

## The Role of Top Management in Developing Security and Safety Culture in the Organization (A Case of Enterprise Group)

Alexander D. K. Acquaye<sup>1\*</sup>, Nestor Naabulee Nasage<sup>2</sup>

<sup>1</sup>PhD Candidate, Principal Consultant, S.G. Technologies Limited Accra, Ghana

<sup>2</sup>PhD, Managing Consultant, Uni-Sky Holdings Limited Sunyani, Ghana

### Abstract

The study investigated the role top management play in developing security and safety culture in the organization. Specifically, a case study exploration was used to evaluate one primary area of interest: 1. the role top management plays in developing organization's security and safety culture. The strategy used for this work was exploratory, with both qualitative and quantitative approaches since the data collected would be converted into numerical value for better interpretation. The target population was the staff of Enterprise Group in the Greater Accra Region of Ghana, and the sample was composed of 30 management and staff members, using convenience sampling. Primary and secondary sources of data were used in this study. A survey questionnaire was used to acquire information from the target management and staff of Enterprise Group Ltd. The data gathered was analyzed quantitatively by using descriptive statistical tables and percentages where the Chi-Square test was considered. Statistical package for social sciences (SPSS) version 25 software was also used in the analysis. The study concluded that top management plays a role in developing security and safety culture in organizations through Security and Safety Supervision Committee, by building enabling security and safety working environment in organizations, ensuring there are policies and procedures guidelines in place in organizations. When there is Daily Reporting and available systems to address non-compliance issues in the organization to develop security and safety culture among employees. it is recommended that the Government and regulatory bodies of organizations should emphasize the establishment of security and safety policies in organizations.

**Keywords:** Culture, Developing, Security and Safety, Top Management.

### Introduction

Ghana is gradually becoming an industrialized nation, and this change exposes a large percentage of the workforce to various security and safety threats at the workplace. The Labour Department of Ghana Annual report (2000) gave a total of 8,692 work-related accidents reported to the department for compensation claims, while the 1999 figure stood at 4,088 [1]. These figures represented only those occurrences in the formal sector that were reported. The preamble of the International Labour Organization (ILO) constitution highlights that the protection of the worker

against sickness, diseases, and injury arising out of employment is a fundamental element of social justice. Occupational safety and health are human rights, and decent work eventually is safe work [2].

A strong security and safety culture is a mentality and a way of working [3]. On the other hand, an integrated process of thinking and decision making can make security and safety systems impenetrable [4]. On the contrary, however the absence of security and safety culture will facilitate uncertainty and, ultimately, will lead to breaches and incidents that are unlikely to predict [5]. Security and safety

\*Corresponding Author: alex.acquaye@gmail.com

challenges are linked directly to people and management processes within an organizational setup.

In the General Safety Requirements on Leadership and Management for Safety (GSR Part 2), the IAEA establishes requirements that support Principle 3 of the Basic Safety Principles, which focuses on leadership and management of safety [6]. In their publication, Principle 3 states that leadership and management for safety, as well as an effective management system, are established continuously, sustained and improved [6]. They further claim that this is essential to promote and maintain a strong safety culture in the organization. This study, therefore, aims to investigate the role top management play in developing security and culture in organizations.

## Literature Review

Managers at all levels of any organization or facility engaged in activities that can lead to radiation hazards or deliberate actions that may harm people, society, and the environment should provide leadership and management

systems that integrate both safety and security [7].

Management systems must also be designed to integrate safety, quality, human and organizational factors [8]. The role of senior management in nuclear technologies and in applications where nuclear or other radioactive materials are used or transferred requires them to ensure that safety, security, and physical protection issues will always receive the attention they deserve as a top priority [6].

Considering their duties, the IAEA requires managers at all levels of the organization to establish safety and security objectives consistent with their organization's policy and demonstrate the commitment to improving safety and security performance [6]. They should also encourage and support all individuals in achieving safety and security goals and ensure that their actions encourage continuous learning and improvement among their employees. In addition, senior management needs to seek to correct conditions or actions that are contrary to safety and security.

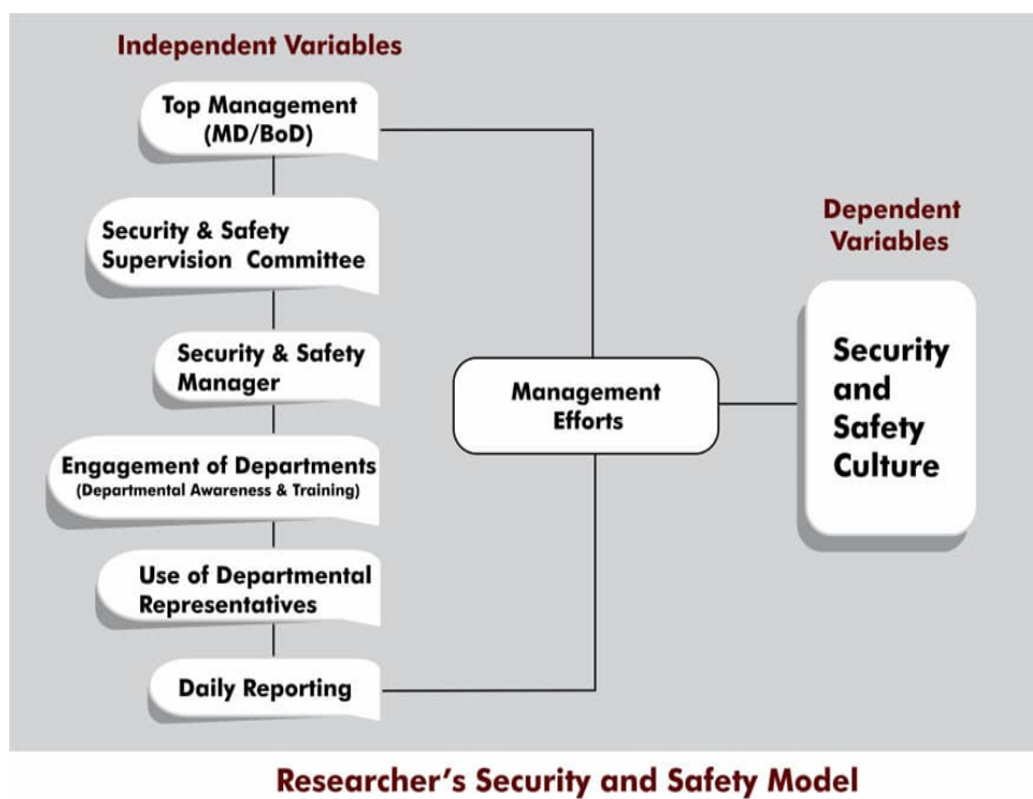


Figure 1. Conceptual Frame Work

Ultimately, senior management is responsible for ensuring that individuals are qualified to carry out their tasks and are aware of the importance and importance of their activities to achieve their organization's safety and security objectives [9].

The IAEA provides the Member States with tools and training to improve and strengthen their leadership and safety and security management. This includes an annual workshop for senior managers and executives on leadership and culture for safety, workshops for middle managers on a systematic approach to safety, and several dedicated tasks to support leadership and management in the Member States [6]. The investigative framework for this research is illustrated in Figure 1.

### **Top Management (MD/BOD)**

For security to be effective, the authority must come from the board of directors, or the Managing Director. In other words, security must report directly to the top management of the organization.

The top management's role in developing and creating security and safety culture across the organizations are discussed as follows:

### **Education**

Knowledge is power; giving the right education and information forms a crucial part of the security and safety culture in every organization. Cybercrime education coupled with a simulation of typical attack scenarios form essential part the security awareness training program in information security. Security must be strengthened and nurtured [10]. Therefore, the spirit of training should follow the top-down approach. Management should lead the advocacy, take a central stage in the development as well as implementation of security and safety policies. Security and safety education should be extended to everyone who can be a threat to the organization. This includes all employees, contractors, entrepreneurs,

consultants, third parties (such as suppliers) and even customers [11].

### **Build Security and Safety Community/ Policy**

Security and safety are everyone's problem, and either of us can become the weakest link in an organization's cybersecurity defenses; the finger that clicks on the malware package, the one who reveals his password as a legitimate site. A holistic view must be taken where everyone recognizes the role they play in corporate culture and the impact that they can have personally on security [12]. Understanding security issues throughout the organization, from a clean office policy to developers, understanding the importance of securing security and encryption records must be paramount.

### **Security Boot Camp**

Security awareness training and simulation exercises provide the first-hand experience necessary to learn and understand where the risks lie. A safety training camp can be created that uses a combination of formal classroom-based training with realistic simulation exercises that train people to detect security problems [13]. Security camps should cover all aspects of security and safety within the organization [14]. Simulations, therefore, should be performed regularly but also randomly to create more natural scenarios. Knowing the fact that people are the greatest asset, but on the other hand, they can also be the greatest weakness.

### **Motivation**

Training on security awareness and the culture it instils are measurable and include tests and other measurement activities, make them fun and give rewards for doing a good job [15]. Create a system that rewards and promotes safety best practices. On the contrary, poor results are not used by the individual as punishment, so instead, focus on how to improve

the program; after all, we are all different, and different learning styles fit different types of people [16].

### **Security Mindfulness**

Employees should feel empowered after receiving training and knowledge to help play their roles in preventing a security breach [17]. A culture of safety is a state of mind, and if done correctly, it can become part of the lifestyle of an organization, along with general everyday work [18]. However, we must always remember that a culture of security is part of an ongoing process. Cybercriminals rarely sit on their laurels and develop new and more sophisticated technologies to deceive us [12]. All elements of a culture of security and safety need to be part of an ongoing process, and training should be regular, considering the blindside to simulate phishing [12]. Becoming mindful of security will make the security work normalized.

### **Security and Safety Supervision Committee**

There should be a security oversight committee that manages and directs all security-related issues. They further argue that the committee must have commitments defined by the organization, which will be discussed below [19].

All departments should provide a forum to discuss security, health, and safety issues. The organization expects all key chairmen to assist in the establishment of a security and safety advisory committee in divisions, and the forum should provide input from all levels of the employee [19].

### **Security and Safety Manager**

The third level in the management structure is the security manager who, is directly in charge of all security operations [20]. This structure will also serve as a reporting system from the grassroots to the top, which will enable the organization to build a robust security management system and security Matrix for management decision-making. This structure,

therefore, will ensure that a systemic culture is built within the organization to support the security and safety infrastructure.

### **Engagement of Departments**

Security awareness training should be simple and not overly technical [21]. The training itself should be accessible and complete, and employees must have working time during working hours to complete the training so that web-based training is often very effective, especially if there is a meeting to act as a “kick-off” and test when the training is completed.

### **Use of Departmental Representatives**

Research into adoption and changing culture in business has proven to be more successful when there is top-down leadership [22]. This will ensure that the employees understand the importance of creating and maintaining a culture of safety awareness [21]. Departmental representatives can achieve this through frequent staff communication [23]. Taking advantage of opportunities at staff meetings, and communications regularly helps to reinforce the importance that management attaches to security awareness [21].

### **Daily Reporting Requirements**

Regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods [23].

Periodically assess risks and the level of internal control required to protect the organization ‘s assets and records related to those risks [24]. Document the process for review, including when it will take place: for example, determine that all security activities, reconciliation processes, and separation of duties must be reviewed annually and reported [25]. They should, however, be staggered. Security activities must be reviewed daily and reported; reconciliation and separation of duties is also key [25]. Management is responsible for ensuring that all staff is familiar with the

organization's internal policies and changes in those policies [26].

## Methodology

Specifically, a case study exploration was used to evaluate one primary area of interest: 1. the role top management play in developing security and safety culture in the organization. The strategy used for this work was exploratory, with both qualitative and quantitative approaches since the data collected would be converted into numerical value for better interpretation. The target population was the staff of Enterprise Group in the Greater Accra

Region of Ghana using convenience sampling. The sample was composed of 30 management and staff of Enterprise Group Ltd, using convenience sampling. Both primary and secondary sources of data were used in this study. A survey questionnaire was used to acquire information from the target management and staff of Enterprise Group Ltd. The data gathered was analyzed quantitatively by using descriptive statistical tables and percentages where cross tabulation and Chi-Square Test were considered. Statistical package for social sciences (SPSS) version 25 software was also used in the analysis.

## Findings

**Table 1.** Gender of Respondent

Gender of Respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	80	80	80
	Female	6	20	20	100
	<b>Total</b>	30	100	100	

From Table 1, the total respondents were 30. 24 out of the total respondents were males representing 80% respondents' rate. The remaining 6 respondents were females representing 20% respond rate. This therefore

means that majority of the respondents were males.

The researcher also wanted to know the age of respondents and this is represented in Table 2.

**Table 2.** Age of Respondent

Age of Respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 to 29	7	23	23	23
	30 to 39	12	40	40	63
	Over 40	11	37	37	100
	<b>Total</b>	30	100	100	

From Table 2, 7 respondents were between the ages of 20 to 29, representing 23% respondents response rate. 12 of the respondents were also between the ages of 30 to 39 representing 40% responds rate. The remaining 11 respondents were between the ages of 40 above, representing 37% respond rate.

This, therefore, indicates that majority of the respondents were between the ages of 30 to 39.

The researcher went further to determine the level of education of respondents, which is represented in Table 3.

**Table 3.** Level of Education

<b>Highest Level of Education</b>					
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
<b>Valid</b>	College Education	3	10	10	10
	University Education	27	90	90	100
	<b>Total</b>	30	100	100	

From Table 3 of the respondents claims, they have a college education and this represents 10% responds rate. The remaining 27 respondents claim they have a university education representing 90% response rate.

This, therefore, indicates the majority of the respondents have a university education.

The researcher wanted to know if respondents have sufficient knowledge in security and safety management, which is represented in Table 4.

**Table 4.** Knowledge in Security and Safety Management

<b>Sufficient Knowledge in Security and Safety</b>					
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
<b>Valid</b>	Yes	17	57	57	57
	No	13	43	43	100
	<b>Total</b>	30	100	100	

From Table 4, 17 respondents claim they have knowledge in security and safety management, representing 57% respond rate. The remaining 13 respondents claim they do not have sufficient experience in the field of security and safety management representing 43% respond rate. Therefore, this indicates that the majority of the

respondents have sufficient knowledge in the field of security and safety management.

The researcher again went further to find out if respondents have work experience in the field of security and safety management. This is represented in Table 5.

**Table 5.** Work Experience

<b>Work Experience in the Field of Security and Safety</b>					
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
<b>Valid</b>	Yes	13	43	43	43
	No	17	57	57	100
	<b>Total</b>	30	100	100	

From the Table 5, 13 of the respondents claim they have work experience in the field of security and safety management representing 43% respond rate. The remaining 17 respondents claim they do not have work experience in the field of security and safety representing 57% respond rate. Therefore, this indicates that the

majority of the respondents do not have work experience in the field of security and safety management.

The researcher wanted to know how many years of experience the respondents who said yes have. This is represented in Table 6.

**Table 6.** Number of Years of Experience

<b>If Yes How Many Years of Experience</b>					
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
<b>Valid</b>	1 to 3 years	18	60	60	60
	4 to 10 years	5	7	7	67
	10 years above	7	33	33	100
	<b>Total</b>	30	100	100	

From Table 6, 18 of the respondents claim they have 1 to 3 years' experience in the field of security and safety management, representing 60% respond rate. 5 of the respondents also claim they have 4 to 10 years' experience representing 7% respond rate. The remaining 15 respondents claim that they have 10 years and

above experience in the field of security and safety management, representing 33% responds rate. Therefore, this shows that the majority of respondents who said they have work experience in the field of security and safety management, have 1 to 3 years and above experience in the field of security and safety management.

### Security and Safety Culture

**Table 7.** Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
There policies and procedures guidelines put in place in organization	30	1.00	2.00	1.1667	.37905
My organization employs the right people for the right job	30	1.00	2.00	1.1333	.34575
There are available systems to address non-compliance issues in the organization	30	1.00	3.00	1.3000	.53498
There is awareness creation on security and safety issues by management	30	1.00	2.00	1.5000	.50855
I receive regular education on developing security and safety culture in my organization	30	1.00	5.00	2.9667	1.24522
<b>Valid N (listwise)</b>	30				

From Table 7, standard deviation measures how concentrated the data are around the mean. The more concentrated, the smaller the standard deviation. Therefore, the standard deviation is affected by outliers (extremely low or high numbers in the data set). That's because the standard deviation is based on the distance from the mean. This, therefore, means that a small standard deviation stands for data set that are close to the mean of the data set, on average, and a large standard deviation means that the values

in the data set are farther away from the mean, on average.

From the findings in Table 7, the respondents indicated policies and procedures guidelines put in place an organization as a form of security and safety culture. This is to a great extent, as indicated by a mean of 1.166 and standard deviation of .379. A Standard deviation of .379 is far away from the mean of 1.166 on average. Therefore, this indicate that there are no policies and procedures guidelines put in place in

respondent's organization that creates a security and safety culture.

From the findings in Table 7, the respondents indicated that organizations employ the right people for the right job. This is to a great extent, as indicated by a mean of 1.133 and standard deviation of .346. A Standard deviation of .346 is far away from the mean of 1.133 on average. Therefore, this indicate that the organization do not employ the right people for the right job in the organization as part of their security and safety culture.

From the findings in Table 7, the respondents indicated that there are available systems to address non-compliance issues in the organization. This is to a great extent, as indicated by a mean of 1.300 and standard deviation of .535. A Standard deviation of .535 is closed to the mean of 1.300 on average. This, therefore, indicate that there are available systems to address non-compliance issues in the organization that creates a security and safety culture.

From the findings in Table 7, the respondents indicated that there is awareness creation on security and safety issues by management. This is to a great extent, as indicated by a mean of 1.5000 and standard deviation of .50855. A Standard deviation of .50855 is closed to the mean of 1.5000 on average. Therefore, this indicate that there is awareness creation on security and safety issues by management as that

support the creation of security and safety culture.

From the findings in Table 7, the respondents indicated that respondents receive regular education on developing security and safety culture in my organization. This is to a great extent, as indicated by a mean of 2.9667 and standard deviation of 1.24522. A Standard deviation of 1.24522 is closed to the mean of 2.9667 on average. Therefore, this indicate that respondents receive regular education on developing security and safety culture in my organization as part of the security and safety culture.

### **Top Management's Role in Developing Security and Safety Culture in the Organization**

The researcher wanted to know the role top management plays in developing security and safety culture in respondents' organizations. The researcher, therefore, compared certain factors to the key security and safety culture in respondents' organizations as indicated in the tables below.

A Chi-Square test was considered to test the probability of a significant random distribution. According to this distribution, the significant level is 0.05. this also implies that the value p is 0.05; anything below this p value is considered a very low probability, while anything above is considered a reasonable possibility.

**Table 8.** Top Management (Md/Bod) (Security is Effective at the Top Management Level and the Authority Comes from the Board of Directors or the Managing Director) \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	6.900a	3	.075
Likelihood Ratio	8.810	3	.032
Linear-by-Linear Association	5.614	1	.018
N of Valid Cases	30		

a. 4 cells (50.0%) have an expected count less than 5. The minimum expected count is 1.00

The researcher wanted to find out whether top management (MD/BOD) ensure there are

policies and procedures guidelines put in place in organizations as a form of developing security



and safety culture among employees in developing security and safety management. This is shown in Table 8.

From Table 8, respondents indicated that top management (MD/BOD) does not ensure there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in developing security and safety management. This can be seen in the Chi-Square test indicating a significance level of 0.075. The significance value is above 0.05, i.e., “p” is

greater than .05. This shows that there is no statistically significant difference in the degree of freedom of top management (MD/BOD) and policies and procedures guidelines put in place in respondent’s organization in developing security and safety culture in organizations.

The researcher wanted to find out whether top management (MD/BOD) ensure there are available systems to address Non-compliance issues in organizations to develop security and safety culture among employees in the organization. This is shown in Table 9.

**Table 9.** Top Management (Md/Bod) (Security is Effective at the Top Management Level and the Authority Comes from the Board of Directors or the Managing Director) \* There are available Systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	4.576a	6	.599
Likelihood Ratio	4.148	6	.657
Linear-by-Linear Association	.023	1	.879
N of Valid Cases	30		

a. 9 cells (75.0%) have an expected count less than 5. The minimum expected count is .20

From Table 9, respondents indicated that top management (MD/BOD) do not ensure there are available systems to address Non-compliance issues in organizations as a form of developing security and safety culture among employees in the organization. This can be seen in the Chi-Square test indicating a significance level of 0.599. The significance value is above 0.05, i.e., “p” is greater than .05. This shows that there is no statistically significant difference in the

degree of freedom of top management (MD/BOD) and available systems to address non-compliance in organizations as a form of developing security and safety culture in organizations.

The researcher wanted to determine whether top management (MD/BOD) ensures enabling the organization’s security and safety working environment. This is shown in Table 10.

**Table 10.** Top Management (Md/Bod) (Security is Effective at the Top Management Level and the Authority Comes from the Board of Directors or the Managing Director) \* My Top Management Built Enabling Security and Safety Working Environment in my Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	18.557a	9	.029
Likelihood Ratio	20.250	9	.016
Linear-by-Linear Association	6.780	1	.009
N of Valid Cases	30		

a. 16 cells (100.0%) have an expected count less than 5. The minimum expected count is 1.00

From Table 10, respondents indicated that top management (MD/BOD) ensure enabling security and safe working environment in the organization in developing security and safety culture. This can be seen in the Chi-Square test indicating a significance level of 0.029. The significance value is below 0.05, i.e., “p” is less than .05. This shows that there is statistically significant difference in the degree of freedom of top management (MD/BOD) and ensuring enabling security and safe working environment

in organizations as a form of developing security and safety culture in organizations.

The researcher wanted to find out whether Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues) ensures there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations. This is shown in Table 11.

**Table 11.** Security and Safety Supervision Committee (There is a Security Oversight Committee in my Organization that Manages and Directs all Security-Related Issues). \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	12.000a	4	.017
Likelihood Ratio	13.171	4	.010
Linear-by-Linear Association	9.212	1	.002
N of Valid Cases	30		

a. 7 cells (70.0%) have an expected count less than 5. The minimum expected count is .50

From Table 11, respondents indicated that Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues) ensures there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.017. The significance value is above 0.05, i.e., “p” is greater than .05. This shows that there is no statistically significant difference in the degree of freedom of the Security and Safety

Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues) and ensuring there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations.

The researcher wanted to find out whether top management (MD/BOD) ensure there are available systems to address Non-compliance issues in organizations to develop security and safety culture among employees in the organization. This is shown in Table 12.

**Table 12.** Security and Safety Supervision Committee (There is a Security Oversight Committee in my Organization that Manages and Directs all Security-Related Issues). \* There are Available Systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	10.690a	8	.220
Likelihood Ratio	10.351	8	.241
Linear-by-Linear Association	.386	1	.534
N of Valid Cases	30		

a. 13 cells (86.7%) have an expected count less than 5. The minimum expected count is .10.

From Table 12, respondents indicated that Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues). do not ensure there are available systems to address Non-compliance issues in organizations as a form of developing security and safety culture among employees in the organization. This can be seen in the Chi-Square test indicating a significance level of 0.220. The significance value is above 0.05, i.e., “p” is greater than .05. This shows that there is no statistically significant difference in the degree of freedom of the Security and Safety Supervision Committee (there is a security

oversight committee in my organization that manages and directs all security-related issues) and available systems to address non-compliance in organizations as a form of developing security and safety culture in organizations.

The researcher wanted to find out whether Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues) ensures enabling security and safety working environment in the organization to develop security and safety culture in organizations. This is shown in Table 13.

**Table 13.** Security and Safety Supervision Committee (there is a Security Oversight Committee in my Organization that Manages and Directs all Security-Related Issues). \* My Top Management Built Enabling Security and Safety Working Environment in my Organization.

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	26.439a	12	.009
Likelihood Ratio	27.177	12	.007
Linear-by-Linear Association	4.259	1	.039
N of Valid Cases	30		

a. 20 cells (100.0%) have an expected count less than 5. The minimum expected count is .50

From Table 13, respondents indicated that Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all security-related issues) ensure enabling security and safety working environment in the organization in developing security and safety culture. This can be seen in the Chi-Square test indicating a significance level of 0.009. The significance value is below 0.05. i.e., “p” is less than .05. This shows that there is a statistically significant difference in the degree of freedom of the Security and Safety Supervision Committee (there is a security oversight committee in my organization that manages and directs all

security-related issues) and enabling security and safety working environment in organizations as a form of developing security and safety culture in organizations.

The researcher wanted to find out whether Security and Safety Manager (My security and safety manager ensures a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) ensures there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations. This is shown in Table 14.

**Table 14.** Security and Safety Manager (My Security and Safety Manager Ensure a Reporting System from the Grassroots to the Top which Enables the Organization to build a Robust Security Management System and Security Matrix for Management Decision-Making”) \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	9.300a	4	.054
Likelihood Ratio	10.903	4	.028
Linear-by-Linear Association	6.700	1	.010
N of Valid Cases	30		

a. 7 cells (70.0%) have an expected count less than 5. The minimum expected count is .67

From Table 14, respondents indicated that Security and Safety Manager (My security and safety manager ensure a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) ensures there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.054. The significance value is = 0.05. i.e., “p” is equal to .05. This shows that there is a statistically significant difference in the degree of freedom of the Security and Safety Manager (My security and safety manager ensure a reporting system from the grassroots to the top,

which enables the organization to build a robust security management system and security Matrix for management decision-making”) and ensuring there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations.

The researcher wanted to find out whether Security and Safety Manager (My security and safety manager ensure a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) ensure there are available systems to address Non-compliance issues in organizations as a form of developing security and safety culture among employees in the organization. This is shown in Table 15.

**Table 15:** Security and Safety Manager (My Security and Safety Manager Ensure a Reporting System from the Grassroots to the Top which enables the Organization to build a Robust Security Management System and Security Matrix for Management Decision-Making”) \* There are Available Systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	12.544a	8	.129
Likelihood Ratio	11.175	8	.192
Linear-by-Linear Association	3.612	1	.057
N of Valid Cases	30		

a. 12 cells (80.0%) have an expected count less than 5. The minimum expected count is .13

From the Table 15, respondents indicated that Security and Safety Manager (My security and safety manager ensure a reporting system from

the grassroots to the top which enables the organization to build a robust security management system and security Matrix for

management decision-making”) do not ensure there are available systems to address non-compliance issues in the organization. This can be seen in the Chi-Square test indicating a significance level of 0.129. The significance value is above 0.05, i.e., “p” is greater than .05. This shows that there is no statistically significant difference in the degree of freedom of Security and Safety Manager (My security and safety manager ensure a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) and ensure there are available systems to address non-

compliance issues in the organization as a form of developing security and safety culture in organizations.

The researcher wanted to find out whether Security and Safety Manager (My security and safety manager ensures a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) ensures top management built enabling security and safety working environment in the organization as a form of developing security and safety culture among employees in organizations. This is shown in Table 16.

**Table 16.** Security and Safety Manager (My Security and Safety Manager ensure a Reporting System from the Grassroots to the Top which Enables the Organization to build a Robust Security Management System and Security Matrix for Management Decision-Making”) \* My Top Management Built Enabling Security and Safety Working Environment in my Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	24.056a	12	.020
Likelihood Ratio	24.066	12	.020
Linear-by-Linear Association	6.553	1	.010
N of Valid Cases	30		

a. 20 cells (100.0%) have an expected count less than 5. The minimum expected count is .67

From Table 16, respondents indicated that Security and Safety Manager (My security and safety manager ensure a reporting system from the grassroots to the top which enables the organization to build a robust security management system and security Matrix for management decision-making”) ensures top management built enabling security and safety working environment in the organization as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.020. The significance value is below 0.05, i.e., “p” is less than .05. This shows that there is a statistically significant difference in the degree of freedom of Security and Safety Manager (My security and safety

manager ensures a reporting system from the grassroots to the top, which enables the organization to build a robust security management system and security Matrix for management decision-making”) and top management building enabling security and safe working environment in the organization as a form of developing security and safety culture among employees in organizations.

The researcher wanted to find out whether the Engagement of Departments (my management ensures departmental awareness and training on security and safety policies) ensures there are policies and procedures guidelines put in place in organizations as a form of developing a security and safety culture among employees in organizations. This is shown in Table 17.

**Table 17.** Engagement of Departments (My Management Ensures Departmental Awareness and Training on Security and Safety Policies) \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	6.857a	4	.144
Likelihood Ratio	7.233	4	.124
Linear-by-Linear Association	5.000	1	.025
N of Valid Cases	30		

a. 6 cells (60.0%) have an expected count less than 5. The minimum expected count is .50

From the Table 17, respondents indicated that Engagement of Departments (my management ensures departmental awareness and training on security and safety policies) do not ensure there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.144. The significance value is above 0.05, i.e., “p” is greater .05. This shows that there is no statistically significant difference in the degree of freedom of Engagement of Departments (my management ensures departmental awareness

and training on security and safety policies) and ensuring there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees.

The researcher wanted to find out whether Engagement of Departments (my management ensures departmental awareness and training on security and safety policies) ensures there are available systems to address non-compliance to develop security and safety culture among employees in organizations. This is shown in Table 18.

**Table 18.** Engagement of Departments (My Management ensures Departmental Awareness and Training on Security and Safety Policies) \* There are Available Systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	7.681a	8	.465
Likelihood Ratio	8.657	8	.372
Linear-by-Linear Association	1.647	1	.199
N of Valid Cases	30		

a. 12 cells (80.0%) have an expected count less than 5. The minimum expected count is .10

From Table 18, respondents indicated that Engagement of Departments (my management ensures departmental awareness and training on security and safety policies) do not ensure there are available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.465. The significance value is above 0.05, i.e.,

“p” is greater .05. This shows that there is no statistically significant difference in the degree of freedom of Engagement of Departments (my management ensures departmental awareness and training on security and safety policies) and ensuring there are available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations.

The researcher wanted to find out whether Use of Departmental Representatives (There is top-down leadership and frequent communication to staff in my organization on security and safety matters) ensures there are

policies in and procedures guidelines put in place the organization as a form of developing security and safety culture among employees in organizations. This is shown in Table 19.

**Table 19.** Use of Departmental Representatives (There Is Top-Down Leadership and Frequent Communication to Staff in My Organization on Security and Safety Matters) \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	4.800a	4	.308
Likelihood Ratio	6.351	4	.174
Linear-by-Linear Association	3.100	1	.078
N of Valid Cases	30		

a. 6 cells (60.0%) have an expected count less than 5. The minimum expected count is .83

From Table 19, respondents indicated that Use of Departmental Representatives (There is top-down leadership and frequent communication to staff in my organization on security and safety matters) do not ensure there are available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.308. The significance value is above 0.05, i.e., “p” is greater .05. This shows that there is no statistically significant difference in the degree of freedom of Use of Departmental Representatives (There is top-down leadership

and frequent communication to staff in my organization on security and safety matters) and available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations.

The researcher wanted to find out whether Use of Departmental Representatives (There is top-down leadership and frequent communication to staff in my organization on security and safety matters) ensures there are policies in and procedures guidelines put in place the organization as a form of developing security and safety culture among employees in organizations. This is shown in Table 20.

**Table 20.** Use of Departmental Representatives (There is Top-Down Leadership and Frequent Communication to Staff in my Organization on Security and Safety Matters) \* There are available Systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	20.786a	8	.008
Likelihood Ratio	19.599	8	.012
Linear-by-Linear Association	2.383	1	.123
N of Valid Cases	30		

a. 14 cells (93.3%) have an expected count less than 5. The minimum expected count is .17

From Table 20, respondents indicated that Use of Departmental Representatives (There is top-down leadership and frequent

communication to staff in my organization on security and safety matters) ensure there are available systems to address non-compliance

issues in organizations as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.008. The significance value is below 0.05, i.e., “p” is less .05. This shows that there is statistically significant difference in the degree of freedom of Use of Departmental Representatives (There is top-down leadership and frequent communication to staff in my organization on security and safety matters) and available systems to address non-compliance issues in organizations as a form of developing

security and safety culture among employees in organizations.

The researcher wanted to find out whether Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) ensures there are policies in and procedures guidelines put in place the organization as a form of developing security and safety culture among employees in organizations. This is shown in Table 21.

**Table 21.** Daily Reporting (My Management Regularly Communicate Updates and Reminders of Policies and Procedures to Staff through Emails, Staff Meetings, and other Communication Methods) \* There Policies and Procedures Guidelines Put in Place in Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	3.218a	4	.522
Likelihood Ratio	4.466	4	.347
Linear-by-Linear Association	2.503	1	.114
N of Valid Cases	30		

a. 8 cells (80.0%) have an expected count less than 5. The minimum expected count is .67

From Table 21, respondents indicated that Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) do not ensure there are policies in and procedures guidelines put in place the organization as a form of developing security and safety culture among employees in organizations. This can be seen in the Chi-Square test indicating a significance level of 0.522. The significance value is above 0.05, i.e., “p” is less .05. This shows that there is

no statistically significant difference in the degree of freedom of Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) and ensuring there are policies in and procedures guidelines put in place the organization as a form of developing security and safety culture among employees in organizations. as a form of developing security and safety culture among employees in organizations.

**Table 22:** Daily Reporting (My Management Regularly Communicate Updates and Reminders of Policies and Procedures to Staff through Emails, Staff Meetings, and other Communication Methods) \* There are Available systems to Address Non-Compliance Issues in the Organization

<b>Chi-Square Tests</b>			
	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
Pearson Chi-Square	10.328a	8	.243
Likelihood Ratio	9.767	8	.282
Linear-by-Linear Association	1.147	1	.284
N of Valid Cases	30		

a. 14 cells (93.3%) have an expected count less than 5. The minimum expected count is .13



The researcher wanted to find out whether Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) ensures there are available systems to address non-compliance issues in the organization as a form of developing security and safety culture among employees. This is shown in Table 22.

From Table 22, respondents indicated that Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) do not ensure there are available systems to address non-compliance issues in the organization as a form of developing security and safety culture among employees. This can be seen in the Chi-Square test indicating a significance level of 0.243. The significance value is above 0.05, i.e., “p” is greater .05. This shows that there is no statistically significant difference in the degree of freedom of Daily Reporting (My Management regularly communicate updates and reminders of policies and procedures to staff through emails, staff meetings and other communication methods) and ensuring there are available systems to address non-compliance issues in the organization as a form of developing security and safety culture among employees.

## **Results**

Managers at all levels of any organization or facility engaged in activities that can lead to radiation hazards or deliberate actions that may harm people, society and the environment should provide leadership and management systems that integrate both safety and security [7]. This confirms the present study that Security and Safety Supervision Committee play a role by building enabling security and safety working environment in organizations as a form of developing security and safety culture in organizations.

The study also concluded that there is Engagement of Departments through ensuring

there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees. This confirms [9] study that ultimately, senior management is responsible for ensuring that individuals are qualified to carry out their tasks and are aware of the importance and importance of their activities to achieve the safety and security objectives of their organization. The study also went contrary to [9] by revealing that top management do not ensure there are available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations.

## **Discussion**

Managers at all levels of any organization or facility engaged in activities that can lead to radiation hazards or deliberate actions that may harm people, society and the environment should provide leadership and management systems that integrate both safety and security (Sadgrove, 2016). This confirms the present study that, Security and Safety Supervision Committee play a role by building enabling security and safety working environment in organizations as a form of developing security and safety culture in organizations.

The study also revealed that, there is Engagement of Departments through ensuring there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees. This confirms Armstrong, (2006) study that, ultimately, senior management is responsible for ensuring that individuals are qualified to carry out their tasks and are aware of the importance and importance of their activities to achieve the safety and security objectives of their organization. The study also went contrary to Armstrong, (2006) by revealing that, top management do not ensure there are available systems to address non-compliance issues in organizations as a form of developing security

and safety culture among employees in organizations.

The above study is of significance in many ways. First, it will serve as a guide to corporate organizations in developing and creating security and safety culture awareness among employees. Secondly, it will also serve as a reference to future researchers who are interested in researching deep into security and safety culture across organizations. Last but not least, the study will contribute to the body of knowledge in furthering our understanding of the role top management play in developing security and safety culture across organizations.

## **Conclusion**

From the study, it can be concluded that Security and Safety Supervision Committee play a role by building enabling security and safety working environment in organizations as a form of developing security and safety culture in organizations. It is again concluded that Security and Safety Manager play a role by ensuring there are policies and procedures guidelines put in place in organizations, building enabling security and safety working environment in the organization, but do not ensure there are available systems to address non-compliance issues in the organization as a form of developing security and safety culture in organizations.

It is further concluded that there is Engagement of Departments through ensuring there are policies and procedures guidelines put in place in organizations as a form of developing security and safety culture among employees. However, top management do not ensure there are available systems to address non-compliance issues in organizations as a form of developing security and safety culture among employees in organizations.

The study further concluded that top management do not use Departmental Representatives to ensure there are available systems to address non-compliance issues in

organizations as a form of developing security and safety culture among employees in organizations.

The study finally concluded that top management play a role through Daily Reporting by ensuring there are policies in and procedures guidelines put in place in the organization and also ensuring there are available systems to address non-compliance issues in the organization as a form of developing security and safety culture among employees.

## **Recommendations for Practice and Future Research**

From this study, it is recommended that management should ensure the formation of security and safety committee, safety managers should be on top of their jobs, engagement of departments, daily reporting from top to down and the use of departmental representatives in establishing security and safety compliance systems and policies and procedures guidelines. The government and regulatory bodies of organizations should emphasize the establishment of security and safety policies in organizations and ensure strict adherence to these police to enhance security and safety effectiveness.

Also, for future researches it is recommended that the study be verified among other organizations in Ghana to ascertain the role top management plays in developing security and safety culture in the organization.

## **Acknowledgement**

I am very grateful to the management and staff of Enterprise Group and S.G. Technologies for their support. Another great thanks go to Prof. Michael Adusei, for his support and selfless guidance that carried us throughout this research project.

## **Declaration of Conflicting Interests**

The authors declares that there is no conflict of interest.

## References

- [1] Korletey, E. N., Asare, E. B., & Teye, J. K. (2019). The Role of the Labour Department in International Labour Migrant Management in Ghana. *Journal of Economics, Management and Trade*, 1-15.
- [2] World Health Organization. (2010). World health statistics 2010. World Health Organization.
- [3] Raelin, J. A. (2016). It's not about the leaders: It's about the practice of leadership. *Organizational Dynamics*, 45(2).
- [4] Newell, B. R., & Shanks, D. R. (2014). Unconscious influences on decision making: A critical review. *Behavioral and Brain Sciences*, 37(1), 1–19.
- [5] Herath, T., & Rao, H. R. (2009). Encouraging information security behaviors in organizations: Role of penalties, pressures and perceived effectiveness. *Decision Support Systems*, 47(2), 154–165.
- [6] Colgan, P. A., Boal, T., & Czarwinski, R. (2013). Requirements relating to radon in the International Basic Safety Standards: information, measurement and national strategies. *Journal of Radiological Protection*, 33(1), 41.
- [7] Sadgrove, K. (2016). *The complete guide to business risk management*. Routledge.
- [8] Pinsonneault, A., & Kraemer, K. (1993). Survey research methodology in management information systems: an assessment. *Journal of Management Information Systems*, 10(2), 75–105.
- [9] Armstrong, M. (2006). *A handbook of human resource management practice*. Kogan Page Publishers.
- [10] Christopher, L., Choo, K.-K., & Deghantaha, A. (2017). Honeypots for employee information security awareness and education training: a conceptual EASY training model. In *Contemporary Digital Forensic Investigations of Cloud and Mobile Applications* (pp. 111–129). Elsevier.
- [11] Shaw, R. S., Chen, C. C., Harris, A. L., & Huang, H.-J. (2009). The impact of information richness on information security awareness training effectiveness. *Computers & Education*, 52(1), 92–100.
- [12] Singer, P. W., & Friedman, A. (2014). *Cybersecurity: What everyone needs to know*. OUP USA.
- [13] Blanchard, P. N. (2006). *Effective Training, Systems, Strategies, and Practices*, 4/e. Pearson Education India.
- [14] Camp, L. J. (2009). Mental models of privacy and security. *IEEE Technology and Society Magazine*, 28(3), 37–46.
- [15] Puhakainen, P., & Siponen, M. (2010). Improving employees' compliance through information systems security training: an action research study. *MIS Quarterly*, 757–778.
- [16] Kohn, A. (1999). *Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise, and Other Bribes*. Houghton Mifflin Harcourt.
- [17] Coopey, J. (1995). The learning organization, power, politics and ideology introduction. *Management Learning*, 26(2), 193–213.
- [18] Glendon, A. I., & Stanton, N. A. (2000). Perspectives on safety culture. *Safety Science*, 34(1–3), 193–214.
- [19] Brown, W., & Nasuti, F. (2005). Sarbanes-Oxley and enterprise security: IT governance-what it takes to get the job done. *Information Systems Security*, 14(5), 15–28.
- [20] Sennewald, C. A., & Baillie, C. (2015). *Effective security management*. Butterworth-Heinemann.
- [21] Furnell, S., & Clarke, N. (2005). Organizational security culture: Embedding security awareness, education, and training. *Proceedings of the IFIP TC11 WG*, 11, 67–74.
- [22] Martins, E. C., & Terblanche, F. (2003). Building organizational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, 6(1), 64–74.
- [23] Downs, C. W., & Adrian, A. D. (2012). *Assessing organizational communication: Strategic communication audits*. Guilford Press.
- [24] Bedford, T., Cooke, R., & others. (2001). *Probabilistic risk analysis: foundations and methods*. Cambridge University Press.
- [25] Annan, K. A. (2005). *In larger freedom: towards development, security and human rights for all: report of the Secretary-General*. United Nations Publications.
- [26] Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 286–316.