Development of a Safety Culture Assessment Tool for Jordanian Enterprises

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ABSTRACT

This study aimed to develop a tool for evaluating the safety culture within Jordanian establishments. The tool, which consists of survey questionnaires, assesses important facets of safety culture, including senior management involvement, safety equipment availability, employee safety training, and adherence to work procedures. The instrument's applicability was tested by evaluating a Jordanian company's safety culture. JEPCO was selected. The survey included two hundred workers. Statistical tests were performed to check if the data was accurate and reliable. The findings demonstrated that having sufficient safety equipment, leadership commitment, adherence to safety rules, and appropriate employee training are all necessary to foster a positive safety attitude. Based on that, in addition to the necessity of more management commitment towards safety, the company should provide comprehensive safety training and conduct regular safety assessments to identify the ongoing training needs.

1. INTRODUCTION

By the end of the 20th century, large-scale incidents made "safety culture" crucial to enterprises, both managerially and personally. "Safety culture" emerged in 1986 for the first time [1]. There are several definitions for safety culture in the literature. Bhattacharya [2] asserted that it is a broad term that includes all facets of the establishment's safety-related beliefs and practices. The safety culture covers the values, thoughts, standards, and basic presumptions associated with safety. The Confederation of British Industry states it is a mix of thoughts and values about healthiness, safety, and mishaps [3-5]. Values, perspectives, capabilities, and manners of employees can shape the safety culture of an organization, which in turn influences the firm's ability to handle safety [6]. Safety culture, therefore, is a blend of thoughts and values complemented with policies and corporate configurations [7]. It is a critical component for improving safety performance. Enhancing the safety culture requires the organization to exhibit a comprehensive safety policy and adequate continuing education and training programs. Also, frequent risk assessment and safety audits are essential. Based on the above, enhancing a safety culture mandates a cognitive mentality, compelling information exchange, and rewarding safe performance.

Failing to encourage adherence to safety measures may adversely affect workers' well-being and business sustainability. Therefore, instead of imposing best practices, a positive safety culture can influence workplace norms [8-10]. The preliminary purpose of a safety culture is to improve workplace safety and reduce occupational hazards. A mature safety culture is necessary for a safe workplace [11]. The

Health and Safety Executive (HSE) [6] noted that work incidents are less frequent in organizations that maintain proactive, functional, and efficient occupational health and safety management. Lack of adequate safety culture can be a primary cause of accidents. Workers must be conscious of the likely safety threats and comprehend certain technical, managerial, and workplace aspects that affect safety to enable a strong safety culture, which might be a predictive metric of the corporate safety enactment [11]. However, Krause [12] stated that a safety culture is a set of guidelines for the attitudes, beliefs, and actions related to safety. Positive safety cultures favorably affect people's attitudes in several ways and necessitate the full support of directors to prevent incidents. A company's inadequate safety culture is frequently the cause of numerous incidents.

Digital technology use in safety is expanding and changing the perception of safety culture. According to recent research, creative safety leadership and cultural shift can be facilitated by real-time monitoring, protective safety technologies, and leading metrics [13-17]. Okechukwuyem Ojji [14] asserted that the usage of apps and software can be highly advantageous in ensuring responsibility and clarity, which can change attitudes as well as actions and in turn enhance safety. IoT and AI can anticipate, assess and promote data-based safety management [15]. These developments highlight the necessity for safety culture assessment tools to evolve by integrating digital readiness and technology-driven practices as essential components. However, although technical development delivers influential mechanisms for innovative safety administration, its effectiveness ultimately depends on a workforce that understands and roots safe behaviors. Therefore, workers should acknowledge the administrative,

technological, and workplace factors affecting safety. This knowledge is essential for identifying potential vulnerabilities and promoting a positive safety culture. A cascaded safety culture and behavioral safety pattern must be a top priority for managers. Leaders must set a benchmark by doing. Everyone should follow this tactic [12]. Safety can result in lower expenses, fewer mishaps, and less property loss. British Sugar saw a big drop (about two-thirds) in lost time and injuries after they started using behavioral safety practices over ten years ago [18].

Given the key function of mortal behavior in landscaping safety consequences, the corps should enforce applicable plans that monitor and maintain safety norms. Among these pivotal factors are training, continuing education, good communication, and praising and awarding safe practices. Customized safety training and ongoing education are essential components of a safety culture. Employees should be acquainted with the safety problems linked to the organization's work environment and the associated hazards. Employees will be more likely to abide by work rules if they understand how they contribute to safety. Communicating safety issues to workers is vital to building a safety culture. Social media offers effective communication means to enhance safety and understanding among workers. Involving workers in survey studies may furnish a channel for their significant safety perspectives. Organizations should motivate safe work practices from the self. To achieve this, employers must recognize and reward the compliers with safe work practices at all levels (e.g., sections, employees, etc.) [19, 20]. Psychological factors associated with the work environment, mutual relations, and sociology are vital in understanding corporate safety performance and thus causing occupational accidents and ailments. Heinrich [21] emphasized the importance of work psychology as a leading cause of physical and mental diseases of employees. These results were confirmed by subsequent research [22, 23]. Social psychology depicts a causal relationship between attitude and behavior [23]. Although Donald and Carter [24] observed a relationship between worker attitudes and incident frequency, the idea that diverse perspectives and attitudes may improve safety surveillance remained throughout the 1990s. Rather than emphasizing social issues and workplace contextual factors, early psychology research focused on a few concerns about individuals in terms of causation and prevention [25]. Recent studies have indicated the significance of personal responsibility. Lately, there has been a clear shift in focus from individual-centered approaches to individuals and workplace environments [26, 27], emphasizing the cause and response [10, 28, 29]. Iverson and Erwin [30] stated that the two primary elements influencing safety are employee attitudes and the nature of work procedures. Nevertheless, research on psychological and behavioral aspects has yielded contradictory findings regarding identifying the risk factors for injuries [31].

According to Wallace et al. [32], risky human conduct is now seen as an indication of a person's susceptibility to accidents rather than the cause, as was previously thought. Stimulating and sustaining a strong safety culture is crucial to the organization's safety management. Consequently, employee involvement is essential for the successful implementation of safety measures [33]. Workers as groups and individuals may influence and form the safety culture directly or indirectly via their actions and dedication [34]. According to Jaroenroy et al. [35] and De Simone [36],

personal safety and corporate commitment are essential for job satisfaction and effective performance. Employees may behave in a safe manner if supervisors support a secure workplace [37]. Performance and safety culture might be impacted by employee willingness. However, the management should make the workers acknowledge that their commitment to safe acts is for their benefit. The most common strategy for improving and promoting workplace safety is to use specialized training to alter employee attitudes and behavior toward safety. This strategy is frequently used by personnel who operate in hazardous and time-sensitive environments [38, 39]. A company with a positive safety culture should provide its employees with adequate training that combines technology and systematic learning. According to Huang et al. [40], organizations with a strong commitment to safety must have procedures for providing the related tools and safety education. A dedicated administration should conduct safety audits regularly to ensure that safety procedures are effective and that training is adequate.

Cultural context and importance of the study

The regard for command in Jordanian societies can influence the reporting of safety concerns. Workers may become reluctant to report safety problems because of this consideration, which may eventually affect their adherence to safety rules. The varying implementation levels of safety rules from one industry to another might also affect the response to those issues. All these industrial and cultural elements can affect Jordan companies' safety culture results, which may enable an explanation of some of the abnormalities in the results. Furthermore, numerous safety problems are still unsolved because of fiscal challenges.

Unlike many global safety culture instruments, this one considers Jordanian industrial and cultural factors vital to providing insights into work practices and regulation compliance. Most common instruments, like those by HSE [6], mainly assess compliance and safety performance. This tool differs as it examines several factors influencing safety behavior, including management attitudes, employee engagement, and safety communication practices within the enterprise. Therefore, the proposed tool assesses safety culture and gives practical ways to improve safety conduct. It highlights the advantages and disadvantages and provides concrete suggestions that corporations may implement immediately to improve their safety performance. Moreover, it avoids explicit questions, which may lead to misleading answers. Instead, it uses neutral statements that allow for different response levels, which help build a coordinated idea of safety status. Even though, few safety problems may remain concealed due to respect for hierarchy. So, this tool could be an effective way to enhance safety culture, going beyond just measuring it.

Objective of the study

Acknowledging the significance of safety culture in reducing work-related incidents and fatalities, the current study, therefore, aimed to develop a tool for assessing safety culture in Jordanian enterprises and use it to evaluate that of the Jordan Electricity Power Company.

2. JORDAN ELECTRICITY POWER COMPANY (JEPCO)

Early in the 20th century, JEPCO assumed its duties in Jordan's capital. It replaced the aged lights using kerosene with

electric ones on the streets of Amman. After teaming up with the Central Jordan Power Company, they got a license to produce and distribute power to a bigger zone. It covered Dhiban to Dulail and the Jordan Valley to Sahab. Ten years ago, the Ministry of Energy granted the utility a license for power distribution for twenty years. JEPCO has the necessary knowledge and capabilities. Its call center is modern and advanced, and its information and communication systems are also advanced. Additionally, it has an advanced meters workshop, a fleet of cars, and a training unit [41].

3. METHODOLOGY

The study's methodology is explained in this chapter. Topics covered include the studied sample, data gathering, analysis and techniques for evaluating data validity, reliability and components testing.

3.1 The guiding model

The study seeks to create a tool for assessing the safety culture within Jordanian companies and then use it to evaluate the safety culture of the Jordan Electricity Power Company. The creation mechanism pursued Cooper's Reciprocal Safety Culture Model [3], which visualizes the safety culture as the robust effect of situational safety, behavioral, and psychological elements. This tool includes survey questionnaires designed to gauge the key components of safety culture.

A combination of attitudes, perceptions, and values regarding safety makes up the psychological component. Several factors may influence it. Such factors include management behavior, safety practices, and status in the workplace. Since it is difficult to measure individual psychological conditions directly, this dimension is often evaluated indirectly by analyzing employees' reactions to various situational and behavioral factors. The behavioral component addresses the likely impacts of individual actions on safety culture. These acts mainly include safety compliance and participation in related efforts. Conversely, safety strategies, rules, guidelines, and training are all characteristic of the situational dimension.

The above model has formed the foundation for designing a comprehensive survey that covers the primary pillars of safety culture to ensure a candid assessment. The survey covered all essential components required for a positive safety culture. It comprised statements rather than direct questions to evaluate the situational safety, employee training, and management's handling of safety issues. The data was checked to ensure it was valid, reliable, and normal, and to explore how the variables related. The tool then assessed the safety culture at JEPCO.

3.2 The study population

The method for selecting the participants used the stratified approach. Based on that, the company segmented into parts according to sections and employee careers. The survey included people from various sections and vocations (e.g., technical, managerial, and support). Moreover, the random selection of the participants may have helped to obtain a representative sample, which might have resulted in a reliable evaluation of the business's safety culture. Two hundred

workers took part in the survey.

3.3 Bias minimization of responses

The survey had several precautions to make sure it was reliable and produced accurate findings. There were no leading questions in the questionnaire that could influence the responses. Instead of seeking agreement and disagreement, the statements were more neutral, which led to several possible feedbacks. A pre-established scale based on Likrets accommodated varying degrees of agreement to express respondents' opinions. Additionally, the responses to items did not imply a yes-or-no response. The survey kept everyone's names unknown, so surveyed people could answer honestly without feeling pressured to say what they thought others wanted to hear.

3.4 Ethical considerations

Administrators and participants were both aware of the study's goals and procedures regarding ethical issues. The participants gave their consent before the survey started. The study examined the safety culture issues without asking for the names (e.g., it was anonymous). The comments and responses were confidential and never shared with anyone.

3.5 The questionnaire

The questionnaire covered functional and demographic circumstances related to the laborer's age, years of service at the current job, department and working time, and workers' safety training. It also addressed the adoption of standard operating procedures, the availability of occupational health and safety tools, and senior management's role in OHS procedures. As shown in Table 1, the participants were able to rate each item in the questionnaire as per a Likert Scale.

Table 1. The Likert scale ranking

Response	Score	Weighting Percentage
Strongly Agree	5	81.0 to100.0%
Agree	4	61.0 to 80.0%
Somewhat Agree	3	41.0 to 60.0%
Don't Agree	2	21.0 to 40.0%
Strongly Disagree	1	0 to 20%

The overall mean of the results for a given question can show how important it is. Based on ranges of arithmetic mean, Table 2 distinguishes three levels of importance: high, medium, and low. Eq. (1) is used to determine the group length (range).

$$\text{Range} = (\text{Maximum score} - \text{Minimum score}) / 3 \qquad (1)$$

Table 2. Statements importance

Importance Level	Low	Medium	High
Group	1.00 – 2.33	2.34 – 3.66	3.67 – 5.00

3.6 Population sample analysis

3.6.1 Validity test

The capacity to which a test gauges what it is supposed to find is its validity. The validity was split into a group of validities by the standard models. These include criterion,

construct, and content ones [42]. Construct validity is the collection of data that confirms how a measure should be interpreted. This validity, which encompasses proof of all other forms of validity (such as content and criterion validities), is defined by modern validity theory as the focus of the validity of research [43, 44]. The KMO analysis verifies the construct validity.

Additionally, the KMO evaluates the explanation and conformance of the data. A factor loading of 0.50 or over is good, and if it exceeds 0.40, it is acceptable. The KMO test examines how well the data fits into the analysis and its relationships. KMO values greater than 0.6 indicate a suitable sample, and values between 0.8 and 1 indicate an adequate sample. Bartlett's Sphericity (variance homogeneity) is an additional measure that determines the suitability of data and its correlations. Significance levels lower than 0.05 at a confidence level of 0.95 demonstrate the suitability of factor analysis for the data. The variance signifies the factors' explanation capability [45].

3.6.2 Employee's safety training

Table 3 shows the statistical analysis of the employee training components. The F1 test result indicates whether or not the construct is accurate. It was revealed that an F1 value in the range of 0.824 to 0.533 might suggest that the construct

was sound. Conversely, the KMO looks at the adequacy of the sample. It shows the proportion of variance in the variables that may be due to latent causes. Inspecting the Chi^2 (191.565) and KMO (0.744) test outcomes shows that the model and the sampling strategy are adequate. The variance of 50.492% can be explained by the ratio of 50.492. A value approximating one may indicate that the factor analysis is advantageous. However, it is not appropriate if it is less than 0.50 [46]. A Bartlett's sphericity of less than 0.05 shows that the component analysis is useful. Finally, the statistics demonstrate that the sampling is consistent with the model and appropriate for the employee's safety training components.

3.6.3 The application of safety procedures

As shown in Table 4, the load factor of the application level of occupational health and safety procedure elements varies from 0.336 to 0.781. Consequently, this implies that the construction is correct. Checking the Chi^2 (225.036) and KMO (73.6%) values indicates that the model may represent the data and that the sampling strategy is adequate. Furthermore, the variance ratio is 46.248, which explains the 46.248% variance. The significance level, which should be less than 0.05, can be used to assess the adequacy of the factor analysis. Finally, the Bartlett's sphericity is below 0.05, which supports the factor analysis's relevance.

Table 3. Component analysis of safety training

Statement	F1	KMO	Chi^2 Test	Variance	Significance Level
The company continuously trains employees on occupational health and safety procedures.	0.786				
Training programs are available for new employees on occupational health and safety procedures.	0.565				
The company trains employees on how to make optimal use of the tools they use.	0.770	0.744	191.565	50.492%	0.05
The number of training programs related to occupational health and safety procedures is appropriate.	0.824				
The training needs of employees are determined periodically.	0.533				
Training programs help reduce risks or improve the occupational safety of employees.	0.732				

Table 4. Component analysis of application of safety procedures

Item	F1	KMO	Chi^2 Test	Variance	Significance Level
Guidance/warning signs are available in the workplace.	0.577				
Employees are introduced to the nature of the task before starting work to ensure occupational safety.	0.765				
The electrical current is disconnected by the inspection devices before starting any task.	0.657				
The head of the group inspects the members assigned to work and the readiness of their equipment to work.	0.366	0.736	225.036	46.248%	0.05
The administrator/engineer shall suspend work if he or she finds the team members do not adhere to safety instructions.	0.781				
The site is cleaned and the corridors are evacuated after the completion of the work.	0.753				
The emergency department is contacted and informed of the dismissal processes immediately before and after the dismissal process.	0.760				

3.6.4 Availability of safety tools

Table 5 shows that the load factor of the availability of occupational health and safety tool elements ranged from 0.666 to 0.815. The Chi^2 (319.328) suggests model fitness, and the KMO (72.4%) means excellent sampling adequateness. Further, the variance ratio of 54.729 can explain the 54.729% variance. A Bartlett's sphericity lower than 0.05 signifies a

practical factor analysis.

3.6.5 Senior management's role

Table 6 shows that the load factor of senior management's role in practicing occupational health and safety procedure elements ranges from 0.728 to 0.820. Consequently, this implies that the construction is correct. The KMO (79.3%)

magnitude indicates a suitable sampling strategy, and the Chi^2 (250.623) value indicates that the model fits the data. The variance ratio of 58.109 explains the 58.109% variance. Finally, a Bartlett's Sphericity less than 0.05 denotes that factor analysis is appropriate.

3.6.6 Reliability test

Calculating the Cronbach's Alpha value helps check if the questionnaire items are consistent and suitable. A value over 70% is generally considered acceptable, and the closer it gets to 100%, the more stable the tool is. The change in the Cronbach's Alpha value (0.818 to 0.927) may show the tool's reliability, which implies that it produces consistent outcomes. Also, as can be seen, the four variables have scored Cronbach's Alpha value more than 0.7, which means the data is factual (see Table 7).

Table 5. Components analysis of safety tools availability

Statement	F1	KMO	Chi^2 Test	Variance (%)	Significance Level
Good ventilation is available in the workplace.	0.710				
Lighting is well available in the workplace.	0.732				
Heating is available depending on weather conditions.	0.711				
Fire protection is available.	0.759	0.724	19.328	54.729	0.05
Comfortable and usable stairs are available.	0.776				
Electrical wiring is characterized by being unexposed.	0.815				
First aid kits are available.	0.666				

Table 6. Management role in practicing of safety procedures

Item	F1	KMO	Chi^2 Test	Variance (%)	Significance Level
Management inspires employees to follow safety rules when performing the required tasks.	0.739				
Management ensures that all employees have access to important information related to safety.	0.728				
Management puts safety first before production.	0.757				
Management engages workers on the job site in making decisions that affect their safety.	0.820	0.793	250.623	54.729	0.05
Management makes sure that all problems are resolved promptly when found during safety tours and assessments.	0.757				
Management has confidence in the ability to handle occupational health and safety matters.	0.768				

Table 7. Calculated Cronbach alpha of questionnaire variables

Variable	Statements Number	Cronbach's Alpha
Training of employees on safety	6	0.820
Application safety procedures	7	0.818
Availability safety tools	7	0.900
Senior management's role in the practice of safety procedures	6	0.869
Total	26	0.927

4. RESULTS AND DISCUSSION

This section explores and discusses the findings of statistical testing of the data gathered about the safety culture within the studied organization. It examines the occupational and demographic characteristics of the participants and analyzes the descriptive statistics from their questionnaire responses. Finally, the overall safety status of the company is assessed.

Table 8. Respondents age

Age	Frequency	Percent
30 years and under	70	35%
31-45 years	82	41%
46 years and above	48	24%
Total	200	100%

4.1 Demographic characteristics of respondents

Respondents' characteristics are described in this section. The majority of demographic characteristics are age-dependent. Table 8 exhibits that ages between 31 and 45 years represent most of the respondents (82), then thirty and younger (70 members), and the 46 years old and above were of the lowest participation.

The perception of safety culture may be influenced by demographic factors such as age, experience, and education. Workers with almost 20 years of experience are more knowledgeable and have strong opinions regarding the consequences for safety. Employees who are relatively new in their careers usually show interest in safety, but this interest may gradually decline due to company practices and policies. When workers reach the pinnacle of their professions, safety becomes an important factor for them. With proficiency and knowledge, individuals can understand the workplace safety culture, address safety concerns, and identify hazardous situations. In addition, adulthood may have a positive role later in their career, including safety perception. Several authors have agreed with this claim and reported an advantageous relationship between age and safe work practices. Due to improved adherence to safety rules, increased job satisfaction, and a higher commitment to safety, workers are less likely to be involved in accidents as they age [47-49].

4.2 Years of service

As per Table 9, most participants have been in their present position for eleven to fifteen years, compared to a few who

have been for sixteen years or more. This lengthy work experience may positively affect the relationship with the employee's safety culture because, with experience, the workers become more aware of safety issues, and the related knowledge and their skills improve. They might also have taken many training courses, particularly ones on safety. In other words, they should have reached a stage to be able to operate in a safer mode. The high percentage of workers with 11 years and above reflects the maturity of the workforce.

Table 9. Respondents job experience

Experience (Years)	Frequency	Percent
<5	44	22%
6-10	48	24%
11-15	74	37%
≥16	34	17%
Total	200	100%

4.3 Results by departments

Table 10 displays the incident frequency in each department. The findings indicate that the number of workers in a department and the number of safety-related incidents within the department are directly correlated. Consequently, the maintenance had the highest number of occupational accidents, since it had the greatest number of workers.

Table 10. Respondents according to departments

Department	Frequency	Percent
Ground maintenance section	44	22%
Pneumatic networks section	46	23%
Maintenance of poles and electrical transformers	54	27%
Occupational health and safety	16	8%
Technician	40	20%
Total	200	100%

4.4 Employees working time

Table 11 shows that a hundred and twenty-six (126) staff work during the day compared to a few (14 only) in the day and night working periods. The work periods, which comprise day, night, and double shifts (eight hours each), represent the total duration of the formal workday. According to this study, individuals working at night are at higher risk, as their ability to focus diminishes during nighttime hours, increasing the likelihood of accidents.

Table 11. Respondents' employee's working time

Employee's Working Time	Frequency	Percent
Day	126	63%
Night	60	30%
Double shift	14	7%
Total	200	100%

4.5 Statistical analysis

The first question: Is there a role for training workers on occupational health and safety?

According to Table 12, the first question had an average score of 3.75, indicating that employees value the company safety training. Item 1 scores show strong agreement among participants signifying that the employees receive continuous training. In contrast to the above findings, item 4 statistics indicate insufficient training courses (3.45 mean, 1.004 standard deviation). The results, therefore, suggest that the company should add more safety training programs.

The second question: Is there a role for the application of occupational health and safety procedures?

In Table 13, the second question shows an average score of 3.74, which suggests that workers generally get along well with work, even if it does not always follow the standard procedures. An average score of 3.88 and a standard deviation of 0.855 on the seventh item may imply that the safety follow-up and communication among the different sections are effective. On the other hand, item 4 (the first question) scored a 3.45 mean and a 1.004 standard deviation. However, this suggests that many employees might not have received the required training, which could detrimentally impact the company's safety performance.

The third question: Is there a role for the availability of occupational health and safety tools?

Table 14 shows that the third question scored a high overall mean (3.68), indicating agreement with the ongoing safety equipment provision. Also, the fourth item, which addressed the fire protection efforts, was tagged first, explaining the company's consideration in preventing fires. It had a high relative importance and the highest mean (3.87) with a standard deviation of 0.905. The first item was ranked last with a mean score of 3.58, a standard deviation of 0.915, and a moderate relative importance. Furthermore, items 3, 5, 6, and 7 show median importance. These findings highlight the significance of providing a safe workplace.

Table 12. Results from the first question

No.	Statement	Mean	Standard Deviation	Rank	Relative Importance
1	The company continuously trains employees on occupational health and safety procedures.	3.96	0.831	1	High
2	Training programs are available for new employees on occupational health and safety procedures.	3.86	0.762	3	High
3	The company trains employees on how to make optimal use of the tools they use.	3.74	0.746	4	High
4	The number of training programs related to occupational safety procedures is appropriate.	3.45	1.004	6	Medium
5	The training needs of employees are determined periodically.	3.62	0.998	5	Medium
6	Training programs help reduce risks or improve the occupational safety of employees.	3.92	0.920	2	High
	Total	3.76	0.509		High

Table 13. Results from the second question

No.	Item	Mean	Standard Deviation	Rank	Relative Importance
1	Guidance/warning signs are available in the workplace.	3.73	0.783	4	High
2	Employees are introduced to the nature of the task before starting work to ensure occupational safety.	3.64	0.917	7	Medium
3	The electrical current is disconnected by the inspection devices before starting any task.	3.77	0.746	2	High
4	The head of the group inspects the members assigned to work and the readiness of their equipment to work.	3.70	0.922	5	High
5	The administrator/engineer shall suspend work if he or she finds the team members do not adhere to safety instructions.	3.68	0.812	6	High
6	The site is cleaned and the corridors are evacuated after the completion of the work.	3.77	0.905	3	High
7	The emergency department is contacted and informed of the dismissals immediately before and after the dismissal process.	3.88	0.855	1	High
	Total	3.74	0.674		High

Table 14. Results from the third question

No.	Statement	Mean	Standard Deviation	Rank	Relative Importance
1	Good ventilation is available in the workplace.	3.58	0.915	7	Medium
2	Lighting is well available in the workplace.	3.86	0.913	2	High
3	Heating is available depending on weather conditions.	3.66	0.993	4	Medium
4	Fire protection is available.	3.87	0.727	1	High
5	Comfortable and usable stairs are available.	3.60	0.905	5	Medium
6	Electrical wiring is characterized by being unexposed.	3.58	0.818	6	Medium
7	First aid kits are available and know how to use them.	3.66	0.954	3	Medium
	Total	3.68	0.511		High

Table 15. Results from the fourth question

No.	Statement	Mean	Standard Deviation	Rank	Relative Importance
1	Management encourages employees to follow occupational health and safety rules when performing the required tasks.	3.85	0.935	1	High
2	Management ensures that all employees have access to important information related to occupational health and safety.	3.78	0.861	3	High
3	Management puts occupational health and safety first before production.	3.84	1.001	2	High
4	Management engages workers on the job site in making decisions that affect their safety.	3.54	1.057	5	Medium
5	Management makes sure that all problems are resolved promptly when found during safety tours and assessments.	3.36	0.933	6	Medium
6	Management has confidence in the ability to handle occupational health and safety matters.	3.64	0.892	4	Medium
	Total	3.66	0.674		Medium

The fourth question: Is there a role for senior management in practicing professional occupational health and safety procedures?

Table 15 shows the analysis for the fourth question. Its mean was 3.66, indicating a medium level of compatibility that could reveal negative standings of the management role. It also suggests that management could do better with their safety procedures. The first item discusses the management's role in motivating the workers to comply with safety rules. It scored the highest mean (3.85) with a standard deviation of 0.935, thus indicating that management is keen on making sure employees work safely. On the other hand, the fifth statement, about how management deals with safety concerns from inspections, had a lower score of 3.36 and a standard deviation of 0.933. These results may propose that management should focus more on safety evaluations and checks and resolving them promptly. The prior contradiction in the role of management may be attributed to the hierarchical respect shown by Jordanian workers.

5. CONCLUSIONS AND RECOMMENDATIONS

Using survey data from employees in the most affected departments of JEPCO by safety events, the study sought to create a tool for evaluating safety culture in Jordan's industrial sector. The instrument's statistical analysis showed that it was both viable and valid. The JEPCO's safety culture was evaluated using the tool. The findings showed that there are both opportunities for improvement and strengths in the company's safety culture. The company has a separate section for safety training. It includes a capable team responsible for ensuring safe work standards. Moreover, the company has comprehensive occupational health and safety rules for all jobs. All necessary safety equipment, including monitoring devices and personal protective equipment (PPE), is available to employees.

The management encourages adherence to safety rules and highlights the importance of safety throughout the organization. Yet, the administration shows medium

compatibility with its critical role of safety and fails to handle safety inspection results well. These results may indicate that management should focus more on safety evaluations and checks. However, this calls for improving management's capacity to react promptly to safety issues to guarantee a secure work environment and lower risks.

The study suggests the company should provide specific training for workers and have regular inspections to identify and tackle any safety concerns. It is vital to keep workers updated on their tasks so they can stay alert to potential dangers. Gathering feedback from employees about safety issues can also boost the safety culture. Lastly, the company needs to ensure that all safety supplies and rules meet the required standards and address any problems found during inspections. In conclusion, the company has a good safety culture, but there is room for improvement. By taking these actions, the company can keep making its workplace safer.

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