CHAPTER 2
LITERATURE REVIEW

The literature review chapter sets the stage for this research by establishing its foundational context. It forms the groundwork for explaining and defining the theoretical underpinnings chosen by the author for the research framework, including SWOT analysis, Capital Budgeting Analysis, and Sustainable Development Goals (SDG's).

2.1 SWOT Analysis

2.1.1 Definition of SWOT

SWOT analysis is a widely recognized tool used in strategic planning to assess an organization's internal and external environments. According to Freddy Rangkuti (2002), SWOT is an approach to systematically identifying factors that are crucial in developing an organization's strategic decisions. It provides a method to maximize strengths and opportunities while minimizing weaknesses and threats (Rochman, 2019). SWOT analysis focuses on both the internal environment, which includes the company's strengths and weaknesses, and the external environment, which evaluates the opportunities and threats posed by market conditions.

1. Strengths refer to the internal capabilities and resources that give a business a competitive advantage. These are the aspects of a company that have been effectively managed to enhance its performance, such as skilled personnel, efficient operations, or strong brand recognition.
2. Weaknesses, on the other hand, are internal factors that hinder the organization's ability to achieve its goals. These could include limited resources, poor management practices, or technological deficiencies that result in negative outcomes for the company (Rusmawati, 2017).
3. Opportunities and Threats are external factors that arise from the market environment. Opportunities refer to external conditions that could potentially benefit the organization, such as market trends, emerging

technologies, or changes in consumer preferences. Conversely, threats represent external challenges, like increasing competition or regulatory changes, that could negatively impact the business.

2.1.2 Stages of SWOT Analysis

The process of conducting a SWOT analysis can be broken down into three critical stages:

1. Data Collection: This stage involves gathering information on both internal and external factors that can affect the company's strategy. It is essential to collect accurate and relevant data to ensure that the analysis is grounded in real-world conditions.
2. Analysis: After collecting data, the next step is creating a SWOT matrix. This matrix will categorize the internal and external factors identified in the first stage into strengths, weaknesses, opportunities, and threats.
3. Decision-Making: Based on the SWOT matrix, strategic decisions are made. These decisions aim to align the organization's internal capabilities with external opportunities, while also mitigating risks posed by weaknesses and threats.

2.1.3 SWOT Factors

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capabilities with external opportunities, while also mitigating risks posed by weaknesses and threats.

As mentioned earlier, SWOT analysis is driven by both internal and external factors:

1. Internal Factors:
    - Strengths: These are the capabilities and resources that a company has mastered and can effectively use to its advantage. Examples might include a highly skilled workforce, proprietary technologies, or a loyal customer base.
    - Weaknesses: These are areas where the organization is lacking or underperforming. They could include ineffective processes, limited resources, or any aspect of the business that is not functioning optimally.
2. External Factors:
    - Opportunities: These are external elements or trends that can be leveraged to benefit the company. For example, new market demands, technological advancements, or favorable regulatory changes.
    - Threats: These refer to external risks or challenges that could negatively affect the business, such as economic downturns, competitive pressures, or shifts in consumer behavior.

2.1.4 SWOT Matrix

The SWOT analysis is typically organized in a matrix format that helps visualize how internal and external factors relate to each other.

Table 2.1 SWOT Matrix

Analyst Objective	Opportunities	Threats
Strengths	S-O Strategy: Leverage strengths to take advantage of opportunities	S-T Strategy: Utilize strengths to counteract or minimize threats
Weaknesses	W-O Strategy: Address weaknesses by taking advantage of opportunities	W-T Strategy: Mitigate weaknesses while defending against threats

Source: Pangabean, (2019)

2.2 SWOT Strategy

The following are the strategies used in SWOT analysis (Julianda & Jamiat, 2020).

1. S-O Strategy

   This strategy is made by utilizing all strengths to seize and take advantage of the maximum opportunities. This strategy uses internal strengths to take advantage of external opportunities.

2. S-T strategy

   This strategy uses the strengths of the company to overcome threats. This strategy uses the company's internal strengths to avoid or reduce the impact of threats.

3. W-O Strategy

   The W-O strategy is implemented based on the utilization of existing opportunities by minimizing existing weaknesses. This strategy aims to improve internal weaknesses by utilizing external opportunities.

4. W-T Strategy

   This strategy is based on defensive activities and seeks to minimize weaknesses and avoid threats. This strategy aims to reduce internal weaknesses by avoiding external threats.

Figure 2.1 S.W.O.T Analysis (Source: Widowati et al., 2020)

Description:

1. Quadrant I

   This is a very favorable situation. The company has opportunities and strengths so that it can take advantage of existing opportunities. The strategy that must be applied in this condition is to support an aggressive growth policy (growth oriented strategy).

2. Quadrant II

   Despite facing various threats, the company still has internal strengths. The strategy that should be applied is to use strengths to take advantage of long-term opportunities by means of a diversification strategy (products or services).

3. Quadrant III

   The company faces a huge market opportunity, but on the other hand, it faces some internal constraints or weaknesses. This business condition is similar to the Question Mark in the BCG matrix. The focus of this company's strategy is to minimize its internal problems so that it can seize better market opportunities.

4. Quadrant IV

   This is a very unfavorable situation, the company faces various internal threats and weaknesses

2.3 Capital Budgeting

Capital budgeting is a comprehensive process ranging from collecting, evaluating, selecting, to determining alternative capital investments that will provide income for the company for a period of more than a year (capital

expenditure). There are eight methods used to assess the feasibility of a project to be budgeted. The eight methods are Payback Period, Discount Payback Period, Accounting Rate of Return, Net Present Value, Internal Rate of Return, Modified Internal Rate of Return, Profitability Index, and Perpetuity Rate of Return (Surya, 2020). The research uses six methods, namely Payback Period, Discount Payback Period, Net Present Value, Internal Rate of Return, Profitability Index, Return on Investment. The following is the capital budgeting method:

2.3.1 Weighted Average Cost of Capital (WACC)

The Weighted Average Cost of Capital (WACC) is a fundamental financial metric that represents the average rate of return required by investors to finance a company's investments. It incorporates both cost of debt and cost of equity, weighted according to their proportion in the company's capital structure. WACC is critical in corporate finance as it serves as the discount rate for evaluating investment opportunities using Net Present Value (NPV) and other capital budgeting methods (Brigham & Ehrhardt, 2022).

The formula for WACC is as follows:

$$\text{WACC} = \left(\frac{E}{V} \times Re\right) + \left(\frac{D}{V} \times Rd \times (1 - Tc)\right) \quad \text{(2-1)}$$

Where:

E = Market value of equity

D = Market value of debt

V = Total market value of equity and debt (E + D)

Re = Cost of equity

Rd = Cost of debt

Tc = Corporate tax rate

WACC can be adjusted for project-specific risks using the Capital Asset Pricing Model (CAPM):

$$Re = Rf + \beta \times (Rm - Rf) \quad (2\text{-}2)$$

where:

Re = Risk-free rate (e.g., government bond yield)

B = Beta coefficient (measures systematic risk)

Rm = Expected market return

Rf = Market risk premium

For high-risk projects, WACC adjustments include:

1. Project-Specific Beta – Higher beta for riskier projects (Damodaran, 2020).
2. Risk-Adjusted Discount Rate (RADR) – Higher discount rates for added risk (Brigham & Ehrhardt, 2021).
3. Country Risk Premium (CRP) – Adjustments for political and economic risks (Fernandez, 2019).

Adjusting for these risks helps ensure that high-risk investments yield justified returns.

2.3.2 Payback Period

An investment is measured to determine how quickly the company needs to recover the initial capital spent. The method to measure this is called the payback period method. The result is a unit of time such as months and years. If the payback period is shorter than required, the project can be said to be profitable for the company. And vice versa. The shorter the payback period, the more attractive the investment(Surya, 2020).

Eligibility Criteria: 1) The project can be carried out if the investment capital recovery period is shorter than the economic life, 2) The project is rejected if the investment capital recovery period is longer than the economic life.The following is the payback period formula:

$$\begin{matrix}\textit{Payback} \\ \textit{Period}\end{matrix} = \begin{matrix}\textit{Years} \\ \textit{before full} \\ \textit{recovery}\end{matrix} + \frac{\begin{matrix}\textit{Unrecovered cost} \\ \textit{at start the year}\end{matrix}}{\begin{matrix}\textit{Cash flow during} \\ \textit{the year}\end{matrix}} \quad (2\text{-}3)$$

2.3.3 Return on Investment

Return on investment describes the amount of return that can be generated in a certain amount of investment. Investment is the total debt and equity for the project. It also represents the profitability of the project. The criteria are the same as ROE, the value must be greater than zero (Sumawinata et al., 2022). The following is the ROI formula:

$$ROI = \frac{Net\ Income}{Debt + Equity} \quad (2\text{-}4)$$

2.3.4 Net Present Value

Net Present Value (NPV) is the difference between expenses and income that has been discounted by using the social opportunity cost of capital as a discount factor, or in other words, it is an estimated cash flow in the future that is discounted at this time. NPV calculations require data on estimated investment costs, operating costs, and maintenance as well as estimates of the benefits of the planned project. So the NPV calculation relies on discounted cash flow techniques (Hm & Setiawan, 2023).

The advantage of NPV is that it uses the concept of time value of money. So before calculating / determining NPV, the most important thing is to know or

estimate future cash inflows and cash outflows (Hm & Setiawan, 2023). The following is the NPV formula :

$$NPV = \sum_{t=1}^{n} \frac{CF_t}{(1+r)^t} - CF_0 \quad (2\text{-}5)$$

Where:

NPV = Net Present Value: The difference between the present value of cash inflows and the present value of cash outflows.

CFt = Cash Flow at time t: The cash flow received in each period (t).

r = Discount rate: The required rate of return (or cost of capital) used to discount the future cash flows.

t = Time period: The period in which the cash flow is received (for example, t=1 for the first year, t=2 for the second year, etc.).

n = Total number of periods: The total number of periods for which cash flows are considered.

CF0 = Initial investment: The initial cash outflow at the start of the project (typically at t=0).

2.3.5 Profitability Index (NPV Index)

Profitability Index is also often referred to as Benefit Cost Ratio (B/C Ratio). This approach is similar to the NPV method. In the NPV method, it is used to calculate how much excess the present value of cash inflow is compared to the initial investment value, while the profitability index measures the present value for each amount of money invested. As long as the result of the Profitability index calculation is ≥1, the proposed investment is acceptable, but if otherwise, the proposed project must be rejected.(Anggraini & Surindra, 2022). Here is the PI formula:

$$Profitability\ Index = \frac{Present\ Value\ (PV)\ of\ Future\ Cash\ Flow}{Initial\ Investment} \quad (2\text{-}6)$$

2.3.6 Discounted Payback Period

The Discounted Payback Period method takes into account the amount of time required for the discounted cash flows of an investment project to equal the initial cash flows of the investment. This calculation method compensates for the shortcomings of the payback period method, which ignores the concept of the time value of money, as discussed earlier. Under the discounted repayment rule, a project can be approved if the discounted payback period of the investment project is less than a predetermined number of year`s (Afdhila & Rizkianto, 2023).

The decision-making criteria whether the project to be carried out is feasible or not feasible for this method (Eka Wardani Haliasih et al., 2021) are: Project investment will be considered feasible if the Discounted Payback Period has a shorter period of time than the project life. Project investment has not been considered feasible if the Discounted Payback Period has a period of time longer than the project life.

2.3.7 Internal Rate of Return

IRR is an indicator of the efficiency level of an investment. A project/investment can be made if the rate of return is greater than the rate of return when investing elsewhere (bank deposit interest, mutual funds and others). IRR is used in determining whether an investment is carried out or not, for which a reference is usually used that the investment made must be higher than the Minimum acceptable rate of return or Minimum attractive rate of return (MARR). MARR is the minimum rate of return on an investment that an investor dares to make (Nuraidi, 2021). The following are the formulas or rules in IRR:

Internal Rate of Return	=	*Discount rate that makes NPV=0; implies discounted cash inflows equal discounted cash outflows*	(2-7)
Internal Rate of Return Rule	=	*Accept investment if IRR is greater than Threshold Rate of Return, else reject*	

2.4 Sustainable Development Goals (SDG's)

Sustainable development goals, a document that will be a reference in the development framework and negotiations of countries in the world. Post-2015, also known as the Sustainabale Development Goals (SDGs) is defined as a framework for the next 15 years until 2030.

According to the United Nations, the Sustainable Development Goals (SDGs) are a global collective plan to end extreme poverty, reduce inequality and protect the planet by 2030. The SDGs are an integral part of the 2030 Agenda for Sustainable Development, which aims to promote a more sustainable future (Prabu Aji & Kartono, 2022) The agenda is intended to tackle global problems, such as poverty, inequality, climate, environmental degradation and justice (Prabu Aji & Kartono, 2022) It is built on the assumption that:

A. Economic prosperity, social progress and environmental protection go hand in hand and must be brought together. As such, all SDGs are interconnected and should be pursued together.
B. Collective efforts involving different actors (governments, companies and civil society) are needed to transform our global society. The SDGs are seen as a means to unify the efforts of these different actors around a common aspiration.

The 17th SDG is particularly important in this regard: The SDGs explicitly emphasize the need for new multi-stakeholder and cross-sectoral partnerships. Without these, the ambition to solve the world's grand challenges will not be possible.

Figure 2.2 Sustainable Development Goals SDG's (Source: The Sustainable Development Goals Report, 2021)

Based on the figure 2.2, the following are the SDGs Goals (Tan, 2021) among others:

1. Without Poverty, there is no poverty of any kind in any part of the world.
2. No Hunger, no more hunger, achieving food security, improved nutrition, and promoting sustainable agricultural cultivation
3. Good Health and Wellbeing Ensure healthy lives and promote wellbeing for all people at all ages.
4. Quality Education, Ensure equitable distribution of quality education and increase learning opportunities for all.
5. Gender Equality, achieving gender equality and empowering mothers and women.
6. Clean Water and Sanitation, ensuring the availability of clean water and sustainable sanitation for all.
7. Clean and Affordable Energy, ensuring access to affordable, reliable, sustainable and modern energy sources for everyone.
8. Economic Growth and Decent Work, supporting sustainable economic development, productive employment and decent work for all.

9. Industry, Innovation and Infrastructure, building quality infrastructure, encouraging sustainable industrial upgrading and promoting innovation.
10. Reducing Inequality, reducing inequalities both within a country and between countries in the world.
11. Sustainability of Cities and Communities, building quality, safe and sustainable cities and neighborhoods.
12. Responsible Consumption and Production, ensuring the sustainability of consumption and production patterns.
13. Action on Climate, acting fast to combat climate change and its impacts.
14. Underwater life, preserving and maintaining the sustainability of the ocean and living marine resources for sustainable development.
15. Life on Land, protecting, restoring and enhancing the sustainable use of terrestrial ecosystems, managing forests sustainably, reducing barren land and land swaps.
16. Strong Justice Institutions and Peace, enhancing peace including communities for sustainable development, providing access to justice for all including institutions and being accountable to all.
17. Partnerships for the Goals, Strengthening implementation and reinvigorating the global partnership for sustainable development.