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# Impact of Safety Protocols, Training and Entrepreneur Commitment on Safety Performance

**Sakinah Mat Zin[1*], Rosfatihah Che Mat[1], Iskandar Hasan Tan Abdullah[2], Engku Huda Mursyidah Engku Hassan Ashari[3], Wan Nurfahizul Ifwah Wan Alias[4], Baba Uba Ibrahim[6]**
**Corresponding Author*

[1] Faculty of Business and Management, Universiti Teknologi MARA, Kelantan, Malaysia, [2] Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Kelantan, Malaysia, [3] Faculty of Business, Economics and Social Development, University of Malaysia Terengganu, [4] College of Computing,Informatics & Mathematics Universiti Teknologi MARA, Kelantan, Malaysia, [5] Faculty of Humanities, Sule Lamido University Kafin Hausa, Jigawa State, Nigeria

sakin405@uitm.edu.my, rosfa407@uitm.edu.my, iskan777@uitm.edu.my, engkuhuda@umt.edu.my. nurfahizul226@uitm.edu.my, babauba.ibrahim@slu.edu.ng
Tel: +6019-9802020

**Abstract**
In Malaysia, SMEs play a crucial role in economic growth but struggle with managing occupational safety and health (OSH) compared to larger businesses. A study on SMEs examined the effects of safety protocols, training, and entrepreneurial commitment on safety performance. The study collected data using survey tools adapted from prior research. A sample of 272 SME entrepreneurs was targeted, and the data was analyzed using SPSS. The results show that safety protocols, training, and entrepreneur commitment have significant impact on safety performance. These findings highlight the need for policymakers to establish clearer regulations and for entrepreneurs to implement OSH strategies.

Keywords: SME; Safety; Performance; Entrepreneur


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## 1.0 Introduction

Malaysia has a total of 1,173, 604 small and medium-sized enterprises (SMEs) according to data from the Department of Statistics Malaysia in 2021 (DOSM, 2021). The nation has introduced the Occupational Safety and Health Master Plan 2021-2025 (OSHMP2025), delineating seven strategies, with a particular emphasis on SMEs, advanced technology, research and development (R&D), and emerging sectors across 51 programs. Strategy 5 primarily aims at enhancing occupational safety and health (OSH) compliance within the SME sector (DOSH, 2021). Aziz et al. (2015) highlighted that between 2010 and 2012, SMEs in Malaysia accounted for 80–90% of workplace accidents. To address safety concerns, the Occupational Safety and Health Master Plan (OSHMP, 2020) set immediate goals, including reducing the death rate to 4.36 per 100,000 workers, lowering workplace accidents to 2.5 per 1,000 workers, and increasing the reporting rate of work-related diseases and poisonings to 30% by 2020. Malaysia's accelerated economic development has caused a recent rise in accident numbers (Aminuddin, M., 2023). Given the significant role of SMEs in Malaysia's economic landscape, there is considerable focus within the SME industry on OSH statistics.

Moreover, the management of OSH within SMEs remains a critical concern. Recent studies have highlighted the inadequate implementation of OSH practices in Malaysian SMEs, exposing workers to heightened risks of workplace accidents and health hazards. This phenomenon can be attributed to various factors inherent in SMEs, including limited financial resources, insufficient knowledge and

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awareness of OSH regulations, and a lack of commitment from owners and managers towards ensuring workplace safety (Mat et al., 2021). The implications of poor OSH management in Malaysian SMEs are profound, impacting not only the well-being of workers but also the overall productivity and competitiveness of these enterprises. Without effective OSH measures in place, SMEs may incur substantial costs associated with workplace injuries, medical expenses, and legal liabilities. Moreover, incidents of occupational accidents and illnesses can lead to disruptions in operations, tarnished reputation, and loss of employee morale, ultimately hindering the growth and sustainability of SMEs.

This research aims to explore the influence of safety protocols, entrepreneur commitment and safety training on safety performance within the context of SMEs. Additionally, the study endeavors to integrate these key factors, with the objective of offering enhanced guidance to aspiring SME entrepreneurs in attaining comparable levels of safety excellence. By elucidating the intricate interplay between compliance with safety protocols, entrepreneur commitment, and safety training, this study seeks to contribute to the advancement of knowledge in the field of OSH management within the SME sector. Furthermore, the development of a comprehensive model of SME safety performance holds significant implications for practical applications, facilitating informed decision-making and strategic interventions aimed at fostering a culture of safety and mitigating workplace hazards in SME settings.

The structure of this paper is outlined as follows. Initially, the introduction elucidates the research problem and presents the objectives of the study. Each construct is then elaborated on through a brief literature review. Building on this, the methodology section will detail the research approach, data collection methods, and analysis techniques used. Afterwards, the findings and their implications will be presented through a thorough data analysis. Finally, the discussion section will provide a detailed interpretation of the results, highlight the study's contributions to existing knowledge, and conclude with a summary of the research outcomes.

### *1.1 Research problem*

Despite ongoing efforts to enhance workplace safety standards, OSH issues remain prevalent in Malaysian SMEs. Recent data highlights a troubling gap in the effective application of OSH practices within these enterprises, which continue to struggle with limited resources, insufficient knowledge of OSH regulations, and a lack of owner and manager commitment to safety (Mat et al., 2021). As a result, Malaysian SMEs experience higher rates of workplace accidents, injuries, and occupational illnesses due to inadequate OSH management.

Research shows that occupational hazards are more prevalent in SMEs than in larger firms, highlighting a significant "size effect," where smaller businesses experience higher rates of workplace risks (OSHA, 2016). This issue is underlined by alarming statistics: approximately 2.78 million workers die each year from occupational accidents and diseases, while 374 million suffer non-fatal injuries annually. These numbers suggest that over a million workers are injured daily in workplace incidents (Hämäläinen et al., 2017).

SMEs experience a notably higher rate of fatal accidents—up to eight times more—than large companies, and non-fatal injuries are around 50% more frequent (Tremblay & Badri, 2018). These hazards pose severe risks that could potentially jeopardize a company's survival, highlighting the need to incorporate safety protocols within crisis management frameworks (Iqbal et al., 2021). Yet, despite these risks, an overwhelming 90% of SMEs justify their lack of OSH management (Caldarescu et al., 2021). This disparity emphasizes persistent gaps between the large number of SMEs and their safety performance.

The close physical proximity between workers and employers in SMEs significantly shapes social interactions, with employers frequently participating directly in day-to-day operations. This closeness fosters a shared perception among both employees and employers that formal regulatory requirements may be unnecessary, as issues are often resolved through daily interactions. While this informal approach has certain advantages, it also indicates a general lack of formal procedures and protocols in most SMEs, especially regarding safety regulations (OSHA, 2018).

SMEs generally have an informal organizational structure, creating a unique work culture that often reflects the entrepreneurs' personalities. When entrepreneurs or managers are hesitant to adopt improvements in OSH practices, implementing significant changes can be difficult, and shifting the organization's safety culture becomes an even greater challenge (OSHA, 2018). This highlights the need for research to better understand the relationship between safety protocols, entrepreneur commitment, safety training, and the overall safety performance in SMEs.

### *1.2 Research objectives*

The research objectives are as follows:

i. To determine the influence of safety protocols on SME safety performance.
ii. To identify the influence of entrepreneur commitment on SME safety performance.
iii. To investigate the influence of safety training on SME safety performance.

## 2.0 Literature review

Safety performance, encompassing measures of accident prevention, occupational health, and adherence to safety protocols, remains a critical priority for organizations worldwide. Recent studies highlight the multifaceted nature of safety performance and its implications for both employees' well-being and organizational success. Companies implementing policies geared towards enhancing employee health and safety, providing employee training, or establishing safety management systems, significantly enhance safety performance. Consequently, this improved safety performance positively correlates with financial performance (Bautista-Bernal et al., 2024). Businesses that implement strong safety performance measures experience a decrease in workplace accidents and injuries as well as an increase in worker morale and output (Carnide et al., 2023).

Abdullah et al. (2022) posit that safety protocols, procedures, communication, and the commitment of entrepreneurs exert considerable influence on safety performance within organizational contexts. This assertion is underpinned by the understanding that prioritizing health and safety performance not only fosters a secure work environment but also establishes a pivotal link to ensuring client satisfaction (Onubi et al., 2022). Ismail's (2020) investigation corroborates these findings, elucidating a positive association between various facets of safety management practices, including regulatory observance and managerial dedication, and safety performance outcomes. Thari et al. (2023) recommend that workplaces facing challenges in implementing devices or tools should consider adopting an administrative approach to initiate measures for managing work-related musculoskeletal disorders, especially within SMEs. Supported by Ahmad (2018), who emphasizes the indispensability of management commitment and adherence to safety protocols in realizing optimal safety performance standards. Furthermore, Alam et al. (2020) emphasize the imperative for tangible manifestations of management's dedication to safety, highlighting the importance of observable actions alongside verbal affirmations, such as the formulation of comprehensive safety policy statements. The application of OSH management systems is correlated with knowledge level, OSH commitment, and work environment (Aji et al., 2024).

Moreover, limited knowledge, high implementation costs, and outdated policies are the key obstacles to OSH training (Saad et al., 2024). Abas et al. (2021) contribute to this discourse by identifying safety protocols and performance monitoring as significant determinants of safety performance, alongside factors such as safety training and induction programs. Programs for safety training are in line with OSH's safety protocols (Taha et al., 2024). To ensure effective training, employers and organizations should adopt practices that deliver the greatest benefits, when aiming to enhance OSH training. For instance, using mobile virtual reality in the training keeps it up-to-date with modern technology and provides a more effective approach compared to traditional classroom training or risky on-site practice (Shamsudin & Majid, 2019). Particularly pertinent to SMEs, entrepreneurs are called upon to exhibit unwavering commitment to monitoring OSH performance within their firms. Further, Lun & Wahab (2011) propose that cultivating a culture of positive safety leadership holds promise in mitigating workplace accidents, further underlining the importance of proactive safety management strategies in organizational settings.

This study aims to investigate the relationship between safety protocols, entrepreneur commitment and safety training on safety performance of SMEs. Based on above justification, this study proposed the research framework as in Fig. 1 below.

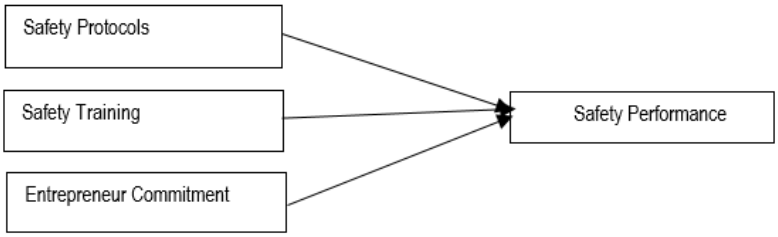


Fig. 1: Research Framework

## 3.0 Methodology

*3.1 Survey instrument*

A cross-sectional survey with a quantitative approach was employed, covering all aspects of safety management based on an extensive literature review. Comprising 20 items, the questionnaire, was developed to assess self-rated safety performance within SMEs, grounded in a comprehensive review of relevant literature and theoretical frameworks. The questionnaire, initially created by Vinodkumar and Bhasi (2010), was adapted for this study and modified for an online survey format. By using a self-report survey in the Malaysian context, the study expands the applicability of a previously validated method from India and increases its flexibility. The instrument measured four domains: entrepreneur commitment (8 items), safety protocols (4 items), safety training (4 items), and safety performance (8 items), with responses rated on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). To establish face validity, the draft was reviewed by senior faculty in business management, resulting in adjustments for clarity, such as rephrasing and eliminating select items. A pilot study involving 30 entrepreneurs was conducted to evaluate item clarity, which led to further modifications, including the rewording of negatively phrased items. Reliability analyzes were subsequently performed, and items with item-to-total correlations below 0.4 were excluded to refine the final survey instrument.

*3.2 Population and sample*

The study's population consists of SME entrepreneurs registered with the Malaysian Cooperative Commission (SKM) in Kelantan. In 2017, SKM Kelantan reported strong economic performance, generating RM1.23 million in revenue, positioning Kelantan's cooperative sector among the top five in the region (Bernama, 2019). SKM is classified as an SME under the Ministry of Entrepreneur Development and Cooperatives (MEDAC), which actively supports SMEs within SKM's scope through various economic interventions (Bernama, 2021). This study's sample included 272 SKM-affiliated entrepreneurs in Kelantan, exceeding the minimum sample size of 269 recommended by Krejcie and Morgan (1970). Additionally, literature indicates that a sample size between 30 and 500 is typically sufficient for research (Bougie & Sekaran, 2019).

The response rate of 60.4% aligns with standard guidelines in social survey literature, which recommend response rates between 50% and 80% to support result reliability (Babbie & Babbie, 1998; Dillman et al., 2000; De Vaus & de Vaus, 2013). Nevertheless, Mellahi and Harris (2016) documented an average response rate of 44.7% for general business and management studies, with a slightly higher average of 52.5% in specialized areas like human resources and organizational behavior.

*3.3 Collection procedure*

Questionnaires were distributed to participants via WhatsApp, a mobile instant messaging app, which contributed to a high response rate, low costs, and quick feedback (Aziz et al., 2018). WhatsApp Messenger is one of the fastest-growing mobile messaging platforms globally (Endeley, 2018) and can efficiently reach a large audience (Fei et al., 2022). Widely used in countries like India, Indonesia, Malaysia, Brazil, and South Africa (Dahir, 2018; Fiesler & Hallinan, 2018), WhatsApp enabled the collection of 272 completed questionnaires, providing sufficient data for the statistical analyzes required in this study.

## 4.0 Results

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS), covering both descriptive statistics and hypothesis testing. Skewness values for all variables ranged from -0.850 to 0.009, within the acceptable limits set by Sharma and Ojha (2020). Similarly, kurtosis values, ranging from -0.873 to 5.904, met the acceptable range for normal distribution (-7 to +7). Given these values, the data can be considered normally distributed.

Cronbach's alpha was used to assess the internal consistency and reliability of each construct, especially as this study examines constructs across various faculties and academic levels for the first time. Internal consistency reflects the degree of correlation among items within each construct. Table 1 displays the reliability results for each variable, with values ranging from 0.915 to 0.958, which are considered highly acceptable for research, based on standards recommended by Sekaran & Bougie (2013).

Table 1: Reliability Statistics

| Variable | Cronbach's Alpha | No of Items |
|---|---|---|
| Safety Performance | 0.958 | 8 |
| Safety Protocols | 0.940 | 4 |
| Entrepreneur Commitment | 0.915 | 8 |
| Safety Training | 0.929 | 4 |

Of the 450 questionnaires distributed, 272 were returned via WhatsApp, yielding a strong response rate of 60.4%. This aligns with Fei et al. (2022), who noted that WhatsApp achieved the highest response rate at 55%. Referring to table 2 below, the data analysis showed that female participants comprised 54% of the sample, while males made up 46%. Regarding age distribution, the largest group (29.8%) was aged 39 to 48 years, followed by 28.3% aged 29 to 38, 21% aged 49 to 58, 11% aged 19 to 28, and 9.9% aged 59 to 68 years. In terms of educational qualifications, 36.8% of respondents held SPM/STPM, 27.2% held diplomas, 21% held bachelor's degrees, 5.5% held master's degrees, and 0.4% held PhDs, while 9.2% reported other qualifications. Table 3 presents the model summary, showing an R-value of 0.892 and an $R^2$-value of 0.769, indicating a strong linear regression relationship among the variables. The $R^2$-value of 0.769 suggests that approximately 76.9% of the variability in safety performance is explained by the interactions with the independent variables in the study.

Table 2: Gender, Age and Education

| Gender | Frequency | Percent |
|---|---|---|
| Male | 125 | 46.0 |
| Female | 147 | 54.0 |
| Total | 272 | 100.0 |
| | | |
| Age | Total | Percent |
| 19-28 years old | 30 | 11.0 |
| 29-38 years old | 77 | 28.3 |
| 39-48 years old | 81 | 29.8 |
| 49-58 years old | 57 | 21.0 |
| 59-68 years old | 27 | 9.9 |
| | | |
| Education | Total | Percent |
| PhD | 1 | 0.4 |
| Master | 15 | 5.5 |
| Bachelor | 57 | 21.0 |
| Diploma | 74 | 27.2 |
| SPM/STPM | 100 | 36.8 |
| Others | 25 | 9.2 |
| Total | 272 | 100.0 |

Table 3: Model Summary

| Model | R | R Square |
|---|---|---|
| 1 | 0.892 | 0.796 |

Multiple regression analysis was conducted to evaluate the hypotheses of this study, which was considered appropriate as all relevant assumptions were met beforehand. Specifically, safety protocols, entrepreneur commitment and safety training were analyzed in relation to safety performance. The results revealed a statistically significant positive relationship between safety protocols and safety performance ($\beta = 0.550$, $p \leq 0.001$), entrepreneur commitment and safety performance ($\beta = 0.184$, $p \leq 0.001$), and safety training and safety performance ($\beta = 0.199$, $p \leq 0.001$). The analysis findings are summarized in table 4, which outlines the regression coefficients for the key factors influencing safety performance.

Table 4: Regression and Related Statistics

| Model | | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|
| 1 | (Constant) | | 2.350 | .020 |
| | Safety_protocols | 0.550 | 8.946 | <.001 |
| | Entrepreneur_commitment | 0.184 | 4.168 | <.001 |
| | Safety training | 0.199 | 3.509 | <.001 |

## 5.0 Discussion and contributions

This study aimed to investigate the factors influencing safety performance in SMEs. The findings highlighted that safety performance is comprehensively explained by various factors, emphasizing the need to prioritize effective management practices to enhance overall business operations. Specifically, the results identified safety protocols, entrepreneurial commitment, and safety training as critical contributors to safety performance in Malaysian SMEs. Supporting this, Abdullah et al. (2022) reported that facets of safety management practices significantly impact safety performance. Additionally, evidence from Vinodkumar and Bhasi (2010) underscores the pivotal role of management commitment and safety practices in reducing workplace accidents.

Addressing OSH challenges in Malaysian SMEs requires a holistic approach that brings together government agencies, industry associations, and SME stakeholders. Key initiatives include raising OSH awareness, strengthening commitment, offering training and support services, and incentivizing regulatory compliance. These measures are essential for cultivating a robust safety culture within SMEs. By integrating OSH as a strategic priority, Malaysian SMEs can safeguard employee well-being while boosting their resilience and competitiveness in an ever-changing business environment (Mat et al., 2021).

This study offers two important contributions to the existing academic literature. First, it fills a critical gap by examining how safety protocols, entrepreneurial commitment, and safety training impact safety performance. The results emphasize the importance of fostering a supportive work environment through the implementation of effective safety protocols and comprehensive training to achieve a workplace free from injuries. Second, the findings provide practical guidance for SME owners and managers, highlighting strategies to cultivate a safety-driven culture and encourage active employee participation in safety initiatives.

For SMEs, recognizing the critical importance of safety performance is essential, as it directly influences financial outcomes by minimizing costs linked to compensatory payouts. Unlike other operational aspects, safety must be embedded into all levels of organizational activities and initiatives. A holistic and integrated approach to evaluating safety programs in Malaysian SMEs has the potential not only to improve safety performance but also to drive gains in overall productivity.

## 6.0 Conclusion

Like many studies, this research is subject to certain limitations, primarily due to its reliance on questionnaire-based data collection. As a result, the findings are contingent on the voluntary participation of respondents, which may introduce biases. Respondents might have provided socially desirable answers to present themselves in a favorable light, potentially compromising the consistency and accuracy of the data in reflecting actual work behaviors. Future research could address these limitations by employing a combination of quantitative and qualitative methods to enhance the precision and robustness of the findings.

This study explored the relationships between safety performance, entrepreneurial commitment, safety training, and safety protocols. While acknowledging its limitations, the findings contribute meaningfully to advancing occupational safety and health (OSH) practices and research. The results highlight the significant influence of safety protocols, training, and entrepreneurial commitment on safety performance, providing valuable guidance for policymakers, entrepreneurs, and researchers. Policymakers can implement initiatives such as financial support and regulatory simplifications, while entrepreneurs can apply these insights to develop tailored OSH strategies for small and medium enterprises (SMEs). Furthermore, researchers can expand upon these findings by conducting targeted studies to refine OSH practices in this essential sector.

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## Paper Contribution to Related Field of Study

The significant contribution of this paper is at the level of the empirical part of safety protocols, training, entrepreneur commitment and safety performance of SMEs. The absence of effective OSH measures can result in significant costs for SMEs, including expenses related to workplace injuries, medical treatments, and legal liabilities. The findings emphasize the necessity for policymakers to develop more defined regulations and for entrepreneurs to implement effective OSH strategies .

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