

Organizational Development through Effective Occupational Health and Safety Management: Insights from South Africa's Packaging Sector

Manduth Ramchander, Associate Professor, Department of Operations and Quality Management, Faculty of Management Sciences, Durban University of Technology, Durban, South Africa.

Manikam Michael Nadar, Lecturer, Department of Operations and Quality Management, Faculty of Management Sciences, Durban University of Technology, Durban, South Africa

Abstract: As part of their social responsibility and organization development, organizations are driven by the Occupational Health and Safety (OHS) requirements. This study determined the OHS status of a multi-business packaging organization in South Africa by examining the perceptions of employees towards the level of commitment and the availability of resources, tools, and techniques supporting OHS initiatives. The organization is certified to ISO 9001:2015 and ISO 14001:2015 but not ISO 45001:2018. The research organization lacked a clear understanding of its existing OHS status in comparison to global best practice and as a result the organization has lost focus on OHS and has been unable to reach its goal of one million injury-free man-hours. Therefore, it was necessary for the organization to assess its current OHS status to develop organization development strategies that would enable it to showcase a competitive level of OHS. The research underscores the importance of leadership commitment, strategic alignment within an organizational context, and comprehensive planning in promoting a robust OHS framework in support of organization development. This paper will outline the research methods used to collect and analyze data, present the results, discuss their connection to literature, and conclude with findings and suggestions for further research. A mixed-method study collected data via surveys and interviews with senior occupational health and safety experts. Although leadership demonstrates a strong commitment to OHS, the absence of ISO 45001:2018 certification limits structured progress. Implementing ISO 45001:2018 would not only drive continual improvement in OHS practices but also align them with the organization's development goals.

Keywords: Occupational health; safety management; packaging; multi-business

Introduction

Employee health and safety considerations have a long history, dating back to 3000 BC with the Egyptians producing a first aid manual for their workers (Reese 2016). By 2000 BC, Hammurabi, the Babylonian king, instituted worker compensation for permanent workplace injuries and the early 1900s saw the emergence of worker compensation systems, marking a significant shift towards ensuring employee welfare (Reese 2016). The International Labour Organization (ILO) was established in 1919 to enhance working conditions, reinforced by the Declaration of Philadelphia in 1944 affirming that labour is not a commodity, while the 1999 Decent Work Agenda prioritized global perspectives on employee occupational health and safety, and the 2019 ILO Future of Work report advocated for increased protection of workers (Eurofound and International Labour Organization, 2019). During the year 2020 the global workforce comprised of 3.5 billion people, with employees spending over a third of their adult lives at work and despite technological advancements in the modern workplace, human labour remains crucial to productivity and the sustainable development of nations (Rantanen, Muchiri and Lehtinen 2020). Globalization has introduced new challenges, including transportation, manufacturing, product handling, and technology adoption, each presenting unique occupational health and safety risks to employees (Fuller 2019).

There are an estimated 2.8 million fatalities and 300 million non-fatal occupational health and safety cases annually that leads to a 4% loss of Gross Domestic Product (GPD) and the trend is expected to grow, therefore there is a need for occupational health and safety management systems (Rantanen, Muchiri and Lehtinen 2020). During the period from 2016 to 2019, the Department of Labour South Africa and the South African Compensation for Occupational Injuries and Diseases (COID)

processed and adjudicated a cumulative total of 703,440 claims, ensuring employees' access to social protection (Department of Labour South Africa 2019).

Historically health and safety activities were performed in a reactive manner with corrective actions being conducted after a health or safety incident and this resulted in a financial burden to organizations (Calis and Buyukakinci 2019). High health and safety incident rates prompted trade unions to drive for the adoption of health and safety programs by employers, who recognized that workplace health and safety not only enhances productivity but also makes good business sense, leading to the implementation of the Occupational Health and Safety Act in 1970 (Reese 2016). Employee health and safety practices in some countries are secondary, claiming from workman's compensation rather than a primary proactive approach to managing employee health and safety (de Jager *et al* 2019). In addition to the profound personal impact on employees, inadequately managed occupational health and safety systems can adversely affect an organization, leading to loss of personnel, disruption of business operations, insurance claims, legal liabilities, damage to the organization's reputation, loss of investor confidence, and potentially jeopardizing the survival of the business (Smith 2015).

Up until the 1980s, Occupational Health and Safety (OHS) practices primarily focused on compliance due to government regulations, however, organizations realized that this approach was not necessarily effective in maintaining and improving OHS performance (Fuller 2019). The constant change in the working environment has an impact on the health and safety of employees and these changes need to be properly managed to ensure a healthy and safe working environment (Jones 2018). A prerequisite and key contributor to an organization's development in a competitive global market are management systems, therefore proactive OHS have become a key factor in demonstrating an organization's commitment to employees OHS (de Oliveira 2013). In 2018, ISO 45001:2018 a proactive risk-based occupational health and safety management system was introduced, providing a framework to proactively manage and prevent occupational deaths and injuries (da Silva and Amaral 2019). The introduction of ISO 45001:2018, is a milestone in the evolution of managing and improving employee health and safety performance globally (Fuller 2019). The objective of the research was to examine how effective implementation of OHS Management supports organizational development by aligning with strategic direction, stakeholder expectations, and continuous improvement initiatives.

Hence, considering the global changes in the work environment and the negative impact of health and safety incidents, it is imperative for organizations to implement a proactive approach to managing workplace health and safety and to achieve this objective. The purpose of the study was focused on employee perceptions of OHS and the implementation of ISO 45001:2018 on the basis of the organization's development improvement strategy.

Research Methods

The research study employed a mixed-method approach integrating both qualitative and quantitative methodologies. It utilized a cross-sectional design within a case study framework to achieve a comprehensive understanding of the research problem and to ensure a balanced perspective of the research.

A representative sample for the quantitative section of study was used, as it was not possible to get all employees in the research organization to participate in the study. The population of the study was across three business branches of the organization, situated in Cape Town, KwaZulu-Natal and Gauteng, consisting of 500 operational, middle and senior management employees. A population size calculation revealed that a sample size of 217 was considered to be representative for a population of 500 employees (Sekaran and Bougie 2016). A 5-point Likert Scale questionnaire survey using closed-ended questionnaires was administered to gather data from participants. The quantitative data was analyzed using the SPSS (version 27) statistical package using descriptive and inferential statistics. The descriptive statistics are presented in the form of charts and tables. Quantitative data reliability was ensured by targeting Cronbach's alpha's recommended value of 0.700 (Gliem and Gliem 2003). Three Industry experts and the researcher's supervisor with experience in business management systems were used to test content and face validity and corrections were made based on review of the recommendations.

To obtain a clearer understanding of the quantitative data the researcher conducted interviews with the organization's senior OHS employees after the quantitative data was collected and analyzed. The qualitative interview questions were refined to achieve a clearer understanding and validation of the quantitative data results. One-on-one Skype interviews were conducted with participants, and the minutes of the interviews were recorded from these interviews were confirmed with the participants to ensure the credibility of the qualitative data before proceeding with data analysis. Thematic data analysis was conducted for the qualitative data analysis using NVivo version 12 software. Triangulation was used to ensure the trustworthiness of the study.

To uphold ethical standards, strict measures were taken to ensure the anonymity and confidentiality of the participants throughout the study. The identities of the participants were not disclosed, and the data and information provided by them were solely used for the purpose of this research. Prior to commencing the study, approval was obtained from the DUT Institutional Research Ethics Committee, demonstrating compliance with ethical guidelines.

Results

Of the total staff that participated in the quantitative study, 81% were operation staff, 12% were middle management and 7% were senior management of the organization. These percentages of staff positions that participated in the research study were representative of the positions of the total composition of the organization.

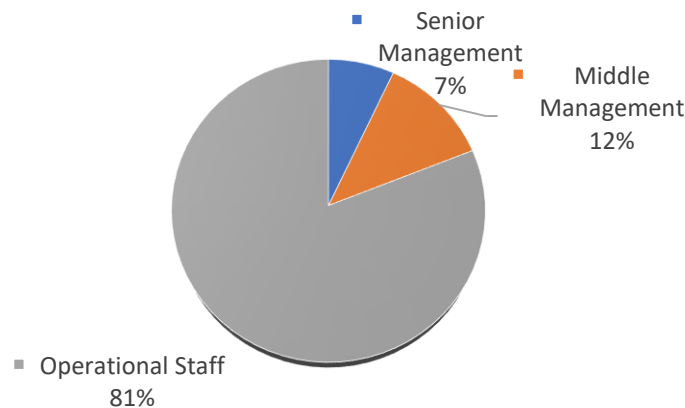


Figure 1: Staff position composition of the research sample.

The disproportionate representation of male to female in figure 2 is reflective of the disproportion in the population. The predominant age grouping of respondents is 30-39 years, followed by 40-49 years, reflective of a middle-aged staff complement.

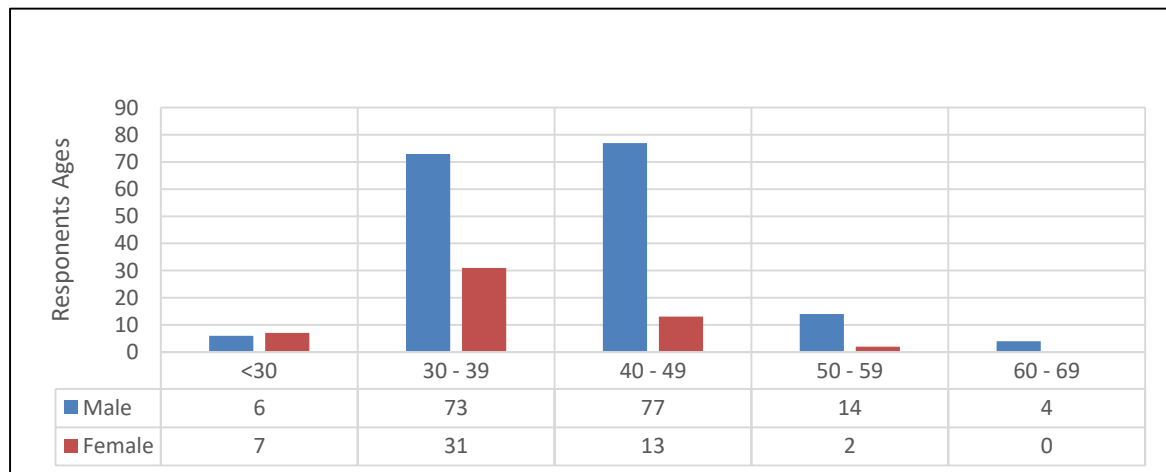


Figure 2: Research sample of male to female representation

Table 1: Scoring patterns for the Occupational Health and Safety Management Survey questionnaire.

Statements		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
My organization's management has determined the external factors (Political, Economic, Social, Technological, Legal and Environmental) that may impact on the strategic direction of the organization's health and safety management system	B3	0	0.0%	0	0.0%	41	18.6%	147	66.5%	33	14.9%	< 0.001
My organization understands the occupational health and safety needs and expectation of stakeholders (Customers, suppliers, employees, legal & regularity compliance bodies)	B6	0	0.0%	1	0.5%	37	16.7%	151	68.3%	32	14.5%	< 0.001
Top management demonstrates committed leadership with respect to the occupational health and safety management system	C9	0	0.0%	2	0.9%	26	11.8%	145	65.6%	48	21.7%	< 0.001
My organization has completed an employee occupational health and safety risk assessment	D12	0	0.0%	2	0.9%	41	18.6%	146	66.1%	32	14.5%	< 0.001
My organization has determined its occupational health and safety objectives	D15	0	0.0%	1	0.5%	31	14.0%	150	67.9%	39	17.6%	< 0.001
My organization has communicated its occupational health and safety Objectives to employees	D18	0	0.0%	1	0.5%	36	16.3%	148	67.0%	36	16.3%	< 0.001
My organization provides the necessary resources needed for the operation of the occupational health and safety management system	E21	0	0.0%	6	2.7%	115	52.0%	88	39.8%	12	5.4%	< 0.001
My organization has measures in place to manage (Plan, organize, lead and control) the processes relating to the occupational health and safety management system	F24	0	0.0%	1	0.5%	24	10.9%	174	78.7%	22	10.0%	< 0.001
My organization reviews (monitors, measures, analyses and evaluates) its occupational health and safety performance.	G27	0	0.0%	2	0.9%	30	13.6%	170	76.9%	19	8.6%	< 0.001
My organization identifies opportunities for the improvement of the occupational health and safety management system	H30	0	0.0%	2	0.9%	45	20.4%	167	75.6%	7	3.2%	< 0.001
My organization provides resources for the improvement of the occupational health and safety Management System	H33	0	0.0%	3	1.4%	104	47.1%	106	48.0%	8	3.6%	< 0.001

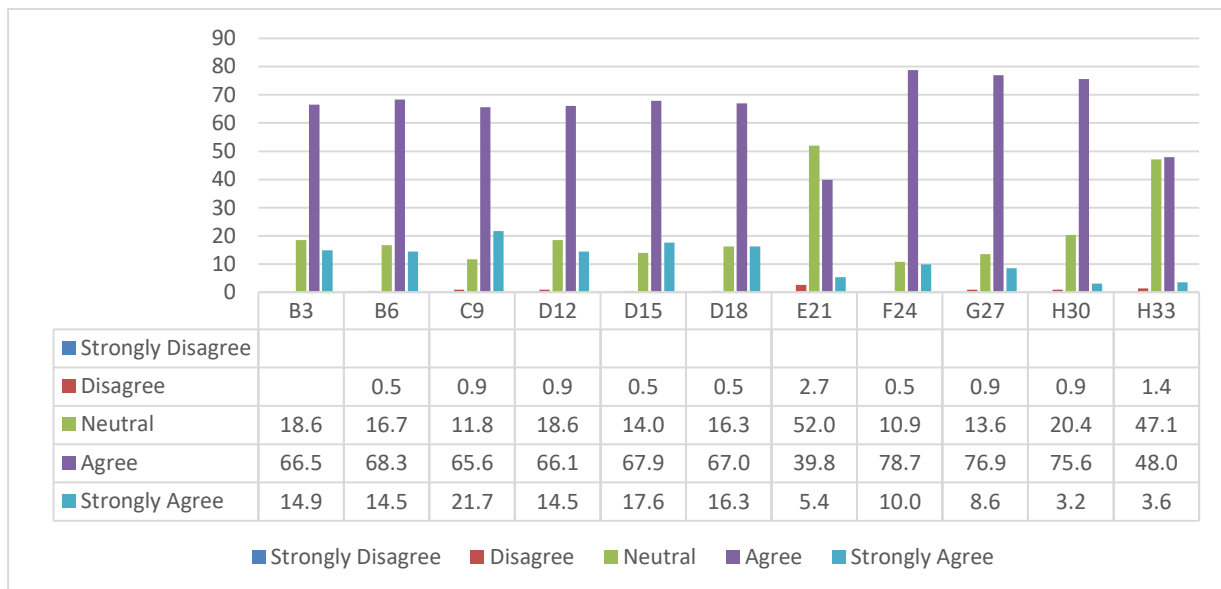


Figure 3: scoring pattern of the occupational health and safety management survey questionnaire.

The significance of the differences in scoring was tested as shown in table 1 and the following patterns are observed with the statements as depicted in figure 3:

- i. None of the respondents strongly disagreed and there are no statements with high levels of disagreement.
- ii. Statement B3 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization's management has determined the external factors (Political, Economic, Social, Technological, Legal and Environmental) that may impact on the strategic direction of the organization's health and safety management system,
- iii. Statement B6 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization understands the occupational health and safety needs and expectations of stakeholders (Customers, suppliers, employees, legal & regularity compliance bodies),
- iv. Statement C9 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the top management of the organization demonstrates committed leadership with respect to the occupational health and safety management system,
- v. Statement D12 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization has completed an employee occupational health and safety risk assessment,
- vi. Statement D15 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization has determined its occupational health and safety objectives,
- vii. Statement D18 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization has communicated its occupational health and safety Objectives to employees,
- viii. Statement E21 has a high level of agreement and also has a high level of neutral responses, indicating that the respondents are not clear as to whether the organization provides the necessary resources needed for the operation of the occupational health and

safety management system. This question was further explored during the qualitative research to gain clarity of the neutral response,

- ix. Statement F24 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization has measures in place to manage (Plan, organize, lead and control) the processes relating to the occupational health and safety management system,
- x. Statement G27 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organizations reviews (monitors, measures, analyses and evaluates) its occupational health and safety performance,
- xi. Statement H30 has a high level of agreement and strong agreement, indicating that the respondents are in agreement that the organization identifies opportunities for the improvement of the occupational health and safety management system and
- xii. Statement H33 has a high level of agreement and also has a high level of neutral responses, indicating that the respondents are not clear as to whether the organization provides resources for the improvement of the occupational health and safety Management System. This question was further explored during the qualitative research to gain clarity of the neutral response.

Table 2: The summary of qualitative research findings.

Areas of enquiry	Summary of responses
Interview question 1: Context of the organization What are the external factors that impacts on the organizations health and safety management systems that the organization has considered and what measures have been taken?	i. There is a growing requirement from customers as part of their supplier selection criteria for organizations to ensure that the workplace is healthy and safe for employees. In an extremely competitive market, where supply exceeds demand, customers dictate their occupational health and safety requirements of the organization as part of their supplier selection criteria. The organization therefore pays attention to the occupational health and safety requirements of this market. ii. The market is extremely competitive with new entrants and imports, making business sustainability difficult. The organization differentiates itself from competitors by continuing to strive to provide a safe and health work environment for all personnel. iii. The organization has annual occupational health, safety legal audits to ensure compliance to the occupational health and safety act. This is also supported by compliance to Willis Blue risk management system. iv. The organization has membership with industrial forums that provide analysis on industry trends.
Interview question 2: Leadership According to the quantitative research, respondents perceived greater leadership commitment towards safety, health and quality compared to the environmental management system. Can you comment on this finding?	i. The organization's senior management's commitment to occupational health and safety is evident in the compliance to the occupational health and safety act that is demonstrated in the legal audits and compliance to Willis Blue risk management system. ii. The OHS policy is signed by the General Manager, who is the most senior manager of the organization, demonstration commitment to OHS
Interview question 3: Planning According to the quantitative research survey, majority of the respondents agreed or strongly agreed that the organization has completed OHS risk assessments and has set OHS objectives. Does the organization consider OHS risks when setting OHS objectives?	i. Objectives and risks are reviewed and tracked during audits, management meetings, annual management reviews. Objectives and statistics are communicated via email, on the organizations SharePoint and on display boards that are strategically located in the organization. ii. All meetings commence with a OHS moment.
Interview question 4: Support There was a high percentage of respondents who were neutral with the survey questionnaire statements on the support of the organization's management systems. What do you perceive was the reasons for this response?	There is a budget allocation for safety, health environment and quality resources. The budget is primarily spent on certification cost, OHS surveys, laboratory fees, personal protective clothing and legal auditing that employees are not aware off. Hence employee's responses were neutral.

Interview question 5: Operation To ensure the successful implementation of an OHS, the OHS challenges needs to be understood, and a strategy needs to be developed to manage these challenges. What are the organizations OHS operational challenges and does the organization have a strategy to manage these?	i. It is difficult to maintain disabling injury frequency rate at acceptable levels due to the manufacturing processes being mainly manual with high powered machinery. Fully automated machinery requires a large capital investment, which is not feasible considering the current economic situation. However, the organization has completed a risk assessment and have engineering solutions and personal protective equipment control measures in place to eliminate or mitigate the risks. ii. There are new OHS requirements that the organization needs to keep abreast with and ensure compliance to these requirements. The organization has annual OHS legal audits that is conducted by an external legal advisor to ensure compliance
Interview question 6: Performance evaluation What performance measurements does the organization have for OHS and how are these monitored?	i. The organization has a in-house occupation health centre that conducts annual medicals, measures and tracks, occupational health, all injuries and disabling injury frequency rate, - o The performance of OHS is monitored, measured, analysed and evaluated during production meetings, OHS meetings, monthly management meetings, annual management review meetings - o Internal process, legal, certification and compliance audits are used to check adherence to existing systems and certification requirements.
Interview question 7: Improvement Has the organization considered opportunities for improvement?	i. The organization has conducted an OHS SWOT analysis and opportunities for improvement has been identified. ii. Visual display screens were identified as a opportunity for improvement as a communication tool and was installed at strategic locations in the organization to create an ongoing OHS awareness. iii. ISO 45001:2018 has been identified as an opportunity for improvement and is currently being explored.



Figure 4: Word cloud of the OHS interview responses.

Discussion

Organizations comprise of more diverse and dispersed workforces, and the challenges in OSH management and outcomes are associated with psychosocial factors, ergonomics, the integration of fourth industrial revolution technologies, insufficient OHS risk assessments, and exposure to new chemical, biological, or electromagnetic risks (International Labour Organization. 2019). The research study provided a clearer understanding of the structure, challenges and benefits of occupational health and safety management. The results of the quantitative and qualitative study dovetail towards similar results, demonstrating the organizations commitment towards occupational health and safety.

Based on the results of both the quantitative and the qualitative phase of the study, the following recommendations emerged:

- i. The organization must implement ISO 45001:2018 occupational health and safety management system to ensure that there is a structured framework that is globally recognized to manage OHS.

- ii. The organization must continue with internal and legal OHS audits to ensure adherence to OHS regulatory and statutory requirements.
- iii. The organization must continue with the OHS management review to strategically position the organization to remain competitive and maintain market share.
- iv. Senior management must continue to demonstrate commitment by identifying and supporting new initiatives and clearly communicating the resources that are made available to enhance the OHS culture of the organization.
- vi. The organization must explore the fourth industrial revolution technology to improve its OHS position.

The significance of this study lies in its value in bringing to the fore that although an organization may have an OHS system, implementing ISO 45001:2018 OHS management system will provide the framework for a more structured approach. ISO 45001:2018 assists organizations who satisfy the responsibility of promoting and safeguarding employees' physical and mental well-being by ensuring a safe and healthy work environment, preventing work-related injuries and illnesses, and continually improving occupational health and safety performance (South African National Standard, 2018).

Conclusion

In a highly competitive market, organizations can strengthen their strategic position by demonstrating a clear commitment to employee occupational health and safety. From an organizational development perspective, such commitment not only enhances employee well-being but also contributes to long-term sustainability, resilience, and performance. The study indicated a high level of OHS commitment within the selected multi-business packaging organization. However, implementing the ISO 45001:2018 OHS management system would offer a more structured and systematic approach to managing occupational health and safety, aligning with broader organizational development goals such as continuous improvement, cultural transformation, and operational excellence. To build a more comprehensive understanding of OHS best practices, further research across diverse organizational contexts is recommended.

REFERENCES

- Calis, S. and Buyukakinci, B.Y. 2019. Occupational health and safety management systems applications and a system planning model. *Procedia Computer Science*. 158: 1058 – 1066.
- da Silva, S. L. C. and Amaral, F. G. 2019. Critical factors of success and barriers to the implementation of occupational health and safety management systems: A systematic review of literature. *Safety Science*, 117: 123 – 132.
- de Jager, P., Rees, D., Kisting, S., Kgalamono, S., Ndaba, M., Stacey, N., Tugendhaft, A., and Hofman, K. 2017. Nudging for prevention in occupational health and safety in South Africa using fiscal policies. *A Journal of Environmental and Occupational Health Policy*, 27(2):176-188.
- de Oliveira, O.J. 2013. Guidelines for the integration of certifiable management systems in industrial companies. *Journal of Cleaner Production*, 57: 124-133.
- Department of Labour South Africa. 2019. Annual performance plan 2019/2020. Available: https://static.pmg.org.za/CF_APP_2019_2020_v5_pr.pdf. (Accessed 20 February 2021).
- Eurofound and International Labour Organization. 2019. Working conditions in a global perspective, Publication's office of the European Union, Luxembourg, and International Labour Organization, Geneva.
- Fuller, T. P. 2019. Global occupational safety and health management handbook. London: CRC Press.
- 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.

International Labour Organization. 2019. New safety and health issues emerge as work changes. Available: https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_686571/lang--en/index.htm. (Accessed 05 April 2021).

Jones, R., 2018. ISO 45001 and the evolution of occupational health and safety management systems. *Institution of Occupational Safety and Health*: 1 – 7.

Rantanen, J., Muchiri, F. and Lehtinen, S. 2020. Decent Work, ILO's Response to the globalization of working life: Basic concepts and global implementation with special reference to occupational health. *International Journal of Environmental Research and Public Health*, 17: 1-27.

Reese, C.D. 2016. Occupational health and safety management. A practical approach. 3rd ed. London. CRC Press: Taylor & Francis Group.

South African National Standard, 2018. Occupational health and safety management systems, SANS 45001:2018, Edition 1. Pretoria: South African Bureau of Standards.

Sekaran, U. and Bougie, R. 2016. Research methods for business. 7th ed. Haddington: John Wiley & Sons, Inc.

Smith, D. 2015. ISO Focus 113. Your gateway to international standards. Available: [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).