

AN EXPLORATORY STUDY OF PREDICTORS OF COMPLIANCE WITH  
OCCUPATIONAL HEALTH AND SAFETY GUIDELINES IN EMERGING BUSINESS  
ENTERPRISES

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**Abstract:** A key operational and strategic priority of the City of Tshwane is to ensure satisfactory compliance with occupational health and safety guidelines in business enterprises that are formally registered as well as businesses that operate informally without being formally registered. Formal registration enables businesses to benefit from assistance programmes that are meant for small, micro and medium-sized business enterprises. A report published by the Statistics South Africa (2021) shows that 55.6% of South African businesses are formally registered. A study conducted by Mphai (2022) shows that the main shortcomings in terms of ensuring satisfactory compliance are poor awareness and inability to enforce applicable guidelines and municipal bylaws in business enterprises. As part of the survey, quantitative information was collected from 406 businesses in and around the City of Tshwane. The level of compliance with occupational health and safety guidelines was measured by using a set of 24 standard indicators of compliance with occupational health and safety that are used by the WHO and ILO. The level of compliance in businesses that were chosen for the survey was 53%. By WHO and ILO standards, this level of compliance is inadequate. Recommendations are made with a view to improve the current level of compliance.

**Keywords:** Satisfactory compliance with occupational health and safety guidelines, Indicators of compliance, Business enterprises, Multivariate analysis

**Introduction and background to study**

There are important pieces of legislation that must be enforced by employees of the Health Department of the City of Tshwane in business enterprises of all sizes and types. One such piece of legislation is the occupational health and safety Act (Act no. 85 of 1993). Employees working in the City of Tshwane are required by law to enforce satisfactory compliance with occupational health and safety guidelines in business enterprises that are formally registered as well as businesses that operate informally without being formally registered. Although formal registration enables businesses to benefit from assistance programmes that are meant for small, micro and medium-sized business enterprises, many businesses fail to comply with such guidelines due to inability to pay tax. A mid-year population estimation carried out by Statistics South Africa (2021) shows that 55.6% of South African businesses are formally registered. The rest are not formally registered. Thus, it is not so easy to enforce occupational health and safety guidelines in businesses that are not formally registered.

By conducting a population based survey in the five geographical zones of the City of Tshwane, Mphai (2022) has identified the main shortcomings in terms of ensuring satisfactory compliance with occupational health and safety guidelines. These shortcomings are poor awareness and inability to enforce applicable guidelines and municipal bylaws in business enterprises. As part of the survey, quantitative information was collected from 406 businesses in and around the City of Tshwane. The level of compliance with occupational health and safety guidelines was measured by using a set of 24 standard indicators of compliance with occupational health and safety that are used by the WHO and ILO. The level of compliance in businesses that were chosen for the survey was 53%.

Health and safety guidelines are beneficial for businesses for many reasons. Awareness and compliance with these guidelines enables businesses to minimise the occurrence of accidents, injuries, fatalities and the loss of employee

morale. Accidents that are related to workplace duties and functions harm employees and customers on a daily basis locally and globally. Awareness and compliance are essential for avoiding or minimising such accidents in business enterprises. Examples of benefits of awareness and compliance are saving lives, minimising accidents, injuries and fatalities, diseases, harm to body organs, maintaining a good quality of life, job satisfaction, environmental sanitation, cleanliness, keeping personal hygiene, ensuring the proper disposal of waste and avoiding and minimising unforeseen financial loss when accidents occur (De Jongh, Ferreira, Dickason-Koekemoer&Sunde, 2020). According to the authors, there are 510, 000 formally registered businesses in South Africa. This figure accounts for 55.6% of all South African businesses (formally registered as taxpayers + informal businesses who do not pay tax).

Amoah and Mlenzana (2021) have measured compliance levels in businesses by using standards set out by the WHO and ILO and WHO for measuring compliance with occupational health and safety guidelines that are applicable to business enterprises. The main finding of the survey is that awareness is quite poor. The second important finding is that local municipalities and health inspectors often fail to ensure satisfactory compliance with guidelines that are helpful for ensuring the occupational health and safety of workers employed by businesses. These findings are especially true in developing nations.

Adeleke, Akinlabi, Jen and Dunmade (2021) and Adeodu, Kanakana-Katumba and Rendani (2021) have listed down a matrix of indicators that are routinely used for the measurement of compliance. These indicators are applicable to businesses in all economic sector. The indicators are meant for protecting employees from work-related accidents, injuries and death. The indicators are also vital for protecting employees from the loss of job satisfaction, loss of employee morale, anxiety, depression and poor quality of life. In the year 2030, South Africa aims to meet all Millennium Development Goals by investing enough on occupational health and safety guidelines.

### Literature review

A survey was conducted by Tender, Couto and Fuller (2022:76) shows that setting up a database of all business enterprises is a good first step in ensuring compliance with occupational health and safety guidelines in businesses that operate in locations, townships and cities. To achieve this goal, it is necessary to promote basic education about the importance of compliance in businesses by visiting every business in town. The major contribution made by the authors is the need for a concerted effort and political commitment. Action cannot be taken against businesses that fail to comply with legislation before enough education is provided to all eligible businesses. This task can only be carried out effectively by sending out health inspectors, community health workers and municipal officials to business premises on a regular basis (daily, weekly, monthly, and so on). A community-based environmental and public health survey carried out by Botti, Melloni and Oliva (2022:3) shows that following an inclusive, wholistic and participatory approach is highly helpful for transforming the views and attitude of businesses about the importance of abiding by health and safety related duties. Steps to be taken by businesses are outlined in training manuals that are published by WHO (2021) and ILO (2021).

Community leaders and municipal officials who are responsible for health and safety related issues must show enough determination and commitment to work with business enterprises in terms of giving them education about occupational health and safety. Achieving this goal requires the highest level of commitment, good leadership and positive attitude. All stakeholders must be afforded a fair chance of getting involved in educational, compliance and verification processes. WHO and ILO compliance standards cannot be achieved in the absence of political commitment and good leadership at municipal level. Results obtained from a community based survey carried out by Luttenberger (2020) indicate that stakeholder involvement is highly helpful in ensuring satisfactory compliance with WHO and ILO guidelines and indicators. One major area of focus is that of involving all relevant stakeholders. The second area of focus is the use of community based initiatives and development.

Results obtained from the environmental and health impact assessment survey carried out by Palmer, Moodley and Parnell (2017) indicate the necessity for effective monitoring and the rollout of health education and awareness campaigns. Similar findings have been reported by Mukonza and Swarts (2020). The authors have shown that the successful implementation of environmental health and sanitation services requires political commitment, enough logistical resources and satisfactory funding from local municipalities. Nyashanu, Simbanegavi and Gibson (2020) have pointed out tangible benefits such as lower costs of doing business, lower incidents of accidents, lower absenteeism by employees, profitability, lower incidents of legal actions, and better reputation in terms of meeting the needs of employees and customers.

Embracing guidelines recommended for businesses by the WHO and ILO is similar to complying with the basic rights of employees and customers (Palmer, Moodley & Parnell, 2017). According to Karanikas, Weber, Bruschi and Brown (2022), efficiency in protecting the health and safety of employees is closely associated with abiding by municipal bylaws. The study carried out by Liu, Zhang and Wang (2021) indicates that businesses stand to gain significantly by respecting the basic rights of employees who work for them. Respecting the health and safety needs of employees enables employees to be highly motivated and experience job satisfaction. In a survey conducted by Ak, Yucesan and Gul (2022:629), the authors have shown the significant advantages of the use of rewards and incentives for good compliance. Highly recommended incentives are training, coaching, mentorship and regular supervision. This finding is similar to a finding reported by Worku, Snyman and Muchie (2014) in which the authors have recommended three steps. Step number one is the promotion of awareness in local communities. Step number two is needs-assessment. The third step is to meet the immediate needs of businesses so that they can comply with recommended guidelines satisfactorily. The study conducted by Zorpas (2020) has also made a similar recommendation.

**Objective of study**

The survey was carried out in the City of Tshwane, Gauteng Province, South Africa. The aim of the survey was to determine key predictors of satisfactory compliance with occupational health and safety guidelines in business enterprises that are formally registered as well as businesses that operate informally without being formally registered.

**Materials and methods of research**

A total of 406 business enterprises participated in the survey. A key operational and strategic priority of the City of Tshwane is to ensure satisfactory compliance with occupational health and safety guidelines in business enterprises that are formally registered as well as businesses that operate informally without being formally registered. Formal registration enables businesses to benefit from assistance programmes that are meant for small, micro and medium-sized business enterprises. The level of compliance with occupational health and safety guidelines was measured by using a set of 24 standard indicators of compliance with occupational health and safety that are used by the WHO and ILO. Bivariate methods of data analysis (Westfall and Arias, 2020), multiple linear regression analysis (Cool and Ockendon, 2015), probit regression analysis (Hoffmann, 2016), and structural equations modelling (Thakkar, 2020) were used for performing data analyses. The adequacy of all fitted regression models was ascertained by using standard statistical diagnostic tests (Washington, Karlaftis, Mannering & Anastasopoulos, 2020).

**Results of data analyses**

Frequency tables obtained from data analysis showed that the percentage of businesses that complied satisfactorily with occupational health and safety guidelines was 53%. A list of the top 9 predictors of compliance is shown in Table 1. The results are obtained from two-by-two chi-square tests of association (Westfall & Arias, 2020).

**Table 1: List of top 9 predictors of compliance (n=406)**

List of 9 predictors of compliance with occupational health and safety guidelines published by WHO and ILO	Calculated value of the chi-square statistic	Probability value
Does the actual owner operate the business?	74.32	0.00000
Does the business have adequate capital?	68.39	0.00000
Is the level of awareness about occupational health and safety guidelines adequate by WHO and ILO standards?	53.55	0.00000

Is the business profitable?	52.90	0.00000
What is the economic sector of the business?	52.70	0.00000
What is the race group of the business operator?	40.81	0.00000
What is the gender of the business operator?	38.88	0.00000
How old is the business operator?	28.96	0.00000
How long has the business been in operation?	32.46	0.00000

Table 2 shows regression coefficients estimated from ordered probit regression analysis (Enders, 2022). The results displayed in the table indicate that actual ownership of business, the availability of enough working capital, and awareness about highly valuable guidelines suggested for businesses by the WHO and ILO are all relevant and important. This understanding is essential for designing and rolling out intervention strategies in business enterprises.

**Table 2: Estimates from ordered probit regression (n=406)**

List of top 3 predictors of compliance with occupational health and safety guidelines published by WHO and ILO	Regression coefficient	P-value	95% Confidence Interval
Does the actual owner operate the business?	6.40	0.00000	(5.15, 7.65)
Does the business have adequate capital?	5.89	0.00000	(4.64, 7.14)
Is the level of awareness about occupational health and safety guidelines adequate by WHO and ILO standards?	4.62	0.00000	(3.37, 5.87)

Table 3 shows regression estimates obtained from structural equations modelling (Thakkar, 2020). The results displayed in the table indicate that actual ownership of business, the availability of enough working capital, and awareness about highly valuable guidelines suggested for businesses by the WHO and ILO are all relevant and important. This understanding is essential for designing and rolling out intervention strategies in business enterprises.

**Table 3: Estimates from structural equations modelling (n=406)**

List of top 3 predictors of compliance with occupational health and safety guidelines published by WHO and ILO	Regression coefficient	P-value	95% Confidence Interval
Does the actual owner operate the business?	6.40	0.00000	(5.15, 7.65)

Does the business have adequate capital?	5.89	0.00000	(4.64, 7.14)
Is the level of awareness about occupational health and safety guidelines adequate by WHO and ILO standards?	4.62	0.00000	(3.37, 5.87)

### Discussion of results of study

The survey has found a low level of compliance (53%) and poor awareness about WHO and ILO guidelines as well as similar legislative guidelines in South Africa. In this regard, the most notable piece of legislation is Act no. 85 of 1993, which is the Occupational Health and Safety Act in South Africa. The survey has also identified 3 influential factors. These are actual ownership of business enterprise, the availability of enough working capital in businesses, and awareness about the relative advantages of guidelines on occupational health and safety.

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