



AN EFFECTIVE MODEL FOR FRAUD RISK MANAGEMENT IN MITIGATING TELECOMMUNICATION FRAUD INCIDENCES

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ABSTRACT

In the context of Malaysia, the most common types of cyber attacks are denial of service, intrusion attempts, spam, vulnerability report, fraud, malicious code, and content-related attacks as reported by Cyber Security Malaysia. However, since 2011, cyber attacks such as intrusion attempts, denial of service and spam are decreasing steadily as a result of security measures that have been taken by companies or internet users. Nevertheless, cyber attacks which are steadily increasing are cyber harassment, intrusion and fraud. Approximately 5,328 fraud incidences were reported in 2011 while in 2020, the number of cases rose to 7,593 cases. Out of these cyber attacks in Malaysia, the most proliferating ones have been identified as fraud incidences. Thus, it is highly needed to come up with and propose the best fraud risk management strategy to handle fraud incidences among internet users and internet providers through the utilization of business intelligence tools, and quality enhancement via quality systems in place, quality information, and quality users. With these tools in hand, it is hoped that the proposed model will serve as a framework to mitigate and/or prevent the occurrence of fraud incidences.

Keywords: Retirement, Homes, Performance, Internal Environment, Policy

RESEARCH HIGHLIGHTS

Fraud cases have been on the increase affecting internet users as well as telecommunication users in Malaysia as highlighted in the statistics published from 2011 until 2020 by MyCert or Cyber Security.

A model is proposed in this paper to help mitigate or prevent fraud incidences as experienced by internet as well as telecommunication users in Malaysia. The variables under study are quality dimensions (systems, information and users), the five stages of effective fraud risk management and the five business intelligence tools.

GRAPHICAL ABSTRACT

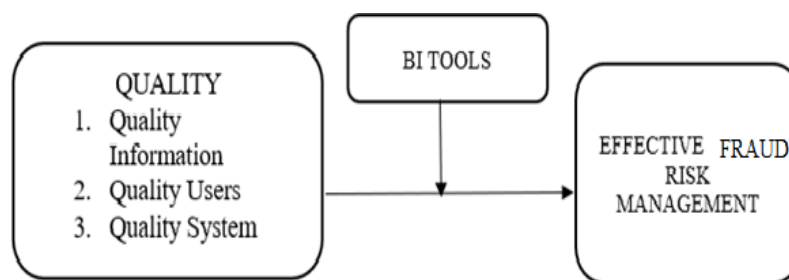


Fig. 1. Proposed Model for Effective Fraud Risk Management

The model as proposed in Fig. 1 above shows that an effective telecommunication fraud risk management is dependent on the quality of systems (QS), information (QI), and users (QU), and quality of the system (QS). The tools in business intelligent act as a moderator in the relationship between dimensions of quality and effective fraud risk management.

Research Objectives

The research objectives are as follows:

Research Objective 1 is to recognize internet fraud incidences in Malaysia.

Research Objective 2 is to examine the QU, QS and QI which influences effective fraud risk management.

Research Objective 3 is to determine the business intelligence tools which act as a moderator for effective fraud risk management. Research Objective 4 is to identify the effective fraud risk management stages for the telecommunication industry.

Research Objective 5 is to recommend an effective model for fraud risk management for the telecommunication industry.

This study is timely to be conducted with the aim of mitigating the escalating fraud incidences as experienced by users of internet and telecommunication services.

Methodology

The method used for this study is secondary research whereby information from journals and websites were used to identify the problems and solutions which may be practical to handle these problems are proposed for the current situation.

For this purpose, mainly government websites such as Cybersecurity, and Multimedia Corporation in Malaysia were utilized which contain statistics on common cyber crimes in Malaysia from 2011 till 2020. The annual published statistics on the frequencies of cyber crimes in Malaysia that have victimised Internet users in Malaysia were tabulated.

A vast review of literature related to quality of system, information and users from the perspectives of telecommunication fraud risk management was examined. Literature emphasized that business intelligent tools played a critical role in reducing fraud incidents among users of telecommunication services. Additionally, past literature also stressed on how these above mentioned tools can help mitigate these frauds occurs through effective fraud risk management. Thus, in this paper, a model of effective fraud risk management is proposed to help alleviate fraud incidents among users and providers of telecommunication services.

Results

The following is a discussion of the critical components of an effective risk management model.

Quality of Systems, Information and Users

Quality system refers to accessibility, reliability, flexibility, integration and response time. *Quality information* refers to the format, currency, accuracy, and completeness of the information. *Quality users* include the training, skills, and expertise of the system users (Stvilia, Gasser, Twidale, & Smith, 2007).

Business Intelligent Tools (BI Tools)

Tools in BI are used to generate a complicated analytics into an easy-to-use report for users to achieve optimal industry potential. BI tools can be divided into 2 categories: 1st category: Report, User query, and Analysis. 2nd category: Advanced analytics (Wu, Chen, & Olson, 2014). In this model, the 5 stages of the intelligence cycle will be integrated to measure the Business Intelligence Tools alongside the quality components (Stefanescu, Stefanescu, & Ciora, 2009).

Fraud Risk Management

This comprises of 5 stages concerning Fig. 2 below. Stage 1 is the assessment of fraud risk Stage 2 is the selection, development and display of control activities. Stage 3 consists of establishing a fraud reporting process. Stage 4 involves monitoring the process, reporting of results, and improvement of the process itself. Stage 5 consists of the establishment of a fraud risk management policy for governance of the organization (McNeal, 2017).

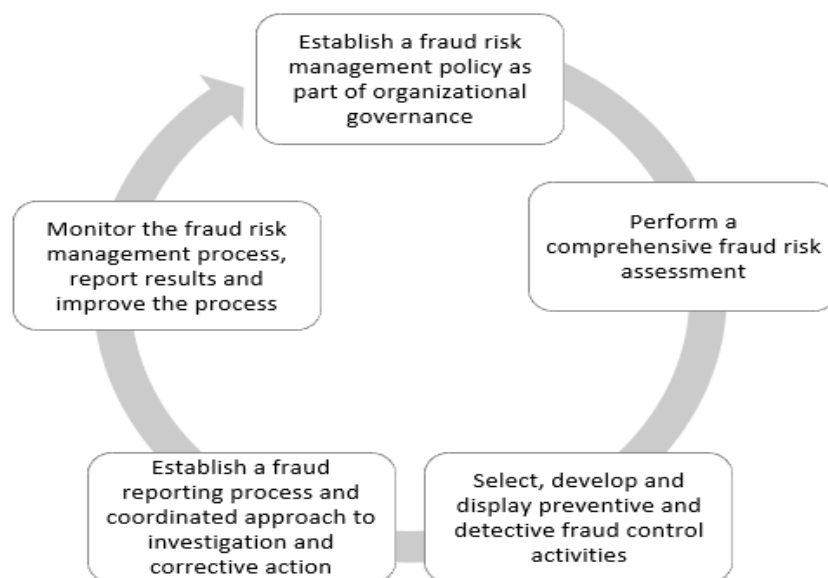


Fig. 2. A Proposed Model for Effective Fraud Risk Management

Findings

Business Intelligence has become a critical component which relies heavily on efficient utilization of intellectual resources to ensure business effectiveness. Literature on business intelligence suggests that knowledge-based tools are essential as they are not only fundamentally difficult to imitate but allow business sustainability. In short, Fig. 2 is proposed in mitigating fraud incidences among users of telecommunication companies.

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Author's Biography



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