the business processes for diverse product and services, compounded by the lack of internal competencies technical guidance in the form of specialised external consultants, inadequate support by certification agencies and the governance structure of a new integrated system, and the fear of losing focus of a specific system.	Rebelo, Silva, Santos and Mendes (2016, p.907); Rebelo, Santos and Silva (2015, p.46); DNVGL (2016, p.9); Abad, Cabrera, and Medina (2016, p.861); Chountalas and Tepaskoualos (2018, p.15)
Employee commitment	Employee's resistance to change and hostility. lack of employee motivation, low organisational commitment, insufficient training, and counterproductive attitudes and unwillingness to share knowledge.	Abad, Cabrera and Medina (2016, p.861); Dahlin and Isaksson (2017, p.531)
Management commitment	Lack of management commitment, lack of resources availability, cross functional engagement and silo mentality and limited employee engagement.	Chountalas and Tepaskoualos (2018, p.15); Kopia, Kompalla and Ceaușu (2016, p.52); Hassan, Zailani and Hasan (2019, p.2013)

Source: Author's own construct

Although not a detailed implementation model, Majerník *et al.* (2017, p. 136) alluded to the following basic steps to be followed when implementing an IMS:

1. Analysis of the current state of management system/s.
2. Designing a draft IMS.
3. Developing IMS documentation.
4. Implementation of the IMS.
5. Monitoring and assessment of the IMS.
6. Preparing for certification and certification.
7. Maintaining and improving the IMS.

Kopia, Kompalla and Ceaşu (2016, p.52) added that different methods can be adopted for the implementation of an IMS, either at stages starting with two MS and progressively adding, or all MS at once.

METHODOLOGY

This study entailed a case study research design and adopted a mixed method approach that included both quantitative and qualitative methodology. The systems theory formed the theoretical framework of this research study and provided the background on what knowledge exists that relates to the research topic. The research questions that this study sought to answer were:

1. What is the extent of duplication of documentation and meetings across the three independently managed SHEQ systems?
2. Can the check sheets used for the independent SHEQ management systems be combined?
3. Will an IMS be easier to manage, result in better utilisation of resources, and result in cost saving benefits?
4. Will the quality auditors resist the additional workload that will result from an IMS?

Data and information provided by the participants of this research were used for the sole purpose of this research and the identification of participants was not disclosed in the research. Approval from the organisation's human resource department and a gate keepers' letter from one of the senior managers were obtained prior to commencement of this research study. Approval by the DUT Institutional Research Ethics Committee was obtained prior to commencement of this study.

Quantitative research study

According to Dudovskiy (2015, p.37), a quantitative research method involves the collection and the mathematical analysis of data using questionnaires with closed-ended questions. The quantitative questionnaire was designed by the researcher using closed-ended questions with a five-point Likert scale, in context of the research objectives and research questions.

The population for the study was 500 operational, middle and senior management employees of the organisation and the sample comprised of 221 employees, which is

deemed to be appropriate according to Sekaran and Bougie's (2016, p.294) population sample table of calculations. This research study used a non-probability sampling method. According to Mills, Durepos and Wiebe (2012, p.2), non-probability sampling adopts a theoretical strategy based on emerging concepts and selective sampling strategy based on selecting participants of a preconceived set of criteria. A non-probability sampling method requires the researcher to decide as to which participants to include in the research, based on the participants knowledge, capacity, and the willingness of the participants to participate in the research (Oliver, 2011, p.2).

The survey questionnaire was distributed via email to all research participants and the completed email questionnaire was emailed back to the researcher for data analysis. Confidentiality was assured during the administration of the quantitative questionnaires. The data from the questionnaires were captured onto an Excel spreadsheet and then exported to SPSS. The quantitative data were then analysed using the SPSS (version 26) statistical package using descriptive and inferential statistics.

DISCUSSION OF RESULTS AND FINDINGS

Table 3 illustrates, overall, that the ratio of males to females is approximately 4:1 (78.7%: 21.3%) ($p < 0.001$). This is representative of the total males to females population ratio where there are 395 males and 105 females of the total population of 500, which equates to 79% males and 21 % females.

Table 3: Overall gender distribution of respondents by age.

		Gender		Total
Age (years)		Male	Female	
< 30	Count	6	1	7
	% Within Age	85.7%	14.3%	100.0%
	% Within Gender	3.4%	2.1%	3.2%
	% Of Total	2.7%	0.5%	3.2%
30 - 39	Count	73	31	104
	% Within Age	70.2%	29.8%	100.0%
	% Within Gender	42.0%	66.0%	47.1%
	% Of Total	33.0%	14.0%	47.1%
40 - 49	Count	77	13	90
	% Within Age	85.6%	14.4%	100.0%
	% Within Gender	44.3%	27.7%	40.7%
	% Of Total	34.8%	5.9%	40.7%
50 - 59	Count	14	2	16
	% Within Age	87.5%	12.5%	100.0%
	% Within Gender	8.0%	4.3%	7.2%
	% Of Total	6.3%	0.9%	7.2%
60 - 69	Count	4	0	4
	% Within Age	100.0%	0.0%	100.0%
	% Within Gender	2.3%	0.0%	1.8%
	% Of Total	1.8%	0.0%	1.8%
Total	Count	174	47	221
	% Within Age	78.7%	21.3%	100.0%
	% Within Gender	100.0%	100.0%	100.0%
	% Of Total	78.7%	21.3%	100.0%

Source: Author's own construct

Figure 2 illustrates the composition of the respondent's positions. Most of the staff were Operational (81.0%). A little less than 13% were Middle Management, with 6.3% being Senior Management ($p < 0.001$). The staff position sample represents the positions of the research population.

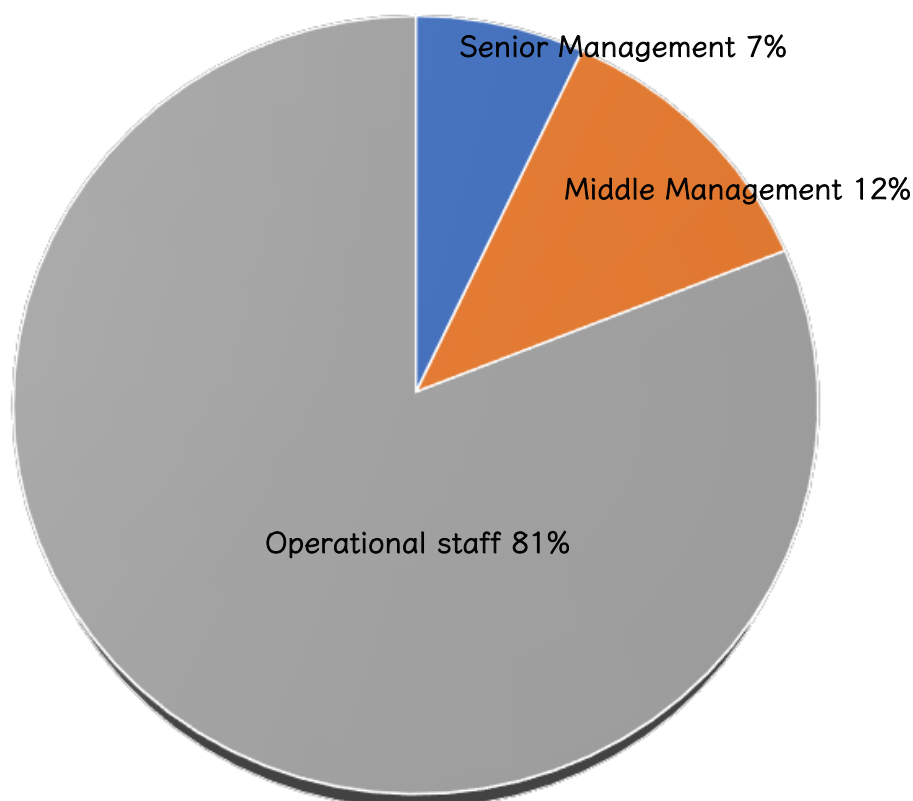


Figure 3: Composition of the respondent's positions

Source: Authors own construct

The biographical data were representative of the research population's race, gender, age, job categories, departments, and province.

The reliability for this research study was computed by taking several measurements on the same subjects using Cronbach's alpha as a test reliability technique. Cronbach's alpha reliability coefficient normally ranges between 0 and 1 and the closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items in the scale; a reliability coefficient of 0.60 or higher is considered "acceptable" for a newly developed construct (Gliem and Gliem, 2003, p.87). Table 4 reflects the Cronbach's alpha score for all the items that constituted the questionnaire.

Table 4 Cronbach's alpha score

Section	Number of items	Cronbach's Alpha
Integrated Safety, Health, Environment and Quality Management System	7	0.762

Source: Author's own construct

The reliability score exceeded the recommended Cronbach's alpha value which indicates a degree of acceptable, consistent scoring. Table 5 summarises the scoring pattern for an integrated SHEQ management system.

Table 5 Scoring patterns for an integrated SHEQ management system

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
	Count	%	Count	%	Count	%	Count	%	Count	%	
1. I feel that there is too much duplication of documentation across the Safety, Health, Environment and Quality management systems.	0	0,0%	8	3,6%	26	11,8%	160	72,4%	27	12,2%	< 0.001
2. I feel that there is too much duplication of meetings across the Safety, Health, Environment and Quality management systems.	0	0,0%	13	5,9%	24	10,9%	153	69,2%	31	14,0%	< 0.001
3. I feel that the different auditing check sheets used can be combined into a single auditing check sheet across the Safety, Health, Environment and Quality management systems.	1	0,5%	6	2,7%	16	7,2%	165	74,7%	33	14,9%	< 0.001
4. I feel that an integrated SHEQ Management System will be easier to manage.	0	0,0%	8	3,6%	64	29,0%	132	59,7%	17	7,7%	< 0.001
5. I feel that an integrated SHEQ Management System will result in better utilisation of resources.	0	0,0%	1	0,5%	18	8,1%	172	77,8%	30	13,6%	< 0.001
6. I feel that an integrated SHEQ management System will result in cost saving benefits.	0	0,0%	1	0,5%	14	6,3%	162	73,3%	44	19,9%	< 0.001
7. I feel that the Quality Auditors would resist an Integrated Management System due to the additional workload (Safety, Health, Environment and Quality auditing).	2	0,9%	58	26,2%	114	51,6%	40	18,1%	7	3,2%	< 0.001

Source: Authors own construct

There was a high percentage of respondents that agreed compared to those who disagreed to the statements and the significance of the differences was tested and shown in Table 5.

Figure 4 indicates a graphical representation of the scoring patterns for an integrated SHEQ management system.

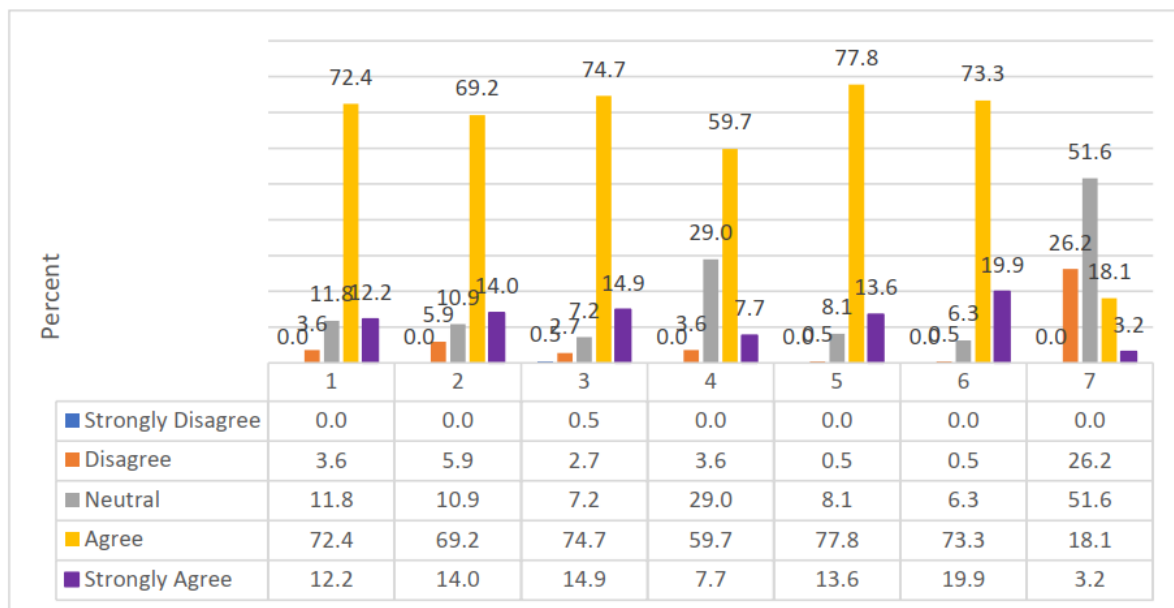


Figure 4: Scoring pattern for an integrated SHEQ management system

Statement 1 focused on the extent of duplication of documentation and statement 2 focused on the duplication of meetings across the safety, health, environmental and quality management systems. For both the statements, there was a high percentage of agreement compared to neutral and disagreement. Thus, it was found that there was too much duplication of document and meetings across the independently managed safety, health, environment, and quality management systems.

Statement 3 focused on the combination of the different management system audit check sheets into an integrated SHEQ management check sheet. There was a high percentage of agreement compared to neutral and disagreement of this statement. Thus, respondents agreed that the different check sheets can be combined in to a single integrated check sheet.

Statements 4, 5 and 6 focused on whether an integrated management system will be easier to manage, result in better utilisation of resources and cost savings. There was a higher percentage of respondents that agreed compared to those that disagreed or who were neutral for all three statements.

The last statement focused on whether the quality auditors would resist an integrated management system due to the additional workload. There were respondents who

strongly agreed or agreed that the quality auditors would resist due to the additional workload.

Qualitative Research

The responses from the quantitative questionnaire questions were used to develop the interview questions for a clearer understanding and confirmation of the quantitative data responses. Qualitative data are collected using unstructured interviews or observation to probe deeply into an issue and, rather than collecting numbers, the data are collected by recording words or phrases (Hair, Page and Brunsveld, 2020, p.161).

Interviews were conducted by the researcher with the senior management (production manager and quality manager) of the organisation to obtain a clearer understanding and an in-depth perspective on the findings from the quantitative analysis. The qualitative interview questions were conducted using a one-to-one Skype interview with participants. Notes were extracted from the interview and confirmed with participants before data analysis, to ensure trustworthiness. Thematic data analysis was conducted.

Interview questions and responses

Table 6 contains the interview questions and respondents' responses.

Table 6: Interview questions and respondents' responses

Interview Question	Question	Responses
1	What is your perspective of an IMS?	• An IMS is a good idea but to achieve the intended objective the process must be managed as a project. A dedicated project manager and project team must be allocated to determine the requirements of IMS, and the resources that will required to implement an IMS. • The current organisation structure needs to be reviewed to integrate the safety, health and environment department with the quality department. • An IMS will require the appointment of a SHEQ manager.
2	According to the quantitative survey questionnaire, 84.6% of the respondents agreed or strongly agreed that there was too much duplication across the independently managed SHEQ systems. How can these documentations be reduced?	• The IMS model will guide the documentation requirements of an IMS. • Existing documentation can be reviewed, and duplicated documentation can be removed.
3	According to the quantitative survey questionnaire, 21.3% of the respondents agreed or strongly agreed that the quality auditors would resist an IMS due to the additional workload. What is your viewpoint of the resistance of the quality auditors?	• It was argued that this was just the perception of the respondents because a discussion was held with the auditors, and they were not opposed to the idea of introducing SHEQ auditors. They felt that auditing an IMS will further enhance their experience and auditing capabilities.

Source: Author's own construct

RECOMMENDATIONS

Based on the quantitative and qualitative research, it is proposed that the organisation considers the following recommendations in implementing an IMS:

1. Review and combine the existing organisation structure for the independent safety, health, environment department and quality department.
2. Appoint the SHEQ manager as a project manager and appoint a project team that will be dedicated to the implementation process.

3. Align the proposed IMS to the organisation's strategic objectives.
4. Create a checklist for the IMS.
5. Review and amend existing documentation that is used for the independently managed systems.
6. Use an online document management system that will be easily accessible.
7. Conduct an internal integrated management systems and process audit.
8. Schedule an IMS audit with an ISO certification body.

CONCLUSION

There is a growing pressure for organisations to practice the triple bottom line, balancing profit, employee health and safety and environmental sustainability, whilst remaining efficient. Management systems play a key role in optimising business outputs, and managing these systems independently leads to inefficiencies. These organisations comprise of multiple business processes that have a common final objective and, according to the systems theory, these processes must therefore form a sequenced value add link and be synchronised to achieve the desired objective. An IMS will achieve the objective of synchronising SHEQ processes into one coherent integrated SHEQ management system. The context and background of the research provided a brief overview of the researched organisation, the environment that the organisation is operating in and the status of the organisation. The justification for conducting the research provided reasons why the study needed to be conducted and formulated the research questions.

The research findings supported the notion of an IMS; however, it is recommended that the implementation process must be managed as a project.

REFERENCES

- Abad, J., Cabrera, H.R. and Medina, A. (2016). An Analysis of the Perceived Difficulties Arising During the Process of Integrating Management Systems. *Journal of Industrial Engineering and Management*, 9(3): 860-878.
- Ahidar, I., Sarsri, D. and Sefiani, N. (2018). Approach to integrating management systems. Path to excellence application for the automotive sector using SYSML language. *The TQM Journal*, 31(2): 183-204.

- Asif, M. (2020). Are QM models aligned with Industry 4.0? A perspective on current practices. *Journal of Cleaner Production*, 258: 1-11.
- Başaran, B. (2018). Integrated Management Systems and Sustainable Development. *Quality Management Systems*, 1-21.
- British Standards Institute. (2018). *Making the most of multiple management systems. Our PAS 99 integrated management system should come first.* https://www.google.com/search?q=pas+99+guide+pdf&rlz=1C1CHZL_enZA802ZA802&biw=1366&bih=601&source=Int&tbs=cdr%3A1%2Ccd_min%3A1%2F1%2F2015%2Ccd_max%3A1%2F24%2F2021&tbm= [Accessed 30 January 2021].
- Chountalas, P.T. and Tepaskoualos. F. A. (2018). Selective integration of management systems: a case study in the construction industry. *The TQM Journal*, 31(1): 12-27.
- Cornell, C. and Jude, N. (2015). The Systems Theory of Management in Modern Day Organizations - A Study of Aldgate Congress Resort Limited Port Harcourt. *International Journal of Scientific and Research Publications*, 5(9): 1-7.
- Dahlin, G. and Isaksson, R. (2017). Integrated management systems – interpretations, results, Opportunities. *The TQM Journal*, 29(3): 528-542.
- de Oliveira, O.J. (2013). Guidelines for the integration of certifiable management systems in industrial companies. *Journal of Cleaner Production*, 57: 124-133.
- DNVGL (2016). *The new iso 9001, iso 14001 and iso 45001 requirements. 5.1 - Leadership & Commitment.* https://www.dnvgl.co.uk/Images/EsspressoReport_1_2017_tcm12-85839.pdf [Accessed 07 February 2021].
- Dudovskiy, J. (2015). *The ultimate guide to writing a dissertation in business studies: A step-by-step Assistance.* United Kingdom: Research-methodology.net.
- Field, A. (2019). *Implementing an Integrated Management System (IMS). The strategic approach.* United Kingdom: IT Governance Publishing Ltd.
- Given, L.M. 2014. *The SAGE Encyclopaedia of Qualitative Research Methods.* Thousand Oaks. SAGE Publications: 870-873.
- Gliem, J.A. and Gliem, R.R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. *Refereed Paper: Gliem & Gliem*, 82-88.
- Hair, J. F. Jr., Page, M. and Brunsveld, N. (2020). *Essentials of Business Research Methods.* 4th ed. New York: Routledge
- Hassan, N. A., Zailani, S.H.M. and Hasan, H.A. (2019). Integrated internal audit in management system. A comparative study of manufacturing firms in Malaysia. *The TQM Journal*, 32(1): 110-126
- Kopia, J., Kompalla, A. and Ceașu, L. (2016). Theory and Practice of Integrating Management Systems with High Level Structure. *Quality access to success*, 17(155): 52- 59.
- Majerník, M., Daneshjo, N., Chovancova, J. and Sanciova, G. (2017). Design of integrated management systems according to the revised iso standards. *Polish journal of management studies*, 15(1): 135-143.

- Mariouryad, P., Golbabaei, F., Nasiri, P., Mohammadfam, I. and Marioryad, H. (2015). Study of the Continuous Improvement Trend for Health, Safety and Environmental Indicators, after Establishment of Integrated Management System (IMS) in a Pharmaceutical Industry in Iran. *Journal of Clinical and Diagnostic Research*, 9(10): 18-20.
- Mills, A. J., Durepos, G. and Wiebe, E. (2012). *Encyclopedia of case study research. case study surveys*. Thousand Oaks: Sage.
- Muzaimi, H., Chew, B.C. and Hamid, S.R. (2017). Integrated Management System: The Integration of ISO 9001, ISO 14001, OHSAS 18001 and ISO 31000. *AIP Conference Proceedings* 1818, 020034.
- Nunhes, T, V., Motta, L.C.V. and de Oliveira, O.J. (2016). Evolution of integrated management systems research on the Journal of Cleaner Production: Identification of contributions and gaps in the Literature. *Journal of Cleaner Production*, 139: 1234-1244.
- Oliver, P. (2011). *The SAGE Dictionary of Social Research Methods. Purposive Sampling*. London: Sage.
- Pardo, C., Pino, F.J. and Garcia, F. (2016). Towards an Integrated Management System (IMS), harmonizing the ISO/IEC 27001 and ISO/IEC 20000-2 Standards. *International Journal of Software Engineering and Its Applications*, 10(9): 217-230.
- Rebelo, M.F., Santos, S. and Silva, R. (2015). Integration of Standardized Management Systems: A Dilemma? *Systems*, 3: 45-59.
- Rebelo, M.F., Santos, S. and Silva, R. (2016). Integration of management systems: towards a sustained success and development of organizations. *Journal of Cleaner Production*, 127: 96-111.
- Sekaran, U. and Bougie, R. (2016). *Research methods for business*. 7th ed. Haddington: John Wiley & Sons, Inc.
- Steedman, S. (2015). ISO Focus 113. *Your gateway to international standards*. [https://www.iso.org/files/live/sites/isoorg/files/news/magazine/ISOfocus%20\(2013-NOW\)/en/2015/ISOfocus113/isofocus_113.pdf](https://www.iso.org/files/live/sites/isoorg/files/news/magazine/ISOfocus%20(2013-NOW)/en/2015/ISOfocus113/isofocus_113.pdf) [Accessed 28 February 2021].
- Talapatra, S., Santos, G., Uddin, K. and Carvalho, F. (2019). Main benefits of integrated management systems through literature review. *International Journal for Quality Research*, 13(4): 1037-1054.