

CORPORATE COMMUNICATION SYSTEMS ON EFFECTIVE IT THE EFFECT OF INVOLVEMENT OF SENIOR MANAGEMENT, GOVERNANCE AND ORGANIZATIONAL PERFORMANCE

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ABSTRACT

Recently, information technology governance has become a critical issue for many companies in various industries; this is even more important for enterprises due to the more complex business processes, more specified tasks and departments. Many companies suffer from extra costs of IT and other processes due to failure inefficient alignment between IT and business strategies which in turn, leads to low performance of the company. To overcome this problem, organizations need to have an effective ITG to make IT resources management more valuable, less substitute, rarer, and less imitable. To do so, firms need to use IT governance initiative factors (Involvement of Senior Management in IT and Corporate Communication Systems) to increase their effectiveness and organizational performance. Thus, this paper is aimed to establish a framework, testing the role of Involvement of Senior Management in IT and Corporate Communication Systems on effective information technology governance (ITG) and organizational performance in the manufacturing companies; which should help managers to better understand how Involvement of Senior Management in IT and Corporate Communication Systems and effective ITG, impacts on organizational performance. 357 data were obtained from managers in the Malaysian manufacturing industry. Structural equation modeling (SEM) was used in this study to analyze the measurement and structural models simultaneously to test the role effect of ITG between information technology governance initiative factors (Involvement of Senior Management in IT and Corporate Communication Systems) and organizational performance. Limitations, implications, and suggestions for future studies were discussed.

KEYWORDS: *Involvement of Senior Management, Organizational Performance, Manufacturing, Malaysia*

INTRODUCTION

Nowadays most of the organizations are using a system for the different departments in which those systems are highly IT related. But in many companies, there is not enough knowledge that how important is IT in their Organization. Due to the fast-paced development globally and locally in the IT industry, there has been an increased interest in the area of ITG in Malaysia. Early studies by Tan (2011) in Malaysia in the area of ITG started in the education sector, which is still being continued. Previous research on ITG for manufacturing companies in Malaysia is carried in two various methods, one method

tries to generalize the implementation of ITG in manufacturing companies (Teo, 2013) and the second method attempts to customize ITG to fit the particular features of the manufacturing companies. The ITG research continues to get more attention in Malaysia and also the field of ITG is fairly new in Malaysia (Tan, Teo & Lai, 2011), The IT infrastructure in firms has become rather complicated, as the firms grow larger regarding the number of workers and yearly revenue. As such, a sound IT management is relevant to make sure that the risks involved in IT are managed well and that IT can add positive value to the organizations (Jayashree, Salehi, Abdollahbeigi, & Malarvizhi, 2016). Although the importance of ITG is growing, researches by Teo (2013) suggests that most organizations have not successfully gained advantages from the IT endeavor. Academicians and practitioners have carried out extensive studies in the area of ITG. It is agreed that to reach a high level of ITG, organizations have to possess a well-structured and well understood transparent mechanism of governance (Abdollahbeigi and Salehi, 2018). Nevertheless, the best intentions to establish good governance will face failure if supportive mechanisms are not adequately implemented (Salehi, et al., 2018). This study attempts to investigate Malaysian organizations from the manufacturing sector because this sector is among the topmost important contributor to the development of the economy of Malaysia. Nevertheless, prior research did not offer a proper understanding of suitable situations wherein these techniques would most likely result in a successful ITG. The various characteristics of particular types of organizations and industry sectors: were not considered in their contribution to show the efficacy of ITG in firms (Ali and Green, 2012, Winkler, 2013). It should be noted that the factors leading to the efficacy of an ITG cannot be generalized as each firm and industry sector is different from its characteristics. Therefore, firms need to set up proper ITG to achieve more effective IT usage. To execute a proper ITG, a set mechanism related to ITG is needed such as the Involvement of Senior Management in IT and Corporate Communication Systems (Huygh et al., 2018).

According to Lunardi et al. (2014) and Hassan (2019), IT governance initiatives can affect the governance performance and, consequently, the organizational performance; he refers to identify the direct and indirect benefits provided by the IT governance mechanisms most commonly adopted by firms showing the effects of these mechanisms on business. It is important to investigate how IT governance initiatives factors can affect effective IT governance and organizational performance (Allam et al., 2019). However, there is a lack of studies to make a clear perspective of how IT governance initiatives factors can affect effective IT governance and how it can lead to successful organizational performance. Realizing the great potential of IT governance initiatives and effective IT governance despite its numerous hurdles, it is imperative to determine factors that, in the end, will be able to help the Malaysian manufacturing industries to engage better with IT governance and help them to increase their organizational performance. The IT Governance Institute (2016) stated that about 80% of the Chief Information Officers (CIO) had realized the necessity of having better ITG to deliver the strategies of the organization accordingly. The significance of the ITG is supported by research, which demonstrates that organizations with better ITG increase their profit levels by 25% compared to organizations with weak governance with the same objectives (Ali and Green, 2012). Besides, it was also claimed that having a successful ITG framework is the most significant predictor of generating organizational value from IT (Johanes et al., 2019). An effective ITG is critical for firms to reach their corporate objectives. However, the main question in business is finding out which ITG mechanism is the most cost-effective and able to generate a higher level of success in ITG in an organization. This study aims to answer this critical question. Also, it is essential to comprehend the factors that establish the efficacy of ITG, which cannot be generalized to all firms and industry, type as each firm has its characteristics. This study will examine the relations between ITG initiatives factors (Involvement of Senior Management in IT and Corporate Communication System) and the efficacy of ITG and organizational performance in an empirical manner. However, there is a lack of studies that examine the role of IT governance initiatives factors (Involvement of Senior Management in IT and Corporate Communication Systems) as well as the mediating influence of IT governance effectiveness on organizational performance in an integrated form. This is the focal point of this study. Also, there are limited studies about IT governance in Malaysia and a seeming lack of awareness studies on IT governance from the Malaysian perspective (Lunardi, et al., 2014; Ali and Green,

2012; Ilmudeen, 2014). Therefore, this research will try to examine the relationship of ITG initiatives factors (Involvement of Senior Management in IT and Corporate Communication Systems) with the efficacy of ITG and the performance of the organization.

This paper is organized and structured into seven main sections. The first section is to discuss the introduction of the study and this is followed by the second section which is the literature review. The research methodology and results are presented in sections three and four respectively. Next, discussion and implications are explained in sections five and six. Lastly, this paper ends with a conclusion in the closing section.

LITERATURE REVIEW

Involvement of Senior Management

A study by Ali and Green (2012), shows that the involvement of senior management has a positive significant impact on the level of effective ITG. Commitment is seen by the provision of sufficient resources to meet IT strategic objectives, to provide direction to the management concerning IT strategy and its approval (IT Governance Institute 2014). The positive effect of senior management involvement on effective IS planning has been identified by (Bouwes 2013). The correlation between senior management support and organizational activity success has also been thoroughly researched (Bowen et al., 2007). senior management involvement has a significant positive relation with IT governance success. Bouwes (2013) Recognized senior management involvement as the most important enabler of business and IT alignment. Moreover, senior management involvement in IT decision-making through an IT steering committee or IT-related communication policies influences the effectiveness of IT governance practices (Huang et al., 2010). Senior management involvement and support are the most significant success factors of IT governance performance (Nfuka&Rusu, 2011). Vaswani (2003), whose respondents were 80 auditors in Queensland, Australia, found that the involvement of senior management mediates positively relationship with the overall level of IT governance effectiveness and business performance. Also, Zaky and Soliman, (2017) have shown that ITG effectiveness is a mediating between senior management involvement and Financial/non-Financial Performance. Hence, this research hypothesized as follows.

- H₁: *There is a significant relationship between the Involvement of senior management in IT and effective IT governance.*
- H₂: *There is a significant relationship between the Involvement of senior management in IT and organizational performance.*
- H₃: *Effective IT governance mediates the relationship between the Involvement of senior management and organizational performance.*

Corporate Communication Systems

Weill and Ross, (2004) and (Mugwe, 2014) shows that corporate communication systems have a positive relationship with effective IT governance. Also, they mentioned that Communication mechanisms are important for effective IT governance as their purposes are to inform the organization as a whole about IT governance processes and decisions and to encourage desirable behaviors in the organization. They also suggested that the more management communicate formally about the existence of IT governance mechanisms, how they work, and what outcomes are expected, the more effective are their governance processes. Ali and Green (2012) identify the corporate communication systems as having positive impacts on IT governance performance. The role of communication systems in the effective governance and management of IT has been examined extensively. Effective IT governance requires close relationships between the business and IT so that there will be a better understanding between both areas, thus creating

good participation and collaboration in the organization (Luftman, 2004; Callahan et al., 2004). Weill & Ross (2004) also reveal that the more that management communicates formally about the existence of IT governance mechanisms, how they work, and what outcomes are expected, the more effective are their governance processes. A study by (Zaky and Soliman, 2017) has shown that ITG effectiveness is a mediating between corporate communication system and Financial/non-Financial Performance. Hence, this research hypothesized as follows:

H₄: *There is a significant relationship between corporate communication systems and effective IT governance.*

H₅: *There is a significant relationship between corporate communication systems and organizational performance.*

H₆: *Effective IT governance mediates the relationship between corporate communication systems and organizational performance.*

IT Governance Effectiveness and Organizational Performance

ITG leads to improvement in the performance of IT and this, in turn, leads to improvement in the performance of the company has been studied by many scholars (Weill & Ross, 2006; Machado, 2007; Assis, 2011; Haanappel, 2011; Mendonca et al., 2013; Li et al. 2014; Heindrickson et al., 2014; Pick, 2015; Hassan, 2019; Ako-Nai & Singh, 2019). ITG is a critical capability of a firm in promoting the alignment of its IT and business strategy as well as the IT delivery of value to the business. Li et al. (2014) and Ako-Nai & Singh (2019) discovered a strong and positive relationship between the implementation of ITG and organizational performance; however, they did not uncover any direct effect on ITG on the performance of IT investment in Canada and the USA. Li et al. (2014) propose that the efficacy of ITG affects ITG and the success of IT implementation. According to Haanappel (2011) and Guilherme, et al., (2017), financial performance may not be a proper measurement approach in the analysis of the performance of IT; it was proposed to utilize the perceived advantages derived from the performance of the organization such as the product delivery, operations, customer service, and human resource. Hence, this research hypothesized as follows:

H₇: *IT governance effectiveness is associated positively with organizational performance.*

Resource-based view Theory

The ITG structure of an organization typifies a collection of distinct internal resources (including IT and business) working together to ensure that the organization's IT extends the organization's objectives and strategies (ITGI 2016). These distinct resources are commonly known as organizational capabilities or core competencies (Bharadwaj 2000). To be useful, resources must be valuable (i.e. rent-producing) (Hart 1995). The characteristic of valuable resources is that they are firm-specific, rare and difficult to imitate or substitute (Barney 1991). Possessing these resources and capabilities enables superior performance as they serve to be sources of sustainable competitive advantage (Barney 1991). Sustainable IT-business values are generated from complementary considerations of IT with other resources (Bharadwaj 2000). Finding the right arrangement of complementary resources that will contribute to IT-business values can be challenging. This study adopts the resource based-view (RBV) as its theoretical foundation. Based on RBV, firms fight in terms of specialized valuable, rare, difficult to imitate, and non-substitutable corporate resources (Bharadwaj 2000). Researchers have used RBV in the IT context (Teng et al. 1995; Bharadwaj 2000; Caldeira & Ward 2003; Clemon 1991; Jarvenpaa & Leidner 1998, Santhanam & Hartono 2003). In line with this study, Teng et al. (1995) studied the relation of IT resources performance and IT decisions on outsourcing. They claimed that IT resources significantly contributed to the firm's achievement of competitive advantage. Therefore, according to the resource-based view, when existing resources perform below par, outsourcing can be one strategic method to fill this gap. In applying this perspective to information resources, when information quality, IS support quality, and other performance measurements of these resources are below par, outsourcing of IS is a viable strategic option for the firm. Effective ITG includes IT resources management so that IT goals are in alignment with business

objectives. To manage IT resources to be more valuable, less imitable, rarer and less substitutable, governance tools including involvement of senior management in IT, and corporate communication systems are required. The policies that these IT management mechanisms used to manage the IT resources effectively need to be also communicated effectively to the firms, and a compliance culture with the policies needs to be instilled. Lastly, IT resources performance must be assessed by utilizing a corporate performance measurement tool. The resulting effective ITG will offer a strategic resource to help the organization's competitiveness in this way. Effective ITG will be more likely to lead to good IT performance which in turn will lead to better firm performance (Weill & Ross 2004; Bharadwaj 2000; Santhanam & Hartono 2003). Past researches show that managerial IT resources in firms have significantly contributed to organizations' economic competitiveness (Mata et al. 1995). This research is grounded in RBV theory which claims that the organization's resources lead to competitive advantage (Lazic, 2011). As mentioned earlier, Implementation of IT governance initiatives is unique for an organization that categorizes its resources into sets of (human and organizational) resources to facilitate such resources in a way that leads to competitive advantage. Hence, implementation of Effective IT governance as a system is unique to manufacturing organizations as one of their organizational capabilities that can bring significant effects on its performance. In particular, this research maintains that competitive advantage, as reflected through improved IT governance, can be achieved through the allocation of resources towards IT governance initiatives implementation.

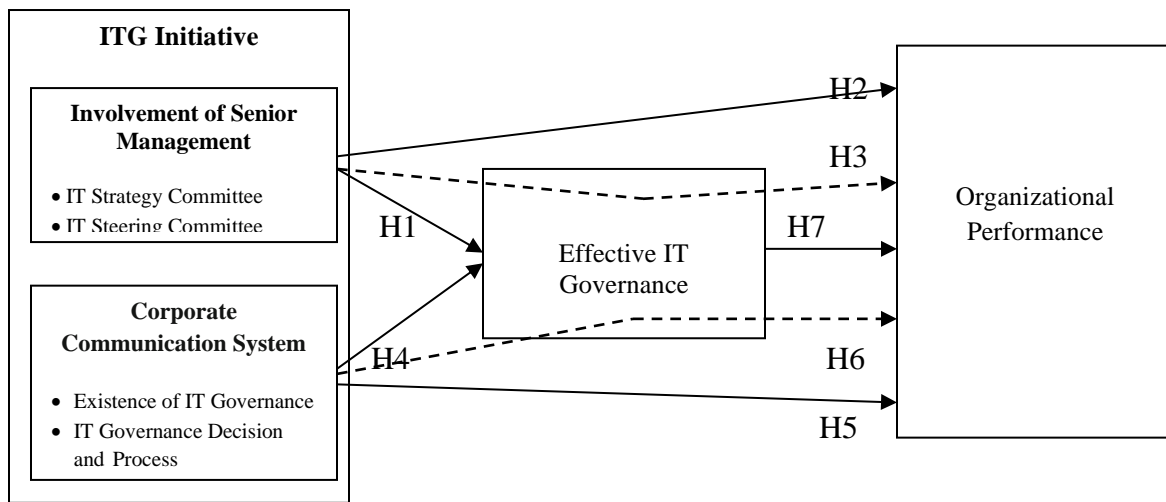


Figure1. Research Framework

METHODOLOGY

Population and Sample Size

The goal population is manufacturing companies in Malaysian. Samples were selected from seven states in Malaysia (Selangor, Penang, Johor, Sarawak and Negeri Sembilan, Melaka, Pahang) because Malaysia's manufacturing industries are largely concentrated in these states. Size of the sample was obtained from the list's members from the Federation of Malaysian Manufacturer (FMM, 2017) who represent the Malaysian manufacturing companies and SME Corp Malaysia a body representing Small and Medium enterprises in Malaysia which including of manufacturing and service companies. Hair et al. (2010) recommended a desirable sample size of 200 as minimum and 400 as the maximum for Structural Equation Modeling (SEM) studies. There was a total of 357 responses achieved. 241 Out of 357 were returned from SME companies, and 116 returned from FMM companies.

Measurements

Questionnaires were used in this study to obtain information from the respondents. The respondents of target identified in the list of emailing to managers in manufacturing companies. In this study, the Involvement of Senior Management in IT is measured by adapting from Ali and Green (2012). Meanwhile, the items to measure Corporate Communication Systems is adapted from Cornelissen (2017). Also, the measurement items for effective ITG and organizational performance are adapted from Mohamed (2012) and Alreemy (2016). All items are measured using a five-point Likert Scale ranging from "strongly disagree" (1) to "strongly agree" (5) (Appendix -A).

Data Analysis

Data of 357 manufacturing companies were gathered and analyzed using structural equation modeling (SEM) and Analysis of Moment Structures (AMOS). Table 2 below shows the results of the types of companies. The results revealed that the majority were MNC (32.5%), followed by SME (67.5%). The results were matching with the scenario of types of companies in the Malaysian Manufacturing Industry.

Table 1: Type of organization

	Frequency	Percent	Valid Percent	Cumulative Percent
MNC	116	32.5	32.5	32.5
Valid SME	241	67.5	67.5	100.0
Total	357	100.0	100.0	

RESULTS

A quantitative method has been used for this study to test formulated hypotheses and also answering questions. Structural Equation Modelling (SEM) is used for testing the developed hypotheses generating from the theoretical framework of the study. In order to conduct the SEM analyses, an accepted approach that has two stages will be used which was proposed by Anderson & Gerbing, (1988). In the final step for testing the developed hypotheses of this study, first, the final model should be fitted. The CFA was performed with the 38 scale items that were derived from the EFA output Absolute fit indices.

Examinations of cross-loadings, Average Variance Extracted (AVE) and Composite Reliability (CR) were performed to determine the validity of the measurement model as recommended by Hair, Sarstedt, Hopkins, and Kuppelwieser (2014). The loading should be > 0.70 , Composite Reliability (CR) > 0.70 and Average Variance Extracted (AVE) > 0.50 . Nevertheless, outer loading values equal to and greater than 0.5 were adequate and provided the summation of loading's results in high loading scores lead to Average Variance Extracted (AVE) scores greater than 0.4 (Duarte and Raposo, 2010). As shown in Table 2, the Average Variance Extracted (AVE) was greater than 0.5 and the Composite Reliability (CR) in the result was greater than 0.70. All loading was found to be above the cut-off values. From Table 3, it is obvious that the composite dependability and Cronbach values for all constructs are well above the conventional threshold value of 0.70. Based on hair et al., (2010), the acceptable value for Cronbach's alpha can be 0.7 (Duarte & Raposo, 2010). According to Chin, (2010), the high values of each of the factor loading confirm the Convergent validity.

In the CFA were finalized with 32 items, resulting in table 3: also, all the fit indexes had acceptable amounts (P-value=0.000, AGFI=0.97, GFI=0.97, CFI=0.95, IFI= 0.94 and RMSEA=0.039).

Table 2. Measurement Model

Latent variables (SE)	Items	Cronbach's Composite	Average Variance Extracted (AVE)
Involvement of senior management	I1	0.794	0.515
	I2		
	I3		
	I4		
	I5		
	I6		
	I7		
	I8		
	I10		
	I9		
Corporate communication System	C1	0.765	0.521
	C2		
	C3		
	C4		
	C5		
	C6		
	C9		
Effective IT governance	G1	0.901	0.520
	G2		
	G4		
	G5		
	G6		
	G7		
	G8		
	G3		
Organizational performance	P1	0.812	0.598
	P2		
	P3		
	P4		
	P5		
	P6		
	P7		
	P8		
	P9		
	P10		

Table 3. Fit Indices

Goodness-of-fit Indices	Desirable Range	Measurement Model
GFI	≥ 0.80	0.961
AGFI	≥ 0.80	0.977
RMSEA	≤ 0.08	0.039
NFI	≥ 0.80	0.927
CFI	≥ 0.90	0.951
TLI	≥ 0.90	0.944

In this research, the bootstrapping test in AMOS was chosen and used in the evaluation of the mediating path. As shown in Table 5, the results of hypotheses testing are listed according to the finalized structural

model of involvement of senior management, corporate communication system, effective of IT governance and organizational performance.

An examination of the structural parameters in Table 5 reviewed that involvement of senior management ($\beta = 0.314, z = 2.962, p = 0.006$) has a significant influence on effective IT governance. However, involvement of senior management ($\beta = 0.123, z = 1.337, p = 0.178$) is found to have no significance impact on organization performance. Similarly, Effective IT governance ($\beta = 0.247, z = 3.127, p = 0.019$) is found to have mediating effect between involvement of senior management and organization performance. To have a significant mediating effect, Baron and Kenny (1986) require that the z-value to be > absolute value of 1.96 and the p-value is <0.05. As a result, Hypothesis H1a and H1c are accepted while Hypotheses H1b is rejected.

The result shows that corporate communication system ($\beta = 0.281, z = 1.653, p = 0.233 > 0.05$) is not significant to effective IT governance. In this instance, Effective IT governance ($\beta = 0.343, z = 2.157, p = 0.006 > 0.05$) is found to be a full mediator for corporate communication system in relation to organization performance. However, there is a significant relationship between corporate communication system ($\beta = 0.261, z = 3.107, p = 0.041 < 0.10$) and organization performance. Hence, hypotheses H2b and H2c are supported and H2a is not supported.

The research outcomes showed that effective IT governance ($\beta = 0.397, z = 2.738, p = 0.000$) was associated significantly with organization performance and hence Hypothesis H7 was accepted. This also implied that greater effort ineffective IT governance would result in a higher level of performance a company can achieve.

Table4. Hypotheses testing

H	Paths	Unstandardized Estimates	Standard Errors	Critical Ratios	P-value	Results
H1	I → G	0.314	0.106	2.962	0.006**	Supported
H2	I → P	0.123	0.092	1.337	0.178	Not Supported
H3	I → G → P	0.247	0.079	3.127	0.019*	Supported
H4	C → G	0.281	0.170	1.653	0.233	Not Supported
H5	C → P	0.261	0.084	3.107	0.041*	Supported
H6	C → G → P	0.343	0.159	2.157	0.006**	Supported
H7	G → P	0.397	0.145	2.738	0.000***	Supported

DISCUSSION

Research by Ali and Green (2012) reveals that the involvement of senior management affects the level of effective ITG in a positively significant manner. Overall, support from management is an essential component of adopting and implementing IT outsourcing for firms. The support of the senior management affects the success of initiatives on new systems through the promotion of employee empowerment, through the facilitation of employee engagement, through the promotion of a culture shift and enhanced commitment by the employees of an organization, through the act of giving rewards and incentives that influence employees' behaviors, through the offer of training and the improvement of communications across departments and motivating teamwork in the organizations. The study by Young and Jordan (2008) confirms the core support from the top management is linked to successful decision

making to control the IT outsourcing strategies and authorize the changes in the business process. A critical component of an effective proposal for support from top management is linked to enhanced decision making to management strategies. The top management has to respond and manage business strategies and processes. Effective mitigation is dependent on the commitment and support from the top-level management. This study supports the significant relationships between the involvement of senior management and effective IT governance in Malaysian manufacturing companies. Although studies have validated the positive effect of involvement of senior management on organization performance (Bowen et al., 2007, Bouwes, R., 2013), the correlation between senior management support and organizational activity success has also been thoroughly researched (Bowen et al., 2007). The importance of senior management involvement has also been addressed by Weill (2004), who identified a significant positive correlation with senior management involvement and the IT governance performance score. Senior management involvement can arise naturally or by the explicit appointment of a project champion picked from the senior management. The positive effect of senior management involvement on effective IS planning has been identified by (Bouwes, R., 2013). The correlation between senior management support and organizational activity success has also been thoroughly researched (Bowen et al., 2007) senior management involvement has a significant positive relation with IT governance success. Bouwes, 2013 Recognized senior management involvement as the most important enabler of business and IT alignment. In this research, the result showed that there is no significant relationship between the involvement of senior management and organization performance in Malaysian manufacturing companies. Hence, this research this study supported the mediating effect of effective IT governance between the involvement of senior management and organization performance in Malaysian manufacturing companies.

According to previous studies (De Haes & Grembergen, 2005; Mugwe, C., 2014), several studies have found that the corporate communication system is positively related to effective IT governance. An effective ITG venture must include a close association between the divisions of IT and business for greater understanding between the two hence getting better participation and teamwork in a firm (Mugwe, C., 2014). A sound communication mechanism will allow the two entities (IT and business) to enhance the other party's knowledge of the significance of having each other's views on the advantages of IT (De Haes & Grembergen, 2005). It is also important for ITG to have a sound communication system since it aims to inform the entire firm regarding the processes and decisions that are undertaken by the ITG and to motivate favorable behaviors in the firm (Weill & Ross, 2004; Mugwe, 2014). Also, it was found that certain types of communication systems including announcements from the senior management as well as web-based portals play a significant function in forming an effective ITG. It is critical to have proper communication between entities for there to be a success in the relationship. Therefore, this study not supported the hypothesized relationships between the corporate communication system and effective IT governance in Malaysian manufacturing companies. The significant relationship between the corporate communication system and organization performance is consistent with (Ali and Green, 2012). Good communication systems will enable the two parties (business and IT) to increase each other's awareness of the importance of the other's perspective in obtaining benefits from IT. Communication mechanisms are also important for effective IT governance as their purposes are to inform the organization as a whole about IT governance processes and decisions, and to encourage desirable behaviors in the organization (Weill and Ross, 2004), (Mugwe, C., 2014). They also suggested that the more management communicate formally about the existence of IT governance mechanisms, how they work, and what outcomes are expected, the more effective are their governance processes. Effective communication between partners is assumed to be of crucial importance for a successful relationship. Therefore, this study supports the significant relationships between the corporate communication system and organization performance. This study confirms the significant mediating effect of effective IT governance between the corporate communication system and organization performance in Malaysian manufacturing companies.

ITG leads to improvement in the performance of IT and this, in turn, leads to improvement in the performance of the company has been studied by many scholars (Weill & Ross, 2006; Machado, 2007; Assis, 2011; Haanappel 2011; Mendonca et al., 2013; Li et al. 2014; Heindrickson et al., 2014; Pick,

2015). ITG is a critical capability of a firm in promoting the alignment of its IT and business strategy as well as the IT delivery of value to the business. To establish the ITG, a firm can use the practices linked to structures of decision making, and related tools; nevertheless, the particular benefit of the various practices have been poorly identified (Bermejo et al., 2014). Most extant researches have attempted to calculate the performance of IT using the measurement of the quantity of the returns of the decisions made on IT investment; using common forms of financial measurements such as the ROI, NPV (net present value, and others at the firm level. Certain scholars have utilized the performance of the organization seen as the result of the performance of IT that represents an increase in the market share, the attained competitive edge, enhanced internal efficacy in the operations of the firm, as well as the growth of the sales revenue annually (Heindrickson et al., 2014). According to Haanappel (2011), financial performance may not be a proper measurement approach in the analysis of the performance of IT; it was proposed to utilize the perceived advantages derived from the performance of the organization such as product delivery, operations, customer service, and human resource. According to Pick, (2015), the performance of IT is marked by outstanding and effective processes and structures for ITG. Li et al. (2014) discovered a strong and positive relationship between the implementation of ITG and organizational performance; however, they did not uncover any direct effect on ITG on the performance of IT investment in Canada and the USA. Li et al. (2014) propose that the efficacy of ITG affects ITG and the success of IT implementation. Hence this research result has added confirmation that effective IT governance has a significant effect on organization performance in the manufacturing companies in Malaysia.

IMPLICATION

This paper discusses the factors such as the involvement of senior management in IT and corporate communication systems on effective IT governance towards organizational performance. This paper significantly makes a unique contribution to the literature as it tested the variables mentioned simultaneously and thus, studied the effect of these variables on effective IT governance and organizational performance. It was also found that the involvement of senior management in IT and corporate communication systems have impacts on effective IT governance and organizational performance which means that these attributes are important in manufacturing sectors in Malaysia. The results and findings of the research can have benefits to supporting Manufacturing organizations in their efforts towards carrying out improvement activities. For managers, the proposed model is intended to provide long-term strategic guidance as the detailed results will show the specific requirements that can be implemented to enhance organizational capabilities for improved overall performance. This study has important contributions due to the concurrent examinations of dimensions of Information Technology Governance Initiative (Involvement of Senior Management in IT and Corporate Communication Systems) on effective IT governance, and Organizational Performance will provide an all-inclusive understanding of the research framework and make progress from the current knowledge concerning the correlations among two Information Technology Governance Initiative dimensions, effective IT governance and Organizational Performance. These findings can also be a useful platform for future studies. This research ought to be extended due to the accessible and different sample sizes. Additional analysis in replicating this research can be carried out in an industry-specific setting, such as service.

CONCLUSION

In conclusion, this research has concentrated on the factors that effective ITG (involvement of senior management in IT and corporate communication systems) and organization performance in manufacturing companies in Malaysia. Due to the importance of IT governance in Malaysia, this study can aid Managers and researchers to promote their knowledge about the importance of ITG and how it can benefit organization performance. Future works should replicate this study by investigating other target populations such as the services industry. To sum up, this paper examines the relationship between the involvement of senior management in IT and corporate communication systems on effective IT

governance towards organizational performance. This paper also provides support on the direct effect of the involvement of senior management in IT and corporate communication systems on effective IT governance towards organizational performance.

Limitations & Recommendations

Today's research was constrained simply by the fact that data collected and analyzed originated from IT managers; the outcomes may well not become generalized to the bigger cross-culture inhabitants. The effect of IT Governance Initiatives and effective IT governance varies between agencies in Eastern countries and Western countries or between agencies in created countries and developing countries. The data of the generalizability of results abroad provides the practitioners and academicians a more powerful basis in applying the proposed model with their business or study application.

In search of far more generalized research, upcoming research is encouraged to research this model in various other industries and growing countries. The results of the studies can offer empirical support and facilitate the acceptability of the model.

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Appendix-A: Measurement Scales and Sources

No	Statements	Sources
1	Senior management gets involved in strategic matters related to the use of IT within our organization, outside of the IT steering committee.	Ali and Green (2012)
2	In our organization, Senior management knowledgeable about IT opportunities and possibilities for the organization	
3	In our organization, Senior management knowledgeable about IT innovations that have been developed by major competitors.	
4	IT strategy committee provides strategic direction and the alignment of IT and the business issue in our organization.	
5	In our organization, IT strategy committee provides direction for sourcing and use of IT resources, skills and infrastructure to meet the strategic objectives.	
6	In our organization, IT strategy committee provides direction to management relative to IT strategy.	
7	In our organization, IT steering committee provides strategic direction to IT project that is in line with the strategic directions of the organization.	
8	In our organization, IT steering committee provides a mechanism for coordinating IT practices.	

9	In our organization, IT steering committee provides leadership in deriving benefits from IT.	
10	In our organization, IT steering committee provides leadership in managing IT.	
11	Communications systems enable our organization to Inform its employees effectively about the existence of IT governance mechanisms.	Cornelissen (2017)
12	In our organization, the communication systems enable the organization to inform its employees about IT governance decisions and processes throughout the organization.	
13	The communication systems provide support in educating the organization's members in IT governance processes in the organization.	
14	Communication mechanisms are important for effective IT governance in your organization	
15	The existence of IT governance systems has been shown to affect your firm profitability and strongly influences the value that an organization generates from IT.	
16	Management communicates formally about the existence of IT governance mechanisms, how they work, and what outcomes are expected, the more effective are their governance processes.	
17	In your organization, there is enough management communication about the existence of IT governance mechanisms.	Mohemed (2012)
18	Decision making is the most visible IT governance mechanisms that located decision-making responsibilities according to the intended archetypes	
19	Communications mechanisms are intended to spread news about IT governance decisions and processes and related describe behaviors throughout the enterprise.	
20	The structure of IT governance and the position of the decision-making authority in an organization to a large part determine the efficacy of IT governance.	
21	The Structure of organizational units, roles, and responsibilities for making IT decisions, have a positive impact on the overall level of effective IT governance	
22	IT governance structures in the sectors must balance effectiveness and efficiency in service provision.	
23	The process of strategic decision-making has a positive impact on the overall level of effective IT governance.	
24	Two-way communication and a good participation/collaboration relationship between business and IT people are needed in our organization	
25	Business/IT participation, strategic dialogue, shared learning and proper communication. Each of these practices serves specific or multiple goals in the complex IT governance challenge.	
26	Relational mechanisms of IT decision-making processes have a positive impact on the overall level of effective IT governance.	
27	Revenue Growth increased accordingly in last year.	
28	Cost Reduction decreased accordingly in last year. (Return on investment and Economic value-added)	
29	Market Share increased accordingly in last year.	
30	Customer Retention increased accordingly in last year.	

31	Customer Acquisition increased accordingly in last year.	Alreemy (2016)
32	Customer Satisfaction increased accordingly in last year.	
33	Innovation Process improved accordingly in last year.	
34	Operations Process improved accordingly in last year.	
35	Post-Sales Service Process improved accordingly in last year.	
36	Employee's Capabilities increased accordingly in last year.	
37	Motivation, Empowerment, and Alignment increased accordingly in last year.	