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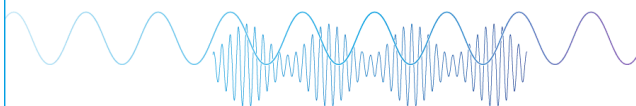
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Analysis of Determinants Factor of Successful Implementation of IT Governance: A Gap between Theory and Practice

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Abstract. To be able to implement IT Governance properly, of course, careful preparation is needed. This mature process requires theory in learning, but this does not guarantee the implementation of IT Governance will run well. This can happen because of the inhibiting factors in carrying out the theory learning process. Therefore, this study discusses the factors that can hinder learning and looks for the relationship between these factors. The method used in this study is an interpretive structural model, where this method is very suitable because, in addition to being able to present the relationship between factors, this method can also present the level of significance of the order of these factors. The results of this study are expected to provide a new discourse for policymakers in an organization to pay more attention to IT Governance learning activities so that the implementation of IT Governance in the future can be carried out properly.

INTRODUCTION

Along with the times, the use of technology in all aspects of life today is not something that is not foreign. Almost all organizations have utilized technology in carrying out their business processes. To get optimal benefits in its implementation, the organization must understand IT Governance well [1–4]. IT Governance is a very important tool that has a role in optimizing all resources owned by an organization, including infrastructure or technology equipment. It is undeniable that the procurement of infrastructure requires a very large investment, however, this very large investment turns out to be a lot of organizations that are still having difficulties in utilizing it [2,5,6].

Understanding of IT Governance has actually been made by the organization in order to get optimal results in utilizing technology. Various efforts, one of which is careful preparation from the organization, has been carried out. This mature process requires theory in learning, but this does not guarantee that the implementation of IT Governance will run well. For example, managers cannot change the behavior of their subordinates after attending training related to digital technology, even managers themselves sometimes act according to their wishes not based on guidelines that have been prepared and agreed upon. To be able to optimize infrastructure, need a good understanding of IT governance.

This can happen because of the inhibiting factors in carrying out the theoretical learning process with real practice in the field. Therefore, this study discusses the factors that can cause or hinder learning and at the same time look for the relationship between these factors. The method used in this study is an interpretive structural model (ISM), where this method is very suitable because in addition to being able to present the relationship between factors, this method can also present the level of significance of the order of these factors [7–10]. The results of this study are expected to

provide a new discourse for policy makers in an organization to pay more attention to IT Governance learning activities so that the implementation of IT Governance in the future can be carried out properly.

METHOD

In this study there are three stages to obtain results, the first stage is to conduct a literature review to find factors that can cause the implementation of theoretical learning to be unsuccessful when IT Governance is applied. The second stage is conducting interviews with IT Governance experts in order to seek information and confirmation regarding the relationship between the factors that have been found in the first stage. The last stage or the third stage in this research is to analyze the data using the interpretive structural model (ISM) method [11]. The stages in this research in full can be seen in Figure 1 below.

FIGURE 1. Stages in research

RESULT AND DISCUSSION

Literature Review

The initial stage in this research is to conduct a literature study. Literature study was conducted by searching for relevant articles, especially those related to the implementation of IT Governance in an organization. The keywords used in the search process are IT Governance, IT Governance Success and IT Governance Failure taken from various databases of reputable journals such as ACM, IEEE, Web of Science, Elsevier, Science Direct, Scopus etc. The search results finally find several factors that influence the causes of learning gaps and the implementation of IT Governance which is shown in table 1 below.

TABLE 1. Factors causing inhibiting gap

Code	Factors	Reference
IG1	Lack of communication with all parties involved regarding the implementation of IT Governance	[12–16]
IG2	Lack of clear main tasks and job functions related to IT Governance implementation	[17–19]
IG3	Lack of trust from the leadership towards subordinates in the implementation of IT Governance	[20,21]
IG4	The influence of executive ego related to the way of thinking about the implementation of IT Governance	[10,22–26]
IG5	Rigid and outdated business assumptions in the implementation of IT Governance	[4,27,28]
IG6	Doubts from executives about the added value of implementing IT Governance in the organization	[19,29–31]
IG7	Lack of consistency of stakeholders to the policies and strategies that have been set regarding the implementation of IT Governance	[32]–[34]

Interviews with Experts to Get Data

After getting the references described in full in table 1, the next step is to conduct interviews with experts. The experts involved in this study have the main criteria in accordance with their field of expertise, namely those who understand and master IT Governance. 3 experts were involved to provide information and confirmation regarding the required data. Data from interviews with experts are presented in table 2.

TABLE 2. Structural self-interaction matrix

Driver	IG7	IG6	IG5	IG4	IG3	IG2
IG1	O	V	O	O	V	V
IG2	O	V	O	O	O	
IG3	X	V	O	A		
IG4	V	V	V			
IG5	O	O				
IG6	V					

Table 2 provides an explanation of the relationship between IG1 and IG7 = O, it states that IG1 and IG7 have no related relationship. IG 1 with IG6 = V, explains that IG1 has an effect on IG6. The relationship between IG3 and IG7 = X, this means that IG3 and IG7 both factors influence each other, while the relationship between IG3 and IG4 = A states that IG3 is influenced by IG4.

Data Analysis using Interpretive Structural Model

TABLE 3. Structural self-interaction matrix

Driver	IG1	IG2	IG3	IG4	IG5	IG6	IG7
IG1	1	1	1	0	0	1	0
IG2	0	1	0	0	0	1	0
IG3	0	0	1	0	0	1	1
IG4	0	0	1	1	1	1	1
IG5	0	0	0	0	1	0	0
IG6	0	0	0	0	0	1	1
IG7	0	0	1	0	0	0	1

In Table 3 is the Structural Self Interaction Matrix (SSIM) which is the result of the development of table 2, which describes the change in the value of V=1; A=0; X=1 and O=0. Table 4 is a development of table 3, namely the final reachability matrix which provides an explanation of driving power and dependence which is the result of the calculation of all existing factors which in the end can determine the rank of the total accumulated value. In determining the rank, the principle is used starting from the smallest value of driving power, followed by the next value as the next rank and so on until it runs out.

TABLE 4. The final reachability matrix

Driver	IG1	IG2	IG3	IG4	IG5	IG6	IG7	Driving Power	Rank
IG1	1	1	1	0	0	1	*1	5	IV
IG2	0	1	0	0	0	1	*1	3	III
IG3	0	0	1	0	0	1	1	3	III
IG4	0	0	1	1	1	1	1	5	IV
IG5	0	0	0	0	1	0	0	1	I
IG6	0	0	0	0	0	1	1	2	II
IG7	0	0	1	0	0	0	1	2	II
Dependence	1	2	4	1	2	5	6		

In Table 5 below is an iteration matrix which provides an explanation regarding the level and the factors that occupy that level.

TABLE 5. Structural self-interaction matrix

Iteration	Driver	Reachability Set	Antecedent set	Intersection	Level
5	IG1	IG1, IG2, IG3, IG6, IG7	IG1	IG1	IV
3	IG2	IG2, IG6, IG7	IG1, IG2	IG2	III
3	IG3	IG3, IG6, IG7	IG1, IG3, IG4, IG7	IG3, IG7	III
5	IG4	IG3, IG4, IG5, IG6, IG7	IG4	IG4	IV
1	IG5	IG5	IG4, IG5	IG5	I
2	IG6	IG6, IG7	IG1, IG2, IG3, IG4, IG6	IG6	II
2	IG7	IG3, IG7	IG1, IG2, IG3, IG4, IG6, IG7	IG3, IG7	II

Figure 2 below provides an explanation of the results of the relationship between factors according to the levels shown in table 5. Here it can be seen that IG1 and IG4 occupy a level IV position or a buffer from other factors. This shows that the two factors have a very important influence on the other factors.
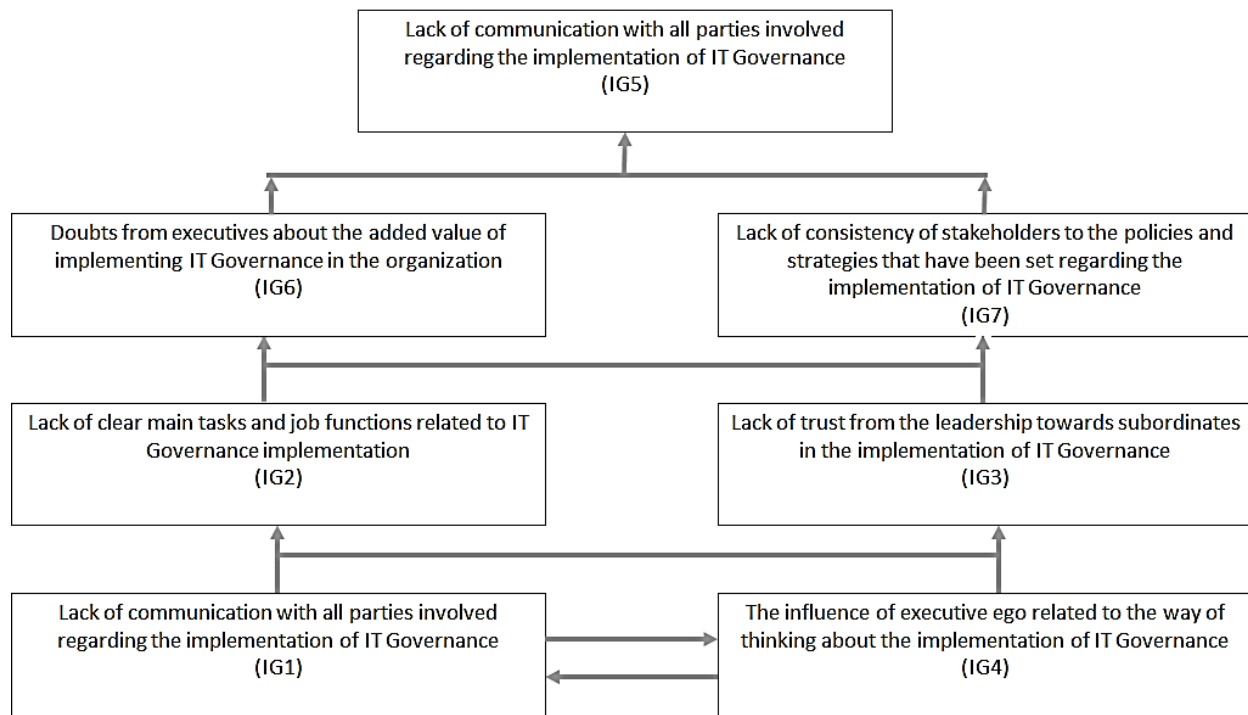

FIGURE 2. Digraph of causing inhibiting gap

Figure 3 is an image that describes the clusters of each of the existing factors. The driver cluster is occupied by two factors, namely IG1 and IG4. This means that these two factors have a strong influence but have low dependence on other factors. For IG6 and IG7 occupying the dependent cluster, this means that these two factors have a high dependence but have a weak influence on other factors, while for IG5 they have a weak influence and at the same time have a weak dependence.
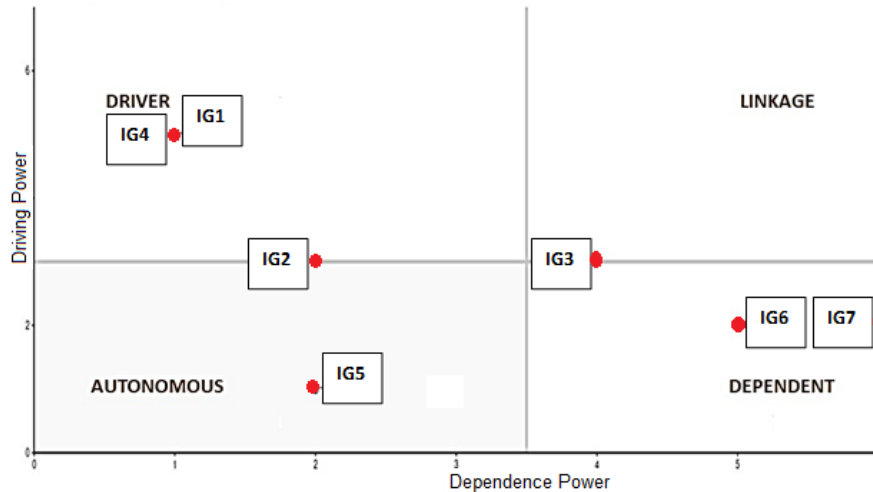
FIGURE 3. Cluster diagram of causing inhibiting gap

CONCLUSION

In this study, 7 factors have resulted in the gap that causes failure between learning and practice of IT Governance. These factors include lack of communication with all parties related to the implementation of IT Governance (IG1); Lack of clarity on the main tasks and work functions related to the implementation of IT Governance (IG2); Lack of leadership trust in subordinates in the implementation of IT Governance (IG3); The influence of executive ego related to the way of thinking about implementing IT Governance (IG4); Rigid and outdated business assumptions in the implementation of IT Governance (IG5); Doubts from executives about the added value of implementing IT Governance in the organization (IG6); Lack of consistency of stakeholders to the policies and strategies that have been set regarding the implementation of IT Governance (IG7). Of the seven factors, (IG1) and (IG4) are cluster drivers, which means they have a big influence compared to other factors. (IG3), (IG6), and (IG7) are dependent clusters, meaning that these three factors have a high dependence when compared to other factors. The results of this study are expected to provide additional insight for decision-makers to pay attention to the findings of these factors so that in the future there will be no theoretical learning gap in IT Governance so that the implementation of IT Governance is as expected.

ACKNOWLEDGMENTS

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