

**STUDY THE IMPACT OF ADAPTATION OF INFORMATION SECURITY
POLICIES ON ORGANIZATIONAL PERFORMANCE IN THE
TELECOMMUNICATION SECTOR: REFERENCE TO SABARAGAMUWA
PROVINCE, SRI LANKA**

B.N.S. Jayasinghe^{1,*} and H.M.B.P. Ranaweera²

*^{1,2}Department of Information Systems, Faculty of Management Studies, Rajarata University
of Sri Lanka, Mihintale, Sri Lanka*

*Corresponding author (email: sewwandijayasinghe1212@gmail.com)

INTRODUCTION

Information is turning into the lifeblood of ordinary-century enterprises. Most of the highest management groups have already known that information ought to be treated as an alternative asset (Gammampila & Sajeevanie, 2019).

Securing the structure of information resources needs technical data; however, even a lot of it needs dedicated leadership, clearly assigned responsibilities, trained personnel, an operational procedure in a situation, and financial resources. In other words, the protection of information is a matter of policy (Tagarev, n.d.). To cope with increased information security threats, not only different technical protection means (e.g., anti-virus software tools) but also information security policies have been suggested in the literature (Pahnila et al., 2007).

To manage information security, organizations need to formulate effective information security policies. Policy documents are organization-wide documents that define expectations and measures for protecting information (Tagarev, n.d.).

Must use policies as the basis for all information security plans, designs, and deployments. Policies should be introduced for guidance regarding how to solve problems and how technology should be used. Information regarding the correct use of equipment or software that is not specified in the policy should be included in the documents regarding the standards, processes, and principles of user manuals and system documents (Wu et al., 2020).

Telecommunication systems have evolved into very complex structures within themselves. Thus, the augmented complexity has given rise to newer categories of data integrity risks. Correspondingly, while expanding telecommunications, companies usually focus on introducing new technologies and systems. The haste in implementing these upgraded and improved technologies and systems often leads to neglecting information security concerns (Nabi et al., 2010).

A malicious employee has the potential to cause more damage to the organization and has many advantages over an outside attacker. The damage may be in human and social terms, be it a loss of the organization's reputation, goodwill, or a soured perception of the organization in the eyes of potential customers or investors (Abrew & Wickramarachchi, 2021).

Therefore, this study will substantiate the fact that the development and implementation of Information Security Policy positively affect the organizational performance of enterprises so that they will recognize the effect of ISP, eventually preventing information security accidents and improving their business performance by developing Information Security Policy.

METHODOLOGY

This research is for telecommunication service providers that got registration from the Telecommunication and Regulatory Commission of Sri Lanka (TRCSL) and do business in the Sri Lankan telecommunication industry. The population of this research was considered

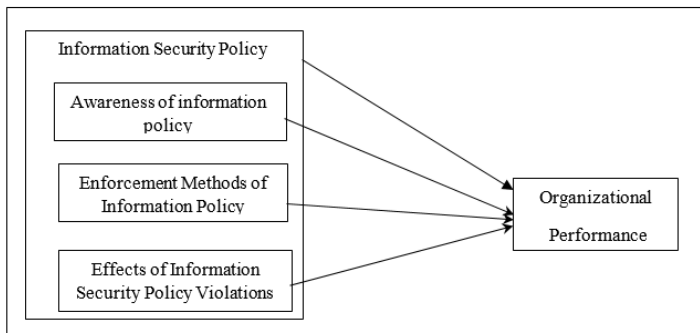
to be all the employees working in the telecommunication sector in Sabaragamuwa province, and the sample was selected from the population representing all the staff members working in the organizations.

When selecting a target sample, the author has considered all the stakeholders affected by the information security policy of a given organization. The target population is around three hundred and seventy. Therefore, according to the sample size calculation table (Wells, 2021), the sample size for this study was considered as one hundred and ninety employees from the target population. The number of staff working in telecommunication sector organizations varies from organization to organization, and the author was able to find the statistics through the Human Resources Departments of organizations.

Data exploration and presentation, in-depth statistics, correlation analysis, validity, and reliability testing are all components of data analysis. Similarly, the researcher used descriptive statistics, which summarize the characteristics of a data set and consists of mean, median, and mode, by using frequency tables, graphs, histograms, pie charts, etc., and inferential statistics, which is the branch of statistics concerned with concluding a population from a sample by using regression analysis. To make sure the information gathered is accurate and consistent with other information gathered, completed surveys are carefully reviewed.

By the nature of this research study, the primary data was collected through the questionnaire with a random sampling method. A statistical package for social sciences (SPSS) was used to quantitatively examine the data.

Figure 1
Conceptual Framework



The researcher developed hypotheses based on past studies.

H₁: There is a relationship between the Information Security Policy and organizational performance in the telecommunication sector, Sabaragamuwa province.

H₂: There is a relationship between the Awareness of information security policy and organizational performance in the telecommunication sector, Sabaragamuwa province.

H₃: There is a relationship between the Enforcement Methods of Information Security Policy and organizational performance in the telecommunication sector, Sabaragamuwa province.

H₄: There is a relationship between the Effects of Information Security Policy violations and organizational performance in the telecommunication sector, in Sabaragamuwa province.

Table 1

Operationalization of Variables

Variable	Dimension	Indicators	Rating Scale	Reference
Information Security Policy	Awareness of IS Policy	Importance of protecting information Knowledge of the importance of IS Policy Knowledge of enforced IS Policy Satisfaction of enforced IS Policy	Five points Likert question (Strong Agree to Strong Disagree)	(Fernan, 2009)
	Enforcement Methods of IS Policy	Fairly affects all employees Proper Enforcement of IS Policy Mistakes in Policy formulation Employee satisfaction on IS Policy	Five points Likert question (Strong Agree to Strong Disagree)	(Fernan, 2009)
	Effects of IS Policy Violations	Knowledge of the effects of Policy Violations Mechanisms to track policy violations Mechanisms to keep employees stick to Policy Humanitarian way of punishing violators	Five points Likert question (Strong Agree to Strong Disagree)	(Fernan, 2009)
Organizational Performance	Employee Satisfaction	Relief from the Workload Threat to the Dignity of Employees Keep clean office desk Too much Controlling Restrictions on Personal Life	Five points Likert question (Strong Agree to Strong Disagree)	(Kim, 2005)
	Customer Satisfaction	Customer orientation System Quality Handling of customers' complaints/inquiries Customer loyalty Customer repurchase behavior Customer relationship practices	Five points Likert question (Strong Agree to Strong Disagree)	(Burgess & Street, 2012)
	Marketing Capability	Services nature Distribution Promotion Brand Awareness	Five points Likert question	(Burgess & Street, 2012)

	Network Physical Evidence	(Strong Agree to Strong Disagree)	
Financial Performance	Growth Market Share Profitability Return on investment Liquidity	Five points scale question (Much better than competitors to Much worse than competitors)	(Burgess & Street, 2012)

RESULTS AND DISCUSSION

The descriptive analysis results are shown below in table 3.

Table 2
Results of Descriptive Analysis

	AP	EM	PV	ES	CS	MC	FP
Mean	4.390	4.259	4.291	4.182	4.372	4.442	4.382
Median	4.400	4.500	4.500	4.400	4.428	4.500	4.600
Mode	5.00	5.000	5.000	5.000	5.000	5.000	5.000
SD	0.596	0.618	0.628	0.749	0.537	0.522	0.647
Variance	0.356	0.382	0.395	0.562	0.288	0.273	0.419
Min	1.800	2.250	2.500	1.600	2.860	2.830	2.800
Max	5.000	5.000	5.000	5.000	5.000	5.000	5.000

The table displays descriptive statistics for seven dimensions: awareness of information security policy (AP), enforcement methods of information security policy (EM), effects of information security policy violations (PV), employee satisfaction (ES), customer satisfaction (CS), marketing capability (MC), and financial performance (FP). The median values are all close to the mean values, indicating that the distributions are roughly symmetric. The mode values vary slightly from the mean and median values. This suggests that the distribution may not be perfectly symmetric. The minimum and maximum values suggest that the respondents' organizational performance ranged from low to high levels. Overall, the descriptive statistics suggest that the data is consistent with a distribution that is roughly symmetric and has relatively low variability. This is a positive sign for conducting further statistical analyses.

Table 3
Result of Regression analysis

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Durbin-Watson
1	0.904 ^a	0.186	0.813	0.233	0.816	2.130

The summary comprises R, modified R square, and Standard Deviation, according to the above-mentioned model. The estimate's error, R, denotes the multiple correlation coefficients that represent all variables as a whole. The proportion of variance in the dependent variable

(organizational performance) that can be explained by the independent factors is known as the R² value (awareness of ISP, enforcement methods of ISP, and effects of ISP violations). The R square has a value of 0.186. It shows how the variables affecting organizational performance and adoption vary.

Table 4
Hypothesis Testing Summary Table

Hypothesis	Regression		Decision
	β	P	
H_1	0.649	0.000	Accepted
H_2	0.316	0.000	Accepted
H_3	0.186	0.001	Accepted
H_4	0.355	0.000	Accepted

CONCLUSION AND IMPLICATIONS

After going through various sections and explaining many theories, analyses, and findings, now is the time to conclude by giving a summary of the entire study. As explained in the first chapter, this study was carried out to determine the impact of the information security policy on the organizational performance of the telecommunications sector in Sabaragamuwa province.

As per the data analysis, all three alternative hypotheses were accepted, proving that there were strong relationships between all the independent variables and the dependent variable. As per the objectives, the author was able to find out the relationship between organizational performance and the information security policy, the employee categories affected by the information security policy, and the difficulties faced by the employees.

Awareness of information security policy, enforcement methods, and effects of information security policy violations Studies show that awareness of information security policy, enforcement methods, and the effects of information security policy violations can have a significant impact on organizational performance. Therefore, information security policies have a huge impact on organizational performance. This study is really important to know about the actual impact of information security policies on organizational performance.

It can be found that it has a significant impact on the current situation of organizational performance. Based on the results of this study, it can be concluded that the organizational performance of the respondents revealed a significant difference between their organizational performance and the fact that they still reserve information security policies for those who excel in their organization. Analytical results show that customer satisfaction, employee satisfaction, marketing capability, and financial performance make a statistically significant contribution to organizational performance, as do other variables including awareness of information security policy, enforcement methods for that policy, and the effects of information security policy violations. The results show that organizations in the telecommunications sector that use an information security policy have the highest organizational performance. The above findings require a more in-depth analysis, and the result is related to the telecommunications sector organization. The outcomes of the study related to the information security policy directly affect organizational performance.

Keywords: Information security policy, information security violations, organizational performance, telecommunication sector

REFERENCES

- Abrew, K. M. N. De, & Wickramarachchi, R. (2021). Organizational Factors Affecting the ISMS Effectiveness in Sri Lankan IT Organizations: A Systematic Review. *Ieomsociety.Org*, 702–713.
- Burgess, J. F., & Street, A. (2012). Measuring Organizational Performance. *The Oxford Handbook of Health Economics*.
<https://doi.org/10.1093/oxfordhb/9780199238828.013.0029>
- Gammampila, S. V., & Sajeevanie, T. L. (2019). Influence of Human Factors on the Adaptation of a Security Culture: Evidence from a leading IT company operating in Sri Lanka. *Sri Lanka Journal of Management Studies*, 1(2), 43.
<https://doi.org/10.4038/sljms.v1i2.48>
- Kim, S. (2005). Individual-level factors and organizational performance in government organizations. *Journal of Public Administration Research and Theory*, 15(2), 245–261. <https://doi.org/10.1093/jopart/mui013>
- Nabi, S. I., Nabi, S. W., Tipu, S. A. A., Haqqi, B., Abid, Z., & Alghathbar, K. (2010). Data confidentiality and integrity issues and role of information security management standard, policies, and practices - An empirical study of telecommunication industry in Pakistan. *Communications in Computer and Information Science*, 122 CCIS, 47–56. https://doi.org/10.1007/978-3-642-17610-4_6
- Pahnila, S., Siponen, M., & Mahmood, A. (2007). Association for Information Systems AIS Electronic Library (AISeL) Which Factors Explain Employees' Adherence to Information Security Policies? An Empirical Study. *Pacis*, 2007.
<http://aisel.aisnet.org/pacis2007/73>
- Tagarev, T. (n.d.). *Main Considerations in Elaborating Organizational Information Security Policies*. <https://doi.org/10.1145/3345252.3345302>
- Wu, Y. C., Sun, R., & Wu, Y. J. (2020). Smart city development in Taiwan: From the perspective of the information security policy. *Sustainability (Switzerland)*, 12(7).
<https://doi.org/10.3390/su12072916>