The Gap Analysis Fundamentals for Digitalization Strategic Planning

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Abstract
In the rapidly evolving landscape of modern business, digitalization has emerged as a pivotal driver of competitive advantage and organizational growth. To harness digital technologies' transformative power, businesses rely on digitalization strategic planning to transform from the current condition to the most optimum digitalization to-be. Hence, gap analysis is the heart of the transformation and serves as a vital mechanism to bridge between the current and future state of digitalization in the organization. Due to technological rapid changes, the implementation of gap analysis has several drawbacks that demonstrate the need to be updated and not universal for all situations and issues. Among shortcomings are misalignment between business environment and technology, lack of specific- digitalization goals in supporting planning, and complexity in identifying the necessary resources and key factors for highly valuable digitalization to-be. Therefore, this study attempts to lay the groundwork for a fundamental structure and component for a gap analysis framework that can be integrated with digitalization conditions in future research.
Keywords: Strategic Planning, Gap Analysis, Digitalization, Digital Transformation

Introduction
With the rapid progress of digital technology, the business landscape has fundamentally changed, requiring organizations in various sectors to adopt digitalization to remain competitive. Strategic planning is critical in leading organizations' determination to effectively exploit digital technology in this era of digital disruption. Despite the growing acknowledgment of the importance of digitalization, many organizations struggle to establish and implement effective digitalization plans that correspond with their overall business objectives. In helping organizations dealing with the current changes in their working environment, a strategic planning approach can help the organizations strategize effectively. The involvement of key decision-makers from every department in an organization is very

important as according to Olsen and Eadie, "strategic planning is a disciplined effort to produce fundamental decisions shaping the nature and direction of governmental activities within constitutional bounds" (Bryson, 2018). In other words, idealistic strategic planning will help organizations to develop strategies, plans, and activities to accomplish their long-term goals generally.

Gap Analysis and Digitalization in Strategic Planning
Organizations confront the combined difficulty of keeping up with technology breakthroughs while also aligning their plans with the digital era in today's quickly shifting business landscape. The practice of conducting a gap analysis is a valuable tool that can assist in bridging this gap. Gap analysis is examining an organization's current state, identifying gaps between current capabilities, and intended outcomes, and developing methods to close those gaps. Gap analysis, when applied especially to digitalization in strategic planning, becomes a critical tool for organizations to evaluate their digital readiness, identify areas where digital technologies can be utilized for competitive advantage, and build a roadmap for effective digital transformation. Organizations can acquire insights into their digital maturity and prioritize their digital initiatives by conducting an effective gap analysis.
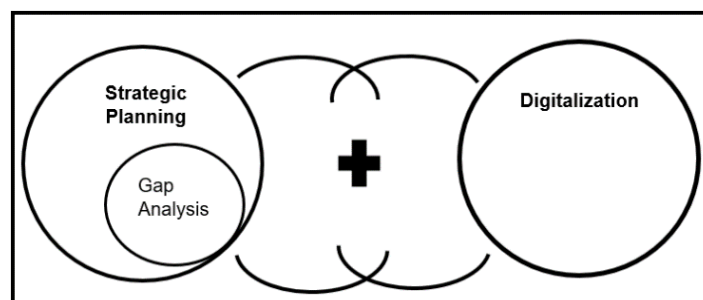

Figure 1. Relationship between Gap Analysis and Digitalization in Strategic Planning

Figure 1 above shows the relationship of the components involved in the digitalization strategic planning for the organization. From this diagram, we can identify the importance of gap analysis as one of the components of strategic planning processes. However, the lack of clarity process and guidance to develop an effective gap analysis will cause the inaccurate identification of gaps, failure to address critical issues faced by the organization, and misalignment of proposed solutions with the organization's objectives. From the digitalization perspective, the gap analysis factor is still considered shallow. As a consequence, the organization is unable to get in-depth and wide into analyzing the condition of current digitalization in the organization. Hence, this study aims to identify and clarify the gap analysis and digitalization component during the gap analysis activities and to develop a gap analysis framework for digitalization strategic planning for organizations. Due to the objective to identify the fundamentals of gap analysis and the limitation of the pages, this paper will concentrate more on the strategic planning process and narrow down to the Gap Analysis Framework. In future studies, the research will explain more about the synthesis of Gap Analysis Fundamentals from digitalization perspectives to perform the comprehensive framework of Gap Analysis in Digitalization Strategic Planning.

The Overview of Strategic Planning for Digitalization

Digitalization is a process where new digital technologies cause interruption and set off organizational strategic responses. Thus, organizations have to transform their value-creation process while administrating the organizational impediments and structural changes that impact the organization in either a positive or negative way (Vial, 2021). Therefore, new strategic planning is needed to ensure the effective development and implementation of systematic plans in the organization. Rational decision-making requires a context that outlines the goals and objective to be attained and establishes the decision-making standards. The strategic plan should serve as the foundation for allocating resources, examining whether current connections are adequate pinpointing any potential new connections, and represent the strategy of the organizations (Thomas, 2021). More importantly, it should outline the organization's future situation and reflect the vision of the organization.

Strategic planning, according to Poister and Streib, is primarily concerned with identifying and analyzing fundamental issues – strategy, projects, activities etcetera. In addition, they highlight the importance of external trends and forces – to compare with our organization's performance. Besides, they reviewed strategic planning has to keep in view the concerns, preferences, and candid confrontation of critical issues of the staff and stakeholders – survey on the level of satisfaction and expectation. Furthermore, strategic management must establish a mechanism for establishing and revising strategic plans regularly – gap analysis on strategy, projects, or activities periodically (Poister & Streib, 1999). Bryson on the other hand, defines strategic planning as a process that is rationalistic and structured to develop foundational actions and decisions that define and govern the organization's core business. To develop a range of strategic approaches, strategic planning cannot stand alone as a single entity, instead, it is a collection of ideas, methodologies, techniques, and tools to be combined in various ways. In a complex organizational environment - stakeholders differ on the hierarchy of goals and methods, and conflicting accountabilities between departments, managers will not be able to 'maximize the shareholder value' and end up with ineffective strategic planning. (Bryson J. M. et al.,2018). Most of the strategic planning concerns show the need for a practical and systematic gap analysis framework in providing information to all these concerns.

Strategic Planning Process and Its Advantages

The strategic planning process covers a broader scope compared to the project planning process, where it assists and guides organizations to construct a roadmap to which strategic objective you have to focus on and put more effort in achieving the organization's mission and vision and which activities or initiatives are no longer useful to the organizations. Furthermore, the advantages and impact will be explained accordingly. Based on the survey made by Harvard Business Review, 90% of businesses fall short of their strategic goals (Olson, 2022). Thus, strategic planning is necessary to make sure a company strategy is flexible and implementable before an organization can benefit from it. Cote (2020) determines three strategic planning benefits for the organization such as (1) Develop a single, forward-looking vision - instill a greater feeling of responsibility within the organization by making employees aware of the objectives of the business, the selection process in selecting those objectives, and what they can do to assist in achieving them, (2) Focus on biases and error in issues - strategic planning process pushes key leaders to consider each decision they make for every strategy, to justify it with statistics, projections, or case studies, hence, overcome any perceptive biases, (3) Track development based on strategic objectives - KPIs can be

established at the organizational level by designing your company's strategy and identifying its goals. Therefore, creating a successful, appealing strategic plan will benefit the organization in the long run.

According to John A. Vieg in 1942, a government dreadfully needs planning since the negative magnitude of deciding without planning will be enormous (Vieg, 1942). Thenceforth, planning has been firmly rooted in city planning, metropolitan planning, regional planning, advocacy planning, policy planning, program planning, and strategic planning have gained significance in government organizations. Later in 2004, Bryson elaborated strategic planning as a body of concepts, methods, and tools for determining the organization's purpose (John Bryson, 2004), such as what is the core business of the organization and why the organization is providing this kind of business. Strategic planning is becoming more common in non-English-speaking nations, nevertheless, it is unclear why strategic planning has become a more common practice (Bryson & Edwards, 2017). Understanding why it is widely used in various environments is thus an interesting area for research, where how will it impact the planning based on the current organization's conditions.

Bryson (2018) stated that parts of the solution to complicated problems require strategic planning. In particular, strategic planning is important to (1) Aids in obtaining, analyzing, and synthesizing data so that one may think about its strategic relevance and formulate options, (2) Important decision-makers agree on missions, goals, strategies, and actions that are desirable, practicable, defendable, and acceptable, (3) Obtain comparable conclusions on complementary initiatives, such as new, modified, or discontinued strategies, programs, and activities, or general organizational structures, (4) Get down to current and future organizational issues, (5) organizational learning improvement and lastly, (6) generating substantial and long-lasting public value for the organizations.

Gap Analysis

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. The comparison between the initial states with the target is called a gap. It is also used to measure whether the organization is using the resources allocated previously effectively and meeting the organization's expectations. Once the organization can determine the gaps, the planners and key players will be able to know whether they are executing the right strategies or not and can develop an action plan to move forward by fulfilling the gap to achieve the organization's goals. Generally, there are four steps for the gap analysis process – (1) defining organizational goals, vision, and mission, (2) benchmarking the current state with the organization's expectation, (3) analyzing the data gap, and (4) compiling a gap report. Hence, gap analysis leads an organization through a detailed process of investigation of the organization's current performance and desired future based on facts, not assumptions. There are several studies conducted that highlight the criticality of gap analysis components in organizations' digitalization strategic planning. Yoo et. al (2010) highlighted in their studies that gap analysis plays a crucial role in an organization's digitalization process since it enables them to pinpoint the areas of their present capabilities that are holding them back from reaching their objectives for the digital transformation. Sarkis (2017) on the other hand stated that gap analysis is a crucial element of an organization's digitalization since the process of digital transformation is difficult and complex, requiring a major understanding of businesses as it is and where the organizations aim to be.

Despite gap analysis being a critical component of digitalization, existing tools and techniques that organizations can use to conduct gap analysis for digitalization such as surveys, interviews, document analysis and benchmarking still cause organizations difficulties in conducting gap analysis effectively (Liao, 2020). Gartner's Top 10 Trends in Data and Analytics for 2022 report identifies a lack of tools/techniques/methods to conduct gap analysis for digitalization as a key challenge facing organizations. The report states that "organizations need to develop new tools and techniques to assess their current state and identify the gaps that need to be addressed to achieve their digital transformation goals" (Gartner, 2021).

Literature Review of Gap Analysis
A gap is usually defined as a difference between a current performance level and with desired level (Chevalier, 2010). However, this definition might cause people to not be able to widen the determined consequences of an intervention in the performance (Chevalier, 1990). In 1998, Graham Winch found that the gap analysis technique provides both a theoretical model and procedure that fulfill both principles which are concerned with the entire service delivery process and focused on customer happiness (Winch et al., 1998). On the other hand, according to Amanah and Harahap, gap analysis is a tool or method for an organization to make a comparison between perception and expectation about the organization-provided services and organizations have to try to minimize the gap (Amanah & Harahap, 2018).

Gap Analysis Process
The gap analysis process is by Smartsheet Inc. contributor, Weller (2018) published a gap analysis tool 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 (1) Identifying the area to be analyzed and identifying the goals to be accomplished, (2) Establish the ideal future state, (3) Analyze the current state, (4) Compare the current state with the ideal state, (5) Describe the gap and quantify the difference and (6) Summarize the recommendations and create a plan to bridge the gap. This process will create effective strategic planning given the organization's goals must be specific, measurable, achievable, relevant, and time-bound (SMART).

Another gap analysis process is developed by a strategic planning software company, Cascade Inc. to be used as an internal analysis tool for the organization. It includes five steps which are (1) Define the organization's focus area, (2) Identify the desired future state, (3) Assess the current state, (4) Choose the right KPIs and (5) Create an action plan. Cascade stated only with diligent implementation will the strategy come to fruition (Wright, 2022). However, the monitoring phase is not included in their gap analysis process. The last gap analysis process discussed is developed by the communication specialist at Creately to contrast an organization's current situation with the ideal situation and come up with an action plan. Athuraliya (2022) includes the strategic planning process in five steps, (1) Pick an area to focus on, (2) Set the organization's target and goals, (3) Determine the current state of things, (4) Determine the future state of things and lastly, (5) Identify the gap between the two states. Once the gaps have been identified, identify why they exist and what the organization can do to address them. Countermeasure has to be taken to close these gaps when you have identified them.

Gap Analysis Framework

There are several conceptual approaches to assist organizations in implementing gap analysis. The gap analysis framework will help the key person to simplify the process of categorizing the activities and discover easily the gap. The most familiar gap analysis framework is the McKinsey 7-S Framework. A research tool created by Waterman, Peters, and Philips that includes the level of organization, team and individual incorporates the organization's multidimensionality into the framework (Bratnicki et al., 2014; Peter et al., 2015). Based on the idea of management by objectives, the McKinsey 7-S Framework examines how the management process is dysfunctional (Peter et al., 2015). This framework consists of seven components, (1) Shared Values (Core Values), (2) Strategy, (3) Structure, (4) Style, (5) Staff, (6) Skills, and (7) Systems. Three of these components – Structure, Systems, and Strategy are considered hard components as they can be controlled while the rest of the components are considered soft since they cannot be controlled.
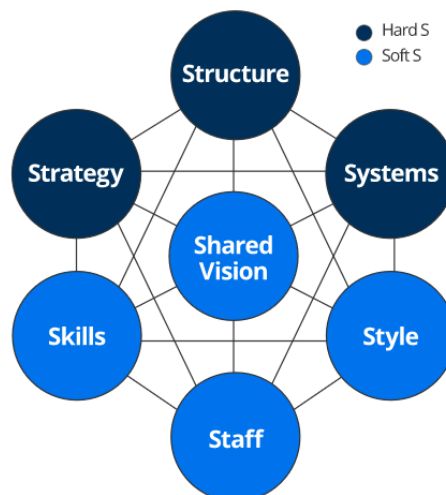

Figure 2. McKinsey 7-S Framework

Another gap analysis framework that is widely used in organizations is SWOT analysis. Strengths, Weaknesses, Opportunities, and Threats Analysis is referred to as SWOT. It evaluates present, past, present, and future opportunities. In a SWOT analysis, strengths and weaknesses are viewed as internal factors. Whereas strengths are considered to be positive aspects of business establishments that are important for businesses to achieve their goals and serve their customers effectively (Culp III et al., 2016; Burstein et al., 2008), weaknesses are seen as potential roadblocks to an organization's performance (Namugenyi et al., 2019). Opportunities and threats are the external components. Opportunities are qualities businesses can make use of to their advantage to enable businesses with connections to other organizations (Culp III et al., 2016). Threats, on the other hand, deal with unfavorable aspects of the business that can prevent or postpone the achievement of the organization's objectives. Practicality and simplicity are the strengths of SWOT analysis, however, when utilized superficially, this instrument could result in strategic errors. When an organization's goals and structures evolve with so much information and data analysis using SWOT, it occasionally risks confusing the management by failing to prioritize the issues or offer alternative solutions (Namugenyi et al., 2019). Hence, it is better to use SWOT with other supplementary frameworks (Pickton et al., 1998).

Figure 3. SWOT Analysis Framework

PEST Analysis or LONGPESTLE analysis is one method for enhancing an organization's overall understanding of determining threats and opportunities in SWOT analysis. It gives a company's SWOT analysis crucial informational support (Fleisher et al., 2003). Four different types of external environmental factors that are examined by PEST analysis are Political, Economic, Social, and Technological factors. LoNGPESTLE introduced additional two elements, Legal and Environmental, and three dimensions, Local, National, and Global. PEST analysis is an effective and established approach for analyzing strategic risk. The changes and impact of the external environment on the organization can be identified from the organization's competitive position (Bonnici et al., 2014). This analysis aims to maintain the organization's strategic awareness (Thompson et al., 2005) and market risk awareness (CIPD, 2014). Hence, to do so, this analysis has to be conducted regularly (CIPD, 2014). and it involves managers at all levels and external shareholders in gathering and analyzing the data (Fleisher et al., 2003). However, Ho in his study believed that despite PEST analysis being used as a straightforward method to categorize the environmental influences, it offers limited analytical insights for an organization to learn their strategic position (Ho, 2014). In contrast to PEST analysis which has to be conducted regularly, LoNGPESTLE should be conducted on an annual basis (LUCIDITY, 2021). Since this framework can categorize the data geographically, it keeps the employees looking outward at the overall organization's strategy.
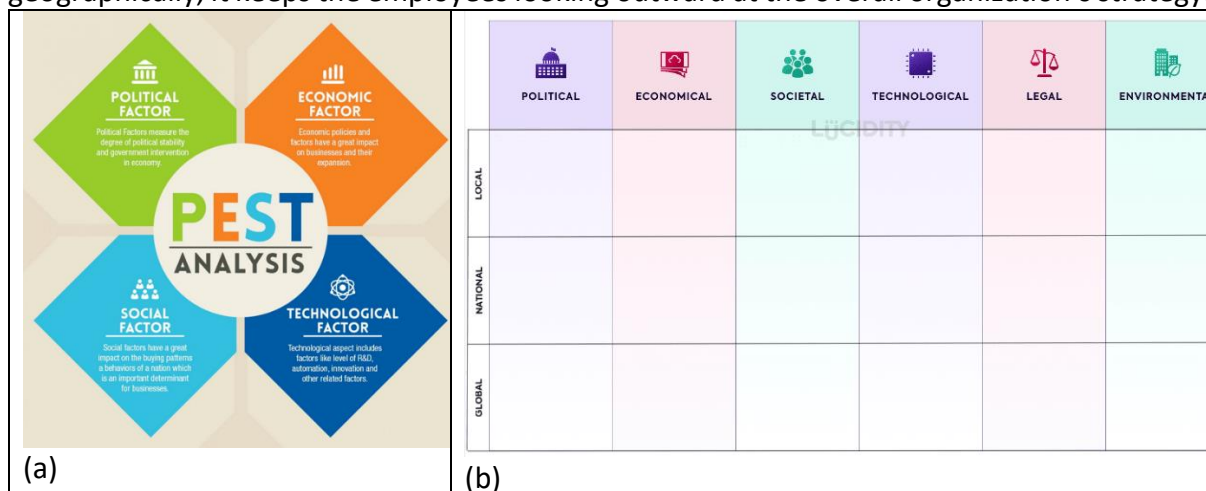

Figure 4. PEST Analysis Framework and (a) and LoNGPESTLE Analysis Framework (b)

PMESII-PT is a gap analysis framework created by the Department of Defense and the United States Army to evaluate the external environments (Hillson, 2009). Compared to PEST

analysis, PMESII-PT is stated to give more thorough insights into the external environment for an organization to develop an effective and comprehensive strategy (Walden, 2011). PMESII-PT considers Political, Military, Economic, Social, Information, Infrastructure, Physical Environment, and Time components in their framework. It is a combination of several environmental scanning and monitoring techniques such as SWOT, PESTLE, and QUEST (Quick Environmental Scanning Technique) (PAVILION, 2021). Studies are combining the PMESII-PT framework with the ASCOPE component to provide speed and accuracy in the analysis called PMESII-PT/ASCOPE matrix (SINTELIX, 2018). ASCOPE considers elements such as Areas, Structures, Capabilities, Organization, People, and Events. By using this matrix, an organization can establish a set of 36 categories for brainstorming since ASCOPE is one dimension and PMESII-PT is another dimension (Enstad, 2020). However, despite what the Army doctrine implies, the PMESII-PT/ASCOPE matrix structure encourages the analyst to group information into distinct sub-components rather than figuring out how they are connected (McCauley, 2015). Therefore, rather than focusing on the problem, this analytical approach should be finding and interpreting the linkages between the sub-components (Whalley et al., 2020).

	P Political	M Military	E Economic	S Social	I Information	I Infrastructure
A Areas	Areas - Political (District Boundary, Party affiliation areas)	Areas - Military (Coalition / LN bases, historic ambush/IED sites)	Areas - Economic (bazaars, shops, markets)	Areas - Social (parks and other meeting areas)	Areas –Information (Radio/TV/newspapers /where people gather for word-of-mouth)	Areas – Infrastructure (Irrigation networks, water tables, medical coverage)
S Structures	Structures - Political (town halls, government offices)	Structures - Military / Police (police HQ, Military HHQ locations)	Structures - Economic (banks, markets, storage facilities)	Structures - Social (Churches, restaurants, bars, etc.)	Structures - Information (Cell / Radio / TV towers, print shops)	Structures - Infrastructure (roads, bridges, power lines, walls, dams)
C Capabilities	Capabilities - Political (Dispute resolution, Insurgent capabilities)	Capabilities - Military (security posture, strengths and weaknesses)	Capabilities - Economic (access to banks, ability to withstand natural disasters)	Capabilities - Social (Strength of local & national ties)	Capabilities - Info (Literacy rate, availability of media / phone service)	Capabilities - Infrastructure (Ability to build / maintain roads, walls, dams)
O Organizations	Organizations - Political (Political parties and other power brokers, UN,)	Organizations - Military (What units of military, police, insurgent are present)	Organizations - Economic (Banks, large land holders, big businesses)	Organizations - Social (tribes, clans, families, youth groups, NGOs / IGOs)	Organizations - info (NEWS groups, influential people who pass word)	Organizations - Infrastructure (Government ministries, construction companies)
P People	People - Political (Governors, councils, elders)	People - Military (Leaders from coalition, LN and insurgent forces)	People - Economic (Bankers, landholders, merchants)	People - Social (Religious leaders, influential families)	People - Info (Media owners, mullahs, heads of powerful families)	People - Infrastructure (Builders, contractors, development councils)
E Events	Events - Political (elections, council meetings)	Events - Military (lethal/nonlethal events, loss of leadership, operations, anniversaries)	Events - Economic (drought, harvest, business open/close)	Events - Social (holidays, weddings, religious days)	Events - Info (IO campaigns, project openings, CIVCAS events)	Events - Infrastructure (road / bridge construction, well digging, scheduled maintenance)

Figure 5. PMESII-PT/ASCOPE Matrix

Fishbone diagram also known as cause-and-effect diagram is an analysis tool that identifies several problems and is used as a structure for brainstorming sessions in organizations. This method helps in breaking down the issues into layers of root causes that potentially impact the organizations and appears to be a useful visualization method for classifying and examining the complex variables over time (Coccia et al., 2018) and the inter-relation between the cause-and-effect factors (Ishii et al., 1996; Büyükdamgacı, 2003; Ayverdi et al., 2014).
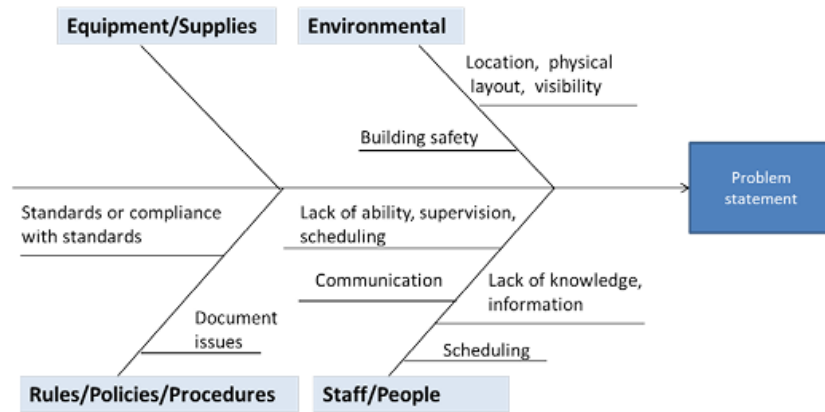
Figure 6. Fishbone Diagram

Since this analysis method does not provide any component to be focused on, the problem or issues faced by organizations should be located at the fish head. Then, numerous factors that cause the problems should be placed on the small bones. By doing so, the team will be able to identify the potential explanation for the issues that arise (Jonathan Trout). The description of each component is summarized in Table 1.

Table 1
Summary of Gap Analysis Frameworks

McKinsey 7-S Framework	SWOT Analysis	PEST Analysis and LONGPESTLE	PMESII-PT And ASCOPE Matrix	Fishbone
Aim for an Organization's strategy plan for building and maintaining a competitive advantage over its competitors and determine specific aspects to meet expectations. **Hard elements** • Strategy • Structure • Systems **Soft elements** • Shared Values • Skills • Style • Staff	Aim to assess the organization's position before deciding new strategy based on the: • Strength • Weakness • Opportunity • Threat	Aim to brainstorm threats and opportunities based on (axis-x) factors of: • Political • Economic • Social • Technological **LONGPESTLE** Extend PEST by adding longitudinal perspectives (axis—y): • Local • National • Global aspects	Aim for comprehensive market forces by monitoring the environmental factors (axis-x): • Political • Military • Economy • Social • Information • Infrastructure **ASCOPE** Extend PMESII-PT by adding new elements (axis-y): • Area • Structures • Capabilities • Organizations • People • Events	Aim to explore the possible cause of a root problem. Among the elements to explore are Methods, people, and environment. Typically use related to Materials, Measurements and Machines
(Bratnicki, Kulikowska-Pawlak, & Graca, 2014; Peters, 2015)	(Culp III et al., 2016)	(Sammut-Bonnici & Galea, 2014, Lucidity, 2021)	(Sintelix, 2018, Whalley & Vendrzyk, Enstad, 2020, PAVILION, 2021)	(Coccia & Sciences, 2018)

Conclusions
As a whole, the analysis of well-known frameworks like McKinsey 7-S, PEST, LongPESTLE, PMESII-PT ASCOPE, SWOT, and Fishbone shows the breadth and diversity of tools available for deciphering intricate business environments, projects, and processes. Each framework

provides a unique lens through which businesses can learn important lessons and make wise decisions. The McKinsey 7-S framework emphasizes how interrelated different internal components are, highlighting the necessity of harmony and alignment between them to create organizational effectiveness. SWOT analysis is still a popular tool for assessing both internal and external Opportunities, Threats, and Strengths to build strategies that may be put into action. The Fishbone (Ishikawa) diagram is a visual tool that aids in locating the source of issues, making it useful for troubleshooting and attempts to promote continuous improvement. Understanding external macro-environmental factors—Political, Economic, Social, and Technological—that may have an impact on a venture's performance through PEST analysis is a structured process. LongPESTLE broadens this research to take into account Legal and Environmental aspects, providing a more comprehensive perspective. By deriving some elements from PESTLE, the PMESII-PT ASCOPE framework, which was initially created for military intelligence, demonstrates how easily it can be adapted for use in business and strategic planning. A solid grasp of complex landscapes is provided by its thorough investigation of Political, Military, Economic, Social, Information, Infrastructure, Physical Environment, and Time components. It's crucial to understand that these frameworks have their limitations. They may oversimplify difficult circumstances, rely on personal judgments, and fail to account for dynamics that are always changing. Therefore, it is essential to apply these techniques thoughtfully and according to the context. In essence, the frameworks under examination offer a useful toolkit for planning, strategizing, and enhancing different organizational initiatives. Their combined use enables firms to make well-rounded, knowledgeable decisions that contribute to success in a constantly changing environment. However, this is only a review of general analysis tools for gap analysis tools. Hence, this is a review of the current gap analysis framework to extract the components used in the framework. Due to limited pages, this research will explore deeper on the suitability of the gap analysis to be implemented in digitalization strategic planning in the future.

Acknowledgements

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