Leadership Styles and Information Security Compliance Behavior: The Mediator Effect of Information Security Awareness

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Abstract—Leadership styles play an important role to enhance employee’s information security awareness and may lead to proper information security compliance behavior. Therefore, the current study aims to investigate the indirect effect of leadership styles on user’s information security policies compliance behavior through the extent of information security awareness. Questionnaires survey were done among health professionals at government hospitals in Malaysia (N = 454). Statistical results confirm that transactional leadership style has a direct effect to all information security awareness factors, but the mediation effect on the relationship between transactional leadership and user’s information security policies compliance behavior through two intervening variables (severity awareness and benefit of security-countermeasure). Meanwhile, transformational leadership style has a direct effect on benefit of security-countermeasure and no mediation effect with the extent of all the intervening variables. The research findings found that severity awareness and benefit of security-countermeasure awareness were significant predictors of information security policies compliance behavior while susceptibility awareness and perceived barrier were insignificant. Our findings were proven to be beneficial to fellow researchers and management of the organization, especially related to the medical sector in improving current standards of information security awareness in hospitals.

Index Terms—Transformational leadership, transactional leadership, information security awareness, health belief model, information security policies compliance behavior.

I. INTRODUCTION

Information security is required to protect organization data from information security threat such as virus and carelessness, user errors and omission [2].

Many studies have found that the employees of an organization could be the real culprit of most security breaches whether it was done intentionally or unintentionally [1], [3]. This notion is supported by Bouyer and Younge [4] who reported that 80% of security incidents in organizations are due to internal threats.

In Malaysia, human error is one of major internal threat towards implementation of Health Information System (HIS) [5]. Human error caused information security incidents because of employees in the organization have lack of recognition of potential threat vulnerabilities, undeveloped understanding of information security and lack of knowledge about information security [6]. Thus, leader plays an important role to encourage and monitor employees in the organization aware on organization information security policies (ISP) and comply it properly. If employees’ awareness of information security is increasing, security incidents in the organization can be reduced. To the best of our knowledge, lack of studies was focus on indirect effect of leadership styles on employees’ information security policies compliance behavior. Hence, the current study aims to investigate the indirect effect of leadership styles on user’s information security policies compliance behavior through the intervening variable of information security awareness.

The rest of the paper is presented as follows: the next section reviewed information security policies compliance behavior. The third section presents the research framework and discusses the integration theories that were adopted to develop propose research model while fourth discusses the research design used in this study. The analysis results of the