IT Governance Patterns at Indonesian Stamte Owned Enterprises – The 2010 Survey

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Abstract: *Although many articles and papers describe IT Governance definitions, concepts and models, most of them are only based on qualitative studies or on too few cases. This paper describes an IT Governance pattern survey at 102 state owned enterprises (SOEs) in Indonesia. In addition to enrich the body of reference of IT Governance, this paper also fills the empty knowledge of IT Governance status in Indonesia. It olso describes drivers, inhibitors and enablers of IT Govenrance at Indonesian SOEs.*

1. Background

State owned enterprises (SOE) – or Badan Hukum Milik Negara (BUMN) – are very important to the government. Some serve as a vehicle for the government to execute their strategy, and some provide good dividend to the government. Due to its importance, Good Corporate Governance (GCG) are important issue at SOEs. Ir provides transparency and clear decision making, authority and responsibility structure at SOEs. GCG also includes good governance on information technology, as clearly described in ITGI (2003).

As van Grembergen (2004) of University Antwerpen School of Management defines, IT Governance is the organizational capacity exercised by the board, executive management and IT management to control the formulation and implementation of IT strategy and in this way ensure fusion of business with IT. It consists of leadership, organizational structures, and processes that ensure that the organization's IT sustains and extends the organizational strategy and objective.

What is interesting is how SOEs bring value to the stakeholders (which include, of course, the government). In this sector, the implementation of IT governance might be the answer to organization need to ensure IT value creation and also return on IT investments. Without good IT Governance, there might be risk of inappropriate IT investment, failure of services to public / customer and even non-compliance to regulations.

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2. Research Objective & Significance

The objective of this research is to find patterns of IT Governance in Indonesian state owned enterprises, and how well those organizations govern their IT. In particular, we want to find the enabling and inhibiting factors of good IT Governance in the context of *delivering IT value* and *managing IT risks*.

2. Significance of the study

The significance of this research is that the results can be used as input to prioritize policies or revise existing regulations. It can also help SOEs to benchmark their IT Governance practicez among themselves, thus provide an indication what are the things they need to improve. Thus, agreeing to Becker (2006), eventually the results of this study can develop the capacity of policy maker and service users (in this case SOEs) to make informed decision and take appropriate actions.

3. Methodology

This paper is based on the researches led by the author under IT Governance Lab, Faculty of Computer Science, University of Indonesia. Earlier, a two year qualitative research was conducted starting at 2007. It consisted of 18 case studies conducted by author's graduate students. It was an explorative and interpretive qualitative research (Yin, 1994), because we want to find new ideas specific at large Indonesian organizations. Of course, some of those case studies were conducted at SOEs. The objective of this qualitative phase is to capture the depth, or the rich story (the *why* and *how*) of IT Governance practices and problems at Indonesian state owned enterprises (Creswell, 1994).

Then we conducted this survey to confirm the findings from the previous qualitative stages. (including literary study). We believe that the focus of this research is to find the magnitude of the issues found at the qualitative stage, to see the chronicness of a problem when it exist. Many of the questions were also taken from previous survey (ITGI, 2008) because we would like to have a degree of comparability between them.

We also derive some questions from best practice framework – in this case section ME4 'Provide IT Governance' of COBIT (…, 2007). We hope by referring to a professional standard like COBIT, the research result will be acknowledgeg by professional community, not just by academics. Nore instead of using process maturity level, we developed control objective maturity question from the defined control objectives. The reason for this approach is because in our opinion, the process maturity level definition in COBIT ME4 is too vague and ambiguous to be asked to the respondents. However, by using control objective maturity, readers ought to be aware that lower control objective maturity level does not imply that the organization's IT Governance is worse than organization with higher control objective maturity level. Probably it only needs less sophisticated form of IT Governance due to less organizational complexity it has.

Based on those key findings, we developed and pretested the questionnaires to several respondents to validate our questionnaire design (Neuman, 2003). It gave us some idea what might be the barriers during the data collection phase. The questionnaires were also face validated (Sekaran, 1992) by several of colleagues who had academic and practical IT management experience.

List of SOEs were taken from Ministry of State Owned Enterprises website (… 2010), all of them totaled 147 SOEs. Therefore since we took all the available samples in the population, this research is actually a cencus (Neuman, 2004). Before the data collection phase begins, the data collectors was trained how to properly administer questionnaires. The data collectors were explicitly told that the respondents must be the person responsible for the IT for the organization (e.g IT Division Head), or person responsible for IT Governance for the organization.

The finalized questionnaires were then sent by email, fax or brought by the data collectors to the respondents. From 147 listed respondents, 102 questionnaires (69,4%) were returned via the data collector directly, fax, or email during end of April 2010 to early June 2010. Unreturned questionnaires are due to company liquidation, rejection, uncooperative behaviour, or considered too long to respond, In our experience, the use of data collectors responsible for delivering and returning filled questionnaires significantly increase the return rate of completed questionnaires. Our previous attempt via e-mail only achieve 21% return rate.

The returned questionnaires were then entered into and analyzed with a statistical software package. Most of the data processing used descriptive statistics, with additional crosstabulations. Crosstabulations are important to gain new insights […, 2009) and new perspective.

4. Discussion

4.1. Demographics

Majority of the respondents were the head of the IT unit or an IT manager of the SOE. Few were the staffs. Even fewer were from IT unit such as human resources unit. This is due to the non-existance of IT unit at the particular SOE and/or other unit are assigned responsibility to IT related issues. Despite minor variability of the respondents, we still believe that the validity of the research is still high.

The collected samples consist of SOEs from various industry sector. We took the industry sectors classification (Kelompok Lapangan Usaha Indonesia or KLUI) from Statistic Processing Agency (2009) or Badan Pengelola Statistik (BPS). Due to non-proportionality of the samples, it is unwise to process the data based on industry sector and accepting it as statistically correct. Nevertheless we argue that informing the readers about the composition of the samples are quite important. The table below shows the composition of samples:

Table 1. *Industry sector composition of the respondents*

Among the respondents, most of them were SOEs which have not been privatized albeit possible, totalling 79 companies. Only 10 of the respondents cannot be privatized due to their public

service obligation (PSO). The other 13 SOEs were already privatized, either by initial public offering (IPO) at stock exchange market (12), or strategic sales (1).

When asked how they perceive the competitive environment, only a few 13,7% of the cases consider their business environment as uncompetitive, in particular because usually the SOE has a special Public Service Obligation from the government. However, most of the respondents feel that they are in rather competitive or very competitive market, each 44,1% and 42,2% of cases respectively.

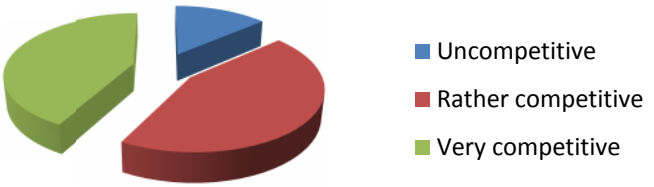


Diagram 1. *Composition of cases based on their market environment*

If we break down the respondents based on the number of business units they have, only 4 companies have more than one unerelated business. Majority of the SOEs – 64 of them – have multiple business units which are related to each other achieving a synergy. About a third of the respondents (35 cases) claimed that they only have one core business.

4.2. Strategic IT Governance

Less than a third (29,4%) of the respondents do not have a formal IT Steering Committee. Only 2,9% or 3 cases where they do not understand what an IT Steering Committee is. When an IT Steering Committee exist, majority of the respondent mentioned that Board of Directors (C-level equivalent in Indonesia) and IT Head as the primary component, each 39.2% and 38,2% of cases respectively. It seems that participation of functional and/or business units are quite low, each 19.6% and 7,8% of cases respectively. These facts may indicate that IT issues are still considered as the issues of IT unit and/or directors (i.e., the C-level officers).

IT Strategy Committee at SOEs are dominated also by IT unit head (40 cases) and directors (35 cases). About half of the organizations surveyed do not have an IT Strategy Committee or its function is embedded in IT Steering Committee.

When the respondents were asked who were the champions of IT Governance at their organization, the CEO (*direktur utama*) and the CIO ranked at the top of their list. We think that it is a good development that CEO is leading the IT Governance initiative. The third was the CFO, which is not strange becase one of the basic need for IT is for financial data. The last was the BoC or Board of Commissioners (*Dewan Komisaris*) or committees in it. This is not surprising, because traditionally Indonesian companies embrace the dual-chamber of corporate governance, which BoC only supervises the company activity ans Board of Directors (BoD) acts as the executive of the company. Hence, BoD in Indonesia – including the CEOs – are more concerned about IT issues. Startlingly, just a few respondents mentioned that compliance or audit unit champion IT Governance.

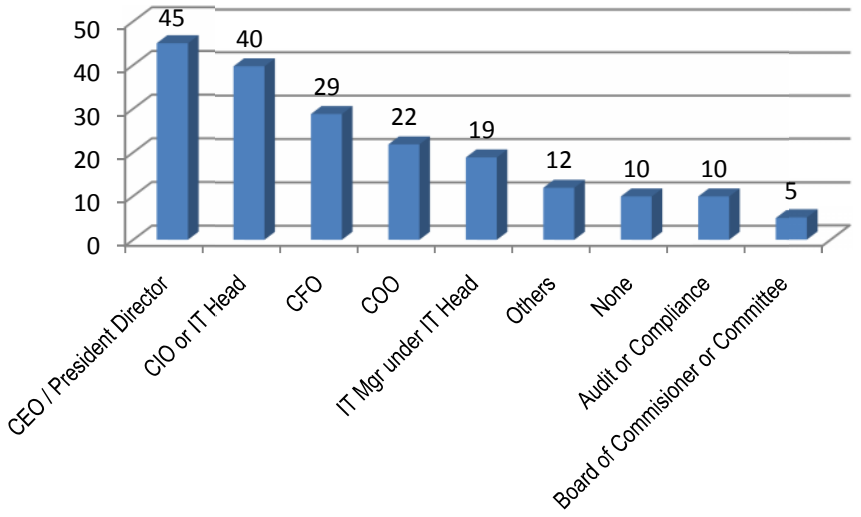


Diagram 2. *Champions of IT Governance*

Apparently only a tiny fraction (3,9%) the respondents never discuss IT issues on Board of Director meeting. And also, only 5,9% of the respondents said that IT issues is always on BoD's agenda. Most of the respondents mentioned that IT issues are sometimes on BoD's agenda (depending on IT Projects, numbering to 53,9% of cases) and the other 36,3% it is periodically on BoD's agenda.

Most of the SOEs surveyed (67 cases) consider that IT is very important to support corporate strategy. Examining the crosstabulation below – as expected, we can also see that companies within a very competitive market consider that IT is very important (31 cases). What is interesting is that even for companies in an uncompetitive market, most of them also consider IT is important, in this case we found 11 cases compared to 3 other combined cases. It may indicate that not just market that drives the need for IT, but other forces or drivers are also working.

	Unimportant	Not sure	Rather important	Very important	Total
Uncompetitive	0	2	1	11	14
Rather competitive	3	3	14	25	45
Very competitive	3	2	7	31	43
Total	6	7	22	67	102

Table 2. *Crosstabulation between 'Importance of IT to support corporate strategy' vs companies competitive environment*

As shown in tableTable 3 below, more than half (57 cases) of IT units at SOEs were placed directly below one of the C-level executives / directors other than CEO/President Director, including CFO (Finance Directors), COO (Operations or Business Directors), or - interestingly - Planning/Devclopment Directors. Few others report to Director of Human Resource. Only 10 IT Head report directly to CEO or President Director. An amusing fact arise if we crosstabulate IT unit reporting hierarchy with other independent variables (unshown), it seems that industry competitiveness is not the reason why IT unit is placed directly under CEO. It also does not seem to relate to privatization status of the SOE nor how they perceive importance of IT for corporate strategy success.

IT Head reports to …	Frequency	Assigned Value	Weighted
CEO (President Director)	10	1	10
Other C-level / Director (BoD lvl)	57	2	114
Mgr one lvl below BoD	32	3	96
Mgr two lvl below BoD	2	4	8
	101 valid cases	Weighted Average:	2,26

Table 3. *Frequency table of to whom IT head reports to, with its weighted average level*

4.2. Participation of Busieness Unit

When respondents were asked how business manager participate in managing their IT enabled business initiatives, only 9 cases were found where business manager has little or no participation at all. Business manager was fully responsible for the IT enabled business initiative in many of the cases (37 cases), but not majority. Others leads during decision making, participate as member during decision making, and only being informed, as described in diagram below. Taking a closer look at the crosstabulation with number of business units the SOEs have, contrary to ,,,, it seems that at SOEs in Indonesia, responsibility or participation of business manager has nothing to do with number of business units they have.

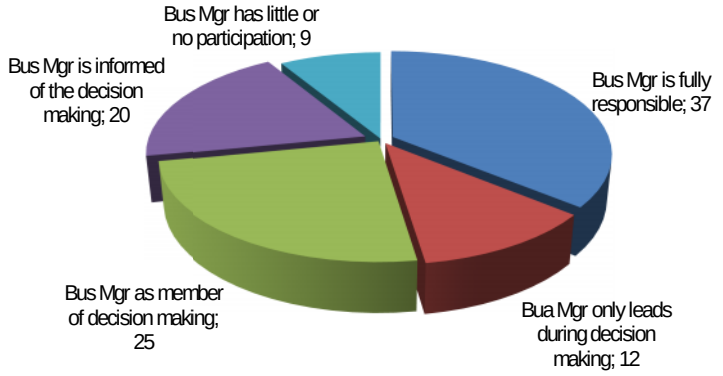


Diagram 3. *How business manager participate in IT enabled business initiatives*

	One core business	Multiple related business units	Multiple unrelated business units	Total
Bus Mgr is fully responsible	14	23	0	37
Bua Mgr only leads during decision making	4	7	1	12
Bus Mgr as member of decision making	10	13	2	25
Bus Mgr is informed of the decision making	6	13	1	20
Bus Mgr has little or no participation	1	8	0	9
Total	35	64	4	103

Table 4. *Crosstabulation between participation of business*

Examining the relationship between IT unit and business unit, we see that generally IT unit will inform business unit about potential use of IT for business unit, where in 53 cases the IT unit will inform business unit during a project, and in 32 cases where it does so regularly. This is a good sign for SOEs in Indonesia. Only in 13 cases IT unit will always inform business unit of potential use of IT. Unsurprising, very minor of the cases (4 cases) claimed that IT unit never inform the business unit. One respondent did not answer to this issue. Peeking at the control objective maturity, it seems that between IT units and business units (40,7% cases at initial stage) has just begun to build a common understanding what are the potential contribution of IT for business.

4.2. Investment Issues

Majority of the respondents we surveyed (93 cases) pointed out that they agreed or strongly agree that IT investment has created value. Only six cases we found that it somehow create value, and even fewer four cases where it didn't create value. At first, we thought that this four cases where IT has not create value are at SOEs where IT is not important. To oursurprise, based on the crosstabulation between importance of IT and how IT has created value, we see that our assumption is not true. Surprisingly the four cases were found at companies where IT is important.

When asked what IT investment principles or process being used, it turned out that continous improvement ranks the as the most, claimed by 68,6% of caases, followed by attention to the full scope of activities being supported by IT investment, mentioned by 43,1% of cases. The survey also uncovered the fact that portofolio management of IT investment was only considered by few SOEs, and many companies did not see assignment of accountability for IT investment results as important. Readers are referred to table 5 below for complete result of the responds.

X-tab IPO, IT Governance with 'IT Inv principles

IT Investment Related Process	Cases	Pct of Cases
Continuous improvement exists of value delivery practices	70	68,6%
IT-enabled investments include the full scope of activities that are required to achieve business value.	44	43,1%
IT-enabled investments are managed through their full economic life cycle.	31	30,4%
Key value metrics are monitored and deviations responded to	27	26,5%
Different categories of investments are recognised	25	24,5%
Accountabilities are established for capability delivery and realisation of benefits	23	22,6%
IT-enabled investments are managed as a portfolio	21	20,6%

Table 5. *IT Investment Related Principles or Process*

4.2. Problems and Practices of IT Governance

According the research data, about 51% of respondents claimed that insufficient number of staff was among their problems, followed second 42% responded IT service delivery problems were their problem too. It is a bit surprising that security and privacy incidents were amongst the bottom three of the mentioned problems by the respondents, along with outsourcing problems and lack of agility/development problems.

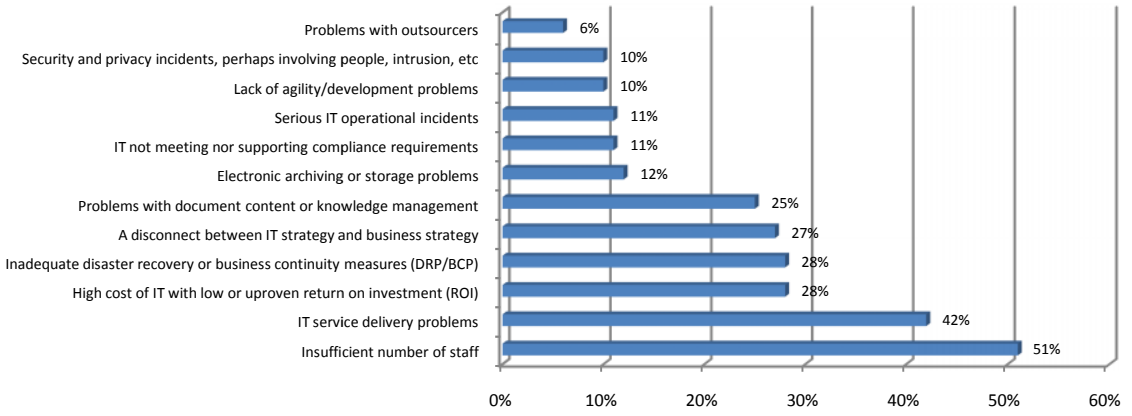


Diagram 4. *Problems claimed experienced by respondents*

Majority of the respondents (52 cases) is considering to implement IT Governance. Very few companies – only 2 of them – do not even consider to implement IT Governance. About a third (31 cases) said that they are in the process of implementing IT Governance and more than a quarter (17 cases) claimed that they have implement IT Governance. One respondent did not answere the question of IT Governance status for unknown reason.

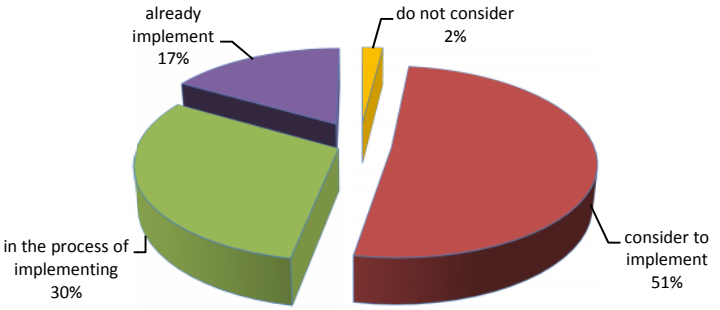


Diagram 5. *Are SOEs implzementing IT Governance?*

About three quarters of SOEs which their shares are being traded in the stock market (8 cases) have implemented IT Governance, and three public SOEs is in the process of implementing IT Governance. However – unexpectedly - only one company out of those 8 public SOEs with IT Governance practices in place said that strict stock market regulation was the driver of IT Governance. It seems like imposing corporate governance regulations does not automatically triggers the implementation of IT Governance.

Crosstabulating implementation of IT Governance practice with number of problems encountered, we found a strange pattern among answers with zero to two kind of problems claimed (others counts were too small too be considered – hence insignificant). Apparently having IT Governance in place, or in the process of implementing it, or considering it, or even not considering it, has nothing to do with the number of problems they have. One might say that IT Governance may not solve all previously encountered problems.

As expected, 15 of the 17 SOEs which had implemented IT Governance, said that IT is important to the success of corporate strategy. But it does not works the other way around, among companies that claimed that IT is important to the success of their corporate strategy, 26 of them are still only considering to implement IT Governance and 25 still in the process of implementing IT Governance.

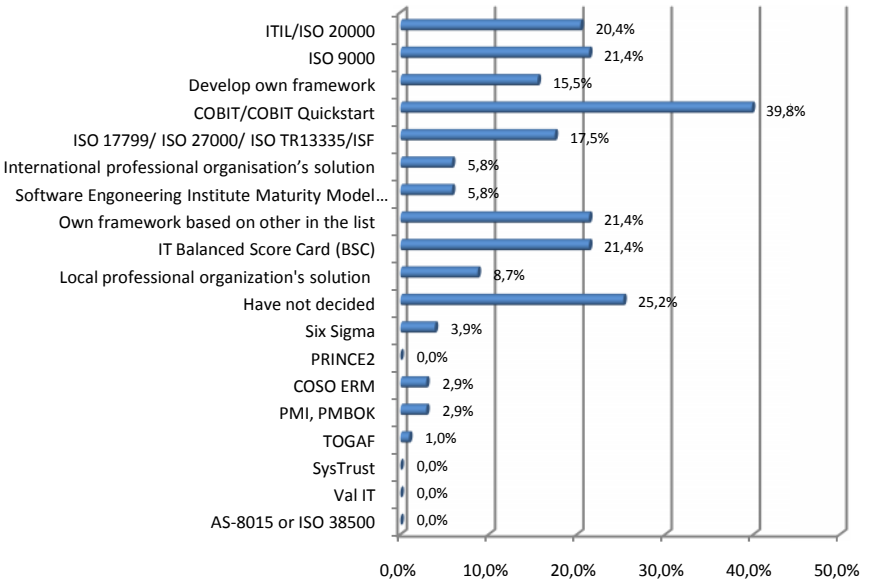


Diagram 6. *Frameworks used for IT Governance*

Most of the respondents (41 companies) are using COBIT as their IT Governance framework, followed by 38 cases which developed their own IT Governance standard. But quite many of the respondents (26 cases) have not decided on what framework to use. Two management derived framework (ISO 9000 and IT Balanced Scorecard) were frequently mentioned (each 22 cases) as their IT Governance framework for the organization. None of the respondents mentioned the use of the relatively newly published ISO 38500 IT Governance standard.

4.2. IT Governance Drivers, Enablers & Inhibitors

y newly published ISO 38500 IT Governance standard.

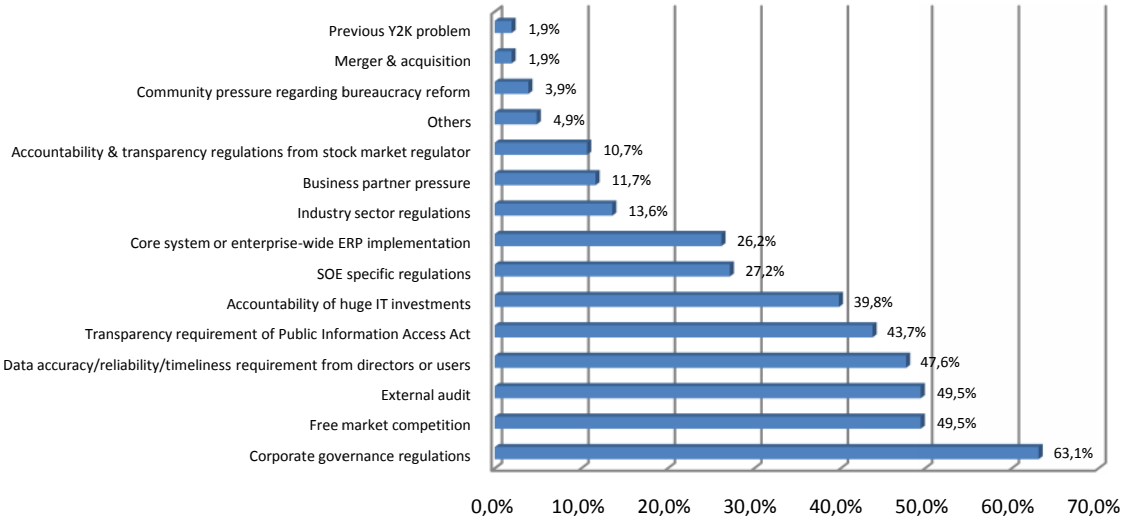
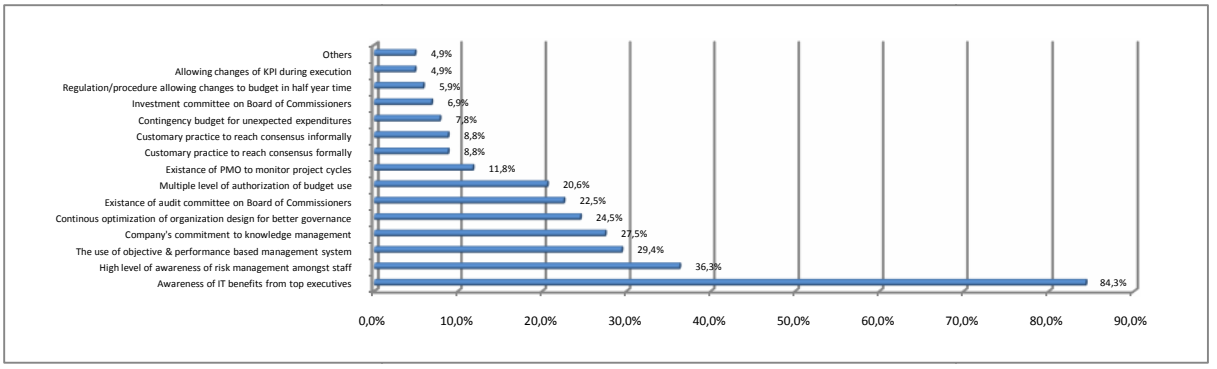


Diagram 7. *Drivers of IT Governance*

Other drivers uncovered in the survey include: lack of standard for managing and auditing IT, and the face pace of technology changes.



aDiagram 8. *Enablers of IT Governance*

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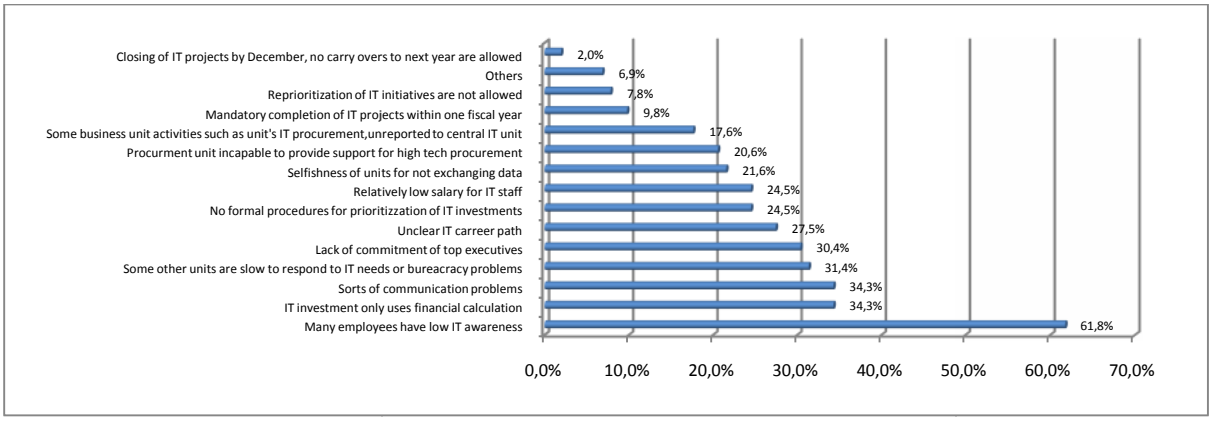
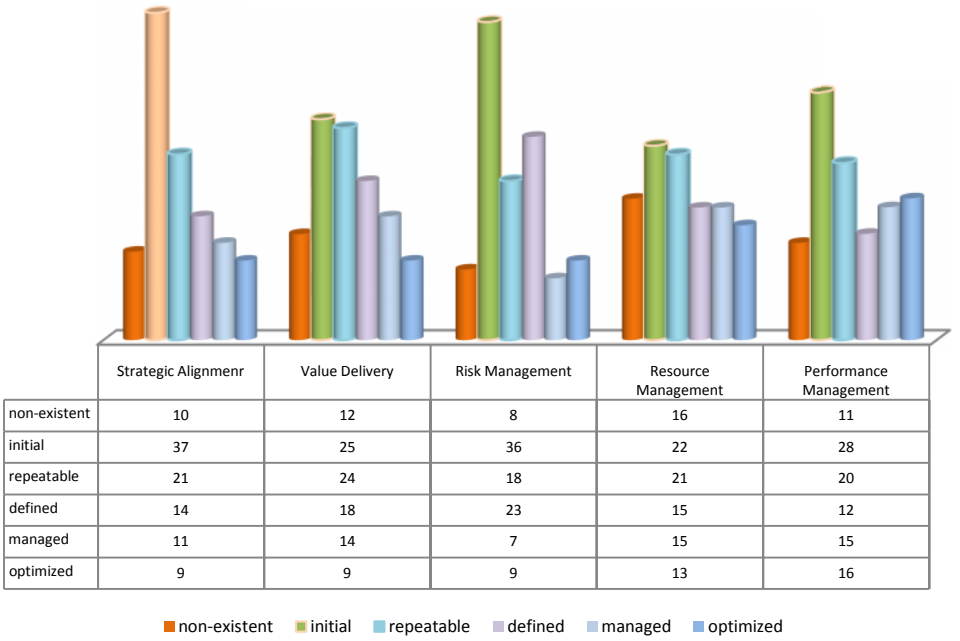


Diagram 9. *Inhibitors of IT Governance*

Quite interesting that among that answered others, two said that company's cash liquidity problem contributed to the lack of resource commited to IT.

4.2. IT Governance Control Objective Maturity Level



	Strategic Alignmenr	Value Delivery	Risk Management	Resource Management	Performance Management
non-existent	10	12	8	16	11
initial	37	25	36	22	28
repeatable	21	24	18	21	20
defined	14	18	23	15	12
managed	11	14	7	15	15
optimized	9	9	9	13	16

Diagram 10. *Case count of Control Objective Maturity Level by fpcus area*

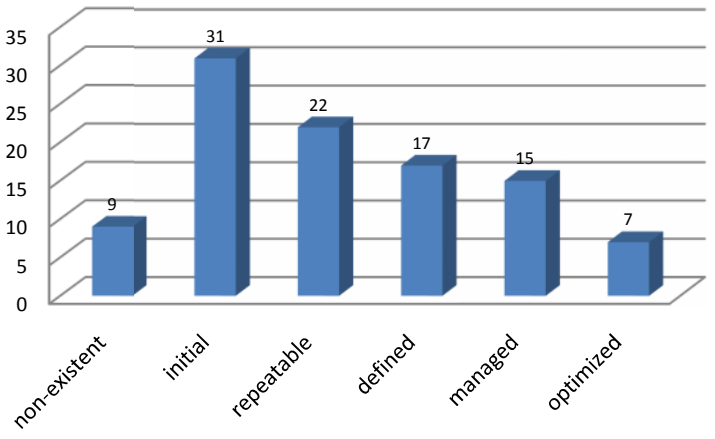


Diagram 11. *Overall case count of Control Objective Maturity Level*

Most of the companies were in the intial stage of 'Strategic Aligment' control objective maturity with a mean of … In other words, strategic alignment process –which is imperative for vertical and horizontal trust building and shared understanding within an organization – seems to be executed in an ad-hoc manner as needed only. Only 21 SOEs stated that they regularly do so.

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