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# Gap Analysis Process for Digital Transformation in Public Sector Organization



**Abstract:** - Gap analysis is a strategic process widely utilized by organizations to assess their current performance, compare it against desired benchmarks, and identify gaps that need to be addressed for achieving optimal outcomes. The aim of this study is to streamline and enhance the efficiency of the gap analysis process within public sector organizations by evaluating and revising existing methodologies, with a specific focus on the PerSI Methodology provided by MAMPU. Through a case study approach applied in a public sector organization, this research identifies key challenges within the current gap analysis process and proposes improvements to address them. The findings highlight critical issues in each stage of the gap analysis, providing valuable insights for refining future applications of the methodology. The suggested improvements offer a more efficient and effective approach for conducting gap analysis, ultimately aiding in better decision-making and performance enhancement in the public sector. The implications for further research suggest that a more streamlined gap analysis process will enhance the ability to assess digital capabilities in public organizations, facilitating their digital transformation journey.

**Keywords:** “Strategic Planning”, “Gap Analysis Process”, “Process Optimization”, “Digitalization”, “Case Study”.

## I. INTRODUCTION

Gap analysis is a process that most organizations use to determine their current performance and situation and make a comparison with where the organization’s performance should be. In addition, Hanna [1] stated that the approach facilitates organizational comprehension of strategies for attaining company objectives and can be implemented across numerous domains. The process entails doing a comparative analysis between the present condition of a firm and its desired state to discover deficiencies and potential avenues for enhancement [2]. The comparison between the initial states with the target are called gap. Gap analysis plays a crucial role in all facets of organizational operations. There are several significant rationales for the importance of gap analysis in organizational contexts. Through the process of conducting a gap analysis, organizations can effectively detect performance deficiencies [3]. This enables organizations to promptly recognize areas in which their product, operations, funding, or other aspects of performance fall short in comparison to their anticipated progress. This process facilitates the identification of specific areas that require enhancement and focus.

Apart from that, Markovic [4] asserted that with the implementation of a gap analysis, organizations could direct their attention toward areas that requires improvement. This approach enables the organization to enhance efficiency and effectively allocate resources, hence optimizing the organization's resource allocation. Furthermore, it is imperative to acknowledge that it plays a pivotal role in enhancing strategic planning and facilitating effective decision-making processes within organizational contexts. The alignment of goals and objectives with an organization's overarching mission and vision enhances the organization's competitiveness. Kimberlee Leonard and Bottorff [5] emphasized by conducting gap analysis, organization will be able to establish objectives and assessing the extent to which they have been accomplished their targeted goals. Therefore, through the process of identifying gaps, organizations have the opportunity to formulate action plans that will effectively address these gaps and facilitate progress towards their intended state, thus, drive the organization towards a successful growing business.

## II. LITERATURE REVIEW

A gap is usually define as a difference between a current performance levels with desired level [6]. However, this definition might cause people to not able to widen the determined consequences of an intervention in the performance [7]. On the other hand, the gap analysis technique provides both a theoretical model and procedure that fulfil both principles which is concerned with the entire service delivery process and focused on customer happiness [8]. According to Amanah and Harahap, gap analysis is a tool or method for an organization to make a comparison

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between perception and expectation about the organization provided services and organizations have to try to minimize the gap. [9]. Gap analysis also defined as the performance evaluation method organizations employ to assess and appraise the disparities between their current and anticipated or desired performance levels [10]. This process enables organizations to identify and analyze these gaps, facilitating the development of appropriate plans and strategies to address and bridge these gaps.

In addition, gap analysis is defined as an organized assessment of a business or project's progress and trajectory. There exist multiple views that can be examined, encompassing corporate strategy, operational procedures, information technology, and product management [11]. When discussing management, gap analysis serves as a method for evaluating and contrasting the present state of affairs with a desired future state of performance. Kimberlee Leonard and Bottorff [12] on the other hand define gap analysis as to identify the underlying factors that contribute to the inability to attain specific organizational objectives. This approach takes into account one's current circumstances, desired future outcomes, and identifies the underlying factors that hinder the achievement of those goals. Based on the provided information, organizations can develop a strategic strategy aimed at addressing and resolving the identified gaps.

#### A. Gap Analysis Process

Gap analysis is a systematic approach used to detect and assess the disparities between the present condition of an organization and its intended future state. The utilization of this instrument proves to be advantageous for organizations across various scales, as it facilitates the identification of areas that warrant enhancement and formulation of strategies to attain such improvements. The gap analysis process typically involves four key steps, as outlined in research by [13, 14]. The four steps are (i) Identify the Current Situation, (ii) Define the Desired State, (iii) Analyze the Gap, and lastly, (iv) Develop an Action Plan. By following these steps in doing the gap analysis, organizations will have a detailed process to identify the organization's current performance and desired future based on facts, not assumptions.

The gap analysis approach developed by [15] consists of six distinct steps, which serve as a framework for identifying and assessing the disparities that exist between an organization's present condition and its envisioned future state. There are six steps in the process, (i) The intended future state should be identified, (ii) Evaluate the present condition, (iii) Identify the gaps in the existing information or knowledge, (iv) Formulate effective measures to address and mitigate the existing disparities, (v) Execute the established methodologies and lastly, (vi) The process of monitoring and evaluating outcomes. The gap analysis technique developed by Bryson is widely recognized as a powerful tool that organizations of various scales can utilize. This process identifies specific areas within an organization that require improvement and subsequently formulating plans to address and achieve these improvements effectively.

The second gap analysis process is by Smartsheet Inc. contributor, Weller [16] published a gap analysis tools that can be used by organizations to pinpoint areas where they aren't performing to their full potential and then utilize that knowledge to develop ways to improve. The process includes (i) Identify the area to be analyzed and identify the goals to be accomplished, (ii) Establish the ideal future state, (iii) Analyze the current state, (iv) Compare the current state with the ideal state, (v) Describe the gap and quantify the difference and (vi) Summarize the recommendations and create plan to bridge the gap. This process will create an effective strategic planning given the organization's goals must be specific, measurable, achievable, relevant and time-bound (SMART).

The third gap analysis process is developed by a strategic planning software company, Cascade Inc to be use as an internal analysis tool for the organization. It includes five steps which are (i) Define organization's focus area, (ii) Identify the desired future state, (iii) Assess the current state, (iv) Choose the right KPIs and (v) Create an action plan. Cascade stated only with diligent implementation will the strategy come to fruition [17]. However, the monitoring phase are not included in their gap analysis process. The fourth gap analysis process discussed is developed by the communication specialist at Creately use to contrast an organization's current situation with the ideal situation and come up with an action plan. Athuraliya [18] includes the strategic planning process in five steps, (i) Pick an area to focus on, (ii) Set the organization's target and goals, (iii) Determine the current state of things, (iv) Determine the future state of things and lastly, (v) Identify the gap between the two states. Once the gaps have been identified, identify why they exist and what organization can do to address them. Counter measure has to be taken to close these gaps when you have identified them.

In Malaysia, gap analysis process templates are provided in the strategic planning guideline by MAMPU [19] using PerSI Methodology for any ministries and government agencies to refer when doing a gap analysis for the organizations. The process involves (1) Analyze the achievements of PSICT, (2) Assess the current environment and management expectations, (3) Assess the current ICT environment and direction, and lastly (4) Identifying ICT

gaps. Compared to other gap analysis process, gap analysis process templates by MAMPU highlights two important domains to be focusing in organizations, Service and ICT analysis. There will be 11 templates used to identify gaps and opportunities in ICT through an assessment of the agency's current environment. Therefore, the involvement of management, SMEs, and stakeholders, in addition to the PSICT project team, is crucial for providing high-quality input. The summary of the process in Fig. 1 shows how this study outlines the process sequence for each gap analysis approach.

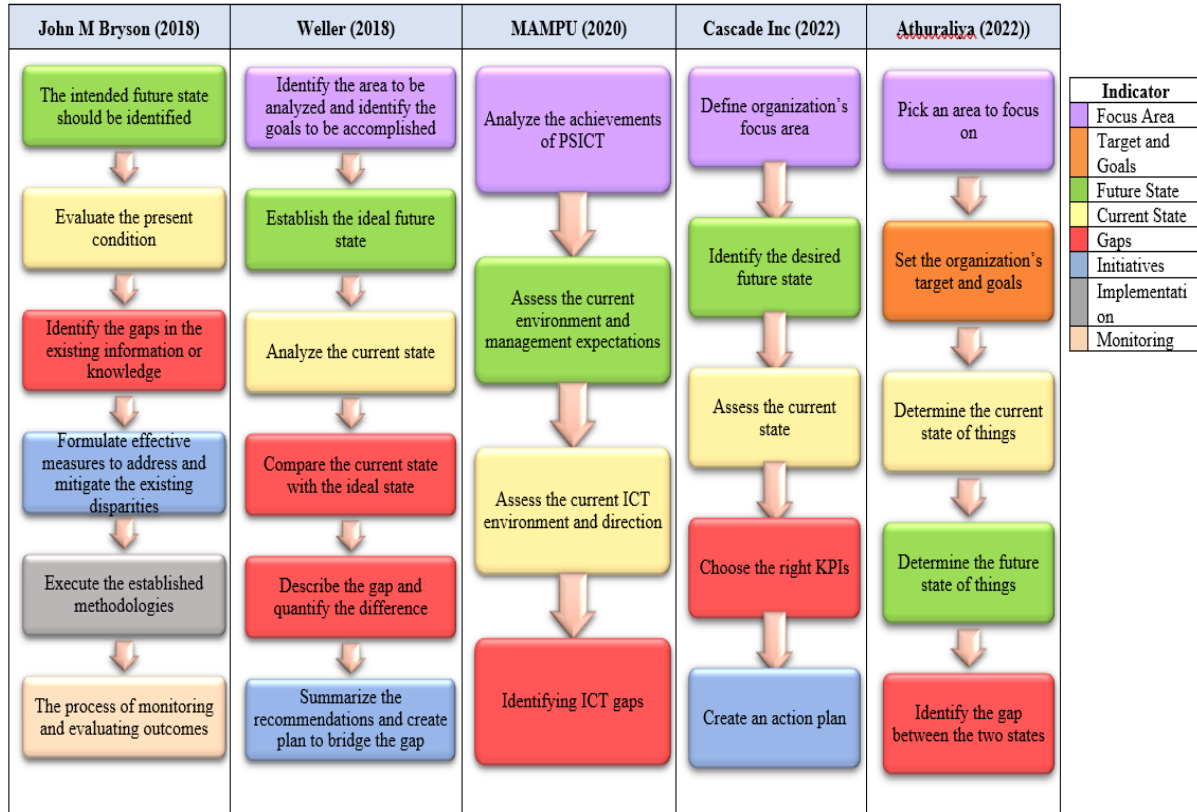


Fig. 1 Categorization of Gap Analysis Process in Accordance to the Similar Process

Fig. 1 shows this study categorize each process as per the typical gap analysis process that involves four key steps, as outlined in research by Cottyn [13], Dassisti [14]. From all of the processes, it shows that there is improvement made by the current research to increase the comprehensiveness of gap analysis process such as defining focus area for gap analysis, setting target and goals, implementation, and monitoring.

A comparative analysis of five gap analysis process approaches involves in the development of the gap analysis process sequence for the proposed Gap Analysis Process Model. Four of the five approaches initiate with identifying and determining the organization's focus area, influencing the placement of this step as the first process in the proposed model. While Athuraliya's approach introduces target and goal setting prior to identifying the desired future state, this step was positioned as the second process due to its limited presence in other models. Determining the organization's desired future state emerged as the third process, considering its prominence in most approaches, although at varying stages. This step is followed by assessing the organization's current state, a consistent sequence across all models. Identifying the gaps, a critical step in determining necessary initiatives, was placed fifth as it logically follows the comparison of future and current states.

Formulating initiatives was incorporated as the sixth process based on its inclusion in three of the five approaches. Finally, while only Bryson's approach detailed implementation and monitoring, these steps were included as the seventh and eighth processes, respectively, to provide a comprehensive gap analysis process output. The proposed gap analysis process to be used in the proposed process model are illustrate as shown below.



Fig. 2 Gap Analysis Process Sequences

To determine the significance of each process sequence in the Gap Analysis Process and ensure model comprehensiveness, Table 1 outlines the inclusion and exclusion process. Processes marked in orange are included in the proposed model, while those in grey are excluded. The following paragraphs detail the rationale for including or excluding each process.

**Table I.** Summary of gap analysis process

Gap Analysis Process	Focus Area	Target and Goals	Future State	Current State	Gaps	Initiatives	Implementation	Monitoring and Evaluation
John M Bryson (2018)			The intended future state should be identified	Evaluate the present condition	Identify the gaps in the existing information or knowledge	Formulate effective measures to address and mitigate the existing disparities	Execute the established methodologies	The process of monitoring and evaluating outcomes
Smartsheet Inc (2018)	Identify the area to be analyzed and identify the goals to be accomplished		Establish the ideal future state	Analyze the current state	Compare the current state with the ideal state Describe the gap and quantify the difference	Summarize the recommendations and create plan to bridge the gap		
Malaysian Administrative Modernization and Management Planning Unit, MAMPU (2020)	Analyze the achievements of PSICT		Assess the current environment and management expectations	Assess the current ICT environment and direction	Identifying ICT gaps			
Cascade Inc (2022)	Define organisation's focus area		Identify the desired future state	Assess the current state	Choose the right KPIs Create an action plan			
Athuraliya (2022)	Pick an area to focus on	Set the organization's target and goals	Determine the future state of things	Determine the current state of things	Identify the gap between the two states	Identify why they exist and what organization can do to address them		

As shown in Table 1, initial process such as determination of focus area are added in the recent three gap analysis process by Weller [16], MAMPU [19], [17], and Athuraliya [18]. This shows the significance of this process to be considered in our Proposed Gap Analysis Process Model. Since setting target and goals process are only appear as the second process in one of the Gap Analysis Process by Athuraliya, this study considers this process are not significant to be included in the Proposed Gap Analysis Process Model. This is because process of setting the target and goals for the organization have been done in the third phase of digitalization strategic planning process based on Fundamental Process of Strategic Planning [20]. Therefore, this study decided to exclude this process from the Proposed Gap Analysis Process Model.

Next, all of the gap analysis processes except Athuraliya's gap analysis process shows the importance of identifying the desired future state as the process to be done before assessing the organization's current state, hence this study are considering future state as the second gap analysis process, and current step as the third gap analysis process in the Proposed Gap Analysis Process Model. All gap analysis process also shows that process of identifying the gaps are critically important in gap analysis process since all of the process agreed after organization have determine their future state and assessing their current state, the gap can be describe by comparing these two situations in organization. This study considers the fourth process in Cascade Inc – Choose the right KPIs as identifying the gap process since they explained that in this process, it involves the selection of KPIs with existing baselines for easy gap measurement. Therefore, this study will be including this process as the third process in this study's Proposed Gap Analysis Process Model.

After the organization identify the gaps, organizations can then draw up a comprehensive plan. Such a plan outlines a step-by-step process to fill the gap between its current and future states, and to reach its target objectives

[1]. Out of five gap analysis processes in Table 1, three of it includes the process of developing the initiatives to address the gaps are important for organization to close the identified gaps. Hence, this study will include this process as the fifth process in the Proposed Gap Analysis Process Model. Lastly, only gap analysis process developed by Bryson [15] includes implementation, and monitoring of the outcomes as the last two process in gap analysis process to ensure that the initiatives are effective in closing the gaps. However, since six existing strategic planning approaches analyzed in the existing research by Dess [21], Jones [22], Stembridge [23], Bryson [15], Nations [24], and MAMPU [19] shows that implementation of strategy and strategy monitoring process will be done in the last phase of digitalization strategic planning process, therefore, this study decided to exclude this two process from the Proposed Gap Analysis Process Model to avoid the redundancy of process between gap analysis and strategic planning process. The revised gap analysis process sequence to be included in this study’s proposed Gap Analysis Process Model is shown below.

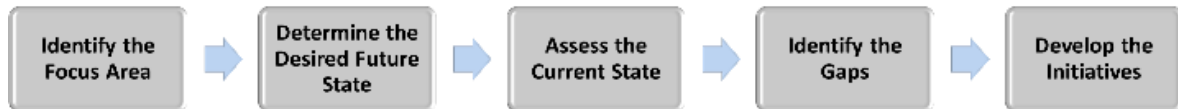


Fig. 3 Proposed Gap Analysis Process Sequences for Gap Analysis Process Model

As illustrated in Figure 2.6, the process has been streamlined from eight steps to five. The proposed Gap Analysis Process Model begins with the identification of focus areas, where the organization must determine which areas require attention to ensure problems are resolved once initiatives are implemented. Next, the organization needs to determine the desired future state for each focus area. This can be benchmarked against achievements from other businesses in similar sectors or through setting Key Performance Indicators (KPIs). Following this, the current situation of each focus area should be assessed, considering factors such as current achievements and reasons for any low competency. By comparing the current state with the desired future state, the organization can identify what is lacking, which is recognized as the gap within the focus area. Finally, actions to address the identified issues are determined, allowing the development of initiatives for the organization to implement and monitor as part of their strategic plan.

### III. METHODOLOGY

For our initial case study, we selected a prominent public sector organization, referred to hereafter as Organization X. To comprehensively assess the current state of gap analysis practices within the public sector, we utilized the gap analysis procedures and templates guidelines meticulously developed by the Malaysian Administrative Modernization and Management Planning Unit (MAMPU). The specific procedures and templates employed at each stage of the gap analysis process are described in detail in the following sections. Data collection for the gap analysis within Organization X involved a two-day focus group discussion and the administration of a customer satisfaction survey.

#### A. Process 1: Identify the Focus Area

In this initial process, participants are divided into groups according to the four domains outlined by the MAMPU guidelines: Application and Data, ICT Infrastructure and Security, ICT Governance, and ICT Capabilities. Each group is tasked with discussing and identifying the key issues and challenges within their assigned domain. The discussions are designed to be thorough, allowing participants to explore and document the challenges they face in their specific focus areas. All inputs from these discussions are systematically recorded and categorized based on where the issues are most prevalent, aligning with the focus areas identified in the MAMPU framework, as detailed in Table II.

Table III. Key focus area for gap analysis by mampu

Domain	Subdomain
Application and Data	<ul style="list-style-type: none"> <li>• Service Core Application</li> <li>• Support Application</li> <li>• Mobile Application</li> <li>• Open Data</li> <li>• Big Data</li> </ul>

Domain	Subdomain
ICT Infrastructure and Security	<ul style="list-style-type: none"> <li>• ICT Hardware</li> <li>• Network</li> <li>• Data Center</li> <li>• ICT Security</li> <li>• Disaster Recovery Center</li> </ul>
ICT Governance	<ul style="list-style-type: none"> <li>• Management                             <ul style="list-style-type: none"> <li>○ Chief Information Officer (CIO)</li> <li>○ CT Security Officer (ICTSO)</li> <li>○ ICT Division/Unit</li> </ul> </li> <li>• Monitoring                             <ul style="list-style-type: none"> <li>○ ICT Committee</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• Compliance                             <ul style="list-style-type: none"> <li>○ Policies, policies, procedures, standards</li> </ul> </li> </ul>
ICT Capabilities	<ul style="list-style-type: none"> <li>• Competencies                             <ul style="list-style-type: none"> <li>○ ICT Training</li> <li>○ ICT technical training</li> <li>○ Certification</li> </ul> </li> <li>• Cultivation                             <ul style="list-style-type: none"> <li>○ Promotion/awareness</li> <li>○ Social media announcements</li> <li>○ Customer satisfaction</li> </ul> </li> <li>• Recognition                             <ul style="list-style-type: none"> <li>○ Professional awards</li> </ul> </li> </ul>

*B. Process 2: Determine the Desired Future State*

For Process 2, the procedure involves identifying the desired future state for each issue and challenge. However, this step is not applicable in Case Study 1. The MAMPU template used in this case study does not include a column or section for participants to define the desired future state for the issues and challenges they have identified. As a result, this process is absent from the analysis in Case Study 1.

*C. Process 3: Assess the Current State*

In Process 3, participants are tasked with assessing the current state of their assigned focus areas by documenting the issues and challenges identified during the focus group discussions. These issues and challenges represent the current conditions within each focus area. To facilitate this assessment, participants are provided with nine specific excel and word templates, as outlined by MAMPU. Each template corresponds to a particular aspect of the focus areas and is used to systematically record and evaluate the current state. Participants must ensure that all relevant issues and challenges are accurately captured in the appropriate templates, providing a comprehensive overview of the current situation as listed below.

- Application and Data Evaluation
  - Application Portfolio
  - Detailed Application Evaluation
  - ICT Application Analysis
- ICT Infrastructure Assessment
  - Evaluation of ICT Equipment
  - ICT Network Assessment
  - Data Center Assessment
- ICT Governance Assessment
- ICT Capability Assessment
- Customer Satisfaction Survey

The data collection process involved several templates, each targeting different aspects of the organization's ICT landscape. The Application Portfolio template captured details about core and support applications, open data, and big data initiatives, while the Detailed Application Evaluation template gathered both general and technical information on each application. The ICT Application Analysis summarized challenges discussed during focus groups within the application and data domain. Templates such as the Evaluation of ICT Equipment, ICT Network Assessment, and Data Center Assessment focused on quantifying hardware, network infrastructure, and identifying issues within ICT infrastructure. The ICT Governance Assessment reviewed organizational structure, policies, and training, while the ICT Capability Assessment focused on human resource capacity and training frequency. Lastly, the Customer Satisfaction Survey assessed staff satisfaction with ICT facilities, identifying areas for improvement.

#### *D. Process 4: Identify the Gaps*

In Process 4, group members begin by analyzing the issues and challenges documented in the current state column for each focus area. A Cross-Domain Analysis is then conducted to identify the root causes of these issues, recognizing that they may originate from other three domains and the gaps have to be addresses in that respective domain. Through this analysis, the list of issues and challenges is refined and organized into thematic sub-domains, ensuring a more comprehensive understanding of the underlying problems. The findings from this process are systematically recorded in two specific templates provided by MAMPU, ensuring that all relevant data is captured and organized for further analysis and action as listed below.

- ICT Gap Analysis - Cross-domain Analysis
- Gap Analysis Normalization - Thematic Sub -Component

The ICT Gap Analysis templates are employed to thoroughly analyze the issues and challenges within each domain, with the goal of identifying whether any issues actually originate from a different domain. If such cross-domain issues are discovered, participants are required to note them in the template and reassign the issues to the appropriate domain where they originally arose. The refined list of issues and challenges, generated from this cross-domain analysis, is then subjected to a further process of normalization using the Gap Analysis Normalization template. In this step, the issues and challenges are categorized according to the sub-domains within each domain as defined by MAMPU in the initial stages. This systematic categorization helps the organization pinpoint critical areas, enabling the development of targeted initiatives to effectively close the identified gaps in each respective area.

#### *E. Process 5: Develop the Initiatives*

In Process 5, the focus group discussion are bringing together the key personnel from each domain to collaboratively develop specific initiatives. This process is guided by the total scores from the thematic sub-domain focus areas, with the group prioritizing the development of initiatives that address the most critical gaps—those focus areas with the highest gap scores. The goal is to create targeted solutions that directly improve the identified gaps. Once developed, these initiatives are systematically documented in the template provided by MAMPU, as shown below.

- Gap Analysis Normalization – Initiatives Development

The Gap Analysis Normalization – Initiatives Development template serves as a continuation of the thematic sub-component analysis using the same template, where key personnel from each group come together to reach a consensus on which focus areas are most critical and require immediate attention. Through this collaborative process, they develop targeted initiatives aimed at addressing the identified issues and closing the gaps. These initiatives form the foundation for the organization's strategic planning, before the next process of providing a detailed action plan that guides the organization toward achieving its objectives over the next five years.

By streamlining the gap analysis process into five key steps, this study leverages the PerSI Methodology provided by MAMPU, a common practice in the public sector. The initial case study employs these established procedures and templates to identify critical issues and propose potential solutions.

## IV. DISCUSSION

To present a clear and structured understanding of the methodology employed, this study organizes the procedures and templates used into a comprehensive tabular format. This table outlines the key steps within each of the five major processes, illustrating the evolution and improvements across the case studies. By systematically examining these progressive advancements, the study underscores critical insights that were gained, leading to refinements in the procedures and templates for each process. As highlighted in Table III, the digitalization gap analysis processes saw marked improvements throughout the stages of the case study, demonstrating a continuous enhancement in both execution and outcomes.

**Table IIIII.** Key issues and improvement suggestions for each gap analysis process

Gap Analysis Process	Procedures	Templates	Key Issues	Improvement Suggestion
Process 1: Identify the Focus Area	FGD Domain and 16 Focus provided by MAMPU	Templates prepared for four domains.	<p><u>Reflexivity</u></p> <ul style="list-style-type: none"> <li>The Application and Data domain should be break into two groups, to collect more information on the data.</li> <li>The ICT Governance and ICT Capabilities should be combined as a domain since the issues are closely related and the key person to address the issues are the management team.</li> </ul>	<ul style="list-style-type: none"> <li>The FGD group will be divided into four groups, (ICT Governance, Data, Application, and Infrastructure)</li> <li>The sub-domain will be identified based on the issues and challenges to provide more detailed subdomain.</li> </ul>
Process 2: Determine the Desired Future State	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>	<ul style="list-style-type: none"> <li>Desired future state column is not included in the template</li> </ul>	<p><u>Reflexivity</u></p> <ul style="list-style-type: none"> <li>Top management typically determines the desired future state, but their absence from focus groups can hinder early issue identification.</li> <li>Conducting interviews with top management prior to focus groups discussion can offer valuable insights into both the current state and the desired future direction.</li> </ul>	<ul style="list-style-type: none"> <li>Established a structured data collection procedure that included semi-structured interviews with top management representatives from each of the four domains</li> <li>Employed a semi-structured interview format that allowed for flexibility while maintaining a consistent information requirement.</li> <li>Implemented templates with three distinct columns to capture information on discoveries, identified issues and challenges, and potential opportunities for addressing gaps as revealed in the interview responses.</li> </ul>
Process 3: Assess the Current State	<ul style="list-style-type: none"> <li>Focus Group Discussion</li> <li>Identify the issues and challenges</li> <li>Online Survey</li> </ul>	<ul style="list-style-type: none"> <li>9 templates are used to assess the current state.</li> </ul>	<p><u>Cognitive Load</u></p> <ul style="list-style-type: none"> <li>In the focus group discussion, Team Application and Data was tasked with compiling a comprehensive list of issues and challenges encountered in each application as well as identifying data-related problems within the organization.</li> <li>The focus group required participants to juggle multiple tasks, including completing the issues and challenges template while also gathering in-depth information about each application using two additional separate templates.</li> <li>During the focus group, Team Infrastructure divided its members into three subgroups, each responsible for compiling a list of hardware assets within their respective areas: ICT Equipment, Network, and Data Center.</li> <li>Each subgroup was tasked with identifying issues and challenges related to their assigned focus area. This involved acquiring detailed information about the hardware inventory while simultaneously brainstorming potential problems, placing a significant cognitive burden on the two individuals responsible for these tasks within a single day</li> </ul> <p><u>Time Management</u></p> <ul style="list-style-type: none"> <li>Inefficient time management since the participant cannot complete all task during the FGD.</li> </ul>	<ul style="list-style-type: none"> <li>List for Infrastructure inventory, Core and Support Application detail list, Organizational Structure and ICT Capabilities are all requested from the key person at least two weeks prior from the FGD.</li> <li>For FGD, prepare a separate template that consist of only three columns for participants to fill, the focus area, issues and challenges, and opportunity.</li> </ul>

Gap Analysis Process	Procedures	Templates	Key Issues	Improvement Suggestion
Process 4: Identify the Gaps	<ul style="list-style-type: none"> <li>Focus Group Discussion</li> <li>Cross-Domain Analysis</li> <li>Thematic sub-domain analysis</li> </ul>	<ul style="list-style-type: none"> <li>2 templates are used to cross domain analysis for gaps in each issue and challenges and thematic it into sub-domain</li> </ul>	<p><u>Usability and Navigation</u></p> <ul style="list-style-type: none"> <li>The cross-domain analysis process required participants to manually copy and paste issues and challenges from one domain to another if they were relevant to a different domain and paste it in another template as revised version. This repetitive task increased the likelihood of data entry mistakes.</li> <li>The revised issues and challenges necessitated a subsequent review process in another template to accurately identify the corresponding sub-domain for each issues and challenges.</li> </ul> <p><u>Cognitive Load</u></p> <ul style="list-style-type: none"> <li>The repetitive task of reviewing a large number of issues and challenges can lead to decreased individual focus and interest, potentially compromising the quality of the output.</li> </ul>	<ul style="list-style-type: none"> <li>Using the same template from the suggested template above, add additional column for cross domain and sub-domain identification.</li> <li>Following the identification of domains and sub-domains, key persons from each group were tasked with abstracting relevant issues from other domains and incorporating them into their respective areas. This process involved adding newly abstracted issues to the existing template and identifying the appropriate sub-domain for each</li> </ul>
Process 5: Develop the Initiatives	<ul style="list-style-type: none"> <li>Focus Group Discussion</li> <li>Calculate the scores based on thematic sub-domain</li> <li>Develop initiatives to address the gaps</li> </ul>	<ul style="list-style-type: none"> <li>1 template are used to develop the initiatives for the focus area based on the criticality</li> </ul>	<ul style="list-style-type: none"> <li>No Issue</li> </ul>	<ul style="list-style-type: none"> <li>No Issue</li> </ul>

The gap analysis process presented in the document outlines a structured approach aimed at identifying areas of improvement within the ICT domain of an organization. The process begins by identifying the focus areas through Focus Group Discussions (FGD), where 16 critical aspects are reviewed, and templates are used to guide the discussion. A significant challenge observed during this phase is the overemphasis on application issues, leading to a neglect of data-related problems. Furthermore, there is a noted overlap between the ICT Governance and ICT Capabilities domains, which complicates discussions and requires restructuring. To improve, the document suggests separating the Application and Data domains and combining ICT Governance and Capabilities, as both teams share management personnel.

In the subsequent phases, determining the desired future state and assessing the current state of the organization play critical roles. However, the absence of clear direction from top management complicates the identification of opportunities to close gaps. A structured data collection procedure, including semi-structured interviews with top management, is recommended to bridge this gap. During the assessment of the current state, participants struggled with using a large number of templates, leading to confusion and cognitive overload. Simplifying the templates and focusing on key issues such as infrastructure inventory and organizational structure could help alleviate this burden.

The last stages of the process, identifying gaps and developing initiatives, also reveal several issues related to the complexity of the templates. The use of repetitive templates increased the risk of data entry errors and added unnecessary workload, which could decrease participant engagement and focus. A solution proposed is to integrate additional columns into existing templates to reduce redundancy and streamline the process. By addressing these inefficiencies and implementing the suggested improvements, the organization could foster better time management and cognitive efficiency, ultimately leading to more effective initiatives to close the identified gaps.

## V. CONCLUSIONS

In this study, the gap analysis process was reviewed and streamlined by assessing five existing methodologies, with a focus on improving the efficiency and applicability of the process for public sector organizations. By comparing the current performance and situation of organizations with their desired future state, gap analysis allows for the identification of critical areas that need improvement. The study adopted the PerSI methodology, provided by MAMPU, to guide its initial case study and implemented templates and procedures aligned with this framework.

Through careful evaluation, the study identified key issues such as overlapping domains and excessive reliance on complex templates, providing suggestions to refine the process for better results.

The streamlined gap analysis process proposed in this study offers clear advantages for public sector organizations by enhancing both efficiency and effectiveness. By simplifying procedures, reducing cognitive load, and improving time management during discussions, organizations can focus more on critical issues and generate actionable insights. The study also aims to apply the improved gap analysis process to two additional public sector organizations, enabling a cross-case analysis to further revise and enhance the methodology. This future application will strengthen the robustness of the revised process, ensuring it can be effectively implemented across diverse public sector organizations for continuous improvement.

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