

Chapter 2

LITERATURE REVIEW

This chapter sets out the theoretical and practical foundations for analyzing vendor governance and service delivery within PT. XYZ's EDC operations. It critically examines and compares three reference frameworks COBIT 2019, ITIL 4, and the SCOR model and argues for the framework that is most suitable for practical application to PT. XYZ's challenges, particularly those related to outsourced service delivery and SLA performance. The outcome of this comparison establishes the baseline for the governance framework developed in the subsequent chapters.

2.1 PT. XYZ current operational

To better understanding the importance of this research and further analysis on the situation at PT. XYZ, better understanding of the company is important

2.1.1 Simplified Organization Structure

Focusing at EDC operational at PT. XYZ, in the last 40 years, several Organization Changes has been made at PT. XYZ to ensure Enterprise Goals has been achieved and bring values to stakeholder and shareholder. From decentralized process that operational EDC services being managed internally, change to centralized, change again to outsourcing. From product centric to process centric and back again to product centric can be seen at Table 2.1

Table 2.1: PT. XYZ Organizational Changes

Period	Activity	Process
Before 1998	All process done by internal employee	Decentralized to each of Branches
2000 - 2005	Centralized process & implementation of internal outsourcing, centralization based on product based (Group Business Corporation)	Centralized By Product
2006-2023	Centralization by process centric, differentiate between business (Transaction Banking Unit) & operation (Central Operation Unit)	Centralized By Process
2024 - now (2025)	Centralization by product based	Centralized By Product

Between period of 2008-2023, the use of outsourcing started at 2003 as mention by CNBC MFakhriansyah, during President Megawati's leadership to solving crisis 1998 that impacted a lot of unemployment, President Megawati issued constitution No. 13/2003 uu1 article 64 mentioning about a written agreement for contracting out work or providing worker / labor sevicees can be held. Therefore PT. XYZ started to outsources it service to vendor starting 2009. List of vendor that currently being used are shown at Table 2.2. During those period several changes in the use of vendor has been done, in total 18 vendors has been using between 2009 - 2025, and currently only 10 vendors being used which is Vendor A - Vendor J.

Table 2.2: List of vendor

Vendor Name	Year Onboarding
Vendor A	2009
Vendor B	2013
Vendor C	2013
Vendor D	2013
Vendor E	2016
Vendor F	2016
Vendor G	2017
Vendor H	2022
Vendor I	2022
Vendor J	2022

During changes between period 2000 - 2005 to 2006-2023, since from single organization unit (Business Corporation) to Transactional Banking and Central Operation, then it impacted on changes in authority held. During those period Central Operation had authority to direct appointed outsourcing vendor to managed their operational services, include appointing Vendor to conduct field service for EDC services.

2.1.2 Current Management Concern

In order to face increasingly tight business acquiring (Onboarding & Distribution of EDC Machines) competition, like BRI joining to acquiring business at early 2021 as mention at BRI's facebook video [bri](#), this become a new challenging in this growing business, therefore to overcome this challenge and to ensure agility of the company, PT. XYZ decided to centralized again three process that previously splitted (Merchant Acquisition, Merchant Underwriting, EDC Operational Services) that previously conduct and direct at 3 different division, at april 2024 centralized under one division. Impact of changes from process centric to product centric is to authority inherited, which previously Central Operation had direct appointing authorization, after merge into one, those authority dismissed. Due to internal good corporate governance, any partnership with external must conduct by logistic team, therefore under new management process Operational EDC services being reviewed on aspect of:

- from 10 vendor 2.1.1, Table 2.2, 70% have been onboarding at the company more than 5 years (Vendor A - Vendor G), which not yet conducted tender process
- internal regulation stated that maximum 5 years, every vendor must re-tender again
- operational review being conduct at aspect Quality of Services and Cost

Based on those 3 points, internal stakeholder decided that tender process must be done in order to comply with internal policy of GCG (Good Corporate Governance) and standardize quality delivery

2.2 GCG at tender process

In a case study by Febrianto et al. (2024) Febrianto et al. (2024) being conduct at PT. Pelabuhan Indonesia Regional 3 showing that the use of e-procurement with limited tender methods being observed as a tool to improve internal GCG practices. Although the procedures strive to following existing regulations or company policies, during the study found out that the process still facing several challenges, especially in personnel skill and effectiveness of document evaluations. Febrianto et al. (2024) summarized the important needs to improve human resource capabilities, clear vendor evaluation system and more structured procurement stages in order to ensure transparency and reduce any procurement risks. Although not labeled as GCG study explicitly, Palcic et al. (2019) conduct comparative analysis from 877 Public Private Partnership (PPP) tender period across 7 countries. The PPP framework being used in all those countries promotes transparency through open announcements, ensuring fairness through competitive bidding and builds accountability via clear evaluation mechanisms mention at APMG International ppp. The result of studies shows that different countries and industries have their own periods differ each others according to their internal needs but yet still ensuring that the needs of maintaining tender period needs to properly define to reduce competition and increase in cost incurred by bidders and procuring authorities,

In another relevant study, Baiti and Satory (2025) Baiti and Satory (2025) conducted a systematic literature review that focused on the governance of drone procurement companies. During systematic review, being found out that GCG is increasingly being practiced through digital mechanisms, such as online vendor

access, open publication of technical specifications and publicly traceable evaluations. Despite positive aspect of implementation of GCG being mention such as increasing transparency, accountability, responsibility, independent and fairness, but some challenge arise at complexity of regulation between sectoral, limited personnel with adequate knowledge, conflict of interest during the process therefore in conclusion it is important to have SOP to govern the process, Internal Control on digital based, collaborative between stakeholder.

in term of implementation, a case study from Angkasa Pura by Qistina et al (2021) [Shaleha and Shaleha \(2021\)](#) highlights that how GCG practices are integrated at a structural level within a state owned enterprise (BUMN). During study, Angkasa Pura already applying governance principles through strong internal audit mechanisms, formal compliance structures, and active role of the board of commissioners, to elevate the value of transparency, accountability, independence, responsibilites and fairness. But during the study it show differently, actual implementation some of procedure still doing manually, and the goal of GCG itself not being achieved, this study reinforce the importance that GCG not just one time compliance requirement only and not just stop at a formal procedures only, but it must be embedded in day to day operations.

Table 2.3: GCG in Tender

Source	Subject	GCG Focus	Key Insight	Challenges
Febrianto et al. (2024)	Port Area	Transparency, accountability	Limited tender using eProcurement still need stronger personnel and evaluation tools	skill gaps, weak document review
Palcic et al. (2019)	Public Private Partnership (PPP)	Fairness, legal assurance	Competitive tendering which aligned with public interest and governance values	process complexity with multi phase stages
Baiti & Satory (2025)	Systematic Literature Review	Transparency, Accountability	Digital GCG through public access and traceability	Regulatory overlaps, governance gaps
Qistina et al. (2021)	State Owned Enterprise (BUMN)	Structural Compliance (implementation)	not just one time compliance, but how to implemented on day to day operation	Stakeholder Coordination, Control Risk
PT. XYZ	Private Banking	Direct Vendor Apointment for EDC Services	Currently the process of vendor tender not appear	Transparation and Standardization becoming a challenge

2.3 Framework Analysis

there are several framework for conduct governance and management process, especially in EGIT (Enterprise Governance Information & Technology) and in Supply Chain management, some of it are:

- COBIT (Control Objective for Information and related technologies) framework by ISACA [isa](#), at COBIT 2019 Framework - Introduction and Methodology page 11 mentioning that the context of EGIT is complex and multifaceted, there is no silver bullet (or ideal way) to design it, implement and maintain effective EGIT. therefor at Figure [2.1](#) mentioning about how EGIT can bring Business / IT Alignment to drive value creation
- SCOR (Supply Chain Operation Reference) framework by ASCM, formely known as APICS [api](#), at SCOR version 12.0 mentioning that SCOR is part

of APICS framework portfolio which consist of PLCOR (Product Life Cycle Operations Reference Model), CCOR (Customer Chain Operations Reference Model), DCOR (Design Chain Operations Reference model) and all the model are for M4CS (Managing for Supply Chain Performance) as can be seen at Figure 2.2, as mention that the scope ofr SCOR has been developed to describing business activities that associated with all phases of satisfying customer demand (customer point of view)

- ITIL (Information Technology Infrastructure Library) framework by Axelos, formerly known as CCTA axe, at ITIL Foundation - ITIL 4 Edition, which mentioning that ITIL 4 framework have key components of ITIL Service Value System (SVS) and the four dimensional model which can be seen at Figure 2.3, notable mention on focus part of service management practices in which it is important to ensure availability of IT services or configurations item to perform its agreed function when required, this mostly expressed by MTBF (Mean Time Between Failures) and MTRS (Mean Time to Recover Services)

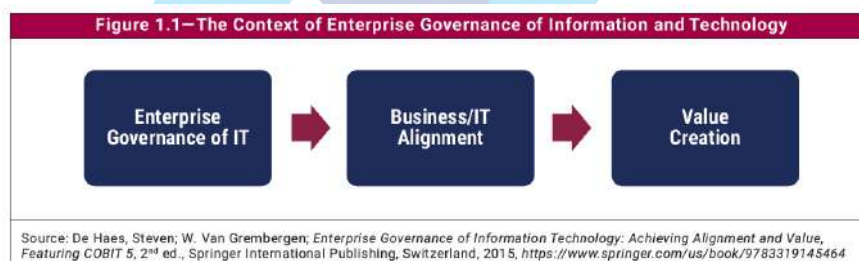


Figure 2.1: Enterprise Governance Information & Technology (EGIT) Context



Graphic 1: APICS Frameworks and relationships; credit: Ericsson, Lars Magnusson

Figure 2.2: APICS Framework and Relationships

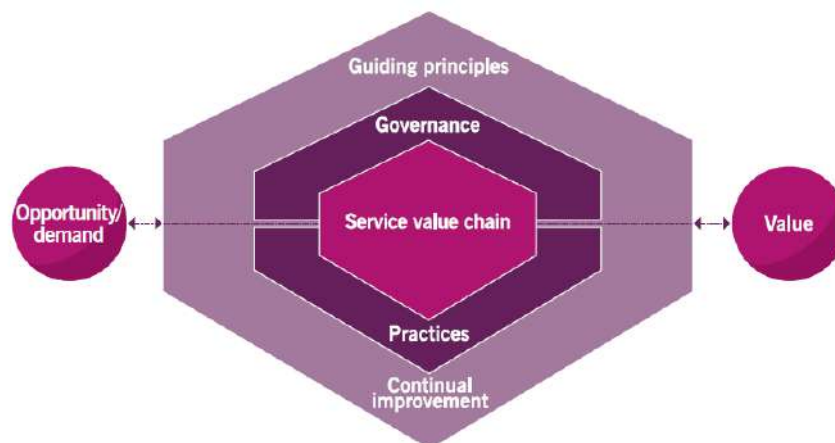


Figure 1.1 The service value system

Figure 2.3: ITIL Service Value System

2.3.1 COBIT Framework

Shared by Amalina at Wordpress [ama](#) (2021), which share about historical evolution of COBIT Framework as recap at Table [2.4](#)

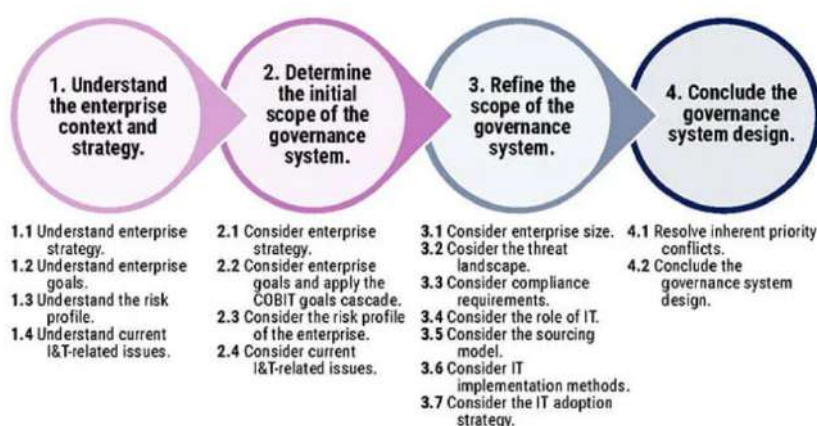
Table 2.4: COBIT History

Version	Year Released	Key Points
COBIT 1 "Audit Edition"	1996	Governance objective for business application, base foundation for IT Audit
COBIT 2 "Control Edition"	1998	More comprehensive governance comparing previous version, for Governance IT Control
COBIT 3 "Management Edition"	2000	Framework for Governance and Managing IT mangement
COBIT 4.0 & 4.1 "IT Governance Edition"	2005	rebranding COBIT as IT Governance and Compliance, but deleted assurance processes from previous version. Focus on Framework process, Control Objectives, Management guidelines and Maturity Model. Also introduces 34 process at 4 domain - PO, AI, DS, ME
COBIT 5.0 "GAMO Enterprise IT Edition"	2012	Governance, managing and controlling IT Resources through compliance, introduces 5 core principal, 7 enabler, 37 processes at 5 domain
COBIT 2019	2018	have 2 main principal, Governance System and Governance framework, consist of 40 processes at 5 domain, also have scoring model called capability level

Dionisius et al. (2023) [Dionisius and Utama \(2023\)](#) highlighting how COBIT 2019 can be used in context of Business Continuity Management (BCM) at public sector in order to handle limitation at IT Governance, in which COBIT not just for control reference but use for scoring level of capability in relate to business continuity especially at domain domain DSS04 in managing continuity. In doing BCM, utilize gap analysis between existing condition vs expected result, in which overall process still at level 1 even lower than 1 that showing BCM activity not well documented, this result corelated to CMMI (Capability Maturity Model Integration), and targeted to level 3 or

4 at least. Edoardo et al. (2023) [Amore et al. \(2023\)](#) further discussing how COBIT 2019 framework can be adapted efficiently in context of Small Medium Enterprises (SMEs) from perspective Design Toolkit. This Framework give systematic guidance in designing IT Governance according customized characteristic, needs and limitation of organization resources. this study highlighted the importance of using COBIT 2019 design toolkit that later on design based on GAMO model of APO01 (Manage I&T Management Framework), EDM02 (Ensure Benefit Delivery) and DSS01 (Managed Operations) as shown in Figure [2.4](#) as mention by Edoardo and picture taken from [cob](#)

Figure 2—Governance System Design Workflow



Source: ISACA, [COBIT 2019](#), USA, 2018. Reprinted with permission.

Figure 2.4: COBIT 2019 Design Workflow

Atrinawati et al. (2021) further showcasing the importance of COBIT 2019 in order to evaluate and implemented COBIT 2019 as a tools to governing Information and Communication Technology at University XYZ in east kalimantan. The goal is to identify and scoring process capability at 7 domain of APO, 2 BAI and 2 DSS which showing that process maturity not yet meet the expected target as shown at Figure [2.5](#), this study emphasize the importance role of COBIT 2019 in order to managing I&T Governance, and how it can be adapted according to the needs

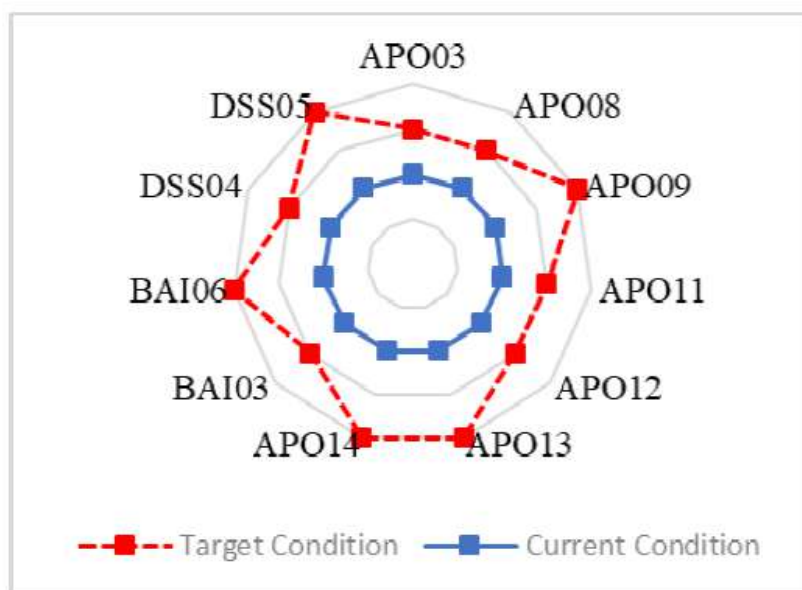


Figure 2. Overview of the current condition of University XYZ with the target condition

Figure 2.5: University XYZ Maturity

Hendi et al. (2025) [Hewen et al. \(2025\)](#) mentioning that Information technology is not just operational support but is an integral part of increasing a company's competitiveness therefore it is important to know where we are and evaluate regularly internal Governance and Management of IT asset to ensure IT can align with Business needs and Organizational Goals to deliver Value Creation.

2.3.2 SCOR Framework

Ertugrul et al. (2021) [Ayyildiz and Taskin Gumus \(2021\)](#) mentioning that in this business environment that more competitive, logistic performance and supply chain performance becoming key factor in order bering succesfull operational and cost efficiency, highlighted at how SCOR scoring supply chain performance at 5 main domain of Plan, Make, Source, Deliver and Return that later on align to internal Key Performance Indicators (KPIs). The goal in utilizing SCOR framework is how its ability in order identified bottlenect sistematically.

Heri et al. (2022) [Subagyo et al. \(2022\)](#) also highlighting how SCOR can help measuring performance of logistic business at indonesia Main Port based on

performance indicator like Order Fullfillment Cycle Time, Perfect Order Fullfilment, and Cost to serve, although the analysis showing that performance in term of quality delivery and time delivery still consider good, but there is still lack in cost aspect especially in utilizing internal asset such as not maximal use of crane, untidy container arrangement, charging and discharging container to truck, and utilization of truck chasis.

Rosyidah et al. (2022) Rosyidah et al. (2022) also utilize SCOR to evaluate supply chain management at PT. Sutopo Lestari jaya (crude palm oil company) to alignment enterprise goal based on thei KPI focusing at Green Objectives. Further SCOR use to measure supply chain performance based on 8 green objectives.

2.3.3 ITIL Framework

Putra and sutabri (2024) Putra and Sutabri (2024) evaluated implementation of ITIL v4 in order to increasing service quality of SMART Aplication, a MOOC platform that develop by Pusdiklat Teknis Kemenag RI. Scoring based on ITIL framework Service Value System (SVS) and Service Value Chain (SVC), and the use of ITIL v4 showing positif impact in 3 aspect of Service Quality, Customer Satisfaction and Operational efficiency in incident management.

Iqbal and Rahmat (2023) Santosa and Mulyana (2023) further exploring how ITIL v4 can be implemented aligned to Enterprise Architecture using TOGAF. Utilizing ITIL Service Value Stream understanding of implemented Incident Management and service request management can be assessed properly, and this can be use as a strategic tools to design and managing IT services that focusing in delivery value for customer especialy in public sector at state owned enterprise.

Jessica et al (2021) Ayuh and Chernovita (2021) also utilized ITIL v4 in order analyze application e-court that used in salatiga court. The use ITIL Service Value System (SVS) and Service Value Chain (SVC) are used to asses IT service incident management at salatiga court, and further this study helping in construct prototype for incident management that in hope can help increasing response in incident handling to increase customer satisfaction

2.3.4 Comparison Framework COBIT, SCOR and ITIL

In order to design Governance and Management of operational vendor that managing field service of EDC services, correct framework need to be justified since its important aspect to utilize the correct framework in align to existing operational process. It is important to use framework that can fit properly and can be implemented at PT. XYZ properly to increase quality of managing outsourcing field service vendor to delivery Onboarding and Maintenance service that inline to Enterprise Goals and Business Goals properly.

2.3.1 highlighting the use of COBIT 2019 framework to design achievement of IT Governance and Management that align with Organizational Strategic. With domain structure of EDM, APO, BAI, DSS, and MEA, COBIT can provide full framework that can be tailor made accordingly to internal control, evaluation of capability process, governance and risk management. This framework very powerful in order defining GAMO (Governance and Management Objective) especially scoring maturity level accordingly to be part of company assesment.

Different with COBIT, ITIL **2.3.3** focus more on management practice in IT Service Management (ITSM). ITIL sharing concept of Service Value System (SVS) and Service Value Chain (SVC) that focus on creating continuity of value creation in term of service flow to customer like Plan, Design and Transition, Delivery and support. ITIL very relevan in context of operational daily in managing incident, service quality request and operational helpdesk.

Meanwhile SCOR **2.3.2** put focus more on managing supply chain, by mapping process of supply chain into 5 core element, Plan, Make, Source, Deliver and Return. SCOR can be effectively to measuring performance in Supply Chain process to identified backlog and create improvement plan to deliver better supply chain performance

In this context of this research, then "Undelivered SLA" mention at Figure **1.3** showing that the root cause as mention at Table **1.4** focusing on how to create guideline of Governance and Managing Vendor aspect, therefore to bridging its core capability, the framework that more suitable for this study is COBIT 2019 to bridging strategic aspect and operational management.

For comparison only, this section situates COBIT (governance/capability), SCOR

(logistics performance), and ITIL (service operations); the proposed framework in Chapter 3 uses COBIT 2019 exclusively, with ITIL and SCOR retained strictly as literature comparators.



Table 2.5: Comparison Framework COBIT, ITIL, dan SCOR

Context	COBIT 2019	ITIL v4	SCOR Model
Main Focus	IT Governance	Managing IT Services	Supply Chain Management Model
Implementation	Strategic and Operational (Enterprise Wide)	IT Operational	Supply Chain logistic and distribution
Process Structure	5 domain: EDM, APO, BAI, DSS, MEA (40 process)	Plan, Improve, Engage, Design, Deliver	Plan, Make, Source, Deliver, Return
Evaluation Model	Capability & maturity model (0–5)	Service performance	SCOR metrics: reliability, responsiveness, agility, cost, assets
Use Case	Vendor Governance, Scoring Maturity Level, Risk Oversight	IT Incident, Managing Vendor SLAs, continual improvement	Managing operational logistic of EDC machine and its peripheral, including warehous and distribution
Strong Point	Measurable, Structured, Suitable for maturity assesment	Practical, daily operationa and support outsourcing process	Focus at distribution and Supply Chain
Limitation	Incident practice depth is outside scope (covered at DSS02)	Operational service framework; does not provide EGIT capability model	Supply chain model; does not cover EGIT governance/capability
Relevance	Best suite framework for vendor management and I&T governance	specific framework for supporting onboarding field technician (post onboarding) at daily operational level	specific framework for measurement performance of supply chain at EDC services

this framework analysis weighs three references frameworks for PT. XYZ EDC operations COBIT 2019, SCOR and ITIL 4, by role and fit. COBIT 2019 is introduced

as an EGIT backbone in a complex, no silver bullet governance context, SCOR on the other hand positioned within APIC's portfolio to model end to end supply chain activities (Plan/Source/Make/Deliver/Return) from customer perspective, meanwhile ITIL 4 is outlined via the service value system / chain with emphasis on keeping service and recoverable (like MTBF / MTRS) together these set the landscape of Governance & Capability (COBIT 2019), Logistics Performance (SCOR), and day to day Service management (ITIL).

Framework decision. While ITIL 4 and SCOR are reviewed to benchmark operational and logistics perspectives, this thesis adopts COBIT 2019 exclusively for the proposed design and validation. ITIL and SCOR are retained only as comparative references and will not be used in the framework built in Chapter 3.

2.3.5 Enterprise Goal Alignment

Based on COBIT 2019 [isa](#) Governance and Management Objectives, looking back at Chapter [1.1](#) at Table [1.4](#) and refer back to Chapter [2.1.2](#), the main issue for this research was **not properly conduct of internal business proper functionality**, thus this correlated to Enterprise Goal (EG08) which talking about "Optimization of Internal business process functionality".

From "S"econdary objective of Alignment Goal (AG) which correlated to EG08, which the one most suitable for this research are **Alignment Goals (AG05: Delivery of I&T services in line with business requirements)** (Figure [2.6](#)).

Figure A.1—Mapping Enterprise Goals and Alignment Goals

		EG01	EG02	EG03	EG04	EG05	EG06	EG07	EG08	EG09	EG10	EG11	EG12	EG13
		Portfolio of competitive products and services	Managed business risk	Compliance with external laws and regulations	Quality of financial information	Customer-oriented service culture	Business service continuity and availability	Quality of management information	Optimization of internal business process functionality	Optimization of business process costs	Staff skills, motivation and productivity	Compliance with internal policies	Managed digital transformation programs	Product and business innovation
AG01	I&T compliance and support for business compliance with external laws and regulations		S	P								S		
AG02	Managed I&T-related risk		P				S							
AG03	Realized benefits from I&T-enabled investments and services portfolio	S				S			S	S			P	
AG04	Quality of technology-related financial performance				P			P		P				
AG05	Delivery of I&T services in line with business requirements	P				S	S		S				S	
AG06	Business requirements into operational solutions	P				S			S				S	S
AG07	Security of information, processing infrastructure and applications, and privacy		P				P							
AG08	Enabling and supporting business processes by integrating applications and technology	P				P			S		S		P	S
AG09	Delivering programs on time, on budget and meeting requirements and quality standards	P				S			S	S			P	S
AG10	Quality of I&T management information				P			P		S				
AG11	I&T compliance with internal policies		S	P								P		
AG12	Competent and motivated staff with mutual understanding of technology and business					S					P			
AG13	Knowledge, expertise and initiatives for business innovation	P		S									S	P

Figure 2.6: Enterprise Goal - Alignment Goal

Therefore mapping between this AG05 being conduct based on COBIT 2019 framework, focus on "P"rimary objective alignment (Figure 2.7). Which consist of 12 domains that separated at 4 APO domain (APO05, APO08, APO09, APO10), 3 BAI domain (BAI02, BAI03, BAI04), 4 DSS domain (DSS01, DSS02, DSS03, DSS04) and 1 MEA domain (MEA01)

Figure—A.2 Mapping Governance and Management Objectives to Alignment Goals

		AG01	AG02	AG03	AG04	AG05	AG06	AG07	AG08	AG09	AG10	AG11	AG12	AG13
		IS&T compliance and support for business compliance with external laws and regulations	Managed IS&T-related risk	Realized benefits from IS&T-enabled investments and services portfolio	Quality of technology related financial information	Delivery of IS&T services in line with business requirements	Ability to turn business requirements into operational solutions	Security of information, processing infrastructure and applications, and privacy	Enabling and supporting business processes by integrating applications and technology	Delivering programs on time, on budget and meeting requirements and quality standards	Quality of IS&T management information	IS&T compliance with internal policies	Competent and motivated staff with mutual understanding of technology and business	Knowledge, expertise and initiatives for business innovation
EDM01	Ensured governance framework setting and maintenance	P	S	P					S			S		
EDM02	Ensured benefits delivery			P		S	S		S					S
EDM03	Ensured risk optimization	S	P					P				S		
EDM04	Ensured resource optimization			S		S	S		S	P			S	
EDM05	Ensured stakeholder engagement				S						P	S		
AP001	Managed IS&T management framework	S	S	P		S		S	S	S	S	P		
AP002	Managed strategy			S		S	S		P				S	S
AP003	Managed enterprise architecture			S		S	P	S	P					
AP004	Managed innovation			S			P		S				S	P
AP005	Managed portfolio			P		P	S		S	S				
AP006	Managed budgets and costs			S	P					P	S			
AP007	Managed human resources			S		S				S			P	P
AP008	Managed relationships			S		P	P		S	S			P	P
AP009	Managed service agreements					P			S					
AP010	Managed vendors					P	S			S				
AP011	Managed quality			S	S	S				P	P			
AP012	Managed risk		P					P						
AP013	Managed security	S	S					P						
AP014	Managed data	S	S		S			S			P			
BAI01	Managed programs			P			S		S	P				
BAI02	Managed requirements definition			S		P	P		S	P			S	
BAI03	Managed solutions identification and build			S		P	P		S	P				
BAI04	Managed availability and capacity					P		S		S				
BAI05	Managed IT changes			P		S	S		P	P			S	
BAI06	Managed IT changes		S			S	P		S					
BAI07	Managed IT change acceptance and transitioning		S				P			S				
BAI08	Managed knowledge			S			S		S	S			P	P
BAI09	Managed assets				P						S			
BAI10	Managed configuration					S		P						
BAI11	Managed projects			P			P			P				
DSS01	Managed operations					P			S					
DSS02	Managed service requests and incidents		S			P		S						
DSS03	Managed problems		S			P		S						
DSS04	Managed continuity		S			P		P						
DSS05	Managed security services	S	P			S		P				S		
DSS06	Managed business process controls		S					S	P			S		
MEA01	Managed performance and conformance monitoring	S		S		P				S	P	S		
MEA02	Managed system of internal control	S	S		S	S		S		S	S	P		
MEA03	Managed compliance with external requirements	P										S		
MEA04	Managed assurance	S	S		S	S		S			S	P		

Figure 2.7: GAMO Alignment

Detail mapping of GAMO domain are shown at Table 2.6

Table 2.6: GAMO Mapping

GAMO	Definition
APO05	Managed Portfolio
APO08	Managed Relationship
APO09	Managed Service Agreement
APO10	Managed Vendors
BAI02	Managed Requirement Definition
BAI03	Managed Solution Identification & Build
BAI04	Managed Availability and Capacity
DSS01	Managed Operations
DSS02	Managed Service Requests and Incidents
DSS03	Managed Problems
DSS04	Managed Continuity
MEA01	Managed Performance and Conformance Monitoring

Based on GAMO mapping at Table 2.6, further analysis and discussion internally with EVP & VP of EDC services operation in order to solving organizational pain poin in managing field service vendor and undergo re-tender process, from 12 processes, after further discussion, since the scope is to do rationalization process while managing operational delivery, narrowing further study at Table 2.7 into 3 process of APO10, DSS01 and MEA01 that focusing on managing vendors, operations and monitoring operational performance

APO10	Managed Vendors
DSS01	Managed Operations
MEA01	Managed Performance and Conformance Monitoring

Target audience for reviewing Capability Maturity Level are as mention at Table 2.8, 2.9, 2.10 in which for APO10 will be assess by respected EVP, VP & AVP, for DSS01 will be asses by EVP & VP, and for MEA01 will be assess by EVP, VP & AVP

Figure 2.8: Align Plan Organize (APO)10 RACI

B. Component: Organizational Structures												
								Chief Operating Officer				
								Chief Information Officer				
								Chief Technology Officer				
								Head IT Operations				
								Information Security Manager				
								Privacy Officer				
Key Management Practice												
DSS01.01 Perform operational procedures.								R	A	R	R	
DSS01.02 Manage outsourced I&T services.									A	R	R	R
DSS01.03 Monitor I&T infrastructure.									R	A	R	R
DSS01.04 Manage the environment.									R	A	R	R
DSS01.05 Manage facilities.									R	A	R	R
Related Guidance (Standards, Frameworks, Compliance Requirements)								Detailed Reference				
No related guidance for this component												

Figure 2.9: Deliver Service Support (DSS)01 RACI

B. Component: Organizational Structures										
Key Management Practice	Executive Committee	Chief Executive Officer	Chief Financial Officer	Chief Operating Officer	Chief Information Officer	I&T Governance Board	Business Process Owners	Relationship Manager	Head Development	Head IT Operations
MEA01.01 Establish a monitoring approach.	R	A	R	R	R					
MEA01.02 Set performance and conformance targets.	A						R	R	R	R
MEA01.03 Collect and process performance and conformance data.					A		R	R	R	R
MEA01.04 Analyze and report performance.					A		R	R	R	R
MEA01.05 Ensure the implementation of corrective actions.					A		R	R	R	R
Related Guidance (Standards, Frameworks, Compliance Requirements)		Detailed Reference								
No related guidance for this component										

Figure 2.10: Monitor Evaluate Assess (MEA)01 RACI

Table 2.8: Organizational Mapping Structures APO10

COBIT Roles	RACI	PT. XYZ EDC Services Mapping	Number of Person
Chief Information Officer		EVP&VP of EDC Services	2
Head of Development		AVP of EDC Services	3

Table 2.9: Organizational Mapping Structures DSS01

COBIT Roles	RACI	PT. XYZ EDC Services Mapping	Number of Person
Chief Information Officer		EVP&VP of EDC Services	2

Table 2.10: Organizational Mapping Structures MEA01

COBIT Roles	RACI	PT. XYZ EDC Services Mapping	Number of Person
Chief Information Officer		EVP&VP of EDC Services	2
Head of Development		AVP of EDC Services	3

and to classify capability evidence, NPLF (Not, Partially, Largely, Fully) rubric being used:

$$N < 15\%, \quad 15\% \leq P < 50\%, \quad 50\% \leq L < 85\%, \quad F \geq 85\%.$$

2.4 Scoring Method for Vendor Selection

Kasim et al. (2013) [Kasim and Abdullah \(2013\)](#) highlighting in multi criteria decision making (MCDM) context, especially in evaluating overall performance and vendor ranking based on several factor if it is well known and directly dependent, a simple yet powerfull model is Simple Weighted Average (SWA) method, which showing at case of PT. XYZ, every vendor can be weighted based on their own area that they are managed, therefore scope of work and balancing between area distributed equally on each their weighted, so more accurate result can be achieved. Although simple, it is yet sill consider powerful comparing to Simple Average method that being explored by Kasim et al. (2013) in compare of scoring score between each student (SA vs SWA).

Vendor Scoring Model (Simple Weighted Average, SWA) Let w_i be the weight of criterion i with $\sum_i w_i = 1$, and $\tilde{x}_{i,v}$ the normalized value of vendor v on criterion i . The

SWA score is:

$$\text{Score}_v = \sum_{i=1}^m w_i \tilde{x}_{i,v}. \quad (2.1)$$

Normalization (benefit direction) uses min–max scaling across all vendors v :

$$\tilde{x}_{i,v} = \frac{x_{i,v} - \min_{v'} x_{i,v'}}{\max_{v'} x_{i,v'} - \min_{v'} x_{i,v'}}. \quad (2.2)$$

For cost-type criteria (lower is better), we invert:

$$\tilde{x}_{i,v}^{(\text{cost})} = 1 - \frac{x_{i,v} - \min_{v'} x_{i,v'}}{\max_{v'} x_{i,v'} - \min_{v'} x_{i,v'}}. \quad (2.3)$$

By construction, $\sum_i w_i = 1$.

2.5 Related Works

Atrinawati et al. (2021) [Atrinawati et al. \(2021\)](#) conducted the use of COBIT 2019 in order to evaluate and implemented COBIT 2019 to assess IT Governance capability at PT. XYZ across 11 governance & management objectives selected via COBIT 2019 design factors and having > 50% priority. This research also formulated recommendations for university XYZ to improve their I&T governance

Edoardo et al. (2023) [Amore et al. \(2023\)](#) discussing how COBIT 2019 framework can be adapted efficiently in context of Small Medium Enterprises (SMEs) from perspective Design Toolkit. This Framework give systematic guidance in designing IT Governance according customized characteristic, needs and limitation of organization resources. this study highlighted the importance of using COBIT 2019 design toolkit that later on design based on GAMO model of APO01 (Manage I&T Management Framework), EDM02 (Ensure Benefit Delivery) and DSS01 (Managed Operations)

Rosyidah et al. (2022) [Rosyidah et al. \(2022\)](#) utilize SCOR to evaluate supply chain management at PT. Sutopo Lestari jaya (crude palm oil company) to alignment enterprise goal based on thei KPI focusing at Green Objectives. Further SCOR use to measure supply chain performance based on 8 green objectives.

Putra and sutabri (2024) [Putra and Sutabri \(2024\)](#) evaluated implementation of ITIL v4 in order to increasing service quality of SMART Aplication, a MOOC platform that develop by Pusdiklat Teknis Kemenag RI. Scoring based on ITIL framework Service

Value System (SVS) and Service Value Chain (SVC), and the use of ITIL v4 showing positif impact in 3 aspect of Service Quality, Customer Satisfaction and Operational efficiency in incident management.



Table 2.11: Related Works

Criteria	Atrinawati et al. (2021)	Edoardo et al. (2023)	rosyidah et al. (2022)	Putra and Sutabri (2024)	Aditya (2025)
Framework	COBIT 2019 (Design Toolkit & Core Model GAMO)	COBIT 2019 design toolkit (Excel) to tailor governance via design factor	Green SCOR (Plan, Source, Make, Deliver, Return, Enable)	ITIL SVS, SVC	COBIT 2019 - SWA
Focus Area	Evaluate IT Governance at University XYZ and reommand improvement	Governance over IT (GEIT) implementation for SMEs; mapping resource / issues, prioritize objective and aligned IT business	Green supply chain management (GSCM)	Evaluate and Improve MOOC Pintar at Pusdiklat Teknis Kemenag RI	Governance & Management at 3 different aspect at managing vendors, operation and monitoring performance
Use Case	A tech public university at kalimantan with centralized ICT	5 Lombardy Manufacturing SMEs	PT. Sutopo Lestari Jaya, building supply chain map and evaluates green goals and controls	assesment how ITIL v4 processes are applied across planning, delivery and continuous improvement	Vendor standardization and rationalization at PT. XYZ
Methodology	Capability Assesment, Data Collection, Interviews	Multiple case studies, 1 hour interviews, following COBIT design steps	Observation, Interviews, expert verification, then the use AHP pairwise comparison to weight KPIs	Observation, Interviews, and questionnaires	measuring capability level, gap analysis and vendor scoring using SWA
Gap Analysis	Based on NFPL mapping	SME IT governance adoption limited	Highest priority presure points identified by weights	needs better governance transparency & accountability	
Strong Points	Standard based on COBIT 2019, using CMMI and NFPL measurement, replicable	Fast spreadsheet driven scoping, clear prioritization artifacts	clear end to end process model	demonstrated gains in service quality, user satisfaction and operational efficiency	
Weakness	Assesment stop at level 2, little quantitative performance	limited prescriptive tools, language barries in term of IT terminology	focus on weights over actual performance	inconsistent routine evaluation	
Domain Process	evaluated on APO03, APO08, APO09, APO11, APO12, APO13, APO14, BAI03, BAI06,DSS04, DSS05	Varies by SMEs, BAI & DSS often surfaces	SCOR level 1 (Plan, make, deliver, return, enable)	SVC activities assessed (Plan, Engage, Design and Transition, Obtain / build, Deliver and Support, Improve	APO10, DSS01, MEA01

The analysis of COBIT 2019, ITIL 4, and the SCOR model highlights different strengths: COBIT provides a comprehensive governance backbone with measurable capability levels, ITIL emphasizes day-to-day service operations and continual improvement, and SCOR focuses on supply chain logistics performance. While each contributes valuable perspectives, the recurring problems identified in PT. XYZ's operations fragmented vendor qualification, SLA underperformance, and inconsistent field service standards are primarily governance and oversight issues. These require a framework that links strategic governance with operational execution.

From framework comparison between COBIT, ITIL and SCOR 2.3.4 and further breakdown for COBIT 2019 Enterprise Alignment (EG) to GAMO alignment 2.3.5 the analysis focus on three layer reference stack for PT. XYZ EDC context: COBIT 2019 as the governance backbone, ITIL 4 as the service operations playbook, and SCOR as the supply chain performance lens. Align with management concern (at 2.1.2) which Good Corporate Governance policy not yet conducted properly in which 70% existing vendor has been onboard by direct appointed, also to answer this research secondary objectives which is to evaluate maturity of PT. XYZ vendor management process using COBIT 2019 capability levels, and to identify governance and operational gaps in PT. XYZ vendor management practices which contribute to SLA underperformance, then these vendor management governance will focus around APO10, DSS01, MEA01 as primary scope of this study while focusing on how to increasing quality in delivery of services.

The primary limitation of this related works are solely focus on management concern, adoption of single EGIT as anchor point of framework being build on (in which cover 3 main aspect of Managing Vendors, Operation and Monitoring Performance, and also further assesment at capability levels on those 3 domains (APO10, DSS01, MEA01) as point of further improvement in the process to ensure delivery of SLAs and vendor Rationalization process.

To calculate and analyze vendor standardization and rationalization, the use of Simple Weighted Average (SWA) as measurement tools as part of Multi Criteria Decision Making (MCDM) being conducted.

COBIT 2019 directly addresses this gap. Its domains APO10 (Managed Vendors), DSS01 (Managed Operations), and MEA01 (Performance and Conformance

Monitoring) provide structured practices for vendor appointment, SLA/KPI oversight, and capability assessment. Unlike ITIL or SCOR, which focus on operational service management or logistics efficiency, COBIT offers a governance model with built-in maturity scoring, allowing PT. XYZ to identify capability gaps (using NPFL thresholds) and map them to corrective controls. This is particularly relevant for SLA improvement, where consistent monitoring and standardized processes are critical.

ITIL and SCOR remain valuable as comparative references: ITIL in understanding incident response and service continuity, and SCOR in benchmarking distribution efficiency. However, they do not provide the end-to-end governance alignment required for vendor rationalization. Therefore, this study adopts COBIT 2019 exclusively as the design backbone, while ITIL and SCOR are retained to contextualize operational and logistics perspectives. This decision ensures that the framework built in Chapter 3 is not only theoretically grounded but also directly targeted at solving the governance and SLA gaps identified in Chapter 1.

In summary, while prior studies have applied COBIT 2019 in higher education and SME contexts, SCOR for green supply chain assessment, and ITIL for improving service quality in digital platforms, these works remain fragmented within their respective domains. None have directly addressed the combined challenge of vendor governance, SLA underperformance, and rationalization in large-scale financial operations. Moreover, no study to date has integrated COBIT 2019's governance and capability scoring with a structured Multi-Criteria Decision Making (MCDM) approach such as Simple Weighted Average (SWA) to evaluate and rationalize vendors. This represents a clear research gap. The present study fills this gap by contextualizing COBIT 2019 (APO10, DSS01, MEA01) for vendor governance in the EDC supply chain of PT. XYZ, and operationalizing vendor rationalization through SWA scoring. This integration not only extends COBIT's applicability to financial service delivery but also contributes a novel framework for improving SLA performance through governance-driven vendor selection and standardization.

Based on these foundations, the next chapter (Chapter 3) describes the research methodology used to design, validate, and evaluate the proposed governance framework.”