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# BENEFITS OF COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY GUIDELINES IN EMERGING BUSINESSES

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## Abstract

The literature shows the benefits of awareness and compliance with occupational health and safety guidelines in businesses in developing nations. Small, micro and medium-sized enterprises in Tshwane are required to abide by the South African occupational health and safety Act (Act no. 85 of 1993) while conducting business to protect the safety and employees, customers and the environment in which business is conducted. A survey of 406 businesses in Tshwane found that just over half of businesses (53.45%) comply with occupational health and safety regulations. The survey found that business enterprises that were operated by actual owners complied relatively better with guidelines in comparison with businesses that were operated by employees. The availability of enough financial resources and level of awareness were also found to be influential determinants of compliance.

**Key words:** Tshwane, Occupational health and safety, Business enterprises, Awareness

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The study is highly valuable for identifying and quantifying factors that undermine compliance with occupational health and safety guidelines and regulations in emerging and poorly resourced SMMEs operating in the City of Tshwane. Studies conducted by Herrington (2018), Mathole and Ross (2022), Marivate (2014) and Khale (2015) have shown the numerous benefits of supporting emerging and poorly resourced SMMEs in terms of building the capacity required for conducting profitable business activities. The authors have shown that it is possible to alleviate poverty and unemployment in South African cities and townships by assisting emerging and poorly resourced SMMEs, and by helping them comply with guidelines and regulations that are applicable to SMMEs. The occupational health and safety act (Act no. 85 of 1993) needs to be complied with by all South African business enterprises.

Satisfactory compliance with the Act is mutually beneficial for SMMEs and local municipalities in which business activities are conducted. Guidelines stated in Act no. 85 of 1993 are based on guidelines published by the WHO (2021) and ILO (2021). Researchers such as Kobedi, Swanepoel and Venter (2022), Landman and Nel (2021:4) and Brown, Dexter, Schwatka, Dally, Tenney, Shore and Newman (2021) recommend community based initiatives for spreading awareness in businesses before making attempts at enforcing OHS guidelines that are applicable to businesses. Da Silva and Amaral (2019:124) suggest the use of dedicated community health workers and environmental sanitation employees. Conti, Elia, Ferrara and Ferraresi (2020) have shown the benefit of working closely with poorly resourced business enterprises in urban centres. The authors have shown the benefit of mentorship, coaching, close supervision and tailor-made training opportunities to novice entrepreneurs. It is the duty of the City of Tshwane to work closely with SMMEs that require guidance and support from municipal employees. Often, businesses require clarification on steps to be taken in the course of complying with the occupational health and safety act. The identification of obstacles to satisfactory compliance with the occupational health and safety act is a logical first step in enhancing the current level of compliance.

In order for any intervention to be successful, it is necessary for the Health Department of the City of Tshwane to construct a comprehensive database consisting of emerging and poorly resourced business enterprises in the City of Tshwane. Such

a database will enable the City of Tshwane to identify businesses that need assistance in order to comply adequately with the occupational health and safety act (Act no. 85 of 1993) as a means of thriving on a sustainable basis.

From the study conducted by Salguero-Caparros, Pardo-Ferreira, Martinez-Rojas, & Rubio-Romero (2020:111-114), occupational health and safety legislation is an important part of legal process to manage organisations and companies. Whilst authors agree that compliance to OHS legislation is a minimalist safety strategy, it is the first preventative step in any organisation. Nieuwenhuizen (2019:666-677), argues that the effect of regulations affects dramatically on the survival of SMMEs. According to the author, SMMEs regards compliance with regulatory requirements as one of the primary impediments to their growth.

Myeni, Ngcobo, (2020;57), observed that there are challenges in the South African OHS system. The authors discovered that OHS legislation mainly covers workers who are formally registered or workers of formally registered enterprises. Almost 30% of workers who are in the informal economy are not covered (Myeni & Ngcobo, 2020, 57). According to Myeni & Ngcobo (2020;57), there is lack of consistency in the inspection and enforcement among various departments. Authors outlines the following challenges,

- minimum attention on SMMEs and the informal economy,
- no enforcement and consequence management,
- lack of compliance in government, SMMEs and informal sectors,
- no clear national OHS policy and strategy

Whilst the statement may be true, legislation is not completely discriminatory based on size of the business. OHS Act 85 of 1993, defines employer as any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerates them. Employment legislation, e.g., Labour Relations Act, Employment Equity Act, Basic Conditions of Employment Act, Occupational Health and Safety Act, Compensation of Injuries and diseases Act are meant to normalize relationship between the employer and employees. Every person who fit the definition of employer as defined in the OHS Act 85 of 1993, is affected by all legislation, regardless of the size of the business.

Zhang, Chen, Li, Wu, Skiebniewski (2018:66-78), suggested that continuous unsafe conditions which leads to incidents, were mainly because of misalignment of management commitment and stakeholders' actions, and that is plain safety management. Safety leadership is the process of interaction between leaders and followers to achieve organisational safety goals (Zang, Chen, Li, Wu, Skiebniewski 2018). Legg et al (2015:189-196), observed that due to lack of proper skills and other resources it is impossible to separate OHS management from other practices of running the business. The authors further observed that because SMME owners work very long hours, because of survival, there is less time and energy to focus on non-core tasks, of which OHS management is often perceived to be one.

Nieuwenhuizen (2019) confirms that countries such as South Africa rely on SMMEs for economic stability, growth and employment, the author argues that the effect of regulations and changes affects dramatically on SMMEs' survival and growth. According to the author, SMMEs regard compliance with legislation requirements as a primary impediment to their growth. According to Nieuwenhuizen (2019 666-677), the cost of compliance to regulations on the side of SMMEs is onerous due to lack of resources. Alawi, Shahri & Ghafri (2020), non-compliance with regulations is a costly ignorance because accidents arising from non-compliance ranges from minor to catastrophic, which may as well lead to the failure of SMMEs. According to Micheli, Cagno and Calabrese (2018), there are different barriers or factors hindering implementation and compliance to OHS regulations, and include amongst others the following: costs, paperwork, lack of training, priority to production; lack of time, lack of staff, employee attitude and profitability of investment in preventions. These factors are found to be common in most of the SMMEs in the City of Tshwane. Most SMMEs in City of Tshwane are a survival means, but with proper attention from government, these enterprises have the potential to alleviate poverty, create employment and contribute to growing the economy of in the City of Tshwane and South Africa.

Malomane, Musonda and Okoro (2022) have shown that migration from rural to urban areas is a major contributor to adverse working conditions in poorly resourced businesses. Mathole and Ross (2022) have found that the large number of homeless people living on the streets of Tshwane is attributed to the level to which rural municipalities have failed to create sustainable

living conditions and jobs for their constituents. Studies conducted by Marivate (2014) and Khale (2015) have shown that the influx of migration from rural regions of South Africa into urban regions of Gauteng including Tshwane has outstripped the pace of job creation and maintenance of municipal infrastructure in urban areas. Mavroulidis, Vouros, Fotiadis, Konstantakopoulou, Fountoulakis, Nikolaou and Evangelinos (2022) have assessed the level of compliance of construction companies operating in major urban centres and have found that the level of compliance with occupational health and safety guidelines is generally low and that intervention is required to defend the interest of ordinary residents and ratepayers as well as the safety of the general environment.

Ispas and Mironeasa (2022) have recommended the use of an integrated model to ensure viability in businesses while helping them comply with occupational health and safety guidelines as well as protecting and preserving the environment in which they conduct business. The model proposed by the authors entails setting up a database, the promotion of health and environmental education, lessons about legislation, lessons about municipal bylaws on environmental sanitation and health, as well as monitoring and evaluating the level of compliance with occupational health and safety. Population sizes in Tshwane townships such as Mamelodi, Soshanguve, Saulsville and Atteridgeville have grown significantly since the early 1990s as a result of the migration of rural people into urban centres to find jobs and livelihood. The number of people living in Tshwane townships has doubled since the early 1990s. This phenomenon has resulted in difficulty in providing satisfactory municipal services to urban residents and ratepayers and businesses (Rantsatsi, Musonda & Agumba, 2023). The major driving factor is the failure of rural municipalities to render satisfactory municipal services and to create economic opportunities for their people.

Riano-Casallas and Tompa (2018) have conducted a survey in Colombia and have found that it is beneficial to give economic incentives such as tax breaks and reduced levies to companies that comply with environmental cleanliness and occupational health and safety related guidelines. These findings are highly relevant to Tshwane and the surrounding geographical regions. The failure of local municipalities to create and maintain a conducive business environment is another factor affecting not only the growth of businesses but also their capacity to comply with occupational health

and safety guidelines (Rikhotso, Morodi & Masekameni, 2023).

Zondo (2021) has shown the need for creating jobs in the automotive industry for the youth by way of creating partnerships with private sector companies. The author has pointed out that providing tangible incentives to private sector companies leads to the creation of jobs and improved compliance with occupational health and safety guidelines.

**Table 1:** Degree of compliance with occupational health and safety guidelines (n=406)

Variable of study	Number (Percentage)
Degree of compliance with occupational health and safety guidelines by the standards of WHO (2021) and ILO (2021)	Adequate: 217 (53.45%) Inadequate: 189 (46.55%)
Position of respondent in business	Owner: 302 (74.38%) Employed manger: 29 (7.14%) Shareholder: 45 (11.08%) Active partner: 15 (3.69%) Silent partner: 15 (3.69%)
Gender of respondents	Male: 248 (61.08%) Female: 158 (38.92%)
Age categories of respondents	30 years or less: 45 (11.08%) 31 to 35 years: 42 (10.34%) 36 to 40 years: 58 (14.29%) 41 to 50 years: 173 (42.61%) 51 to 60 years: 88 (21.67%)

Table 2 shows the durations of business operation of the respondents in the study.

About 57% of businesses have been in operation for 5 years or shorter. About 14% of businesses

have been in operation for 6 to 10 years. About 14% of businesses have been in operation for 16 to 20 years. About 11% of businesses have been in operation for 21 years or longer. About 4% of businesses have been in operation for 11 to 15 years.

**Table 2:** Duration of operation of business (n=406)

Characteristics of respondents of study	Number (Percentage)
Duration of operation of business	5 years or less: 232 (57.14%) 6 to 10 years: 57 (14.04%) 11 to 15 years: 15 (3.69%) 16 to 20 years: 58 (14.29%) 21 years or longer: 44 (10.84%)
Duration of operation of business in general	5 years or less: 232 (57.14%) 6 to 10 years: 57 (14.04%) 11 to 15 years: 15 (3.69%) 16 to 20 years: 58 (14.29%) 21 years or longer: 44 (10.84%)

Table 3 shows the economic sector in which the 406 businesses operate. The table shows that minimarkets account for about 11% of businesses. Textile or footwear businesses account for about 10% of businesses. Fast food outlets account for about 5% of businesses. Retail services account for about 5% of businesses. Food and dairy products account for about 4% of businesses. ICT services account for about 4% of businesses. Restaurants account for about 3% of businesses. Secretarial services account for about 3% of businesses. Security services account for about 3% of businesses.

**Table 3:** Economic sector of business enterprise (n=406)

Economic sector of business enterprise	Number	Percentage
Business providing agricultural services	12	2.96%
Business providing architectural services	2	0.49%
Standard Bed & Breakfast services	8	1.97%
Business selling various types of books	2	0.49%
Shop selling building and construction materials	5	1.23%
Standard butchery shop	4	0.99%
Business providing academic and educational services	6	1.48%
Business providing electrical services	4	0.99%
Business providing engineering services	9	2.22%
Business providing leisure and entertainment services	2	0.49%
Business selling readymade fast foods	22	5.42%
Business providing film and television services	3	0.74%
Business providing financial services such as loans	13	3.20%
Business producing food and dairy products	18	4.43%
Business selling furniture and appliances	10	2.46%
Business providing furniture removal services	2	0.49%
Standard hairdresser's shop	10	2.46%
Business providing health care services	5	1.23%
Business providing ICT services	17	4.19%
Business providing import and export services	4	0.99%
Business providing labour brokering services	5	1.23%
Standard legal services	8	1.97%
Standard liquor store	4	0.99%

Business providing management consultancy services	4	0.99%
Business providing manufacturing services	10	2.46%
Business providing communication and media services	2	0.49%
Business providing medical services	3	0.74%
Standard mini-market shop	46	11.33%
Business providing mining and exploration services	11	2.71%
Standard Non-Governmental Organisation (NGO)	3	0.74%
Business selling eyeglasses and testing eye sights	2	0.49%
Standard pharmacy	3	0.74%
Business providing real estate services	11	2.71%
Standard religious or faith-based services	2	0.49%
Standard restaurant	13	3.20%
Business providing retail services	19	4.68%
Business providing secretarial services	14	3.45%
Business providing safety and security services	14	3.45%
Business selling spare parts for cars	10	2.46%
Standard stationeries shop	11	2.71%
Business providing tailor services	2	0.49%
Business providing telephone services	3	0.74%
Business selling textile or footwear	42	10.34%
Business providing tourism services to visitors	3	0.74%
Business selling and trading second-hand cars	3	0.74%

Table 4 shows frequency counts and percentages for types of customers and number of employees. Individuals account for about 61% of all customers. Local businesses account for about 17% of all customers. Government Departments account for about 16% of all customers. International businesses account for about 3% of

all customers. About 70% of businesses have between 3 and 5 employees. About 19% of businesses have 11 or more employees. About 6% of businesses have 2 or fewer employees. About 5% of businesses have between 6 and 10 employees.

**Table 4:** Types of customers and number of employees (n=406)

Characteristics of respondents of study	Number (Percentage)
Types of customers	All types: 10 (2.46%) Government Departments: 66 (16.26%) Individuals: 248 (61.08%) International businesses: 14 (3.45%) Local businesses: 68 (16.75%)
Number of employees working in business	11 or more: 78 (19.21%) 6 to 10: 22 (5.42%) 3 to 5: 283 (69.70%) 2 or fewer: 23 (5.67%)

Table 5 shows the estimated annual average turnover, current capital and average monthly profit of businesses. Twenty nine percent of businesses had a turnover of one to five million Rand per year. Twenty four percent of businesses had a turnover of ten million Rand or more per year. Twenty one percent of businesses had a turnover of half a million Rand or less per year. About fourteen percent of businesses had a

turnover of half a million Rand to one million Rand per year. Twelve percent of businesses had a turnover of five million Rand to ten million Rand per year. Fifty eight percent of businesses had a current capital of one million Rand or less. Sixty one percent of businesses had an estimated monthly average profit of one million Rand or less.

**Table 5:** Estimated annual average turnover of businesses (n=406)

Variable of study	Number (Percentage)
Estimated annual turnover in Rand	R500, 000 or less: 87 (21.43%) R500, 001 to R1, 000, 000: 55 (13.55%) R1, 000, 001 to R5, 000, 000: 117 (28.82%) R5, 000, 001 to R10, 000, 000: 49 (12.07%) R10, 000, 001 or more: 98 (24.14%)
Estimated current capital in Rand	R1, 000, 000 or less: 234 (57.64%) R1, 000, 001 to R5, 000, 000: 43 (10.59%)

	R5, 000, 001 to R10, 000, 000: 42 (10.34%) R10, 000, 001 to R50, 000, 000: 29 (7.14%) R50, 000, 001 to R100, 000, 000: 29 (7.14%) R100, 000, 001 or more: 29 (7.14%)
Estimated average monthly profit of business in Rand	R1, 000, 000 or less: 246 (60.59%) R1, 000, 001 to R5, 000, 000: 15 (3.69%) R5, 000, 001 to R10, 000, 000: 71 (17.49%) R10, 000, 001 to R50, 000, 000: 44 (10.84%) R50, 000, 001 to R100, 000, 000: 15 (3.69%) R100, 000, 001 or more: 15 (3.69%)

Table 6 shows that only 16% of respondents are happy with the quality of occupational health services that are provided by the City of Tshwane to business enterprises. The table shows that only 17% of respondents were happy with the quality of occupational safety services that are provided by the City of Tshwane to business enterprises. The table shows that only about 20% of respondents were happy with sanitation services that are

provided by the City of Tshwane to business enterprises.

The results indicate that 53.45% of businesses (217 of the 406 businesses) comply adequately with occupational health and safety guidelines and regulations at the workplace by the standards of WHO (2020) and ILO (2020).

**Table 6:** Assessment of adherence to occupational health and safety guidelines (n=406)

Factors that affect adherence to occupational health and safety guidelines in businesses	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Q1. I understand what is meant by occupational health and safety guidelines for business enterprises	4.68%	7.39%	10.34%	55.67%	21.92%
Q2. I understand the benefits of adhering to occupational health and safety guidelines to businesses	3.69%	7.39%	10.10%	56.16%	22.66%
Q3. I am committed enough for ensuring the occupational health of all employees working in my business	3.69%	6.90%	10.34%	56.90%	22.17%
Q4. I am committed enough for ensuring the occupational safety of all employees working in my business	5.42%	7.39%	10.34%	55.42%	21.43%
Q5. Ensuring the occupational health of my employees is valuable for my business operation	4.43%	7.14%	10.59%	54.93%	22.91%
Q6. Ensuring the occupational safety of my employees is valuable for my business operation	4.19%	7.14%	10.34%	55.91%	22.41%
Q7. Ensuring environmental sanitation in my business is helpful for long-term profitability in my business	0.49%	7.39%	10.59%	57.14%	24.38%
Q8. Ensuring proper waste management in my business is helpful for long-term profitability in my business	0.49%	7.39%	10.59%	56.90%	24.63%
Q9. Ensuring cleanliness in my business is helpful for long-term profitability in my business	1.72%	7.39%	10.34%	56.65%	23.89%
Q10. Minimisation of waste at source level is helpful for long-term profitability in my business	0.99%	7.39%	10.59%	56.65%	24.38%
Q11. Sorting waste is helpful for long-term profitability in my business	1.48%	7.39%	10.59%	56.90%	23.65%
Q12. Recycling of waste is helpful for long-term profitability in my business	0.99%	7.39%	10.10%	56.90%	24.63%
Q13. Keeping personal hygiene is helpful for long-term profitability in my business	1.23%	7.39%	10.10%	56.90%	24.38%
Q14. I comply with municipal bylaws on occupational health	7.64%	6.90%	57.14%	24.88%	3.45%
Q15. I comply with municipal bylaws on occupational safety	0.49%	7.39%	11.08%	56.65%	24.38%
Q16. I comply with municipal bylaws on waste management	0.74%	4.68%	7.64%	49.51%	37.44%
Q17. I pay my municipal bills promptly	18.23%	10.59%	31.77%	35.71%	3.69%
Q18. I am happy with the quality of occupational health services that are provided by the City of Tshwane to my business	24.14%	24.63%	35.47%	10.84%	4.93%
Q19. I am happy with the quality of occupational safety services that are provided by the City of Tshwane to my business	21.43%	25.37%	35.71%	10.34%	7.14%
Q20. I am happy with the quality of sanitation services that are provided by the City of Tshwane to my business	16.26%	17.73%	46.06%	14.04%	5.91%
Q21. I am happy with the quality of waste removal services that are provided by the City of Tshwane to my business	15.52%	24.63%	42.12%	10.59%	7.14%
Q22. Procedures related to occupational health are entrenched into my business operation	20.69%	17.49%	35.96%	17.73%	8.13%

Q23. Procedures related to occupational safety are entrenched into my business operation	0.99%	7.39%	10.59%	56.40%	24.63%
Q24. Procedures related to environmental sanitation are entrenched into my business operation	1.97%	6.40%	6.90%	48.77%	35.96%
Q25. Procedures related to waste management are entrenched into my business operation	19.21%	10.59%	31.03%	35.22%	3.94%
Q26. Procedures related to waste minimisation at source level are entrenched into my business operation	24.38%	24.88%	34.24%	10.84%	5.67%
Q27. Procedures related to sorting of waste are entrenched into my business operation	21.92%	24.88%	34.98%	10.34%	7.88%
Q28. Procedures related to waste recycling are entrenched into my business operation	19.21%	17.73%	43.10%	14.04%	5.91%
Q29. Procedures related to personal hygiene are entrenched into my business operation	16.75%	24.88%	40.64%	10.59%	7.14%
Q30. I have attended at least one training session on occupational health in the past	19.46%	17.24%	40.64%	17.49%	5.17%
Q31. I have attended at least one training session on occupational safety in the past	2.22%	7.39%	10.59%	54.93%	24.88%
Q32. I am provided with enough help on occupational health by employees of the City of Tshwane	0.25%	6.40%	7.64%	49.75%	35.96%
Q33. I am provided with enough help on occupational safety by employees of the City of Tshwane	18.97%	10.59%	31.77%	34.73%	3.94%
Q34. Everything considered, I am satisfied with the degree of assistance that is provided to me by employees of the City of Tshwane	24.38%	24.88%	32.27%	10.84%	7.64%

Table 7 shows odds ratios estimated from multivariate analysis.

**Table 7:** Adjusted odds ratios estimated from multivariate analysis (n=406)

Variable of study	Odds Ratio	P-value	95% confidence interval of odds ratio
Type of ownership of business enterprise	6.18	0.000	(4.25, 8.99)
Current capital of business enterprise	5.98	0.000	(3.99, 8.75)
Awareness about occupational health and safety (OHS) guidelines	4.89	0.000	(2.50, 7.64)

Odds ratios estimated from ordered logit regression analysis showed that the level of compliance of business enterprises to comply with occupational health and safety (OHS) guidelines were significantly influenced by 3 factors. These factors were the type of ownership of business enterprises, the current capital of business enterprises, and the level of awareness about occupational health and safety (OHS) guidelines that need to be complied with adequately by all registered business enterprises in the City of Tshwane.

The odds ratio of the variable "Type of ownership of business enterprise" is equal to 6.18. This indicates that a business enterprise that is operated by the actual owner of the business is 6.18 times as likely to comply with occupational health and safety (OHS) guidelines adequately in comparison with a business enterprise that is operated by an operator who does not own the business.

The odds ratio of the variable "Current capital of business enterprise" is equal to 5.98. This indicates that a business enterprise that has adequate current

capital is 5.98 times as likely to comply with occupational health and safety (OHS) guidelines adequately in comparison with a business enterprise that does not have adequate current capital.

The odds ratio of the variable "Awareness about occupational health and safety (OHS) guidelines" is equal to 4.89. This indicates that a business enterprise in which employees are adequately aware about the need to comply with occupational health and safety (OHS) guidelines is 4.89 times as likely to comply with occupational health and safety (OHS) guidelines adequately in comparison with a business enterprise in which employees are not adequately aware about the need to comply with occupational health and safety (OHS) guidelines.

Table 8 shows estimates obtained from confirmatory factor analysis. Three major factors were identified by carrying out factor analysis. These 3 factors jointly accounted for 81.76% of the total variation in the dependent variable of study.

**Table 8:** Eigen values estimated from factor analysis (n=406)

Predictor variable	Magnitude of Eigen value	Magnitudes of percentage variances explained by predictor variables	Cumulative percentages of variances explained by predictor variables
Type of ownership of business enterprise	1.87	32.56	32.56
Current capital of business enterprise	1.64	27.49	60.05
Awareness about occupational health and safety (OHS) guidelines	1.56	21.71	81.76

Results obtained from factor analysis were used for performing analysis by using Structural Equations Modelling (Chatfield and Collins, 2018). This was done by using the 3 influential predictors of compliance with occupational health and safety

guidelines. Table 9 shows estimates obtained from structural equations modelling.

**Table 9:** Estimates obtained from Structural Equations Modelling (n=406)

Predictor variable	Coefficient	Z-Statistic	P-value	OIM Std. Error
Type of ownership of business enterprise	3.36	6.48	0.0000	0.0126
Current capital of business enterprise	2.91	5.94	0.0000	0.01214
Awareness about occupational health and safety (OHS) guidelines	2.62	4.93	0.0000	0.0259
Constant	2.53	4.61	0.0023	1.1873

Table 10 shows statistics obtained from various goodness-of-fit tests used for assessing how well

the fitted structural equations model (SEM) fits the data.

**Table 10:** Statistics from goodness-of-fit tests for fitted SEM model (n=406)

Goodness-of-fit test	Estimates obtained from SEM analysis	Interpretation of results at the 5% level of significance
SEM analysis provides a probability value for comparing the conceptual model with the saturated model.	A probability value of 0.0000 An observed chi-square value of 290.228	Since 0.0000 is less than 0.05, there is a significant statistical difference between the conceptual and saturated model.
SEM analysis provides a probability value for comparing the baseline model with the saturated model.	A probability value of 0.0000 An observed chi-square value of 53.558	Since 0.0000 is less than 0.05, there is a significant statistical difference between the baseline model and the saturated model.
AIC	32.582 (Small)	The fitted and true models are the same.
BIC	33.692 (Small)	The fitted and true models are the same.
CFI	0.98 (Large)	The fitted model is theoretically reliable
TLI	0.98 (Large)	The fitted model is credible enough.
SRMSEA	0.0147 < 0.05	The fitted model is estimated with a negligible error of estimation.
CD	0.7921 = 79.21% > 75%	The percentage of variation explained by the fitted model is large.

## Discussion of results

The results have shown that there is a need for promoting awareness among emerging retail businesses so that they can comply better with occupational health and safety guidelines. All emerging businesses are required to abide by the South African occupational health and safety Act (Act no. 85 of 1993) while conducting business to protect the safety and employees, customers and the environment in which business is conducted. A survey of 406 businesses in Tshwane found that just over half of businesses (53.45%) comply with occupational health and safety regulations. The survey found that business enterprises that were operated by actual owners complied relatively better with guidelines in comparison with

businesses that were operated by employees. The availability of enough financial resources and level of awareness were also found to be influential determinants of compliance.

Marivate (2014) has shown that most SMMEs are not formally registered due to lack of resources and for fear of having to pay tax. The study found that most businesses are created only for basic survival and economic security.

## List of references

1. Ali, F. H., Liaqat, F., Azhar, S., & Ali, M. (2021). Exploring the quantity and quality of occupational health and safety disclosure among listed manufacturing companies:



- Evidence from Pakistan, a lower-middle income country. *Safety Science*, 143(1), 1-13.
2. Amoah, C., & Simpeh, F. (2021). Implementation challenges of COVID-19 safety measures at construction sites in South Africa. *Journal of Facilities Management*, 19(1), 111-128.
  3. Arana-Landín, G., Laskurain-Iturbe, I., Iturrate, M., & Landeta-Manzano, B. (2023). Assessing the influence of industry 4.0 technologies on occupational health and safety. *Heliyon*, 9(3), 1-13.
  4. Barbosa, A. D. S., Bueno da Silva, L., de Souza, V. F., & Morioka, S. N. (2022). Integrated Management Systems: their organizational impacts. *Total Quality Management & Business Excellence*, 33(7-8), 794-817.
  5. Carvalho, M., Sá, J. C., Marques, P. A., Santos, G., & Pereira, A. M. (2023). Development of a conceptual model integrating management systems and the Shingo Model towards operational excellence. *Total Quality Management & Business Excellence*, 34(3-4), 397-420.
  6. Chatfield, C., & Collins, A. J. (2018). *Introduction to Multivariate Analysis*. New York: Routledge.
  7. De Lucas Ancillo, A., del Val Nunez, M. T., & Gavrila, S. G. (2021). Workplace change within the COVID-19 context: a grounded theory approach. *Economic Research-Ekonomika Istraživanja*, 34(1), 2297-2316.
  8. De Oliveira Neto, G. C., Tucci, H. N. P., Godinho Filho, M., Lucato, W. C., & Correia, J. M. F. (2021). Performance evaluation of occupational health and safety in relation to the COVID-19 fighting practices established by WHO: Survey in multinational industries. *Safety Science*, 141(1), 1-13.
  9. Gauteng Provincial Government. (2021). Annual report for 2019/2020. [Online]. Available from: <https://www.gauteng.gov.za/Publications/> [Accessed: 28 April 2023].
  10. Hasle, P., Madsen, C. U., & Hansen, D. (2021). Integrating operations management and occupational health and safety: A necessary part of safety science! *Safety Science*, 139(1), 1-13.
  11. Herrington, M. (2018). *Global Entrepreneurship Monitor South Africa Report for 2016 to 2017*. [Online]. Available from: <https://www.gemconsortium.org/report/49833> [Accessed: 28 April 2023].
  12. Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression*. New York: John Wiley and Sons.
  13. Hoefft, M., & Trask, C. (2022). Safety built right in exploring the occupational health and safety potential of BIM-based platforms throughout the building lifecycle. *Sustainability*, 14(10), 1-13.
  14. Ispas, L., & Mironeasa, C. (2022). The Identification of Common Models Applied for the Integration of Management Systems: A Review. *Sustainability*, 14(6), 1-11.
  15. Johnstone, R., Bluff, E., & Quinlan, M. (2023). A Special Focus on Work Health and Safety Law and Policy and Work for Digital Labor Platforms. *Journal of Work Health and Safety Regulation*, 1(1), 17-29.
  16. Khale, S. (2015). Assessment of the quality of municipal services in the City of Tshwane, South Africa. *Corporate Ownership & Control*, 13(1), 674-691.
  17. Malomane, R., Musonda, I., & Okoro, C. S. (2022). The opportunities and challenges associated with the implementation of fourth industrial revolution technologies to manage health and safety. *International journal of environmental research and public health*, 19(2), 1-13.
  18. Marivate, S. P. (2014). The impact of entrepreneurial skills on the viability and long-term survival of small businesses: a case of the city of Tshwane, South Africa. *European Journal of Business, Economics and Accountancy*, 2(2), 53-72.
  19. Mathole, R., & Ross, E. (2022). How do you stay at home if you don't have a home? Experiences of homeless persons at homeless shelters in Tshwane, South Africa during the COVID-19 pandemic. *Journal of Social Distress and Homelessness*, 1(1), 1-10.
  20. Mavroulidis, M., Vouros, P., Fotiadis, S., Konstantakopoulou, F., Fountoulakis, G., Nikolaou, I., & Evangelinos, K. (2022). Occupational health and safety of multinational construction companies through evaluation of corporate social responsibility reports. *Journal of Safety Research*, 81(1), 45-54.
  21. Montgomery, D. C., Peck, E. A., & Vining, G. G. (2021). *Introduction to Linear Regression Analysis*. New York: John Wiley & Sons.
  22. Nguyen, N. T. (2023). How does adopting occupational health and safety management practices affect outcomes for employees? The case of Vietnamese SMEs. *International Review of Economics & Finance*, 83(1), 629-640.
  23. Nyaruwata, S., & Mbasera, M. (2021). A Critique of Contribution of Tourism to Jobs in Southern African Development Community

- (SADC): Implications for Post COVID19 Pandemic. *International Tourism and Hospitality Journal*, 4(5), 1-18.
24. Pardoe, I. (2020). *Applied Regression Modelling*. New York: John Wiley & Sons.
25. Rantsatsi, N. P., Musonda, I., & Agumba, J. (2023). Construction health and safety agent collaboration and its influence on health and safety performance in the South African construction industry. *Safety*, 9(1), 1-13.
26. Riano-Casallas, M. I., & Tompa, E. (2018). Cost-benefit analysis of investment in occupational health and safety in Colombian companies. *American Journal of Industrial Medicine*, 61(11), 893-900.
27. Rikhotso, O., Morodi, T. J., & Masekameni, D. M. (2023). Hearing Conservation Programme Costs at Selected South African Companies. *Annals of Work Exposures and Health*, 67(4), 448-461.
28. Sepadi, M. M., & Nkosi, V. (2023). Personal PM2.5 Exposure Monitoring of Informal Cooking Vendors at Indoor and Outdoor Markets in Johannesburg, South Africa. *International Journal of Environmental Research and Public Health*, 20(3), 1-13.
29. Sivini, D. D. (2023). Justice for Tea Workers; COVID-19 Lessons from South Africa: New solutions. *A Journal of Environmental and Occupational Health Policy*, 32(4), 240-242.
30. Stride, M., Renukappa, S., Suresh, S., & Egbu, C. (2023). The effects of COVID-19 pandemic on the UK construction industry and the process of future-proofing business. *Construction Innovation*, 23(1), 105-128.
31. Talapatra, S., Uddin, K., Doiro, M., & Santos, G. (2023). The linkage between corporate social responsibility and the main benefits obtained from the integration of multiple management systems in Bangladesh. *Social Responsibility Journal*, 19(1), 79-100.
32. Vaske, J. J. (2019). *Survey Research and Analysis*. Chicago: Sagamore-Venture.
33. Yang, Y., Jia, F., Chen, L., Wang, Y., & Xiong, Y. (2021). Adoption timing of OHSAS 18001 and firm performance: An institutional theory perspective. *International Journal of Production Economics*, 231(1), 1-13.
34. Zhou, Q., Mei, Q., Liu, S., & Wang, Q. (2020). Dual-effects of core enterprise management and media attention on occupational health and safety of small and medium suppliers in China. *Technology in Society*, 63(1), 1-13.
35. Zondo, R. W. (2021). Assessing the effectiveness of an occupational health and safety system in a selected automotive assembly organisation in South Africa. *South African Journal of Economic and Management Sciences*, 24(1), 1-13.