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Previous competences of information technology governance for the board of directors in Indonesia

Competencias previas de gobernanza de tecnología de la información para la junta directiva en Indonesia

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ABSTRACT

This study focuses on the requirement of having a mechanism with respect to IT systems, highlighting any visible conflict between the organization and the IT governance structure. The aim of this study is to create an IT competence prototype that will facilitate attaining desired IT governance. Implications of this research are that the specific prototype developed can be used to gauge the IT competency in other domains. Moreover, the results and findings of this study can also be used as a starting point for future researches.

Keywords: Assessment Prototype, Board of Directors, Chief Information Officer, IT Expertise, IT governance.

RESUMEN

Este estudio se centra en el requisito de tener un mecanismo con respecto a los sistemas de IT que resalte cualquier conflicto visible entre la organización y la estructura de gobierno de IT. El objetivo de este estudio es crear un prototipo de competencia de IT que facilitará el logro del gobierno de IT deseado. Las implicaciones de esta investigación son que el prototipo específico desarrollado puede usarse para medir la competencia de IT en otros dominios. Además, los resultados y hallazgos de este estudio también se pueden utilizar como punto de partida para futuras investigaciones.

Palabras clave: Director de información, Experiencia en IT, Gobierno de IT, Junta directiva, Prototipo de Evaluación.

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1. INTRODUCTION

Organizations' dependency on IT systems is growing with a rapid pace in today's world (Adedoyin & Okere: 2017). Consequently, they are investing a considerable amount of their capital on establishing IT assets to meet the needs of their employees and their stakeholders.

Companies have nominated the Board of Directors to administer the day to day operations of organizations. They have the authority to make major investment decisions, define the strategic course of their organization, and are responsible for overall corporate governance (Adewale: 2016). Factually, the Board plays a key part in steering a company towards achieving its strategic objectives (Alhakimi: 2018).

IT governance must administer IT resources in the interest of stakeholders who have invested in the company and want ROI. Directors are also accountable for the proper administration of IT resources; therefore, they entreat their management to execute policies and controls prerequisite to IT governance. There are many possible advantages of following preeminent procedures in IT administered areas (Ahmad: 2018), which will yield long-term benefits for stakeholders. Regardless of many advantages connected with enhanced IT administration and governance, little research has been done to find out how Board should essentially govern the IT system of an organization (Wyrasti et al.:2018).

The survey also underlined IT as the fifth-ranked universal challenge faced by audit boards, which is above regulatory and scam issues. These surveys have discovered two major concerns explicitly with respect to IT namely; the inception of Social networking websites and the development of cloud services (Alreemy et al.: 2016; Akay: 2018).

The above-highlighted facts provide an impetus to the research objectives of this study. Following this background study, a detailed literature review was done in the field of IT governance with the drive to create a prototype in order to gauge the skills of the board, which was then tested in a corporate domain to verify its effectiveness (Turel et al.: 2017).

The study suggested four classifications, which can be beneficial in assessing IT governance, namely (a) administrating strategic issues; (b) demonstrating internal control; (c) risk associated with business and (d) confidentiality and legitimacy issues. Every segment was individually briefed out and packed with explicit ideas, driven from three distinct groups recognized in the literature review and stated as under.

Administrating Strategic Issues

1. The organization needs to identify the strategic value it will extract from the use of IT by using it efficiently and effectively.
2. There must be a configuration among IT activities and the overall goals of an organization.
3. Security measures must be in place in order to nullify the risk factor.
4. The organization must be aware of any competitive intimidations.
5. In order to improve business operations, the innovative idea must be incorporated with respect to IT.
6. Advanced communication tools must be installed.
7. Data Management systems must be in place to support the decision making process across the organization.
8. There must be a feasibility check with respect to IT assets acquisition.
9. Stakeholder interest must be safeguarded before acquiring any IT assets.
10. Viable HR policies must be confirmed.
11. The availability of resources to empower staff to influence new expertise must be confirmed.
12. That paperwork is complete with IT vendors must be confirmed.
13. The effect of company culture on IT administration must be taken into consideration.

Demonstrating Internal Control

1. Suitable supervision of IT connected tactical and operational hazard must be confirmed
2. IT administration mechanisms must be in place.
3. Appropriate measures must be taken to safeguard the security and document preservation.
4. Measures for exposing and nullifying any IT artifice need to be established.
5. Procedures to safeguard the company's economic value associated with IT expenditures need to be established.
6. That desired result is achieved through IT controlling, and mensuration system must be confirmed.
7. Piloting consistent evaluations of IT safety and dependability degrees.
8. That policies are executed efficiently must be confirmed.

Risk associated with Business

1. Awareness with respect to growth in IT developments and evolving your business accordingly.
2. That all risks associated with IT business operations are recognized and persuaded must be confirmed.
3. IT must be ensured that social networking websites are used to mark and measure customer views.
4. A smooth working association with third-party vendors/suppliers must be ensured.

Confidentiality and Legitimacy issues

1. It must be ensured that the local controlling authority required for guarding personal data should comply with defined rules and regulations.
2. Obedience with all pertinent local regulations concerning the utilization of hardware, software program, patent laws, etc must be confirmed.
3. Adherence to all principles, procedures, and structures influencing IT administration.
4. Adherence to environmental regulations while disposing of IT assets.

2. METHODS

The questionnaire of this study had three main parts. The first part of the questionnaire carried five questions with respect to the demographics of the respondents, which included the name of the company respondents worked in, followed by their positions in the company and total years of experience. Three questions were related to the company, which included company size, the industry company belonged to and whether registered with the Security Exchange Board (Khosravipour et al.: 2018).

Part 2 included diverse expertises that were further divided into different classifications and respondents were asked to assess with respect to significance, every IT concern that their company was facing. Part 3 re-cataloged each expertise and respondents were asked to rate the degree of expertise that the board has to control each concern.

In order to test the prototype, Indonesia was chosen for being a fast developing country and its security exchange regulated with strict government policies. Bursa Indonesia had 811 listed companies subject to strict pre-requisites of the Companies Act. World Bank has also identified Indonesia as a fast-developing economy in its world economic standings (Gisore & Jepchumba: 2017).

A paper-based research instrument was adapted for electronic delivery to the *LimeSurvey* platform supported by research Services, Griffith University. *LimeSurvey* has strong online monitoring features, which enabled the researcher to constantly monitor the data collected at any point in time. Therefore, the response

frequency and numbers were monitored from time to time. Completed responses (and incomplete responses) were progressively reviewed from time to time.

The responses were closed at 142 responses. On review, it was revealed this comprised of 120 complete responses and 22 incomplete responses. The 120 complete responses were used to analyze the results. At the time of the study, there were 811 companies listed on the Main Market of Bursa Indonesia, however, only 800 companies had their complete website addresses listed on the home page of Bursa Indonesia. The 120 complete responses represented 15% of the total population surveyed and were therefore considered to be an acceptable response rate.

3. RESULTS

Findings were examined in order to assess and find an answer to two main questions of the study. It was done by evaluating the grading of the CIO's in connection with a) the significance of each specific concern and b) by assessing the degree of expertise by which the board managed each concern. The following table (Table 1) encapsulates the data.

	Major Concerns	Significance	Expertise
Administrating Strategic Issues			
1	Organizations need to identify the strategic value which it will extract the use of IT by using it efficiently and effectively	4.035	4.178
2	Configuration among IT activities and the overall goal of an organization	3.607	3.75
3	Security measures must also be placed in order to nullify the risk factor	3.607	3.464
4	The organization must be aware of any competitive intimidation	4.035	4.035
5	In order to improve business operation, innovative ideas must be incorporated with respect to IT	3.464	3.892
6	Advance communication tool must be installed	3.321	3.892
7	Data Management systems must be in place to support the decision-making process across the organization.	3.75	3.75
8	There must be a feasibility check with respect to IT asset acquisition.	4.035	3.892
9	Stakeholder interest must be safeguarded before acquiring any IT asset.	3.607	3.464
10	Confirming viable HR policies.	3.75	3.75
11	Confirming the availability of resources to empower staff to influence expertise.	3.321	3.607
12	Confirming that paperwork is complete with IT vendors.	3.321	3.607
13	Taking into consideration the effect of company culture on IT administration.	4.178	3.892
Demonstrating Internal Control			
1	Confirming suitable supervision of IT connected tactical and operational hazard.	4.035	3.892
2	IT administration mechanisms must be in place.	3.464	3.464

3	Appropriate measures must be taken to safeguard the security and document preservation.	4.035	3.892
4	Establishing measures for exposing and nullifying any IT artifice.	3.75	3.607
5	Establishing procedures to safeguard the company's economic value associated with IT expenditures.	3.75	3.607
6	Confirming that desired result achieved through IT controlling and mensuration system.	3.607	3.75
7	Piloting consistent evaluations of IT safety and dependability degrees.	3.464	3.75
8	Confirming that policies are executed efficiently.	4.178	4.035
Risk associated with Business			
1	Awareness with respect to growth in IT developments and evolving your business accordingly.	3.75	3.464
2	Confirming that all risks associated with IT business operations are recognized and persuaded.	3.75	3.75
3	Confirming social networking websites are used to mark and measure customer views.	3.607	3.464
4	Confirming a smooth working association with third-party vendors/suppliers.	3.464	3.607
Confidentiality and Legitimacy issues			
1	Confirming that local controlling authority requirement for guarding personal data at the same time complying with defined rules and regulations.	4.035	4.035
2	Confirming obedience with all pertinent local regulations concerning the utilization of hardware, software program, patent laws, etc.	4.035	3.75
3	Adherence to all principles, procedures, and structures influencing IT administration.	3.892	3.607
4	Adherence to environmental regulations while disposing of IT assets.	3.75	3.607

Table 1. The Major Concerns and Significance

In order to verify the rationality of the data, the reliability test was conducted. Therefore, Cronbach Alpha reliability test was performed for all eight categories in relation to Table 1 (significance and expertise score for all four categories of concerns).

The *significance* of the concerns was then examined by assessing the answers of respondents against Part two of the questionnaire. Scores were measured on a scale of 1 to 5 for each individual item with a minimum score of 3.5 which signified moderate significance and highest score 4.03 which signified highly significant. The average ranking of all the items examined showed a value of 3.68, which was close to 3.7 constituting every item as very significant (Shahbakhsh et al.: 2019). One open-ended question was also included in the questionnaire where respondents were asked to mention any other concerns not listed in the questionnaire and which they considered important to IT administration. Respondents did not add any notable concerns.

The mean was calculated category wise for each group of concerns. Table 2 suggests that respondents have given considerable significance to each item and contemplated that categorizing items was a very rational method in order to gauge overall IT significance.

Particulars	Concerns	Expertise
Administrating Strategic Issues	3.695	3.783
Demonstrating Internal Control	3.785	3.750
The risk associated with Business	3.643	3.571
Confidentiality and Legitimacy issues	3.928	3.750
Overall	3.763	3.713

Table 2

4. CONCLUSION

Over the last decade, the significance of IT administration is unquestionably intensified. But there are examples where Board members struggle to figure out the actual condition of IT affairs in their organization (Ale: 2018). Sometimes they fail to possess adequate knowledge to oversee the IT affairs efficiently, which is reflected in Board meetings when they display their deficiency in IT expertise and awareness about it. Companies Board of Directors is eventually accountable for proper governance of IT affairs including the actualization of desired advantage resulting in aligning IT with the goals of the organization; taking advantage of opportunities, and boosting up profit through proper use of IT; establishing controlling measures to minimize the risk factor. Therefore, it seems necessary for the board member to have IT skills at their disposal.

Therefore, this research paper aimed to address the issues concerning less available literature with respect to IT governance, by presenting a realistic prototype, which allowed assessing the degree of IT skills possessed by board members. Findings reveal that the prototype is a constructive way to assess the board members' IT expertise. Moreover, board IT expertise was also evaluated in terms of the management of the organization working at an authoritative level. Similarly, it was projected that the prototype can be tested with the rapidly growing economic situation and security exchange board, which was governed by stringent company act and government policies.

Moreover, we are living in a very dynamic environment that has increased dependency on subcontracting IT resources by organizations and the development of cloud services. It has also enlarged the scope of IT governance. This has forced board members to enlarge their IT skills levels. This also amplifies the importance of having a prototype to assess the degree of expertise of board members, which ultimately emphasizes the rationale of the current study (Akeju: 2018).

These findings might facilitate the company board of directors to exhibit a more improved IT administration, and at the same time monitor the impact of the IT system on the mechanism of IT governance (Albasu & Nyameh: 2017).

There are however a few limitations of the study. Findings from such types of research are much dependent on the answers of the respondents. It is difficult to judge whether the responses received from the participants truly reflected their views, and were not altered to make them look more suitable. There is also a possibility that management may have thought if they truly shared their views publicly, it might backfire which board members may find it disrespecting. Therefore, fear of retribution is always there. Similarly, the sample size selected may not truly reflect the characteristics of the total population, which is the core requirement of successfully evaluating the prototype competency and boundaries. Respondent also did not highlight any deficiency with respect to the evaluation of the prototype, nor was added any other major IT concern. Investing

the prototype in some other settings might also have revealed some other issues. Therefore, for future studies, it would be better to keep these limitations in mind.

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