

1. INTRODUCTION

Information Technology (IT) governance required in an organization is currently a major concern in developing IT-based services [1]. IT governance as an effort to regulate, direct and control IT in accordance with the strategy and goals of the organization has an important ability for organizational leaders who want to create and obtain the benefits of IT for their organizations [2]. Information technology implemented in the company become effort in increase efficiency and effectiveness something job, for can controlled optimally and deliver the best service for customer and stakeholders who use it technology information in one company. PT. Nippon Indon Textile as one company manufactures that process in the field industry convection clothes. Moment This is a business process that runs in the company has use system information on each field , as in field finance , mail sign in and mail exit , taxation , IT, and there is also a system maintenance information under the Information & Communication Technology (ICT) work unit in charge report damage or disruption to the company's network, hardware, and software. System maintenance information is used for give convenience for work units in report complaint damage devices and networks with submit a work order to the next ICT work unit report complaint damage devices and networks the will be dealt with follow by admin and will shipped to ICT work unit technician. After ICT work unit technicians complete repair to affected devices and networks complaint damage so technician will request evaluation to results his job to the reporting user complaint damage devices and networks. on the system PT. Nippon Indon Textile maintain information yet operated in a manner max, still there is a number of deficiencies in the system. one deficiencies in the system that is when there is a work unit that has complaint about damage or disturbance must report complaint manually to the ICT unit and still submitting work orders use paper. Besides that, moment submission of work orders must known and approved by some party, so No can addressed direct to ICT side. The last drawback that is, on the system maintenance information yet there is something feature where is the user who reported damage can provide rating ratings to results Work technician from the ICT work unit.

The following are research questions for designing information technology governance at PT. Nippon Indon Textile uses the 2019 COBIT framework, namely how to implement the 2019 COBIT framework for designing information technology governance at PT. Nippon Indo Textile. Next, assess the level of process capability related to IT governance that has been implemented within the company so that later the company's ability to implement existing processes will be obtained [3]. Based on problems that occur, then can provide governance with good to problems that occur in the company, so can help enhancement IT performance. Many studies use frameworks for measure IT governance performance such as ISO, ITIL, COBIT, and TOGAF. Of these frameworks, one used in research This that is using the COBIT 2019 framework. Reasons chose the COBIT 2019 framework, because can know something performance system information in give description in the form of models, practices, tools, and principles which then can accepted by the company in increase beliefs and values from corporate IT. COBIT Framework 2019 is framework providing work accepted principles, practices, tools, and models globally for increase beliefs and values from corporate IT [4]. Based on description described, then done analysis about condition problems that occur in companies, especially in IT governance and provide descriptions and suggestions regarding IT governance so that in enhancement later be optimal. PT. Nippon Indon Textile requires information technology governance (IT governance) to ensure that the use of information technology can provide added value to the company and minimize the risks associated with the use of information technology.

COBIT 2019 is an IT governance framework that is widely used by companies because it can assist in managing IT risks, increasing operational efficiency and effectiveness, fulfilling compliance, and strengthening supervision and control. COBIT Framework 2019 is framework work used for do design and evaluation on governance and management information technology (IT) [5]. COBIT 2019

Framework has role in do control and maximize mark from information and technology with objective for help organization or company in reach optimization risk, be aware benefit, and achieve optimization use source owned power. one pusher main the formation of the 2019 COBIT framework is management technology information on the organization being sued for can more fast, agile, and supportive innovation [6]. Analysis to organization or company utilizing 11 design factors from the 2019 COBIT framework. The 11 design factors are a number of possible factor influence design governance system company to be successful in use information and technology.

Previous research discussed about information technology (IT) has become an important element in an organization and is an investment that creates added value and competitive advantage. IT needs to be regulated so that it can be put to good use. The act of managing IT is called IT governance. Well-executed IT governance can help organizations achieve their goals. The Community Development Center (CDC) Unit of PT Telkom is one of the organizations that implements IT governance, namely the Community Development Management Information System (SIM-BL) to help realize goals and achieve goals regarding the management and distribution of corporate social assistance funds to the community through the use of IT [7]. Other research regarding COBIT 2019 namely Information technology governance focuses on information technology, systems, performance management and risks. The COBIT 2019 framework is used in implementing information technology governance. PT XYZ was taken with the aim of knowing service quality, management performance, and risks to the company by looking at references from PT XYZ's annual report and analyzing the value of capability level and maturity level [8].

Since COBIT version 5 was issued by ISACA in 2017, this framework is no longer used to conduct audits but to design information technology governance [9]. Therefore, COBIT is considered as the right framework for designing and implementing information technology governance in a company or organization that has made information technology a driving force in its business activities [10]. Since COBIT version 5, all domains within the COBIT framework, starting from APO, BAI, DSS, and MEA, are interrelated [11].

There are 11 design factors used among others [12], namely: 1) Enterprise Strategy, companies that can have different strategies, which are divided focus like growth company, innovative products and services to client, minimization cost in period short, and client - oriented. 2) Enterprise Goals, supporting strategy with translate to in 13 destinations company To use reach target his company. 3) IT Risk Profile, identify profile risk related companies with problem influencing technology of 19 categories scenario risk as material consideration for choose. 4) I&T Related Issues, consider problem technology encountered and found risk from technology that has applied with give evaluation of 20 issues problem general who has defined. 5) Threat Landscape, do normal and high classification to threats faced company. 6) Compliance Requirements, perform classification low, normal and high caught condition fulfilling compliance need company. 7) Role of IT, the role of IT in a company with do classification in the form of support, factory, turnaround, and strategic. 8) Sourcing Model of IT, procurement adopted IT services company can classified such as: Outsourcing, Cloud, Insourced, and Hybrid. 9) IT Implementation Methods, methods in implement IT in the company with a number of method such as: Agile, DevOps, Traditional, and Hybrid. 10) Technology Adoption Strategy, corporate strategy in adopt technology new based on 3 strategies such as: First namely first mover where company, always be the first in adopt and use it. Second i.e. where are the followers company wait other companies use it, then adopt technology new related. Third namely slow adapter where very slow company in adopt A technology new. 11) Enterprise Size, measure is positioned as company small or big with large enterprise where consists of 250 employees permanent and small and medium enterprises where consists from 50-250 employees [13].

In order to benefit from the use of information technology, PT. Nippon Indon Textile requires an IT governance framework such as COBIT 2019 to ensure that information technology can be used effectively and efficiently and can provide added value to PT. Nippon Indo Textile.

2. METHOD

This study uses qualitative research by conducting interviews with several informants to obtain information in accordance with the research objectives [14]. The interview guide is used as a tool to obtain factual information that happened to the case study object [15]. Study done a number of the stages seen in Figure 1 below.

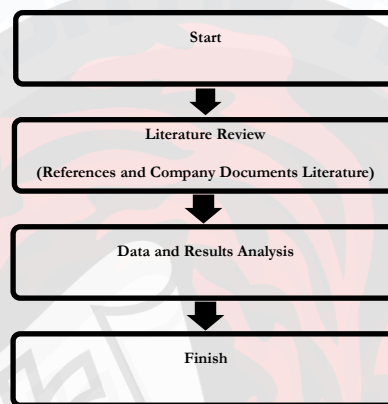


Figure 1. Stages Study

Based on Figure 1, then stages research conducted among others:

- 1) Do studies literature to topic research conducted that is about evaluation governance performance information technology using the COBIT 2019 framework.
- 2) Do data analysis and results study use COBIT framework 2019 against the findings obtained using 11 Design Factor COBIT 2019.

Study This do approach descriptive qualitative based on studies conducted literature with two stages for obtain related data study covers studies libraries and studies document company. Collected data including: PT. Nippon Indon Textile profile, problem related with implementation information technology and description condition technology existing information moment this.

To implement the 2019 COBIT framework in designing information technology governance in companies, the steps that can be taken are as follows:

1. Identification of business goals and needs: The first step in implementing COBIT 2019 is to identify the PT. Nippon Indon Textile business goals and needs. Business goals and needs will determine how COBIT 2019 will be applied to the company.
2. Review the IT architecture and business processes: Review the PT. Nippon Indon Textile IT architecture and business processes to ensure that the IT architecture and business processes

comply with the 2019 COBIT standard. If necessary, make changes to ensure compliance with the 2019 COBIT standard.

3. Identification and evaluation of IT controls: Identification and evaluation of existing IT controls in the enterprise, including security, compliance, risk management and internal controls. Review and improve existing IT controls, or create new controls if needed.
4. Review IT policies and procedures: Review PT. Nippon Indon Textile IT policies and procedures, and ensure that they comply with the 2019 COBIT standards. If necessary, create or update new policies and procedures that comply with the 2019 COBIT standards.
5. Identification and evaluation of IT resources: Identification and evaluation of IT resources needed to support the implementation of COBIT 2019, including human resources, software and hardware. Ensure that IT resources comply with COBIT 2019 standards.
6. Implementation and testing: Implement COBIT 2019 in the PT. Nippon Indon Textile, and carry out tests to ensure that the framework is running properly.
7. Monitoring and evaluation: Periodically monitor and evaluate the PT. Nippon Indon Textile IT performance to ensure that COBIT 2019 is running well and providing the expected benefits.
8. Fixes and improvements: Make fixes and improvements if problems or opportunities are found to improve the PT. Nippon Indon Textile IT performance.

3. RESULTS AND DISCUSSION

PT. Nippon Indon Textile is one companies operating in the field convection and garment in the city of Semarang. pursue field business convection since the year 2000 has been give lots lesson valuable for always increase professionalism business in matter enhancement management effort, source power people, quality, productivity, accuracy time in framework realize satisfaction partners or consumer.

Table 1. Design Factor 1 Enterprise Strategy

Value	Importance (1-5)
Growth/Acquisition	4
Innovation/Difference	3
Cost Leadership	1
Client Service/Stability	5

Enterprise strategy on the study case of PT. Nippon Indon Textile got seen in Table 1. Focus main from PT. Nippon Indon Textile is related with service stable and client - oriented products that is derived paint products from Japan. Can seen in Table 1, value highest namely on Client Service / Stability namely 5. Provision service a stable product at a company can seen with Enterprise goals on study case of PT. Nippon Indon Textile got seen in Table 2.

Table 2. Design Factor 2 Enterprise Goals

Value	Important
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	(1-5)
G01 – Portfolio of Competitive Products and Services	3
EG02 – Managed Business Risk	5
EG03 – Compliance with External Laws and Regulations	2
EG04 – Quality of Financial Information	2
EG05 – Customer-Oriented Service Culture	5
EG06 – Business-Service Continuity and Availability	5
EG07 – Quality of Management Information	3
EG08 – Optimization of Internal Business Process Functionality	5
EG09 – Optimization of Business Process Costs	3
EG10 – Staff Skills, Motivation, and Productivity	2
EG11 – Compliance with Internal Policies	3
EG12 – Managed Digital Transformation Programs	4
EG13 – Product and Business Innovation	2

In Table 2 ie enterprise goals can seen that EG02, EG05, EG06, and EG08 are enterprise goals with mark highest. From the resulting enterprise goals Then done mappings to alignment goals and obtained alignment goals AG02, AG03, AG06, AG08, and AG10. From the Alignment Goals Then done mappings to in the domain and obtained primary domains namely EDM01, MEA03, APO09, BAI01, BAI04, DSS02, DSS03 DSS05, APO01, MEA02, MEA04.

Table 3. Design Factor 3 Risk Profile

Risk Scenario Categories	impact (1-5)	Likelihood (1-5)
IT investment decision making, portfolio definition and maintenance	2	1
Program and project life cycle management	1	1
IT costs and oversight	1	1
IT expertise, skills and behavior	1	1
Enterprise/IT architecture	1	1
IT operational infrastructure incidents	3	2
Unauthorized actions	2	2
Software adoption/usage problem	3	2
Hardware incidents	4	1
Software failures	5	1

Logical attacks (hacking, malware, etc.)	4	3
Third-part/supplier incidents	2	1
Noncompliance	1	1
Geopolitical issues	1	1
Industrial actions	2	1
Acts of nature	3	1
Technology-based innovation	1	1
Environmental	3	1
Data and information management	2	3

In Table 3 can seen risk profile at PT. Nippon Indon Textile where there is failure device software that has very high rating, because company not optimal yet operate system. The system in question is system information maintenance of the work unit Information & Communication Technology (ICT) which has ability for handle report damage or disruption to the network, hardware, and software company. From the system the still report complaint manually and on submission work orders Still use paper. Based on description above, then done mappings to in COBIT 2019 domains and resulting domains are DSS 02, DSS 03, DSS04, DSS05, APO13, and MEA02.

Table 4. Design Factor 4 I&T Related Issues

I&T Related Issue	importance (1-3)
Frustration between different IT entities across the organization because of a perception of low contribution to business value	3
Frustration between business departments (ie, the IT customer) and the IT department because of failed initiatives or a perception of low contribution to business value	2
Significant IT-related incidents, such as data loss, security breaches, project failures and application errors, linked to IT	2
Service delivery problems by the IT outsourcer(s)	2
Failures to meet IT-related regulatory or contractual requirements	2
Regular audit findings or other assessment reports about poor IT performance or reported IT quality or service problems	3

Substantial hidden and rogue IT spending, that is, IT spending by user departments outside the control of the normal IT investment decision mechanisms and approved budgets	2
Duplications or overlap between various initiatives, or other forms of wasted resources	2
Insufficient IT resources, staff with inadequate skills or staff burnout/dissatisfaction	1
IT-enabled changes or projects frequently failing to meet business needs and delivered late or over budget	3
Reluctance by board members, executives or senior management to engage with IT, or a lack of committed business sponsorship for IT	2
Complex IT operating models and/or unclear decision mechanisms for IT-related decisions	2
Excessively high cost of IT	2
Obstructed or failed implementation of new initiatives or innovations caused by the current IT architecture and systems	1
Gap between business and technical knowledge, which leads to business users and information and/or technology specialists speaking different languages	3
Regular issues with data quality and integration of data across various sources	1
High level of end-user computing, creating (among other problems) a lack of oversight and quality control over the applications that are being developed and put in operation	1
Business departments implementing their own information solutions with little or no involvement of the enterprise IT department	1
Ignorance of and/or non-compliance with privacy regulations	2
Inability to exploit new technologies or innovate using I&T	1

I&T related issues at PT. Nippon Indon Textile got seen in Table 4. Data obtained based on results interview with the IT Section at PT. Nippon Indon Textile delivers information about frequent issues happen related with problem in use system information and technology information on the company during this. In Table 4 which has possible problem affect business processes in the company PT. Nippon Indon Textile is at points 1, 6, 10 and 15. Meanwhile it, from points that have classified, then will done mappings to in the domain and the results are DSS02, DSS04, DSS03, APO10.

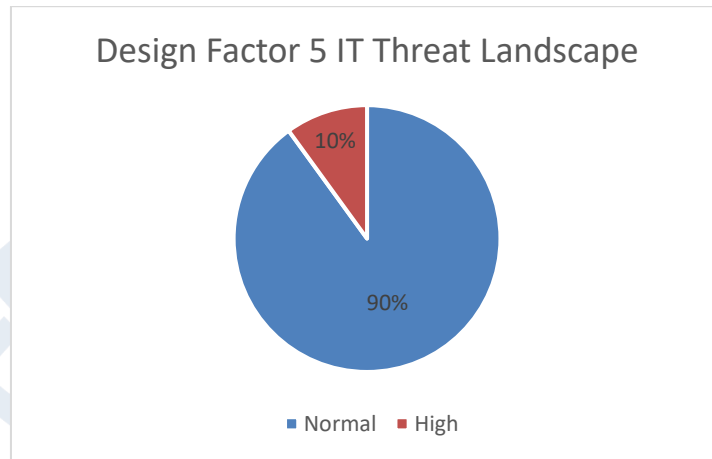


Figure 2. Design Factor 5 IT Threat Landscape

IT Threat Landscape on study case of PT. Nippon Indon Textile got seen in Figure 2. There are 2 categories in this design factor, namely High and Normal. Normal threats have value 90% because when PT. Nippon Indon Textile operates, threats the can handled with initiative company. Valuable threat tall and normal happen that is topology moderate WLAN network walk moment This Not yet managed with both of which complicate the network administrator in monitoring, where must access one by one Access Points.

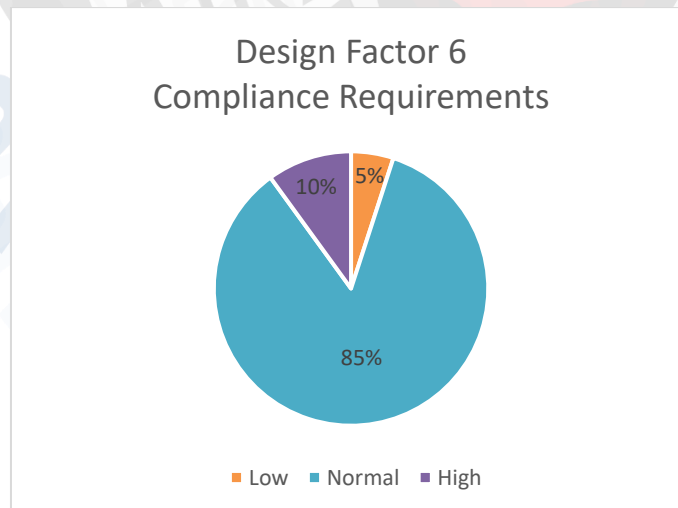


Figure 3. Design Factor 6 Compliance Requirement

Compliance requirements in the study case of PT. Nippon Indon Textile k got seen in Figure 3. In Figure 3 there is resulting low value is 5%, because PT. Nippon Indon Textile has make an effort enhancement management company in accordance with governance principles good company (Good Corporate Governance). Compliance Requirements normal value is 85%, because PT. Nippon Indon Textile has fulfil regulations and requirements in the field the industry that is Company Articles of

Association, Development Deed, Permit Place of Business, Trade Business License, and NPWP. Then mark the resulting High Compliance Requirement is 10%, this caused because PT. Nippon Indon Textile run the business based on regulations government about pollution air, permission environment, management waste B3, environmental audit alive, proper.

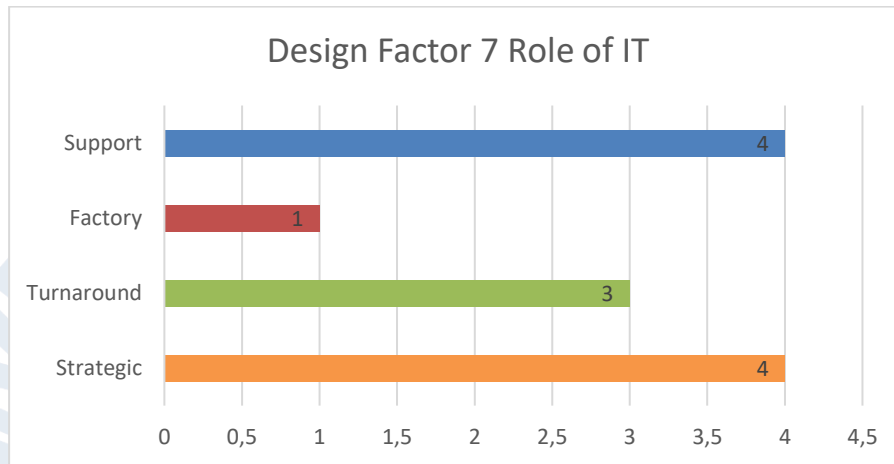


Figure 4. Design Factor 7 Role Of IT

Role of IT in studies case of PT. Nippon Indon Textile helps company in identify type IT role for company, results identification can seen in Figure 4. Figure 4 shows mark from a number of part such as: 1) Support worth 4, because company has implementing IT for support the course of business processes and services offered, such as use Integrated System Application and Product in Data Processing (SAP). with other internal departments at a company. 2) Factory worth 1, because when happen failure on TI, no There is impact directly felt in influence running business processes and services in the company. 3) Turnarounds worth 3, because the role of IT in the company This help in innovate. 4) Strategic worth 4, because use of IT own impact big for giving company convenience to the company in run business processes as well as service.

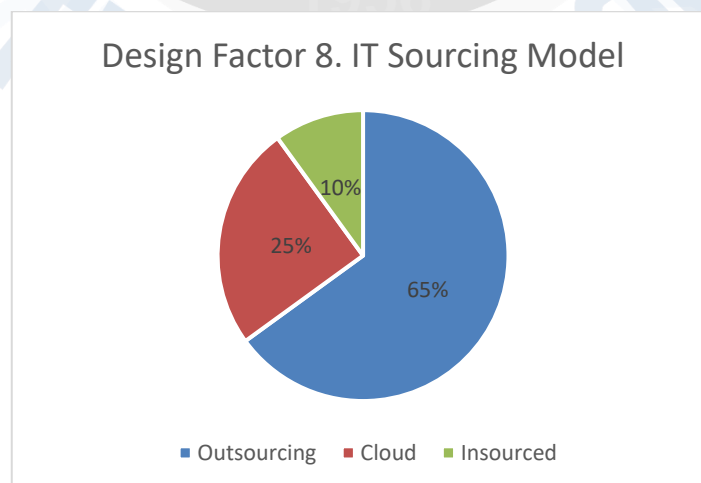


Figure 5. Design Factor 8 IT Sourcing Model

IT Sourcing Model in the study case of PT. Nippon Indon Textile got seen in Figure 5. In Figure 5 consists from a number of part namely: 1) Outsourcing own value 65% because IT implementation in the company use service party third For enhancement performance company, like Internet service that uses service company foreign. 2) Cloud with value of 30 %, because PT. Nippon Indon Textile uses Software as a service (SaaS). Example use SaaS on enterprise that is utilise Google Drive as online storage and Google Mail in contact client company. 3) Insourced own value 20%, because company own IT - focused department.

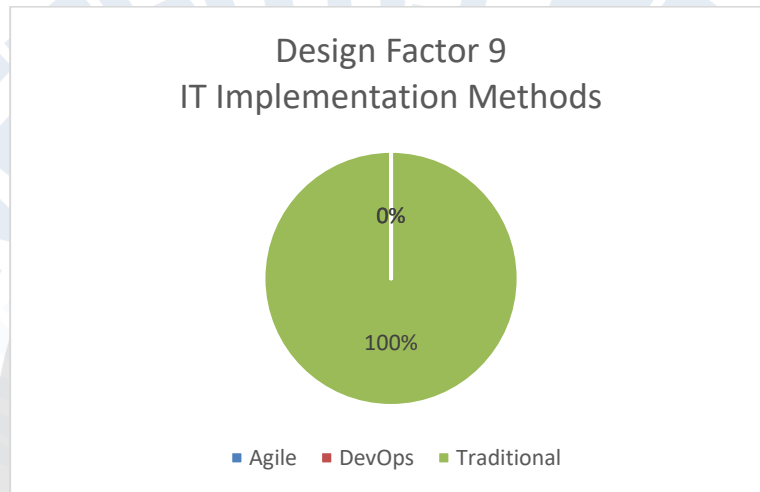


Figure 6. Design Factor 9 IT Implementation Methods

IT Implementation Method on the study case of PT. Nippon Indon Textile is shown in Figure 6. In Figure 6 there is method traditional worth 100%, because development system information maintenance at PT. Nippon Indon Textile uses the waterfall process model.

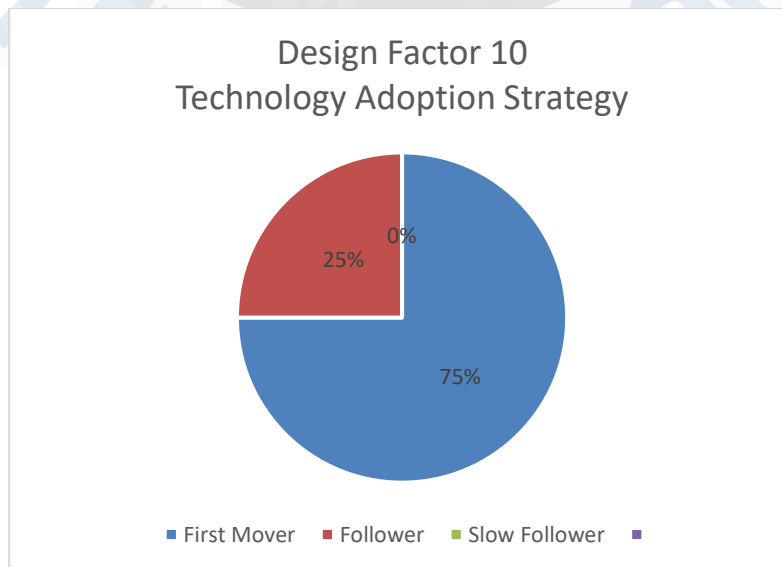


Figure 7. Design Factor 10 Technology Adoption Strategy

Technology Adoption Strategy at PT. Nippon Indon Textile got seen in Figure 7. In Figure 7 can categorized as as first mover and follower, because at PT. Nippon Indon Textile has implement system Many SAP- based Enterprise Resource Planning (ERP). used by other companies, use can manage and earn information in a manner accurate and fast. Enterprise Size on study case of PT. Nippon Indon Textile got seen from amount permanent employees as many as 350 people that means This is type big company.

COBIT 2019 has provide COBIT 2019 Design Tool Kit, document This help PT. Nippon Indon Textile for find recommended governance system in accordance with design factor. For find results governance design technology information on PT. Nippon Indon Textile, then evaluation to the 11 design factors included to COBIT 2019 Design Tool Kit document. Governance design resulting technology is process or _ core models with level priority and level recommended capability level. COBIT 2019 explained related level priority with level expected ability. Achieved governance / management goals score or priority 75% or more tall will need level capability of 4. Governance / management goals received score or priority 50% or more tall will need level capability of 3. The target of governance / management that gets score or priority 25% or more tall will need level 2. Governance / management objectives that have score or priority not enough of 25%, then the process must reach level capability by 1.

The results of the analysis of the design of information technology governance of PT. Nippon Indon Textile depends on factors such as the company's business objectives, the level of readiness and maturity of the company's information technology governance, as well as the implementation steps of the 2019 COBIT framework which are taken using 11 design factors.

4. CONCLUSION

Designing information technology governance using the 2019 COBIT framework can help PT. Nippon Indon Textile to ensure that the use of information technology is carried out effectively and efficiently and can provide added value to the company. Implementation of IS/IT at PT. Nippon Indon Textile already lasts 5 years from 2016 to moment this. PT. Nippon Indon Textile uses IT and IS to control whole activity data management in each existing division as well as increase activity operational. However, lack of understanding as well as competence employees, as well exists failed system moment operation become constraint for company in application of SI so the results obtained company no maximum. Evaluation performance information technology. This XYZ utilizing 11 Design Factors from the 2019 COBIT framework, namely: Enterprise Strategy, Enterprise Goals, IT Risk Profile, IT Related Issues, Threat Landscape, Compliance Requirements, Role of IT, Sourcing Model of IT, IT Implementation Methods, Technology Adoption Strategy, Enterprise Size . Based on the 11 Design Factors, then can seen what is the ideal governance for company in use information technology. Based on results of the mapping carried out with focus on framework Design Factor from COBIT 2019 at PT. Nippon Indon Textile, researcher find that there is several important processes in the company namely DSS02, DSS04, DSS03, APO10, EDM01, MEA03, APO09, BAI01, BAI04, DSS05, APO01,

MEA02, MEA04 which need to be evaluated and given priority for corporate IT governance at PT. Nippon Indon Textile. Research conducted This is a design process governance systems, research furthermore will more Good Again if there is adjustment to the design process governance system information technology. Besides that, on research This Not yet done evaluation process or core models at COBIT 2019, research furthermore will more well, if there is stages governance evaluation technology information on PT. Nippon Indon Textile. Suggestions for further research are how to measure the level of capability in the information technology governance of PT. Nippon Indon Textile uses COBIT 2019.

