Aligning IT Governance with Business Goals Using the COBIT 2019 Framework: A Case Study of an Innovation Consultancy Firm

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Abstract

Technological advancements have ushered the world into a new era, particularly in the realm of information. In this context, information technology is considered a crucial tool to support and enhance corporate management, enabling companies to compete in the market. One common approach to managing information technology is by using IT governance frameworks such as COBIT (Control Objectives for Information and Related Technology) 2019. To date, there has been no research or evaluation conducted on the IT performance of Meet Ventures, Pte. Ltd., leaving the maturity level of information technology implementation in the company unclear. This project aims to explore the use of information systems and information technology at Meet Ventures, Pte. Ltd. in managing their operations and data. The project's approach involves a literature study on COBIT 2019 design factors. Based on the application of COBIT 2019, the prioritized objectives identified are BAI03 – Manage Solutions Identification and Build, BAI06 – Manage IT Changes, and MEA01 – Monitor, Evaluate, Assess Performance and Conformance. The assessment of various design factors in COBIT 2019 indicates that Meet Ventures, Pte. Ltd. has a strong focus on innovation, differentiation, and customer service. They also demonstrate a commitment to legal compliance and external regulations, a customer service culture, and effective risk management.

Keywords— COBIT, IT Governance, Design Factor

1. INTRODUCTION

Amidst technological development, advancements in information technology have become crucial for companies aiming to improve performance and productivity in this evolving era.[1] The progress in technology has enabled businesses to access vast amounts of data that can be transformed into valuable insights.[2] By effectively adopting and utilizing information technology, organizations can enhance operational efficiency, innovate in their offerings, and maintain competitiveness in dynamic markets.[3] However, the rapid increase in data availability also poses challenges, making it harder to locate specific, relevant information. To overcome these obstacles, implementing robust information governance is essential.

Information technology management comprises a series of coordinated actions involving leadership, organization, and structured processes to align IT usage with corporate objectives.[4] These structured frameworks and policies are designed to maximize value while balancing the associated risks and rewards of technology.[5] As such, IT governance starts at the planning stage and extends through continuous monitoring to ensure IT's effectiveness in supporting corporate goals.[6] This governance framework acts as a decision-making guide, enabling businesses to

improve performance, boost competitiveness, and ensure sustainability over time.[7]

When designing and assessing IT governance, companies can adopt frameworks such as COBIT. As a comprehensive IT governance tool, COBIT focuses on managing and delivering IT services while safeguarding the integrity and security of data and information.[8] Issued by the IT Governance Institute under ISACA, COBIT provides best practices and clear guidelines for IT management, helping senior leaders identify and mitigate IT-related risks effectively [9].

Meet Ventures, Pte. Ltd. is an innovation consulting and early-stage startup investor operating in 10 countries across Asia, with its headquarters in Singapore. The company has two main divisions: consulting and investment. Their consulting division serves a wide range of clients, including multinational companies, publicly listed corporations, government institutions, and leading universities. They offer various services such as business matchmaking, investor introductions, startup scouting, training, and mentoring, organizing pitching competitions, open innovation programs, and managing accelerator programs.

Meanwhile, their investment division focuses on pre-seed and seed-stage investments in startups across Asia. They are interested in startups with proven and scalable business models, as well as founders with deep industry understanding and outstanding track records. Overall, Meet Ventures aims to support innovation and the growth of the startup ecosystem in Asia by providing comprehensive consulting services to their clients and investing capital in promising startups.

This research analyzes the maturity level of IT governance at Meet Ventures, Pte. Ltd. Because we will provide recommendations for improvements that can be implemented. In the process of designing a governance system, 10 Design Factors (DF) are considered.

The COBIT 2019 framework outlines key design factors critical for IT governance. **Enterprise Strategy (DF1)** involves principles such as Growth, Innovation, Cost Leadership, and Client Service, which enhance healthcare services, IT management efficiency, and organizational stability.[10] **Enterprise Goals (DF2)** encompass 13 objectives, including product competitiveness, risk management, regulatory compliance, quality information, customer service, business continuity, process optimization, cost efficiency, staff productivity, and digital transformation.[11] The **IT Risk Profile (DF3)** evaluates 19 criteria, such as IT investments, project management, cost monitoring, compliance, and data management.[12] Lastly, **IT-related issues (DF4)** are identified and categorized (No Issue, Issue, Serious Issue) to address current challenges and mitigate future risks effectively within the framework.[13].

The design factors influencing IT governance include several critical considerations: the **threat landscape (DF5)**, categorized as normal or high based on threat levels; **compliance requirements (DF6)**, with low, normal, or high demands; and the **role of IT(DF7)**, which can serve as Support, Factory, Turnaround, or Strategic.[14][15][16]

Additionally, the **IT sourcing model (DF8)** involves approaches like outsourcing, cloud services, or insourcing, while **implementation methods (DF9)** range from Agile and DevOps to Traditional and Hybrid.[17][18] Lastly, a company's **technology adoption strategy (DF10)** varies from being a First Mover, adopting new technology quickly, to a Follower or Slow Adopter, waiting for others or delaying adoption.[19][20].

In analyzing the Design Factors in the COBIT 2019 framework, the first step is to thoroughly understand the organization's context. This includes identifying the mission, vision, strategy, business objectives, and analyzing the internal and external environments, such as industry challenges, regulations, and competitive landscapes. Afterward, the organization needs to identify and prioritize the relevant Design Factors among the eleven key factors provided by COBIT 2019. The first factor, Enterprise Strategy, requires an analysis of the organization's strategy, such as whether the focus is on growth, efficiency, or innovation, so that IT governance processes can be aligned accordingly. Next, Enterprise Goals can be mapped using the Goals Cascade to ensure IT governance objectives align with the organization's goals.

Other factors, such as the Risk Profile and Threat Landscape, require identifying the main types of risks the organization faces, the level of risk tolerance, and relevant threats, such as cyberattacks or natural disasters. For Compliance Requirements, organizations need to ensure that IT governance supports compliance with specific regulations and standards. Additionally, the

analysis of the Role of IT helps determine IT's role within the organization, whether as a supporter, business enabler, or innovator, so the governance design can be adjusted to match that role.

Another factor to analyze is the Sourcing Model, where the organization needs to understand its use of internal resources, external resources, or a combination of both. Through this approach, each factor can be analyzed in depth to create an IT governance design that aligns with the organization's specific needs, supports the achievement of business objectives, and effectively manages risks.

Although many organizations have adopted COBIT 2019, there is still a lack of evaluation regarding its implementation effectiveness. Further research is needed to identify the factors influencing the success or failure of COBIT 2019 implementation, as well as effective methods to measure its impact on organizational performance. The results of this study, derived from each design factor, will be meticulously analyzed to provide valuable insights that are vital for enhancing the governance system of Meet Ventures, Pte. Ltd.

2. RESEARCH METHODS

The research method used in designing the IT governance system follows a series of stages adapted as a governance design workflow based on COBIT 2019, as shown in the diagram below:

Figure 1. System Governance Design Workflow in COBIT 2019[20].

Figure 1 explains the research steps that will be taken to achieve the results. Four stages will be carried out to support this research. We used the research approach at Meet Ventures, Pte. Ltd. and came up with the following four steps based on the four research steps mentioned above.

1. Understand the enterprise context and strategy.
   This involves conducting interviews with stakeholders whose responsibilities typically included overseeing IT operations and contributing to strategic decision-making and observations at Meet Ventures, Pte. Ltd. to understand the initial steps in designing IT governance. It includes identifying the strategies owned by Meet Ventures, Pte. Ltd., which are then used as a foundation to understand the company's strategies, goals, risk profile, and information and technology-related issues.
2. Determine the initial scope of the governance system
   The second stage involves stakeholder interviews to define the initial scope of the governance system, taking into account aspects of Design Factors 1 through 4.
3. Refine the scope of the governance system.
   This stage involves identifying improvements to the initial scope of the governance system by considering aspects of Design Factors 5 through 11 based on COBIT 2019 design guidelines. Stakeholder interviews are conducted to gather the necessary information.
4. Conclude the governance system design.
   The final stage consolidates all inputs from the previous stages to produce a conclusion for the governance system design. The output includes a summary of scores for each process on a scale of -100 to 100. Processes scoring 50 or higher are considered critical for Meet Ventures, Pte. Ltd. and will require a capability level of 4. Processes scoring below 50 will require lower capability levels (3, 2, or 1).

By following these steps, Meet Ventures, Pte. Ltd. aims to establish an IT governance system tailored to the company's needs.

3. RESULT AND DISCUSSION

The interview process was conducted in two sessions. The interviewees were senior associates in the IT department of their company, whose responsibilities typically included overseeing IT operations and contributing to strategic decision-making within the IT division and other company-wide strategies, given its IT-based business model. The interviewers were the researchers.

3.1 Design Factor 1 - Enterprise Strategy

From the interviews conducted during the assessment of Design Factor 1, the results are presented in Table 1.

Table 1 Design Factor 1

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

The assessment results indicate that Meet Ventures, Pte. Ltd. has a strong focus on innovation, differentiation, and customer service, with high scores given for Innovation/Differentiation and Client Service/Stability. They also show some attention to growth and acquisition, although not as strongly as in the areas of innovation and customer service.

3.1. Design Factor 2 - Enterprise Goals

From the interviews we conducted during the assessment of Design Factor 2, the results shown in Table 2 were obtained.

Table 2 Design Factor 2

Value	Importance (1-5)	Baseline
EG01—Portfolio of competitive products and services	**3**	**3**
EG02—Managed business risk	**5**	**3**
EG03—Compliance with external laws and regulations	**5**	**3**
EG04—Quality of financial information	**4**	**3**
EG05—Customer-oriented service culture	**5**	**3**
EG06—Business-service continuity and availability	**4**	**3**
EG07—Quality of management information	**3**	**3**
EG08—Optimization of internal business process functionality	**4**	**3**
EG09—Optimization of business process costs	**4**	**3**
EG10—Staff skills, motivation and productivity	**5**	**3**
EG11—Compliance with internal policies	**5**	**3**
EG12—Managed digital transformation programs	**5**	**3**
EG13—Product and business innovation	**5**	**3**

The results for Meet Ventures, Pte. Ltd. highlight key elements in designing an effective IT governance system aligned with the company's business objectives. By placing significant emphasis on critical aspects such as compliance with external laws and regulations (EG03), the company underscores its responsibility to operate within the applicable legal framework, indirectly ensuring operational sustainability and maintaining a strong reputation. Additionally, the focus on a customer-oriented service culture (EG05) reflects Meet Ventures' commitment to prioritizing customer satisfaction as a foundation for long-term growth. Well-managed business risk management (EG02) demonstrates a deep understanding of the importance of identifying, evaluating, and addressing risks that may arise in daily operations, contributing to the company's sustainability and growth.

Employee skills, motivation, and productivity (EG10) are also a key focus, indicating that Meet Ventures values its employees as a critical asset for achieving business success. Furthermore, adherence to internal policies (EG11) signifies the company's commitment to consistency and compliance in its internal processes and practices. Through effective management of digital transformation programs (EG12), the company shows its readiness to adapt to rapid technological changes and ensure that its IT infrastructure supports its business goals. Finally, the emphasis on product and business innovation (EG13) demonstrates Meet Ventures' proactive approach to market changes and its efforts to remain relevant and competitive amid dynamic industry shifts. While certain areas may require improvement, the overall high ratings affirm Meet Ventures, Pte. Ltd.'s strong commitment to operational success and long-term growth.

3.2. Design Factor 3 – IT Risk Profile

From the interviews we conducted during the assessment with senior associates in the IT department the result of Design Factor 3 shown in Table 3 was obtained.

Table 3. Design Factor 3

Risk Scenario Category	Impact (1-5)	Likelihood (1-5)	Risk Rating	Baseline
IT investment decision-making, portfolio definition & maintenance	**5**	**1**	5	9
Program & project life cycle management	**5**	**1**	5	9
IT cost & oversight	**4**	**2**	8	9
IT expertise, skills & behavior	**5**	**1**	5	9
Enterprise/IT architecture	**4**	**1**	4	9
IT operational infrastructure incidents	**2**	**1**	2	9
Unauthorized actions	**5**	**1**	5	9
Software adoption/usage problems	**4**	**1**	4	9
Hardware incidents	**1**	**1**	1	9
Software failures	**5**	**2**	10	9
Logical attacks (hacking, malware, etc.)	**5**	**1**	5	9
Third-party/supplier incidents	**5**	**2**	10	9
Noncompliance	**4**	**3**	12	9
Geopolitical Issues	**5**	**2**	10	9
Industrial action	**1**	**3**	3	9
Acts of nature	**3**	**2**	6	9
Technology-based innovation	**4**	**3**	12	9
Environmental	**5**	**1**	5	9
Data & information management	**5**	**1**	5	9

Based on the interview results, risks associated with IT investment decision-making, portfolio definition, and maintenance are assessed as having a significant impact due to the difficulty of altering systems. This means that failed large-scale investments could have substantial consequences. Consequently, adjustments or changes after the initial investment can pose substantial challenges for the company. Risks related to programs and projects are also rated as having a significant impact due to the potential for human errors, such as corruption, despite thorough planning. Cost oversight and IT expertise are considered high-impact risks since the company operates as a non-profit organization managing public funds. Ineffective management in these areas could seriously affect the organization's sustainability and public trust.

Risks related to IT architecture, operational IT infrastructure incidents, unauthorized actions, software usage, and hardware incidents are rated as high-impact because they could significantly disrupt operations and incur substantial costs for repairs and recovery. Although risks such as software failures, logical attacks, non-compliance, and geopolitical issues are deemed to have high probability, their impact is assessed as less severe because the company has prepared mitigation measures and solutions in advance. Nonetheless, these risks still require ongoing monitoring and management to ensure appropriate mitigation is applied when necessary. Risks related to natural disasters, technology-driven innovation, environmental factors, and data management are considered to have potentially significant impacts due to physical damage to facilities, loss of critical data, or significant operational failures. Therefore, it is crucial to focus on mitigating risks with both high impact and high probability to ensure operational continuity and the company's long-term success.

3.3. Design Factor 4 – IT-Related Issue

From the interviews we conducted during the assessment of Design Factor 4, the results shown in Table 4 were obtained. The "importance" column indicates the severity of the issue: a value of 1 represents no issue, 2 indicates a moderate issue, and 3 signifies a major issue. The interview data reveals that the organization faces a broad spectrum of issues, including internal and external challenges that can impact its performance and operational success. A prominent issue is the disagreement and frustration between various IT entities across the organization, as well as between business departments and the IT department. A low perception of IT's contribution to business value can lead to detrimental internal friction, hinder collaboration, and disrupt overall organizational effectiveness. On the other hand, critical IT-related incidents, such as data loss and security breaches, highlight the organization's vulnerability to serious security threats. In an era where data is a highly valuable asset, protecting confidential and sensitive information is essential for maintaining reputation and customer trust.

Additionally, issues such as service delivery problems from IT contractors, failure to meet regulatory requirements, and uncontrolled IT budget and expenditure management are challenges that can result in operational disruptions and financial losses. By understanding and effectively addressing these issues, the organization can enhance its performance, minimize risks, and better achieve its business objectives. Therefore, well-thought-out strategies and appropriate solutions are necessary to tackle these complex challenges and ensure IT functions as an effective tool in supporting the company’s vision and mission.

3.4. Design Factor 5 - Threat Landscape

From the interviews we conducted during the assessment of Design Factor 5, the results shown in Table 5 were obtained.

Table 4. Design factor 5

Value	Importance (100%)	Baseline
High	**90%**	***33%***
Normal	**10%**	***67%***

The results from the Design Factor 5 interviews in COBIT 2019 highlight the importance of understanding and managing risks in IT governance. The matrix reveals that high risks (High) are highly significant (90%) despite comprising only 33% of the current baseline, while normal risks (Normal) are less critical (10%) but account for 67% of the baseline.

This conclusion indicates that the organization must focus more on managing high risks due to their significant impact, even though they are fewer in number. The implication is that the organization should allocate more resources to mitigate high risks, design effective IT governance policies, and develop strong risk management capabilities. These efforts are essential to ensuring readiness and resilience against potential threats, protecting assets, and maintaining operational sustainability.

3.5. Design Factor 6 - Compliance Requirements

From the interviews we conducted during the assessment of Design Factor 6, the results shown in Table 7 were obtained.

Table 5. Design Factor 6

Value	Importance (100%)	Baseline
High	0%	**0%**
Normal	100%	**100%**
Low	0%	**0%**

In this design factor, the interviewees were asked questions about how compliant the company is with local government regulations. Questions in Design Factor 6 help assess how well the company adheres to government regulations. The results, based on interviews and the researcher's analysis, indicate that the company is not always required to follow government regulations, as the local environment is already well-regulated and stable.

3.6. Design Factor 7 - Role of IT

From the interviews we conducted during the assessment of Design Factor 7, the results shown in Table 7 were obtained.

Table 6. Design Factor 7

Value	Importance (1-5)	Baseline
Support	4	**3**
Factory	1	**3**
Turnaround	1	**3**
Strategic	5	**3**

Based on the interview with the head of the IT department, the company utilizes IT at a Strategic level in its operational processes, with a value of 5. It is not merely a support function but is critical for both the continuity and innovation of the organization's business processes and services. Although the Support role received a score of 4, indicating IT's importance in maintaining the basic operations of the business, it is clear that the company views IT as far more than a foundational element. By positioning IT as a Strategic factor, the organization ensures it plays a central role in driving and innovating projects aimed at effectively serving the public.

3.7. Design Factor 8 – Sourcing Mode of IT

From the interviews we conducted during the assessment of Design Factor 8, the results shown in Table 8 were obtained.

Table 7. Design Factor 8

Value	Importance (100%)	Baseline
Outsourcing	50%	***33%***
Cloud	40%	***33%***
Insourced	10%	***34%***

Based on the interview with the respondent, it was found that the sourcing model at Meet Ventures, Pte. Ltd. is 50% at the Outsourcing level. This is because the company primarily develops applications using outsourcing. Next, 40% is at the Cloud level, as the company uses internet-based vendors. The insourced model accounts for 10%, as it is only used for oversight purposes.

3.8. Design Factor 9 - Implementation Methods

From the interviews we conducted during the assessment of Design Factor 9, the results shown in Table 9 were obtained.

Table 8. Design Factor 9

Value	Importance (100%)	Baseline
Agile	100%	***15%***
DevOps	0%	***10%***
Traditional	0%	***75%***

Based on the interview with the respondent, it was found that the company uses the DevOps method with a 0% rate, the Agile method with a 100% rate, and the Traditional method with a 0% rate. This is because the company develops software relatively quickly and does not use other methods.

3.9. Design Factor 10 - Technology Adoption Strategy

From the interviews we conducted during the assessment of Design Factor 10, the results shown in Table 11 were obtained.

Table 9. Design Factor 10

Value	Importance (100%)	Baseline
First mover	30%	**15%**
Follower	70%	**70%**
Slow adopter	0%	**15%**

Based on the interview results with the senior associates in the IT department, it was found that, according to the percentage results of the technology adoption strategy in the company, 30% are first movers, 70% are followers, and 0% are slow adopters. This is because there are some technologies that the company adopted first, such as AI, while for other technologies, like blockchain, the company is still a follower. As for slow adopters, the company is not slow in adopting new technologies.

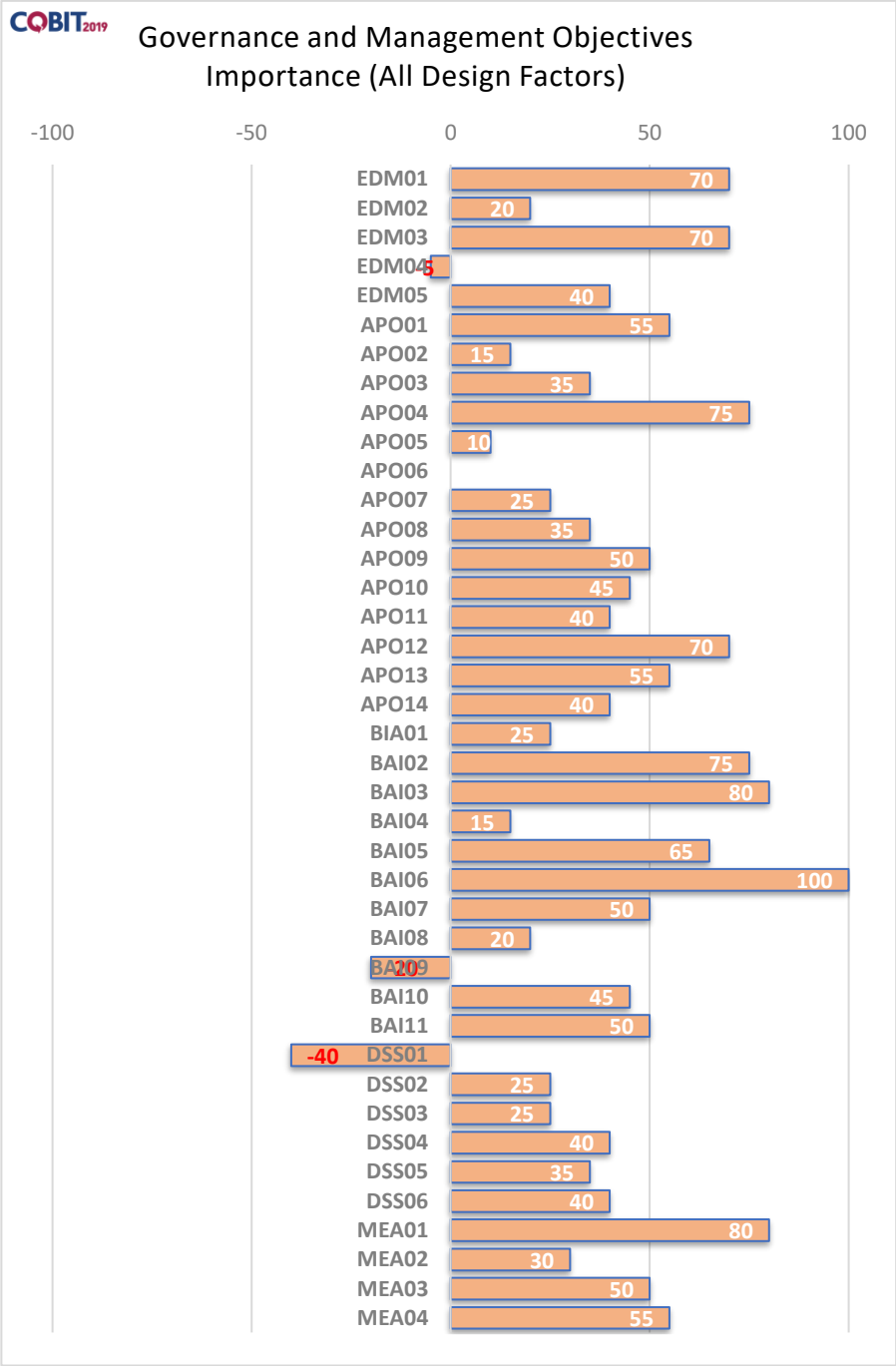

Figure 2. Priority Objectives

3.10.Determination of Priority Objectives

IT Governance Design Result: After analyzing the objectives using Design Factor (DF1-DF10), the process objectives to be further evaluated are concluded, as shown in the following figure.

The results of filling out the 10 design factors show 3 priority objectives with scores of 80 or more, based on and adjusted to the company's conditions. The three priority objectives are BAI03 – Managed Solution Identification and Build, BAI06 – Managed IT Changes, and MEA01 – Managed Performance. Based on these results, the process will proceed to the next stage.

3.11.Explanation of Priority Objectives

The company can set priorities on the objectives BAI03, BAI06, and MEA01 within the COBIT 2019 framework because these three objectives focus on critical aspects of management and improving the effectiveness and efficiency of IT, which aligns with the assessment results and the company's strategy. Here is an explanation of why these three objectives are prioritized:

BAI03 - Manage Solutions Identification and Build

- Focus on Innovation and Differentiation: Meet Ventures, Pte. Ltd places high value on innovation and differentiation. BAI03 covers the process of identifying, developing, and implementing new innovative IT solutions. By prioritizing this objective, the company ensures that the solutions identified and developed support its innovation and differentiation strategy.
- IT Investment Portfolio Management: The assessment shows that the risks associated with IT investment decision-making have a significant impact. By prioritizing BAI03, the company can manage its IT solution portfolio more effectively, reduce the risk of failed investments, and ensure that the solutions developed are aligned with business objectives.

BAI06 - Manage Changes

- Compliance and Risk Management: The company places a strong emphasis on compliance with external regulations and risk management. BAI06 covers the structured and controlled management of IT changes, which is essential to ensure that each change aligns with applicable policies and regulations, as well as to mitigate risks that may arise from those changes.
- Operational Risk Mitigation: Properly managing changes can reduce operational risks resulting from errors or failures in implementing changes. By prioritizing BAI06, the company can ensure that changes are made in a way that minimizes disruptions and risks, supporting operational continuity.

MEA01 - Monitor, Evaluate, and Assess Performance and Conformance

- Performance and Compliance Evaluation: Meet Ventures, Pte. Ltd prioritizes compliance and risk management aspects, as well as managing IT costs and expertise. MEA01 enables the company to continuously monitor, evaluate, and assess performance and compliance with applicable policies and regulations. This is crucial to ensure that IT systems and processes operate in alignment with the established objectives and standards.
- Continuous Improvement: MEA01 supports continuous improvement by providing a framework to identify areas that need enhancement. By prioritizing this objective, the company can more effectively identify and address performance and compliance issues, ensuring that IT continues to optimally support business goals.

4. CONCLUSION

The assessment of various design factors in COBIT 2019 indicates that Meet Ventures, Pte. Ltd. has a strong focus on innovation, differentiation, and customer service. They also demonstrate a commitment to legal compliance and external regulations, a customer service culture, and effective risk management. The company prioritizes employee skills and productivity, as well as compliance with internal policies and digital transformation programs. Additionally, risks associated with IT investment decision-making, programs and projects, and managing IT costs and expertise are assessed to have a significant impact. They face a range of internal and external challenges, including interdepartmental disagreements, security incidents, and uncontrolled budget management. In terms of threat profiles, high risks require more attention even though their proportion is smaller. Compliance with local government regulations is considered good and does not require special attention. The role of IT within the company is highly strategic, and the sourcing model primarily relies on outsourcing and cloud solutions. The

software development method uses agile, and the technology adoption strategy tends to be a follower.

This assessment shows that Meet Ventures, Pte. Ltd. focuses on innovation and customer service as the core of its business strategy, emphasizing the importance of differentiation to compete in the market. Their commitment to legal compliance, risk management, and digital transformation demonstrates their readiness to face operational challenges and comply with regulations. The emphasis on employee skills and productivity highlights human resources as the company's key asset. IT investment and project risks require special attention due to their significant impact on operational sustainability. Challenges related to interdepartmental disagreements and security incidents indicate the need for improved communication and data protection. High risks require greater mitigation, despite their smaller proportion. Good compliance with government regulations indicates a stable business environment. The strategic role of IT and the use of outsourcing and cloud models reflect the company's adaptation to the latest technological trends, while the agile approach to software development demonstrates flexibility and speed in responding to market needs. A technology adoption strategy that tends to follow allows the company to implement more mature and proven technologies. Overall, this assessment reaffirms Meet Ventures, Pte. Ltd.'s strong commitment to operational success and long-term growth through effective risk management, compliance, and continuous innovation.

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