A New Framework for IT Governance Excellence

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Abstract

The rapid digital transformation requires an organization to have adaptive, integrated governance and management of information technology services (IT). However, two popular frameworks, COBIT and ITIL, have weaknesses when implemented separately. COBIT seems too normative and strategic, while ITIL is too operational and procedural; therefore, both of them fail to align the requirements between the strategic direction and information technology service execution. This study proposes the CITIGOV Model, an integrative framework that aligns the strengths of COBIT and ITIL in a model of modular and adaptive governance and information technology service. With three main domains, Strategic Governance, Service-Oriented Management, and Continuous Value Optimization, and seven elements of sustainable operations in IT governance. This study employs the Design Science Research method and has been validated through a literature review, theoretical analysis, and the mapping of modern digital organisation needs. The result of this study not only delivers theoretical contributions to IT framework integration, but also the practical implications as well as relevant guidance implementation and applicability in the context of public or private organisations.

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1. Introduction

An organization faces the complex opportunity in organizing and managing information technology (IT) in order to align with the business goal throughout the accelerated transformation of the digital era. The two dominant frameworks in supporting this strategy are COBIT (Control Objectives for Information and Related Technology) and ITIL (Information Technology Infrastructure Library).

COBIT is the most widely used guidance in the field of IT governance at the strategic level, while ITIL focuses on IT Service Management operationally. However, in the implementation process, both of them are often fragmented, unintegrated, and not entirely overcoming the modern dynamic technology, such as DevOps, Cloud Computing, Artificial Intelligence (AI), and the requirements of small organizations and startups that are agile and adaptive.

COBIT provides a solid strategic framework to ensure IT governance that is accountable and measurable; however, its generic characteristics and less operational nature often complicate

implementation in real-world organizations (De Haes et al., 2013). Otherwise, ITIL offers the best practice in managing IT service that is more concrete and more detailed, but tends to be too procedural and too slow in responding to technological alterations, and not flexible for an agile environment and DevOps (Marrone & Hammerle, 2017; Marrone et al., 2014).

Both COBIT and ITIL imply that they have not provided quantitative metrics that are adequate to evaluate the effectiveness of the implementation (Zulkarnain et al., 2024). When an organization adopts one of the frameworks in a separate way, as a consequence, the discrepancy between strategic direction and implementation of operational results is of non-optimal IT business value.

Although COBIT and ITIL have been global standards in governance and managing IT Service, the separated implementation cannot respond optimally to the current requirement of digital organisation.

COBIT is considered too generic, non-operational, and difficult to measure its effectiveness, while ITIL is too procedural and less adaptable to new technologies and agile methods. Therefore, a new model is required that integrates the strength of COBIT in IT governance strategy and the strength of ITIL in managing operational service, by measurable methods, and fits with the current organisation context.

Various studies have highlighted the challenges and limitations of both COBIT and ITIL. De Haes et al. (2013) (De Haes et al., 2013) emphasize that COBIT has advantages in strategic control settings, but it is difficult to implement without an additional operational framework. Iden & Eikebrokk (2013) (Iden & Eikebrokk, 2013)

Found that ITIL adoption is often hindered if it is not supported by the organisation's culture and commitment management. Marrone and Kolbe (2011) (Marrone & Kolbe, 2011) highlighted the need for ITIL integration with another method in order to be more adaptive against innovation. Meanwhile, Kaiser (2023) (Krishna Kaiser, 2023) points out the incompatibility of ITIL with the DevOps method. However, less research in an explicit way to design and test the integration of the two as a unified model that is relevant in the context of modern technology and organisation.

Previous research mostly points out the benefits of each separately or compares them to one another. The researches that focus on model development of an integrative hybrid between COBIT and ITIL, in addition, the limitation of research in this circumstance with a contextual approach with small organisations, cloud-native, or agile.

Besides, there is a lack of an evaluative model based on quantitative metrics that can measure the effectiveness of integration in strategic governance and manage operational service simultaneously. Therefore, the research gap that needs to be addressed is designing a new model that systematically synergizes COBIT and ITIL operationally, and its effectiveness can be measured.

This study is based on two main theories that serve as the conceptual foundation for the development and validation of the model. First, IT Governance Theory (Weill & Ross, 2004a) bridges the direction and business organisation goals entirely. This theory gives a work framework to ensure that investment and initiative IT support business strategy and enhance organisational value sustainably. Second, Service Management Theory (Lusthaus, 2002) highlights the importance of managing services based on value and end-user satisfaction in the IT Service System. This approach locates a user as the center of attention in design and management service, with a focus on the invention of real value via the optimal and responsive service quality against user needs.

Apart from the theoretical foundation, this research also adopts Design Science Research (DSR) (Hevner et al., 2004), with the aims of designing, developing, and validating a new model through a combination of design methods and evaluation based on the real implementation. DSR may bridge the conceptual and empirical aspects; therefore, the research result is not only theoretically relevant but also applicable in a practical context. This approach facilitates iterative

exploration of innovative solutions to address complex problems in IT Service, potentially contributing to knowledge development in the IT field and service management.

This research has the purpose to respond need of approach in IT Governance and IT Service management that is more integrated and adaptive in facing dynamic of digital organisation. First, the research aims to identify the deficiency and inconsistency in the implementation of COBIT and ITIL separately, in the existing condition that it tends to result in fragmentation between the IT governance aspect, not only uniting principles from both frameworks, but also can be adjusted with the context of various digital organisation requirements. Third, to support the effectiveness of the implementation of its model, an evaluative matrix is developed that can be used to measure the effectiveness of its integrative model. Lastly, another research objective is to test the validity and efficiency of a model designed through testing in several real organisations that have their own unique characteristics and complexity, to ensure flexibility and functionality in practical implementation.

The benefit of this research can be pointed out in three main dimensions: theoretical, practical, and policy. From the theoretical side, this research is expected to deliver the prominent contribution against literature enhancement in IT governance and IT service management, particularly by integrative approach according to the combination of work frameworks COBIT and ITIL. In the practice side, the developed model in this research is directed to provide a united solution that can be used by various organisations, both public and private, in aligning the strategic purpose and IT service implementation in a more adaptive, efficient, and measurable way. While in the policy side, this study gives a strong foundation for standard formulation and national or sectoral guidance related to IT governance and IT service management, especially in the public sector and the rapid development of digital industry. Therefore, the result of this research tends to give broad impact for capability improvement of an organisation in the circumstance of managing IT that is holistic and value oriented.

2. Methods

2.1. Research Approach

This research employs the Design Science Research (DSR) approach to develop an IT governance model that is integrated according to the COBIT and ITIL frameworks, known as CITIGOV (COBIT & ITIL Integrated Governance Model). The DSR method is applied because the main focus is on inventing an artifact (model) that is both practically relevant and scientifically significant in the context of management and IT governance within the IT Service (Hevner et al., 2004).

DSR consists of six main steps: (1) problem identification and motivation, (2) definition and purpose of solution, (3) design and development, (4) demonstration, (5) evaluation, and (6) communication of results.

2.2. Analysis of Limitations of COBIT and ITIL based on previous research

The COBIT frameworks (Control Objectives for Information and Related Technology) and ITIL (Information Technology Infrastructure Library) have been primary references for governance and IT service management. However, each of them has inherent limitations that initiate a requirement for strategic integration to respond to organisational challenges in the digital modern.

a) Limitations of COBIT

Weill & Ross (2004) claim the main limitation of COBIT is located in the characteristic that is too normative and descriptive, therefore it complicates the context of direct operation in real life. COBIT is more focused on what should be conducted (governance); however, it is less focused on giving guidance on how to implement it in detail (Weill & Ross, 2004a) (Weill & Ross, 2004b).

There are some main weaknesses of COBIT:

(i)   The lack of support in the operational process of direct IT service (Ali & Green, 2007).

(ii)   One of the weaknesses of the COBIT framework is the lack of flexibility in the very dynamic service environment. The case of issue is very structured, formal, and focuses on control and audit, as a consequence it does not always fit to the organisation that is fast forward, adaptive, or applying agile method (it. proxsisgroup, 2024) (Sholeh & Pramudya, 2025).

(iii) Fragmentation oriented to the control and evaluation, without support for sustainable development from the service management side (Governance & Management, 2019).

b)   Limitations of ITIL

ITIL, conversely, is very robust in the operational aspect of service management; however, Hochstein et al. (2005) declare that ITIL is not designed as a governance framework, and it focuses on efficiency and effectiveness of the IT service process. Limitations of ITIL include:

(i)   Inadequacy of governance control, audit, and evaluation at the strategic level (Pollard & Cater-Stell, 2009).

(ii)   The absence of a managing structure of ownership and responsibility for risk strategy management. In other words, although ITIL mentions the importance of identification and risk mitigation, there is no definite process of who takes responsibility formally at the strategic level (Real-Vilarinho, 2012) (Vilarinho & Da Silva, 2011).

(iii) The limitation of measurement aspect in IT business value and strategic alignment (Tan et al., 2009).

2. 3 Research Gap and Rational Model Development

According to literature analysis, there is an emptiness or gap between the governance framework (COBIT) and the service management framework (ITIL) in arranging IT governance with the following characteristics:

(i) Adaptive to digital transformation.

(ii) Ensuring sustainable business value,

(iii) Validating alignment between strategy and operation.

Similar research conducted by Ridley et al. (2004) and Malone (2010) has recommended an integrative approach; however, it has not provided a comprehensive framework that aligns governance, service management, and value realization simultaneously (Ridley et al., 2004; Malone et al., 2010).

2.4 Development process of CITIGOV Model

a) Functional Integration

CITIGOV Model is built along integrative approach with join key domains from COBIT (for example: Evaluate, Direct, and Monitor; Align, Plan, and Organize) (Governance & Management, 2019) with ITIL lifecycle (Service Strategy, Service Design, Service Transition, Service Operation, Continual Service Improvement) (Cervone, 2010).

The steps of model development comprised of:

(i) The essential of an identification element from COBIT and ITIL that is complementary to each other and supported for integrated IT governance.

(ii) Functional grouping in three main domains:

1) Strategic Governance

1) Service-Oriented Management

2) Continuous Value Optimization

(iii) The mapping process and function in the seven operational domains that are cross-domain:

1) Value Planning

2) Design & Enablement

3) Delivery & Assurance
4) Risk & Compliance
5) Feedback & Improvement
6) People & Culture

(iv) Initial model validation through literature study, benchmarking, alignment scheme against COBIT 2019, and ITIL v4 framework.

b) Visualisation of CITIGOV Model

As represented in Figure 1 below, the CITIGOV Model consists of three main components (above) as a macro framework and seven execution domains (bottom) that play the role of micro integrative elements:
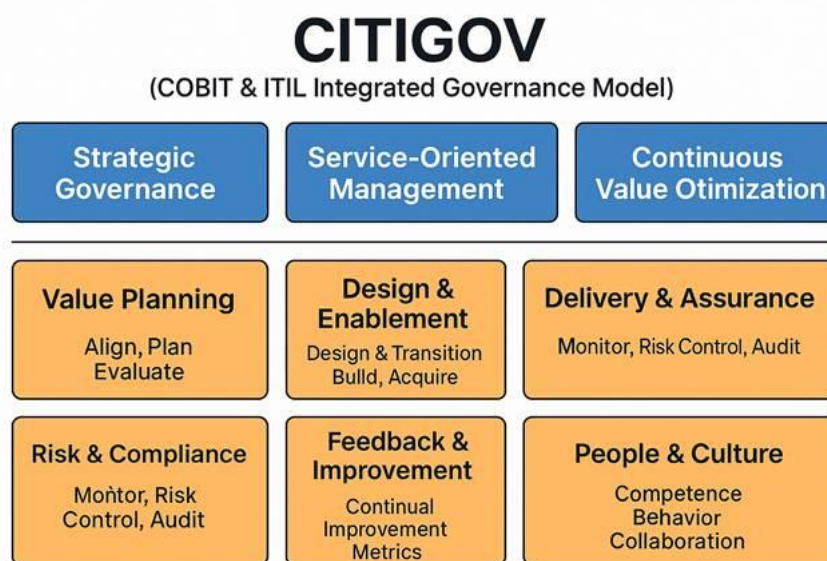
Figure 1. CITIGOV Model

This model ensures each cycle service is not only executed efficiently (via ITIL), but also monitored, audited, and aligned by strategic and business value (via COBIT).

2.5. Foundation of Theoretic Model Development

Model development of effective IT public governance requires a theoretical foundation that is not only robust conceptually, but also practically relevant against the current dynamic digital organisations.

In this context, CITIGOV Model development is designed based on synthesis from various theoretical approaches and a global framework that has been tested in supporting strategic alignment, effectiveness of IT service, and IT Governance maturity.

Particularly, the CITIGOV Model refers to the five basics of the main theory. First, the Strategic Alignment Model that is developed by Luftman (2000) (Luftman, 2001), which highlights the importance of alignment between business strategy and IT strategy as a keyword of the invention of strategic value. This model has functioned as a conceptual foundation to bridge the gap between business purpose and technology capability. Second, IT Service Management Theory, as it is uttered by Pollard et al. (2009) (Pollard & Cater-Steel, 2009), delivers a theoretical framework in managing IT service in a systematic way and oriented to value, by principles of measuring performance, sustainability, and sustainable improvement.

Third, COBIT Design Factors and Governance Objectives dari ISACA (2019) (Governance & Management, 2019), which delivers a modular structure in designing IT governance based on the organisation's objective, risk context, and the stakeholder requirement.

Four, the principle of Continual Service Improvement (CSI) from ITIL v4, that emphasizes that IT Service management must be dynamic and sustainable, with an approach of life cycle in adaptive service against the alteration of organisation requirement (Agutter, 2020) (Bernard, 2020).

Five, this model also adopts the IT Capability Maturity Framework (IT-CMF) as a parameter in measuring the readiness of an organisation in applying IT governance practice in a structured and measurable way, which fits the level of maturity capability, strategic and operational (Kenneally et al., 2016).

The integration of these five approaches becomes the CITIGOV Model as a comprehensive and adaptive framework to design, measure, and complement IT governance in the public sector strategically and sustainably.

3. Results and discussion

### 3.1. Development Result of CITIGOV Model

This research results in a model framework for governance and IT management service integration, which is called CITIGOV (COBIT & ITIL Integrated Governance Model). This model is designed as a response to the limitation of a single approach between strategic dominant COBIT and ITIL, which is operational dominant. CITIGOV unites the governance domain and IT service management into a united synergic module.

CITIGOV Model comprises three main domains and six area processes as represented below:

Tabel 1. Main domain area and Process Area

Main Domain	Main Process Area	Keyword Activity
Strategic Governance	Value Planning	Align, Plan, Evaluate
	Risk & Compliance	Monitor, Risk Control, Audit
Service-Oriented Management	Design & Enablement	Design, Transition, Build, Acquire
	Delivery & Assurance	Monitor, Risk Control, Audit
Continuous Value Optimization	Feedback & Improvement	Continual Improvement, Metrics
	People & Culture	Competence, Behavior, Collaboration

A structured visualisation of the CITIGOV model can be seen in the figure below:
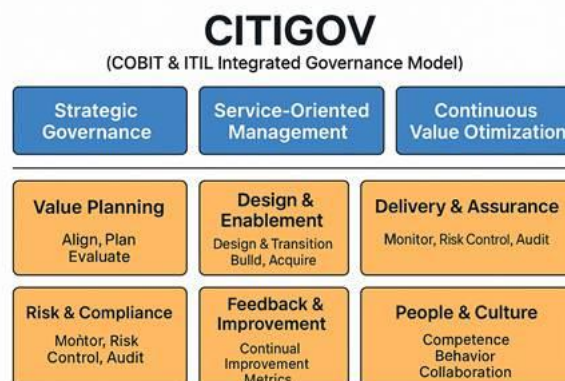
Figure 2. New Model (Citigov Model)

This model shows the relationship between hierarchy and strategic goal, service management, and sustainable improvement strategy. Each domain has a process area that is well-integrated from the perspective of COBIT (EDM, APO, MEA, etc) and ITIL (lifecycle service and continual improvement).

To visualize the internal structure of the CITIGOV model in more detail, this part explains seven main operations that build an implementable foundation from that model. Each element is designed to represent a critical function in governance and the integrated IT service management, and directly adopts and aligns with best practices from COBIT 2019 and ITIL v4. The scope of these elements is from strategic value to cultural organisation development and human resource competency, which becomes a comprehensive and adaptive work framework. Over these seven operational domains, there are three strategic domains: Strategic Governance, Service-Oriented Management, and Continuous Value Optimization, which play a role as a conceptual foundation and entire control direction from the CITIGOV model. The detailed explanation of each element is provided below. Seven Operational Elements CITIGOV Model:

a) **Value Planning**

Function: Planning and aligning strategic value TI against the organisation's purpose.

Activity: Align, Plan, Evaluate.

Integration: Adapting EDM COBIT (Evaluate, Direct, Monitor) and ITIL Service Strategy.

b) **Design & Enablement**

Function: Design and build service and IT Capability supported.

Activity: Design, Transition, Build, Acquire.

Integration: To unite the Build/Acquire/Implement (COBIT) process and Service Design/Transition (ITIL).

c) **Delivery & Assurance**

Function: Deliver IT service reliably and ensure quality and risk control.

Activity: Monitor, Risk Control, Audit.

Integration: To unite Deliver, Service & Monitor (COBIT) with ITIL Service Operation and Continual Monitoring.

d) **Risk & Compliance**

Function: Manage risk and ensure compliance against policy and regulation.

Activity: Monitor, Risk Control, Audit.

Integration: Utilize framework control from COBIT and risk management practice from ITIL (e.g., Information Security Management).

e) **Feedback & Improvement**

Function: Provide an evaluation mechanism and sustainable improvement in performance and value service.

Activity: Continual Improvement, Metrics.

Integrate: ITIL CSI (Continual Service Improvement) and COBIT Performance Measurement & Maturity Models.

f) **People & Culture**

Function: Build a collaborative culture and SDM competency that supports governance and service management.

Activity: Competence, Behavior, Collaboration.

Integrate: Join Organizational Culture and Skills from both work frameworks.

g) **Strategic Governance, Service-Oriented Management, and Continuous Value Optimization**

Function: Three main domains (displayed in blue block) that overcome these seven functional operations. Although from "operations" in a direct way, they become an encapsulating strategic domain.

Therefore, the seven orange elements (1-6) are the main operational foundation that supports the sustainable life cycle entirely, while the blue domain is the strategic framework that unites all work systems in CITIGOV. These elements work synergically to ensure each phase of service value, from planning to optimization, is managed in integrative and sustainable way.

3.2. Discussion of CITIGOV integrative model

To deliver a more structured understanding of the synthesis between two prominent work frameworks in governance and IT service management, this part provides integration of keyword elements from **COBIT 2019** and **ITIL v4** into the **CITIGOV** model. The following table summarizes how the principles and practices from both work frameworks are combined systematically in CITIGOV, resulting in a comprehensive functional domain, and then complement each other. This approach not only merges the strategic orientation of COBIT and focuses on ITIL operational, but also emphasizes the continuity and sustainable improvement of adaptive and high-value IT governance.

Table 1. The integration between principles and practice of **COBIT 2019** and **ITIL v4** into the **CITIGOV** model

Element	COBIT Form	ITIL Form	Integrasi dalam CITIGOV
Value Planning	EDM03, APO02	Service Strategy	Merged as "Strategic Governance" domain
Delivery Assurance	MEA01, DSS01	Service Operation	Merged as "Delivery & Assurance"
Continual Improvement	MEA03	Continual Improvement	Merged as "Feedback & Improvement"

This approach realizes the bridge between taking a decision strategy and operational execution of IT service, which involves being vulnerable in the implementation of COBIT and ITIL separately.

An analysis of the limitations of COBIT and ITIL: the implications against CITIGOV development. This research stems from the identification of basic limitations in the two dominant work frameworks in IT governance and IT service management, both COBIT and ITIL. According to the literature review, these limitations have been defined in the following previous studies:

(i) COBIT seems too normative, descriptive, and lacks an operational instrument to execute at the level of service. Some research (Aruldoss et al., 2015) (Saputro et al., 2018) highlights that COBIT is excellent in strategic governance structure; however, it has constraints in directing daily operational processes.

(ii) ITIL, on the other hand, is powerful in managing the life cycle of service; however, it is often criticized because it does not manage the strategic aspect and governance explicitly. This circumstance affects the weakness of alignment between IT service and long-term business goals (Kaur & Bahri, 2014).

a) Benefit of the CITIGOV model and the response to the limitations of COBIT and ITIL

The CITIGOV development model is designed particularly for responding to the gap between the strategic level (COBIT) and operational level (ITIL) through an integrative approach, which is simultaneous and modular. The table below explains how CITIGOV answers the main limitations of both frameworks.

Table 2. The benefit of CITIGOV Model

Limitations	COBIT	ITIL	The CITIGOV Solution
Focus too strategic without operational guidance	Yes	No	"Design & Enablement" domain and "Delivery & Assurance" fill the gap of COBIT operational
Not integrating sustainability improvement	Yes (limited in MEA03)	Partial	"Feedback & Improvement" domain is designed as a systemic loop evaluation
Limited in people and culture	Yes	Yes	"People & Culture" domain gives specific attention to human resources, attitude, and work culture.

Fragmentation between governance and service management	Yes	Yes	CITIGOV merges both frameworks into the single architecture with a sustainable flow track of value
Inflexible for agile/modern organization	Yes	Yes	CITIGOV is modular and can be re-configured adjusted profile organization (regulated vs agile)

Compared to the previous approaches that only adopted a half or COBIT and ITIL, the presence of CITIGOV as an integrative framework that explicitly merges strategic domain, operational, and cultural, without results redundant process.

a) Comparison with the previous research

To strength the position of contribution of this research in the landscape of academic and practice, comparison analysis was conducted between the CITIGOV model and several pervious studies that also has a theme of integration between work framework governance and IT management service.

The following table presents the summary of several previous studies, including the main focus, limitations identified, and the basic differences compared to the approach that is offered by CITIGOV. This comparison aims to assert a unique thing and adding value of the CITIGOV model, especially in a broader of scope process, the inclusion aspect of human resources and organisational culture, and the clarity of adaptive modular design against the need of current digital organisations.

The comparison between the CITIGOV Model and several previous research studies is represented below.

Tabel 3. State of the art

Researcher	Research Focus	Limitations	The difference with CITIGOV
(Saputro et al., 2018)	Integration of COBIT 5 dan ITIL v3 in the education service	No attaching domain people/culture, the modul integrative design integrative has no explicit	CITIGOV integrates the area of process Human Resources, inclusive, and metric value
(Aruldoss et al., 2015)	The utilisation of COBIT to audit the service	Only focuses on control and audit, does not focus on service management	CITIGOV includes a design flowchart, transition, and evaluation
(Kaur & Bahri, 2014)	Analysis of the Implementation of ITIL v3 in the government service	Less support for strategic alignment	CITIGOV merges value planning into the strategic structure
(Gunawan et al., 2020)	Integration of ITIL with ISO 27001	Only focus on the security aspect, not IT governance in general	CITIGOV sets governance entirely (strategic, risk, Human Resource, and service)

According to this comparison, it can be concluded that CITIGOV is excellent in the scope of comprehensive, modularity, and business value-oriented. This model not only completes the limitations of both frameworks, but also provides a readiness architecture, can be adjusted and is sustainability-oriented.

b) Contribution Position Model and Research Map

The position of model contribution in this research map encompasses three main aspects that equip each other, consist of conseptual, practical, and methodology. From the conceptual part, this research initiates an integrative framework that merges the capital standard in governance and IT service management, including COBIT and ITIL, into a coherent and adaptive model. Practically, the outcome model is not only theoretical, but also equipped by a process map and manual implementation that is designed to guide digital organisations in managing IT transformation in a structured and efficient way. Besides in the methodologis side, this research also contributes through

the development of an approach in model expert judgement-based and initial simulation that is possible to evaluate at the beginning toward the reliability and feasibility of model implementation in the context of a real organisation. Therefore, the CITIGOV model can be positioned as a strategic solution that is relevant in supporting digital transformation, both public and private sectors, particularly for organisations that require the alignment among governance, services, and people simultaneously in the integrated approach.

Conclusion

This study has resulted CITIGOV Model as the governance approach and the integrated IT service management that merges the advantage of COBIT in the strategic aspect and governance with ITIL benefits in operational management service based. This mode gives a work framework that is more adaptive, structured, and oriented to the three main domain: *Strategic Governance*, *Service-Oriented Management*, dan *Continuous Value Optimization*, and seven operational element that support the life cycle service entirely. The main contribution of this research is a new model development that can bridge the limitations of COBIT in the operational aspect and ITIL in the aspect of strategic governance, and merge principles of value planning, risk management, and cultural organization, and the sustainable enhancement in the integrated framework. The practice implication from this finding is the availability of an implementation guide that can be used for digital organisation modernization in developing a governance system and IT service that are more efficient, consistent, and measureable. However, this research has the boundary of context in the study case that is explorative, and the boundary of testing in the broader industry sector. As a consequence, further research is required with a quantitative approach and model implementation testing in a longitudinal way for several types of organisations, both the private and public sector. Therefore, this literature has provided an explicit answer toward the research question about how to build an integrative model that closes the gaps of limitations of COBIT and ITIL, as well as strengthens contribution of theoretical and practical aspects in the strategic IT governance and modern IT service management.

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