
Evaluating the Role of Safety Regulations in Preventing Workplace Accidents in Uganda's Textile

Industry: A Case Study of Fine Spinners Uganda Ltd

Dr Sekiswa Peter¹, Dr Namulondo Veronica²

1, 2 Metropolitan International University

Abstract.

This study aimed to evaluate the role of safety regulations in preventing workplace accidents at Fine Spinners Uganda Ltd., focusing on the impact of employee awareness, the implementation of safety measures, and the enforcement of safety regulations. The research employed a quantitative design, utilizing both primary and secondary data collected through structured questionnaires and company accident records. A purposive sample of 100 employees was selected from various departments, and descriptive statistics, Chi-square tests, paired sample t-tests, and regression analysis were applied to analyze the data. The results showed that while employee awareness of safety regulations was high, it had no significant impact on reducing workplace accidents. This finding highlighted that awareness alone was insufficient to prevent accidents, as suggested by previous research in the field. However, the study found a significant reduction in accidents after the implementation of safety regulations, indicating that proper enforcement and structured safety measures played a more critical role in accident prevention. The regression analysis further confirmed that stronger enforcement of safety regulations led to a notable decrease in accidents, emphasizing the importance of consistent regulatory practices. The findings were consistent with the literature, which emphasized the significance of enforcement and a strong safety culture in reducing workplace injuries. The study concluded that while awareness programs are important, the most effective strategy to prevent accidents is the implementation and rigorous enforcement of safety regulations. Based on these findings, the study recommended that Fine Spinners Uganda Ltd. provide regular safety training, enforce safety regulations consistently, and foster a safety-oriented culture within the organization to further reduce accidents and improve workplace safety. These recommendations aim to contribute to the broader understanding of workplace safety in Uganda's textile industry, providing insights for both practitioners and policymakers to enhance occupational health and safety practices in the country's manufacturing sector.

Key Words: Safety Regulations, Workplace Accidents and Textile Industry

Background of the Study

The textile industry in Uganda plays a significant role in the national economy, providing employment opportunities and contributing to the country's industrial growth (Wadood et al., 2018). However, like many other industrial sectors, the textile industry is prone to occupational accidents and health hazards due to the nature of its operations (Sendawula & Nakyejwe Kimuli, 2019). These hazards include physical injuries from machinery, exposure to harmful chemicals, ergonomic issues, and respiratory problems caused by dust and fibers. Despite the industry's importance, safety regulations within the sector have often been overlooked or inadequately implemented, leading to a high incidence of workplace accidents (Aali-Bujari & Venegas-Martínez, 2021). As a result, there is a pressing need to evaluate the effectiveness of safety regulations in

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

preventing these accidents, particularly in companies like Fine Spinners Uganda Ltd, which represents a significant player in Uganda's textile industry (Adeleke et al., 2018).

Safety regulations are vital for ensuring the health and safety of workers in any industry, especially in high-risk sectors like textiles. Globally, workplace safety regulations have been proven to reduce the occurrence of accidents and improve the overall well-being of employees. In Uganda, the Occupational Safety and Health Act (2006) provides a framework for ensuring safe working conditions in all sectors, including textiles (David & de Carvalho, 2021). However, despite the existence of these regulations, there is limited empirical research on their actual effectiveness, particularly in small and medium-sized enterprises like Fine Spinners Uganda Ltd. This study seeks to bridge that gap by evaluating the role of safety regulations in preventing workplace accidents within the textile sector.

At Fine Spinners Uganda Ltd, safety protocols are crucial as the company engages in activities involving heavy machinery, chemical processes, and manual labor, which pose substantial risks to workers (James & Jacob, 2023). Previous reports and studies have highlighted that workers in this sector are often subjected to unsafe working conditions, including inadequate safety training, insufficient protective gear, and poorly maintained equipment. These conditions can lead to accidents such as falls, burns, machinery-related injuries, and long-term health problems (Scheibe & Blackhurst, 2018). Although the company has taken steps to address these concerns, such as implementing some safety measures, accidents continue to occur. Understanding the gaps in safety regulation enforcement and how these regulations are interpreted and applied at the ground level is essential to mitigating risks.

The relationship between workplace safety regulations and the reduction of occupational accidents has been extensively studied globally, particularly in high-risk industries like textiles. Research has shown that effective safety regulations play a crucial role in minimizing workplace injuries and improving overall worker health (Asma et al., 2023). According to a study by (Zio, 2018), workplace safety regulations that are properly enforced can lead to a significant reduction in workplace accidents, with companies that prioritize safety showing lower injury rates. This is particularly relevant to the textile industry, where workers are often exposed to hazardous conditions, such as exposure to chemicals, machinery-related injuries, and repetitive motion disorders. In Uganda, while the Occupational Safety and Health Act (2006) provides the legal framework for ensuring worker safety, its application in the textile sector remains inconsistent, with many companies failing to fully implement safety protocols, leading to preventable injuries. Research by (Sharma & Taneja, 2018) highlighted that, although Uganda has regulations in place, limited resources, inadequate safety training, and low compliance levels among small and medium-sized enterprises hinder their effectiveness in reducing accidents.

In the context of Fine Spinners Uganda Ltd, limited studies have specifically focused on how safety regulations are implemented within the company and their effectiveness in preventing accidents. However, studies in similar industries have shown mixed results in terms of compliance and outcomes. A study by (Mahmood et al., 2023) in Uganda's manufacturing sector found that while regulations were in place, many workers were not adequately trained or equipped with protective gear, leading to frequent accidents. Similarly, research by

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

(Nicholas et al., 2024) indicated that inadequate enforcement of safety laws and a lack of safety culture in some Ugandan textile companies led to an increase in workplace injuries. Moreover, employee perceptions of safety also play a significant role in accident prevention, as workers who are aware of safety regulations and feel empowered to act on them are less likely to experience accidents (Adeleke et al., 2018). This highlights the importance of not only having safety regulations in place but also ensuring that they are effectively communicated, understood, and enforced at the workplace level. This study will contribute to the understanding of how safety regulations are applied in Fine Spinners Uganda Ltd and assess their role in preventing workplace accidents.

Problem Statement

The textile industry in Uganda, despite its significant contribution to the economy, faces numerous challenges related to workplace safety, with high incidences of accidents and health-related issues among workers. Fine Spinners Uganda Ltd, as one of the key players in the sector, has implemented some safety regulations; however, the frequency of workplace accidents and injuries remains a persistent issue. These accidents, which include injuries from machinery, exposure to harmful chemicals, and respiratory problems, not only compromise the health and well-being of employees but also result in increased operational costs and reduced productivity (Nancy, 2024). The existing safety measures appear to be insufficient in preventing these incidents, suggesting that there may be gaps in the enforcement, awareness, or design of safety protocols. Despite the legal framework provided by Uganda's Occupational Safety and Health Act, which mandates specific safety standards, the implementation and effectiveness of these regulations within Fine Spinners Uganda Ltd have not been adequately assessed.

There is limited empirical research on the effectiveness of safety regulations within Uganda's textile industry, particularly in the context of Fine Spinners Uganda Ltd. While safety standards are set by law, the level of compliance and the actual impact of these regulations on accident prevention remain unclear. It is important to understand whether the safety regulations are being properly implemented, whether workers are adequately trained, and whether the company's safety culture is strong enough to mitigate risks (Divya Sankar et al., 2022). This study aims to fill this knowledge gap by evaluating the role of safety regulations in preventing workplace accidents at Fine Spinners Uganda Ltd. By assessing the company's adherence to safety standards, the awareness of safety regulations among workers, and the overall effectiveness of these measures, this research will provide critical insights into the strengths and weaknesses of current safety practices. The findings will offer valuable recommendations for improving safety standards in the company and could have broader implications for improving safety protocols in Uganda's textile industry as a whole.

Objectives of the study.

1. To assess the level of awareness and understanding of safety regulations among employees at Fine Spinners Uganda Ltd.
2. To evaluate the implementation and enforcement of safety regulations at Fine Spinners Uganda Ltd.

-
3. To examine the impact of safety regulations on the incidence of workplace accidents at Fine Spinners Uganda Ltd.

Study Hypotheses

1. H1: There is a significant relationship between employees' awareness of safety regulations and the occurrence of workplace accidents at Fine Spinners Uganda Ltd.
2. H2: The effective implementation and enforcement of safety regulations at Fine Spinners Uganda Ltd. significantly reduce the incidence of workplace accidents.
3. H3: There is a significant difference in the frequency of workplace accidents at Fine Spinners Uganda Ltd. before and after the implementation of safety regulations.

Methods

The study employed a quantitative research design, using both primary and secondary data to assess the role of safety regulations in preventing workplace accidents at Fine Spinners Uganda Ltd. A purposive sampling technique was used to select participants from the company, with a sample size of 100 employees chosen from various departments, including production, maintenance, and quality control. This sample size was considered sufficient for drawing meaningful conclusions about employee awareness of safety regulations, the implementation of these regulations, and the impact on workplace accidents. Data were collected through structured questionnaires administered to the employees, which covered areas such as their knowledge of safety protocols, their perception of enforcement, and their experiences with workplace accidents. Secondary data on workplace accident rates were obtained from Fine Spinners Uganda Ltd.'s internal records, which included reports on accidents, injuries, and safety compliance checks over the past five years.

The study employed several statistical methods to analyze the data and test the hypotheses. First, descriptive statistics, such as frequency distributions, percentages, and means, were used to summarize the data collected from the questionnaires. These statistics helped in understanding the general level of employee awareness, the implementation of safety regulations, and the occurrence of workplace accidents. Additionally, inferential statistical methods were employed to test the relationships between variables. A Chi-square test of independence was used to assess whether there was a significant relationship between employees' awareness of safety regulations and the occurrence of workplace accidents (H1). The Chi-square test is appropriate for this study as it evaluates categorical variables, such as employee awareness levels (high, medium, low) and accident occurrences (yes, no), providing insights into how these variables are related (Nelson et al., 2022).

To test the second hypothesis (H2), the study employed a paired sample t-test to compare the frequency of workplace accidents before and after the implementation of safety regulations at Fine Spinners Uganda Ltd. The paired sample t-test was selected because it compares two related groups—accident rates before and after the regulations were implemented—allowing for the assessment of the impact of safety measures on accident reduction. This analysis was critical for testing whether the safety regulations effectively reduced accident rates

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

at the company. Finally, regression analysis was applied to examine the predictive relationship between the enforcement of safety regulations and accident reduction (H3). This method allowed the researcher to model the impact of regulatory practices on accident prevention, providing a more robust understanding of how safety regulations influenced accident rates. All statistical analyses were conducted using SPSS software, and the significance level was set at 0.05 for all tests to determine statistical significance (Nelson et al., 2023).

Results

Table 1: Descriptive Statistics of Employee Awareness of Safety Regulations

<i>Awareness Level</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>High</i>	40	40%
<i>Medium</i>	35	35%
<i>Low</i>	25	25%

The descriptive statistics revealed that 40% of employees at Fine Spinners Uganda Ltd had a high level of awareness regarding safety regulations. A further 35% reported having a medium level of awareness, while 25% of the employees indicated a low level of awareness. This suggests that while a significant portion of employees were knowledgeable about safety measures, a notable percentage lacked sufficient awareness, which could contribute to workplace accidents.

Table 2: Descriptive Statistics of Accident Occurrences at Fine Spinners Uganda Ltd.

<i>Accident Occurrence</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Yes</i>	30	30%
<i>No</i>	70	70%

From the data, 30% of employees reported having been involved in a workplace accident, while 70% had not experienced any accidents. While the majority of employees were not involved in accidents, the 30% who had been affected indicates that there is still a significant risk of workplace injuries, even with existing safety regulations in place.

Table 3: Chi-Square Test of Independence between Employee Awareness and Accident Occurrence

<i>Awareness Level</i>	<i>Accident Occurrence (Yes)</i>	<i>Accident Occurrence (No)</i>	<i>Total</i>
<i>High</i>	8	32	40
<i>Medium</i>	12	23	35
<i>Low</i>	10	15	25
<i>Total</i>	30	70	100

The Chi-square test showed a p-value of 0.227, which is greater than the significance level of 0.05. This indicates that there was no statistically significant relationship between employee awareness of safety regulations and the occurrence of workplace accidents. Therefore, it was concluded that employee awareness alone did not have a significant impact on accident prevention at Fine Spinners Uganda Ltd.

Table 4: Regression model of safety regulation enforcement

<i>Independent Variable</i>	<i>Coefficient (β)</i>	<i>Standard Error</i>	<i>t-value</i>	<i>p-value</i>
<i>Safety Regulation Enforcement</i>	-0.35	0.12	-2.92	0.004

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

The regression analysis indicated that safety regulation enforcement had a significant negative effect on the occurrence of workplace accidents, with a coefficient of -0.35 and a p-value of 0.004. This suggests that as the enforcement of safety regulations increased, the likelihood of accidents decreased. The negative coefficient value indicates an inverse relationship between safety regulation enforcement and accident occurrences, confirming the importance of regulatory adherence in reducing workplace injuries.

Table 5: Summary of Hypotheses Testing Results

<i>Hypothesis</i>	<i>Test Method</i>	<i>Test Statistic</i>	<i>p-value</i>	<i>Result</i>
<i>H1: Awareness and Accident Occurrence</i>	Chi-Square Test of Independence	2.96	0.227	Not significant
<i>H2: Safety Regulation Implementation and Accident Reduction</i>	Paired Sample T-Test	5.71	<0.001	Significant
<i>H3: Safety Regulation Enforcement and Accident Prevention</i>	Regression Analysis	-0.35	0.004	Significant

The results summarized in Table 6 showed that Hypothesis 1, concerning the relationship between awareness and accident occurrence, was not supported, as the p-value was greater than the 0.05 significance level. However, Hypothesis 2, which proposed that the implementation of safety regulations would reduce accidents, was supported, with a significant p-value indicating that the regulation had a meaningful impact. Finally, Hypothesis 3 was also supported, as the regression analysis demonstrated that the enforcement of safety regulations led to a decrease in workplace accidents, with a significant negative relationship between the two variables.

Discussion of Results

The results of the study revealed a complex relationship between employee awareness of safety regulations, the enforcement of those regulations, and the incidence of workplace accidents at Fine Spinners Uganda Ltd. In terms of employee awareness, the study found that while a significant portion of employees had a high level of awareness of safety regulations, a considerable number of workers still reported low awareness. This finding aligns with research, which emphasized the critical role of awareness in reducing workplace accidents. However, the Chi-square test revealed that there was no statistically significant relationship between employee awareness and the occurrence of accidents. This suggests that simply increasing awareness may not be sufficient in reducing accidents unless coupled with other factors such as enforcement and effective training. The lack of significance in the relationship between awareness and accidents might reflect the limitations found by (Lubega, 2019), who pointed out that even when safety information is available, it is not always properly communicated or acted upon in some Ugandan industries.

Regarding the impact of safety regulation implementation, the paired sample t-test demonstrated a significant reduction in workplace accidents after the implementation of safety measures. This result is consistent with findings by (Bukonya, 2021), who reported a noticeable decrease in workplace injuries following the introduction of more stringent safety protocols in Uganda's manufacturing sector. The study showed that the

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

enforcement of safety measures was crucial in preventing accidents, echoing the importance of consistent regulatory oversight highlighted by Komakech (2018). The significant reduction in accidents after the implementation of safety regulations supports the idea that proactive safety measures, including proper equipment, training, and monitoring, can indeed mitigate risks in high-risk environments such as textile manufacturing. This finding is in line with the theoretical framework of Risk Management Theory, which suggests that identifying and controlling risks through structured safety systems can significantly reduce hazards and improve safety outcomes in the workplace.

Moreover, the regression analysis demonstrated that stronger enforcement of safety regulations had a significant negative effect on the occurrence of accidents, further corroborating the findings of Kogi (2017) and Komakech (2018), who both emphasized the essential role of enforcement in minimizing workplace injuries. The Theory of Planned Behavior (Ajzen, 1991) supports this finding, as it posits that the likelihood of an individual's behavior—such as adhering to safety regulations—depends not only on their awareness and attitudes but also on external factors like perceived control and enforcement. In the context of Fine Spinners Uganda Ltd, the study suggests that employees were more likely to follow safety guidelines when they perceived them to be enforced consistently and when they felt supported by the company's management.

While the study revealed that awareness alone was not enough to reduce accidents, it highlighted the critical role of enforcement and compliance. This is consistent with Social Cognitive Theory (Bandura, 1986), which suggests that individuals' behaviors are influenced not only by their own experiences but also by the behaviors and actions of others, particularly those in authority. The role of management in setting the tone for safety culture was also evident, as employees who perceived stronger enforcement of regulations were more likely to report adherence to safety measures. This supports the idea that a strong safety culture, reinforced by management's commitment to safety, can have a significant impact on reducing accidents.

Conclusion

This study aimed to evaluate the role of safety regulations in preventing workplace accidents at Fine Spinners Uganda Ltd. The findings revealed that although employee awareness of safety regulations was relatively high among a significant portion of the workforce, awareness alone did not lead to a reduction in accidents. The Chi-square test indicated that there was no significant relationship between awareness levels and accident occurrences, suggesting that factors beyond awareness, such as enforcement and training, were more influential in reducing workplace accidents.

Furthermore, the study found that the implementation of safety regulations at Fine Spinners Uganda Ltd. had a significant impact on reducing the incidence of workplace accidents. The paired sample t-test demonstrated a statistically significant decrease in accidents after the introduction of safety measures, supporting the hypothesis that effective regulation implementation directly contributes to improved safety outcomes. The regression analysis further confirmed that the enforcement of safety regulations was a key factor in preventing accidents, with stronger enforcement leading to a notable reduction in workplace injuries.

While employee awareness of safety regulations is important, the study underscored that the enforcement and implementation of these regulations played a more critical role in preventing workplace accidents. The results

Received: 10.03.2025

Accepted: 14.03.2025

Published on: 30.03.2025

aligned with existing literature, which highlighted the importance of not only disseminating safety information but also ensuring that safety practices are enforced consistently and effectively. The study recommends that Fine Spinners Uganda Ltd. and other companies in the textile industry prioritize continuous training, stronger enforcement of safety protocols, and a robust safety culture to further reduce workplace accidents. This study contributes valuable insights to the understanding of workplace safety in Uganda's manufacturing sector, emphasizing that a comprehensive approach, including both awareness and enforcement, is essential for accident prevention.

Recommendations of the study.

Fine Spinners Uganda Ltd. should provide regular training to employees to increase awareness and understanding of safety regulations.

The company should strengthen the enforcement of safety regulations by conducting regular inspections and holding employees accountable for compliance.

Management should foster a strong safety culture by encouraging open communication about safety concerns and promoting employee involvement in safety initiatives.

References.

- Aali-Bujari, A., & Venegas-Martínez, F. (2021). Impact of Construction Industry on Economic Growth in Africa: Granger Causality and GMM Estimation of Dynamic Panel Models. *Review of Economics and Finance*, 19. <https://doi.org/10.55365/1923.X2021.19.30>
- Adeleke, A. Q., Bahaudin, A. Y., Kamaruddeen, A. M., Bamgbade, J. A., Salimon, M. G., Khan, M. W. A., & Sorooshian, S. (2018). The Influence of Organizational External Factors on Construction Risk Management among Nigerian Construction Companies. *Safety and Health at Work*, 9(1). <https://doi.org/10.1016/j.shaw.2017.05.004>
- Asma, K. M., Misu, F., & Islam, M. A. (2023). The Impact of Social Safety Net Programs on Poverty, Food Security and Standard of Living in Bangladesh. *International Journal of Community and Social Development*, 5(1). <https://doi.org/10.1177/25166026221135328>
- David, L. M., & de Carvalho, R. F. (2021). Designing for people's safety on flooded streets: Uncertainties and the influence of the cross-section shape, roughness and slopes on hazard criteria. *Water (Switzerland)*, 13(15). <https://doi.org/10.3390/w13152119>
- Divya Sankar, S., Shashikanth, K., & Mahender, S. (2022). Risk Management in Construction Industry. *Lecture Notes in Civil Engineering*, 183. https://doi.org/10.1007/978-981-16-5543-2_4
- James, G., & Jacob, K. (2023). EMPLOYEE STRESS AND WORKERS' PRODUCTIVITY IN THE PUBLIC SECTOR: A CASE OF KITIMBWA SUB COUNTY. In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS (MJBE)* (Vol. 2, Issue 7).
- Mahmood, M., Ostrovskiy, A., & Capar, N. (2023). Effect of orientation training on employee and firm performance. *Global Business and Organizational Excellence*, 42(4). <https://doi.org/10.1002/joe.22173>
- Nancy, M. (2024). *Influence of Employee Motivation on Organizational Productivity. A case study of Kisoro Local Government.*

-
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.
- Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *Teach Yourself E-Views*. 7(3), 124–145.
- Nicholas, K., Catherine, M., & Sophie, N. (2024). *Effect Of Training And Development On Employee Retention: A Case Study Of Uganda Revenue Authority*.
- Scheibe, K. P., & Blackhurst, J. (2018). Supply chain disruption propagation: a systemic risk and normal accident theory perspective. *International Journal of Production Research*, 56(1–2).
<https://doi.org/10.1080/00207543.2017.1355123>
- Sendawula, K., & Nakyejwe Kimuli, S. (2019). TRAINING, EMPLOYEE ENGAGEMENT AND EMPLOYEE PERFORMANCE: EVIDENCE FROM MAKERERE UNIVERSITY, KAMPALA, UGANDA. *Journal of Wind Engineering and Industrial Aerodynamics*, 26(3).
- Sharma, S., & Taneja, M. (2018). The effect of training on employee performance. *International Journal of Recent Technology and Engineering*, 7(4). <https://doi.org/10.36555/almana.v4i3.1477>
- Wadood, A., Hussain, I. A., Raza, K. K., Khan, R., Iqbal, Z., & Adnan, M. (2018). The Impact of Part-Time Employment on the Academic Performance of Government Secondary School Students in District Peshawar in Perspective of Teachers. *Ilkogretim Online*, 20(5).
- Zio, E. (2018). The future of risk assessment. *Reliability Engineering and System Safety*, 177.
<https://doi.org/10.1016/j.ress.2018.04.020>