

DESIGNING A BALANCED SCORECARD
APPROACH FOR AN HVAC SME:
A CASE STUDY

BY

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A dissertation submitted in partial fulfilment of the requirements for the award of
the Master in Accountancy degree in the Department of Accountancy at the
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ABSTRACT

Title: Designing A Balanced Scorecard Approach for an HVAC SME: A Case Study

Purpose: An SME might find strategic alignment, operational efficiency and long-term sustainability quite challenging. Recognising the company's growing need for structured management systems, the primary purpose of this study is to design a tailored Balanced Scorecard for an HVAC SME. To achieve this objective, the study first establishes the rationale supporting the adoption of this approach, which serves as the foundation for the development of a customised Balanced Scorecard for an HVAC SME and the construction of a corresponding Strategy Map. Subsequently, the research critically assesses the designed Balanced Scorecard in relation to the preliminary factors affecting the organisation and identifies the challenges associated with its implementation within the case HVAC SME.

Design: To achieve the research objectives, a qualitative case study approach was adopted. In-depth semi-structured interviews were carried out with the two co-founders of the HVAC SME, as well as with various managers, technicians and the external accountant. Additionally, the research was further supported by a validation interview conducted with the two co-founders.

Findings: Following an examination of the HVAC SME's nature, a Balanced Scorecard was designed and developed with five perspectives. For every perspective, strategic objectives, KPIs, targets and initiatives were defined, and their interrelationships were visually represented through a Strategy Map. Finally, the study evaluated the challenges associated with implementing the proposed Balanced Scorecard, considering any preliminary factors influencing the SME.

Conclusions: Given the findings and the specific characteristics of the SME, the implementation of the proposed Scorecard is a valuable tool for supporting the firm during its expansion. This is particularly relevant considering the absence of a performance measurement system. The co-founders' validation of the proposed Balanced Scorecard and Strategy Map emphasise the interconnections among the perspectives.

Value: This study holds relevance for the HVAC SME as it navigates challenges and transitions towards growth, where the risk of overtrading may undermine financial stability. Moreover, the research offers a practical framework that may inform other HVAC SMEs seeking to adopt a Balanced Scorecard approach to support sustainable expansion.

Keywords: Balanced Scorecard, HVAC SME, Performance Measurement

“To my parents, whose support and encouragement have been my greatest strength throughout this journey”

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LIST OF ABBREVIATIONS

BSC	Balanced Scorecard
CIMA	Chartered Institute of Management Accountants
CSAT	Customer Satisfaction Score
CSF	Critical Success Factor
CSRD	Corporate Sustainability Reporting Directive
ERP	Enterprise Resource Planning
EOQ	Economic Order Quantity
EVA	Economic Value Added
ESG	Environmental, Social, and Governance
GPM	Gross Profit Margin
HVAC	Heating, Ventilation, and Air Conditioning
KPI	Key Performance Indicator
NPM	Net Profit Margin
NPS	Net Promoter Score
NPV	Net Present Value
NSO	National Statistics Office
OAR	Overhead Absorption Rate
OI	Operating Income
PM	Performance Measurement
PMS	Performance Measurement Systems
RGR	Revenue Growth Rate
ROCE	Return on Capital Employed
ROI	Return on Investment
SM	Strategy Map
SME	Small and Medium-sized Enterprise
TQM	Total Quality Management
WIP	Work-in-progress

CHAPTER 1

Introduction

“The Balanced Scorecard (BSC) provides managers with the instrumentation they need to navigate to future competitive success.”

(Kaplan, Norton 1996 p.2)

1.1 Background Information

Small and medium-sized enterprises (SMEs) encounter substantial challenges such as market fluctuations and technological advancements, requiring strategic management and clearly defined plans to ensure survival (Karadag 2015). While many owner-managers rely on intuition (Posner 1985), consistent goal attainment remains essential, especially amid uncertainty (Kraus, Reiche and Reschke 2005). Given their limited market power and resources, SMEs must align sustainable competitive advantages with evolving corporate objectives for them to succeed (Ramachandran, Mukherji et al. 2006).

Performance measurement (PM) has been shown to support SMEs in achieving financial advantages and responding to complexity with a more rational and structured approach (Garengo, Biazzo et al. 2005).

1.1.1 Measuring Performance

According to the Chartered Institute of Management Accountants (CIMA), PM is defined as being:

“The process of assessing the proficiency with which a reporting entity succeeds, by the economic acquisition of resources and their efficient and effective deployment, in achieving its objectives.”

(CIMA 2005 p.20)

PM is integral for reaching short- and long-term goals, which can be translated into tactical and operational targets. This requires identifying Critical Success Factors (CSFs) and Key Performance Indicators (KPIs) (Kaplan 2022). CSFs identify how the business strategy will be accomplished by enhancing cashflow, increasing revenue, or improving customer satisfaction. In contrast, KPIs provide management with quantifiable data to assess whether performance is aligned with the strategic objectives and to identify areas requiring improvement (Marr 2021).

Nowadays, PM focuses on improving the quality for the customer rather than tracking internal costs. This change in focus results in building stronger business relationships, which leads to company growth. While PM can lower costs and boost productivity through increased employee motivation, a threatening approach may lead to fear-based management and employee disengagement. (Zairi 2012; Levinson 2005).

1.1.2 Performance Measurement Systems

Ferreira and Otley (2009, p.264) give a broad definition of what a performance measurement system (PMS) incorporates. They interpret it as:

“The evolving formal and informal mechanisms, processes, systems and networks used by organisations for conveying the key objectives and goals elicited by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, and for supporting and facilitating organisational learning and change.”

Until the 1980's, Performance Measurement Systems (PMS) were predominantly based on traditional, financial metrics. However, with globalisation and increasing market complexity, a shift towards non-conventional PMS became necessary. These modern PMS offer greater flexibility, inclusiveness, accuracy, and user-friendliness, encouraging continuous improvement through regular reviews (Ghalayini, Noble 1996).

Traditional PMS, rooted in outdated accounting systems, often hinder progress due to their reliance on delayed financial metrics and their design, which primarily serves top management. In contrast, non-traditional PMS align with the company's objectives and incorporate non-financial metrics, fostering broader employee satisfaction and motivation. Despite their advantages, the identification of diverse non-financial indicators remains time-consuming and costly (Ossofski, Lima et al 2013; Kaplan 2022).

1.1.3 The Balanced Scorecard

The Balanced Scorecard (BSC) is a PMS developed by Kaplan and Norton in 1992 that integrates financial and non-financial metrics to assess current performance and inform future strategic direction (Wu 2009). Serving as a planning instrument, it helps managers align targets with the company's vision and strategy (Kaplan, Norton 1996).

The BSC measures performance through four perspectives being the financial, the customer, the internal processes, and learning and growth. The financial perspective aims on increasing shareholder value using metrics like Return on Capital Employed (ROCE) and Return on Investment (ROI) (Kaplan, Norton 1996). The customer aspect evaluates customer satisfaction and loyalty (Niven 2002), while the internal process measures unit costs and quality based on operational efficiency (Bose, Thomas 2007). The learning and growth perspective emphasises innovation and skill development (Kaplan, Norton 1996). In recent years, the inclusion of a fifth perspective, the environmental perspective, aligns environmental responsibility with overall business strategy (Monteiro and Ribeiro 2017).

The BSC's popularity stems from its comprehensive, adaptable framework, applicable across multiple sectors (Mitrović, Janković et al. 2016). By linking objectives across perspectives, the strategy map (SM) reveals cause-and-effect relationships, clarifies strategic management, and highlights skill requirements for value creation (Kaplan 2000). The SM aids in identifying significant objectives whilst pinpointing strategy gaps (Basavaraju 2023).

1.1.4 The Heating, Ventilation, and Air Conditioning Industry

In Malta, the Heating, Ventilation, and Air Conditioning (HVAC) sector employed approximately 2,378 individuals in 2022 and generated a turnover exceeding €230 million, with projections indicating continued growth (National Statistics Office [NSO] 2024). Servicing varied environments such as homes, hospitals and restaurants, combined with increasing competition, has prompted firms to adopt service-oriented strategies. These strategies aim to enhance profitability and

cash flow while differentiating their customer products/service to secure a competitive advantage (Muhammad 2024).

However, there remains limited research on what defines a successful HVAC business. Elements such as leadership, business model, culture, personnel, and technology are recognised as critical to success. Identifying and prioritising CSFs is thus vital to achieving corporate objectives and allocating resources efficiently (Muhammad 2024).

1.1.5 The need for a BSC in an HVAC SME

Creating a BSC could be particularly valuable in the HVAC sector due to its complexity and diverse customer demands. The BSC enables firms to integrate customer satisfaction, service quality, and employee engagement as measurable targets. Key metrics include service completion rates, customer feedback and response times, all of which contribute to service quality improvement (Neely, Gregory et al. 1995).

Furthermore, ongoing technological advancements and legislation amendments instigate continuous development in the HVAC industry. The BSC approach would ensure that the workforce remains up to date with HVAC standards to give the highest customer satisfaction by computing benchmarks related to employee training hours. In addition, measurements related to innovation with regards to the incorporation of smart technologies and adoption of efficient systems could result in the firm maintaining a competitive advantage in the market (Kaplan, Norton 1992). Hence, a BSC approach can help the HVAC firm grow and expand due to the selection and the management of right strategies taken (Sharma 2009).

1.2 Case Company Introduction

1.2.1 Company Background

The HVAC SME was established in 2012 as a partnership between two professionals specialising in HVAC systems. It transitioned into a formal company in 2019 and currently employs sixteen individuals. The company operates from a

single large warehouse and an office, with its core activities focused on HVAC installations and duct fittings. The primary clientele includes restaurants, hotels and parking facilities. The CSF for this SME is the quality of service and customer satisfaction.

1.2.2 Organisational structure

The case company, being an SME, features a straightforward organisational structure. As illustrated in Figure 1.1, the SME is structured into four distinct departments including Administration, Delivery of HVAC solutions, Manufacturing, and Installations. At the highest level, the firm is directed by the two co-founders, each of whom hold various executive roles. At a lower level, each co-founder leads several lines of business and collaborate with the company secretary, project coordinator, and several subordinate staff members. One director oversees project management, including tenders and quotations, whilst the other handles procurement and financial operations. The company secretary, who is also the operations manager is responsible for administrative functions such as human resources management and bookkeeping; and complying to national safety obligations. Additionally, the project co-ordinator is tasked with establishing and maintaining customer relationships. The accounting function is outsourced.

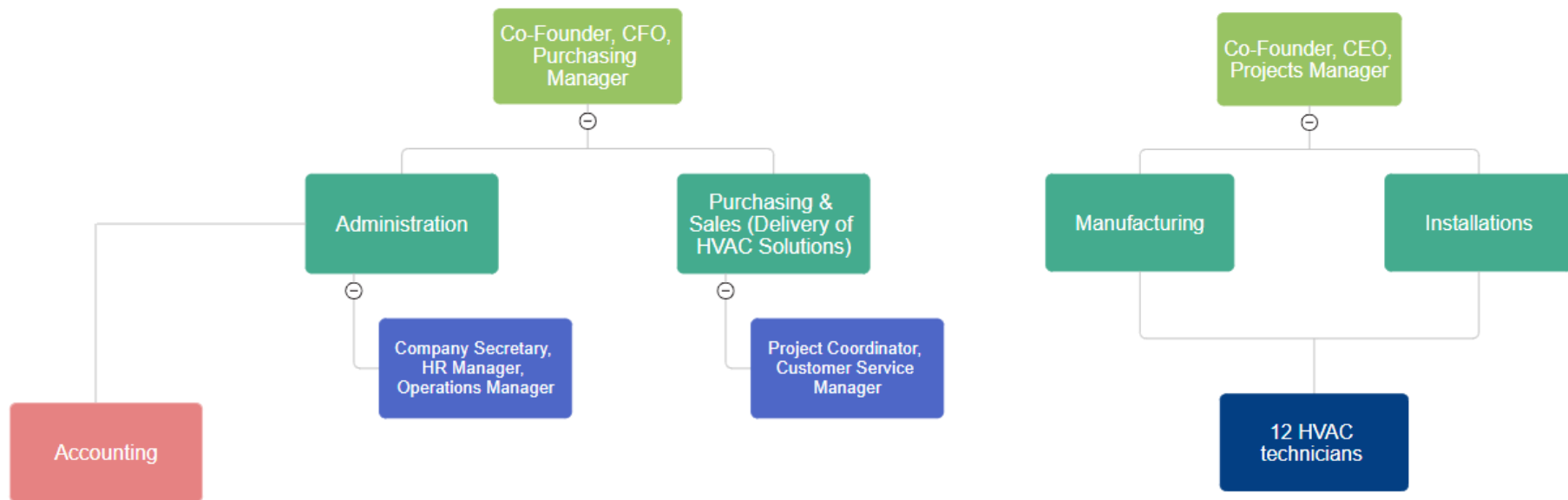


Figure 1.1: Organisational Structure

1.3 Need for this study

Extensive local research has been conducted on the BSC across various industries, including the catering sector (Pace 2019), the hotel industry (Zammit 2020), a software start-up (Bonnici 2021), the logistics sector (Farrugia 2022), and a local auditing firm (Bartolo 2023). However, no local research has addressed the application of the BSC within the HVAC industry. Hence, this study will contribute to filling the existing communal literature gaps by implementing a BSC and evaluate its appropriateness within the local HVAC market.

Owner-managers are central to defining the SMEs' priorities and set the pace at which strategies are implemented. Therefore, developing a BSC for this owner-managed SME will enhance employees' focus on key priorities and areas requiring action (Garengo et al. 2005). It can improve organisational control by increasing the precision of objectives communicated to employees and fostering a sense of accountability through assigned metrics (Wouters, Wilderom 2008; Busco, Quattrone 2015). This approach may lead to more frequent meetings and discussions between owner-managers and employees to assess outcomes from current practices and improve individual efficiency. If these efficiency gains are institutionalised, they can become organisational assets, potentially leading to enhanced financial performance (Jones, Macpherson 2006; Grafton, Lillis et al. 2010).

1.4 Research Objectives

The main aim of this study would be to evaluate whether the BSC would be a feasible Performance Measurement System for an HVAC SME. Hence, the primary research objectives would be to:

- Establish a vision, mission and strategy to set-up adequate targets.
- Design a customised BSC with the relevant perspectives.
- Create a SM to measure and evaluate performance.
- Identify the challenges that the SME would have to address when implementing the BSC.

1.5 Limitations of this study

The three-phase framework includes planning, development and implementation. Although the three-phase framework outlined in Section 2.6 will be adhered to in the design of the BSC, the framework's third phase will not be included in this research. Due to this study's time constraint and study-length restrictions, the focus will be exclusively on the design of the BSC and evaluation of its potential implementation. Consequently, any issues related to the actual implementation of the BSC are beyond the scope of this study.

Certain sensitive company information may be excluded from the study. Moreover, this research will also provide a snapshot of the SME as of March 28, 2025, and any developments occurring after this date will not be reflected in this study.

Further limitations related to the chosen methodology are discussed in Chapter 3.

1.6 Dissertation Overview

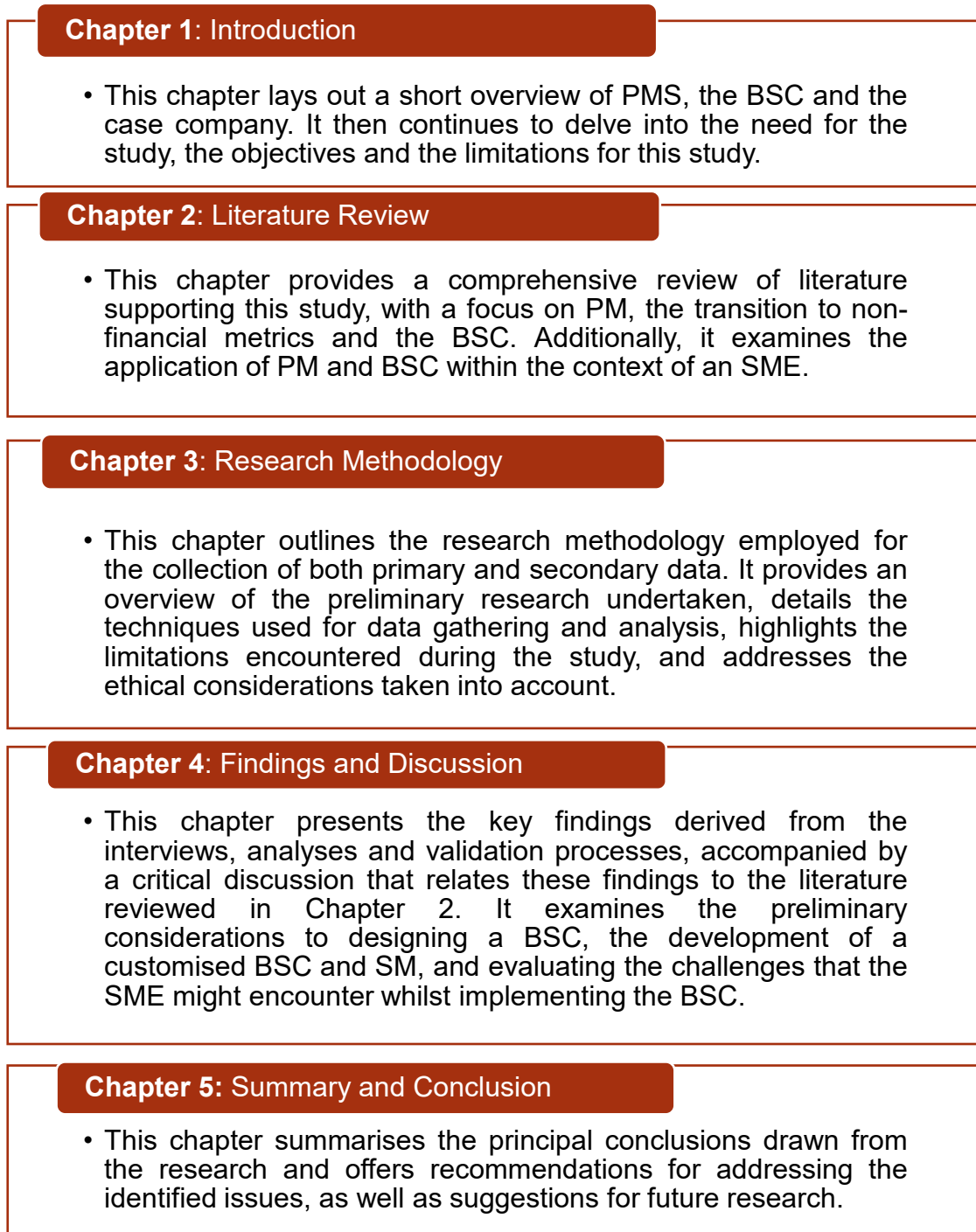


Figure 1.2: Dissertation Overview

CHAPTER 2

Literature Review

*“The Balanced Scorecard complements financial
measures of past performance with
measures of the drivers of future performance”
(Kaplan, Norton 1996 p.8)*

2.2 Management Essentials for Success

2.2.1 Strategic Management

Strategic management entails defining an organisation's direction, allocating resources accordingly, and ensuring strategic objectives are achieved. It requires continuous adaptation of internal activities in response to external market dynamics, encompassing environmental scanning, strategy formulation, implementation, and control. While devising a strategy is essential, its ongoing management and refinement are even more critical to maintaining long term competitiveness (Wheelen & Hunger 2015 p.38).

2.2.2 Performance Measurement

Neely, Gregory et al. (1995) define PM as a process that uses measurement as a benchmark to identify activities that demonstrate the best performance. This approach also assists managers in implementing strategies that enhance the company's competitive advantage (Neely et al. 1995). Over time, PM has evolved to incorporate non-financial indicators. Bititci, Carrie et al. (1997) describe PM as an integrated method that gathers comprehensive data necessary for decision-making, ensuring that choices are aligned with improving activity performance.

2.2.3 Performance Measurement Systems

Firms must have access to essential data to assess performance, prioritise areas for improvement, and boost productivity, enabling them to thrive in a dynamic business environment (Cunha, Dinis-Carvalho et al. 2023). Competitive businesses use PMS as a strategic tool to sustain success (Gazi, Atan et al. 2022). Neely (1994) describes PMS as a management tool that provides quantitative feedback on the efficiency and effectiveness of business processes to enhance organisational performance (Kairu et al. 2013).

CIMA (2008) highlights that PMS helps organisations achieve and monitor goals, facilitating the effective execution of strategies. Kennerley (2018) adds that PMS serves as a platform for PM, communication, and as a key strategic management tool, enabling and supporting strategy achievement.

2.2.3.1 The shift from financial to non-financial measures

Historically, PM relied solely on financial indicators such as ROI and Earnings per Share (Panigrahi et al. 2014). However, these measures offered a retrospective view of past performance (Sanger 1998), neglecting future decision-making (Najmi, Rigas et al. 2005). This reliance on short-term success often came at the expense of long-term value creation (Krishnan 2008).

Increasing globalisation, competition, and technological change further exposed the inadequacies of traditional financial measures, prompting a shift toward non-financial metrics that better support operational decisions and long-term performance (Rajnoha et al. 2016; Ghalayini, Noble 1996).

Companies began focusing on product quality and differentiation to stay competitive (Krishnan 2008), leading to the development of multidimensional systems that integrate both financial and non-financial metrics (Bergen, Benco 2004; Kennerley 2018). These modern systems offer greater predictive accuracy (Bergen, Benco 2004), and support effective decision-making (Rajnoha et al. 2016). Among them, the BSC is widely regarded as one of the most effective PM tools due to its balanced approach (De Waal 2003).

2.3 The Balanced Scorecard

The Balanced Scorecard was developed by Kaplan and Norton in 1992 in response to the tension between the need to build long-term competitive capabilities and the limitations of traditional financial accounting models. It extends beyond the conventional focus on financial metrics by incorporating drivers of future performance. This allows for a more competitive view of business objectives. The BSC not only measures past financial outcomes but also guides managers on how to enhance internal capabilities and invest in systems that will drive future success. By identifying value drivers, it supports the pursuit of superior long-term financial and competitive advantage (Kaplan, Norton 1996 pgs. 7-8).

2.3.1 Essentials for BSC success

The BSC serves as a strategic management tool by integrating a strategic agenda with a set of strategic objectives, initiatives aligned with the vision and mission, and a range of performance metrics. It translates broad strategies into specific, measurable actions, linking strategic goals to performance measures. The BSC not only operationalises strategy into concrete forms for monitoring and management but also ensures that both financial and non-financial information is effectively identified and acted upon. Additionally, it offers a concise overview of strategic progress, complementing more detailed management reports (Kumar, Lim et al. 2024).

2.3.1.1 Vision, Mission and Strategy

Innovative companies leverage the BSC to effectively manage their long-term strategies. The BSC facilitates critical management processes such as clarifying and translating vision and strategy, communicating and linking strategic objectives and measures, setting aligned targets, and enhancing strategic feedback and learning (Kaplan, Norton 1996 pg 10).

A mission statement is essential for defining the core purpose of an organisation and motivating employees (Kaplan, Norton 2008). It serves as a guiding compass, and therefore, should be clear, enduring, and capable of stimulating positive change and growth. It should be simple, long-term in nature and easily understood and communicated. Objectives and performance measures should be evaluated in relation to the mission to ensure alignment (Niven 2014).

The vision statement outlines what the company aspires to become in the future and should underpin the formulation of objectives and strategies. (Kantabutra 2010 p. 256). It should provide a clear, quantifiable, and time-bound picture of the desired scope of business activities, stakeholder perceptions, leadership areas, and core values. The vision should be concise, appealing, consistent with the mission, feasible, verifiable, and inspirational. Quantifying the vision helps in assessing performance gaps, which the BSC aims to bridge through targeted objectives, measures, and initiatives focused on enhancing revenue, profit, and customer satisfaction (Niven 2014).

With well-defined mission and vision statements, a firm can then develop a concrete strategy that aligns with its needs (Cochran, David et al. 2008). According to Niven (2014 p.114), strategy is defined as:

“The broad priorities adopted by an organization in recognition of its operating environment and in pursuit of its mission.”

These broad priorities include making crucial decisions about target customers, geographies, and product and/or service offerings. A well-crafted BSC is expected to drive behavioural changes within the company and facilitate strategic alignment (Niven 2014).

2.3.1.2 SWOT Analysis

The SWOT analysis connects an organisation’s internal strengths and weaknesses with its external opportunities and threats, as depicted in Figure 2.2. This analysis plays a crucial role in understanding the firm, and ultimately supports BSC success (Quezada, Reinao et al. 2019). By conducting a SWOT analysis, companies can develop and implement effective strategies that capitalise on opportunities and strengths whilst addressing weaknesses and threats (Suharno 2016). This approach helps identify both internal and external factors affecting the HVAC SME’s ability to achieve its mission and vision. Consequently, the results of the SWOT analysis can guide the formulation of strategies to tackle identified issues and exploit the SME’s strengths. (Quezada et al. 2019).



Figure 2.2: SWOT Matrix

2.3.1.3 Objectives, Metrics, Targets and Initiatives

A successful BSC requires defining specific objectives, measures, targets and initiatives for each BSC perspective. Objectives should be clear statements of what the company aims to achieve and must align with the overall business strategy. If objectives do not support the strategy, they should either be revised or eliminated (Werner, Xu 2012). Measures are essential for tracking progress towards these objectives and must be carefully selected to link directly to strategic goals. Effective measures should be consistent, explicit and manageable. Ensuring that strategy and strategic objectives are well-defined lays the groundwork for selecting and implementing effective KPIs (Parmenter 2015).

Hence, successful KPI implementation requires thorough preparation. This includes securing commitment from top management, training resources, and clearly communicating changes. Inadequate preparation often leads to ineffective KPIs as companies may misalign their measures with strategic goals. Targets define the desired performance level or improvement rates required to meet objectives and are crucial for motivating employees. These targets need to be clearly communicated to ensure that employees understand what is expected of them (Werner, Xu 2012).

Initiatives are actions or policies implemented to achieve set targets and should be adequately funded and executed to be effective (Rohm 2002). For a customer acquisition objective, initiatives might include launching a targeted marketing campaign or collecting feedback from current customers to refine strategies (Werner, Xu 2012). Overall, the BSC's success depends on the alignment of objectives with strategy, the careful selection of measures and targets, and the effective implementation of initiatives (Kaplan, Norton 2001).

2.3.1.4 Executive Support and Employee Commitment

Kaplan and Norton (2001 p.362) emphasise that management support and commitment are crucial for the successful implementation of the BSC. Such support must be evident throughout both the development and implementation phases of the BSC, with executives providing ongoing endorsement and allocation of resources over the long term (Kaplan, Norton 2001).

Once the BSC is developed, it is essential for executives to continue supporting its maintenance and enhancement (Pujas 2010). Moreover, employee buy-in is necessary for the BSC's success. Executives should clearly communicate the purpose and the benefits of the BSC to employees (Zorek 2020). This participatory approach often involves regular meetings between executives and staff to facilitate a bottom-up approach in target setting (Othman 2009).

2.4 The BSC Perspectives

The BSC encompasses all levels of a company, making it a comprehensive tool for evaluating and measuring organisational performance and communication (Sarraf, Nejad 2020). It facilitates the alignment of strategies, strategic indicators, and stakeholder management (Oliveira et al. 2021). Utilising the BSC allows firms to identify their strengths and weaknesses, thereby enhancing overall performance (Bshayreh, Qawqzeh et al. 2024). Figure 2.3 highlights how the vision and the strategy give rise to the perspectives and how these perspectives interlink.

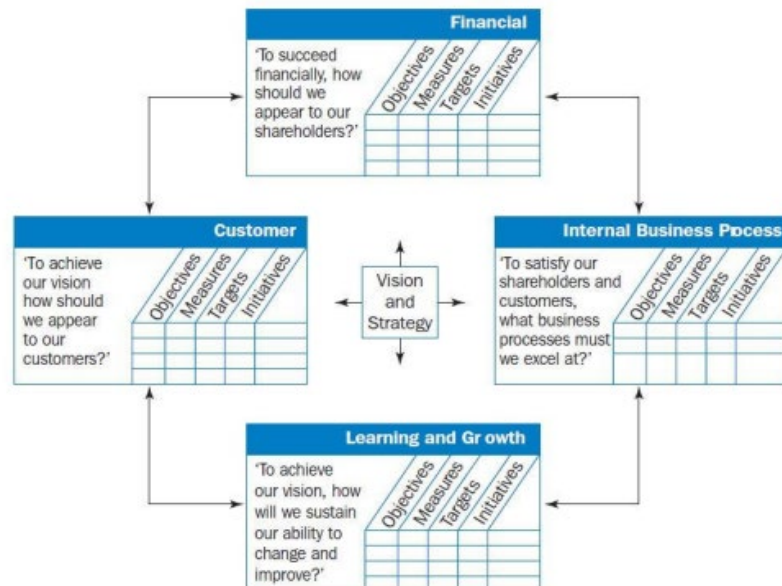


Figure 2.3: The BSC Perspectives by Kaplan and Norton, adapted from Drury 2012 p.585

2.4.1 The Financial Perspective

When developing a BSC, it is crucial to align business units' financial goals with the overall corporate strategy. Financial objectives generally focus on profitability metrics such as Operating Income (OI), ROCE, and Economic Value Added (EVA), which are designed to meet shareholder expectations (Kaplan, Norton 1996; Bshayreh et al. 2024). The financial perspective evaluates how well a business leverages its assets to generate revenue. Financial metrics can include total revenue and cost reduction (Raval et al. 2019). Financial objectives vary throughout a business' life cycle. For example, an SME at its early stages often focuses on capitalising on high-growth potential products or services, which may result in negative cash flows and low ROCE (Kaplan, Norton 1996).

2.4.2 The Customer Perspective

Managers must identify the customer and market segments in which their business will compete and determine KPIs for those segments. These measures typically assess customer satisfaction, loyalty, retention, attraction and profitability (Kaplan, Norton 1996). Customer satisfaction is gauged through metrics like market share of the firm, customer attraction and retention, and value added to the firm. These indicators explain the value that a company provides to its clients to fulfil their demands (Pham et al. 2020). A decline in customer perception can drive customers towards competitors, negatively affecting financial performance. Thus, customer satisfaction becomes a leading indicator of financial success and a crucial determinant of overall business success (Degiorgio 2014).

2.4.2.1 Customer Satisfaction

Customer satisfaction measures provide valuable feedback on the company's performance in fulfilling customer needs. Repeat purchasing behaviour occurs when customers rate their buying experience as fully satisfactory (Kaplan, Norton 1996). A customer satisfaction score (CSAT) can be used as a KPI to measure customer satisfaction (Punniyamoorthy, Murali 2008).

2.4.2.2 Customer Profitability

Achieving success in customer satisfaction does not guarantee that a company has profitable customers. For instance, a company could have highly satisfied customers by offering products at very low prices, which may not be sustainable. The customer profitability measure helps to identify whether targeted customers are profitable. While newly acquired customers might initially be unprofitable, their growth potential can justify their value. Long-term profitability guides firms in deciding whether to retain or part ways with unprofitable customers (Kaplan, Norton 1996).

2.4.3 The Internal Business Process Perspective

To meet shareholder expectations for strong financial returns and deliver the value propositions that attract and retain customers, executives must focus on excelling in key internal processes. The BSC approach highlights the importance of identifying and optimising these critical processes to satisfy both customer and financial objectives (Lipe, Salterio 2000). There are three core processes that drive BSC success: innovation, operations, and post-sales service. The innovation process involves developing new products and services to meet the evolving needs of current and future customers, ensuring long-term growth. The operations process focuses on producing and delivering existing products and services efficiently, with an emphasis on operational excellence and cost reduction. This has traditionally been the primary focus of PMS. Lastly, post-sales service, which includes providing support and resolving potential product failures, plays a crucial role in maintaining customer satisfaction. Rapid response to issues post-delivery can significantly enhance customer loyalty and ensure long-term relationships (Kaplan, Norton 1996).

2.4.4 The Learning & Growth Perspective

The learning and growth perspective of the BSC focuses on how an organisation can sustain growth and development, particularly in a competitive environment where innovation is key to success (Werner, Xu 2012). Organisational learning and growth stem from three key sources; people, systems and processes (Kaplan, Norton 1996). The BSC often highlights gaps between current and

required capabilities in these areas (Kairu et al. 2013), which management must address by reskilling employees, updating IT systems, and refining business processes (Kaplan, Norton 2004). A company's ability to innovate, improve and learn directly contributes to its overall value (Kaplan, Norton 1992). This perspective encourages a culture of growth and development, offering employment opportunities to enhance their skills, thereby supporting the company's mission and vision (Narayanamma, Lalitha 2016).

2.4.5 The Environmental Perspective

The above 4 perspectives prioritise shareholders' and customers' interests but overlook other key stakeholders, such as society. Therefore, firms should integrate environmental performance into the BSC (Kaplan, Norton 1996). Danchev (2006) stated that the company's performance is closely linked to its sustainable growth and behaviour.

Lansituoto and Jarvenpa (2010) emphasise the strategic significance of environmental issues, noting their impact on a company's image, profitability, and competitiveness, all of which are crucial to its long-term economic viability. Kalendar and Vayvay (2016) argue that the BSC has a stronger potential than other management approaches to incorporate environmental factors into its overall management framework. However, effectively linking the measures to the organisation's strategy could present significant challenges (Kalendar, Vayvay 2016).

2.5 The Strategy Map

Kaplan and Norton (2004) identified that ineffective communication of strategy to employees is a major reason companies fail to achieve their strategic goals. To address this, they introduced strategy maps as a visual tool to illustrate the connection between employee actions and organisational objectives. SM establish a clear cause-and-effect framework, fostering alignment and a unified strategic mindset across all organisational levels (CGMA 2013). These maps illustrate how resources, particularly intangible assets like knowledge, skills and

systems, are transformed into measurable outcomes, enabling employees to see their role in the company's strategic success (Lueg 2015).

In today's business environment, intangible assets such as employee expertise, innovation and internal processes are key drivers of success. However, these are often difficult to measure through traditional financial tools. Kaplan and Norton (2004) addressed this issue by developing the BSC and its accompanying SM, which visually represent how intangible assets connect to tangible outcomes. The SM transforms the contents of the BSC into a chain of cause-and-effect, linking leading indicators (performance drivers) to lagging indicators (outcomes), thereby bridging the gap between intangible resources and financial success (Goldstein 2022). As illustrated in Figure 2.4, the SM demonstrates how improvements in employee skills, technology and internal processes lead to enhanced customer satisfaction, which in turn drives revenue growth and profitability (Kaplan, Norton 2004).

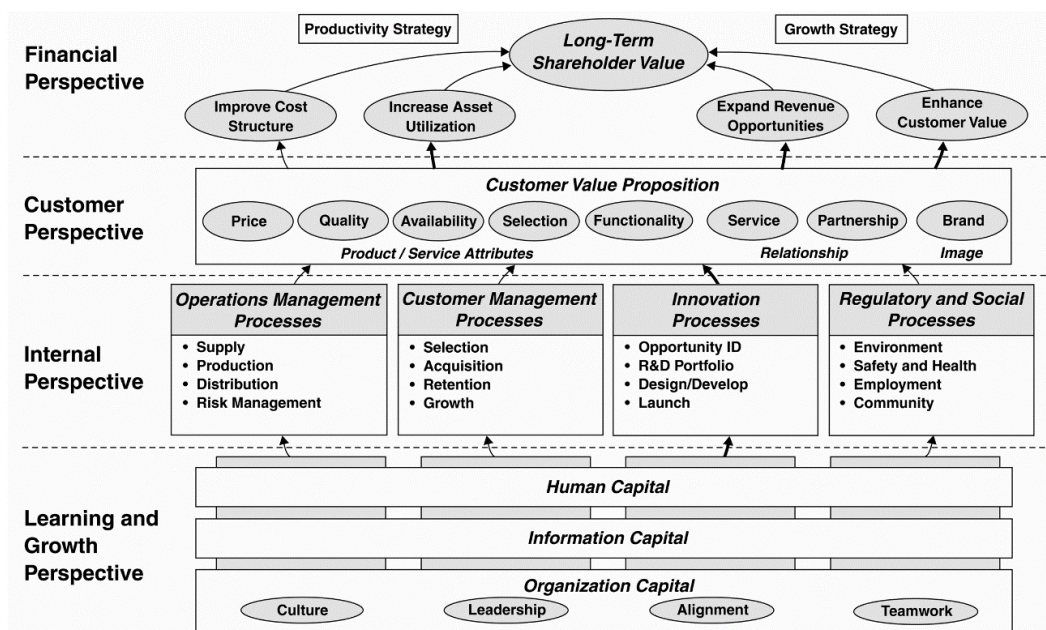


Figure 2.4: Strategy Map, adapted from Kaplan, Norton 2004 p.11

Visualising the connections between the four BSC perspectives allows companies to identify potential gaps between strategy formulation and execution. This makes it easier for management to reformulate strategies when necessary and align the company toward achieving its strategic goals (Lueg 2015). Moreover, SM help firms simplify the complex relationships that exist within the

BSC, making it easier for both management and employees to comprehend how strategic objectives across different perspectives are interconnected (Kaplan, Norton 2001). This not only improves communication within the organisation but also ensures that all levels of the company are aligned with the overall mission and vision (Niven 2006). The use of SM thus facilitates coordination of both organisational and individual targets, ensuring that everyone is working toward the same strategic outcomes (Islam 2018).

2.5.1 Cause-and-effect relationship

Kaplan and Norton (1996) emphasised that every measure on the BSC should contribute to a broader cause-and-effect relationship. The financial and customer perspectives represent lagging indicators, signalling the achievement of desired outcomes. On the other hand, the internal business processes and learning and growth perspectives serve as the leading indicators, driving performance toward those outcomes (Kaplan, Norton 1996; Nørreklit 2000). The SM, therefore, becomes an essential extension of the BSC, clearly showing how advancements in learning and growth (i.e. employee skills and innovation) directly impact internal processes, which then improve customer satisfaction and financial results (Lucianetti, 2010; Bento et al. 2013).

2.6 Building and Implementing the BSC

The onboarding of the BSC marks the start of a unique corporate journey for each firm, although guided by common principles (Rohm, Malinoski 2010). Researchers such as Kaplan (1996), Niven (2006), and Rohm (2008) have established frameworks for BSC development. These frameworks often follow a three-phase processing including planning, development and implementation, as illustrated in Figure 2.5. The planning phase, depicted in red, establishes the foundational groundwork for the BSC design. Following this, the development phase (orange) involves the creation of the BSC. Lastly, the implementation phase (yellow) focuses on deployment, evaluation and continuous improvement (Kaplan, Norton 1996; Niven 2006; Rohm 2008). A cross-functional team approach is essential for successful adoption throughout the organisation (Rohm,

Halbach 2002). This study will solely focus on the first two stages of the designing and building process.

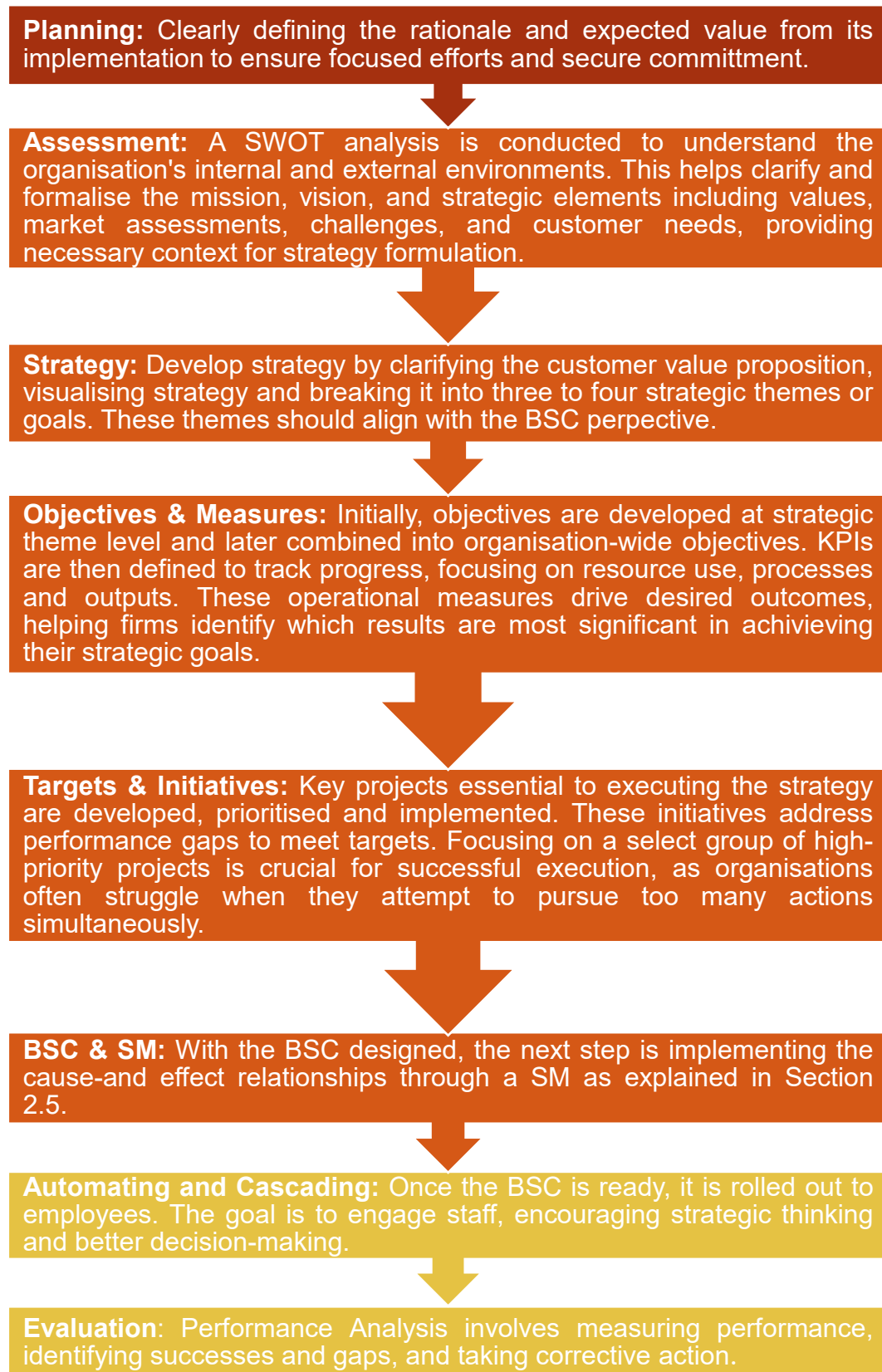


Figure 2.5: Building the BSC, adapted from Kaplan, Norton 1996; Niven 2006; Rohm 2008.

2.7 The Strengths and Criticisms of the BSC

2.7.1 The Strengths of the BSC

The BSC minimises information overload by focusing managerial attention on a limited number of KPIs that directly impact performance (Epstein, Manzoni 1998; Kanji, Sá 2001). By focusing on both growth and efficiency, the BSC provides a holistic, integrated system that connects strategic objectives and indicators, ensuring internal consistency and aiding communication across the organisation (Olve, Roy et al. 2000; Quesado, Guzmán et al. 2018).

A key advantage of the BSC is its flexibility and adaptability, allowing it to evolve with changing strategies and market conditions (Kaplan, Norton 1996). Its adaptability allows it to be applied across various sectors and industries, even adjusting to evolving business environments like the COVID-19 pandemic and the Russia-Ukraine war (Ghifari, Rifin et al. 2022). It has been successfully implemented in a wide range of organisations, including public, private, and non-profit sectors, proving its flexibility in adjusting to various organisational context and needs (Pierce 2022). Studies have shown that organisations using the BSC tend to outperform their competition by better aligning teams toward strategic objectives (Quesado et al. 2018).

By illustrating the activities that create the most value for the company (Agarwal 2019) in a SM, managers can identify areas for improvement and implement corrective actions, ultimately leading to enhanced organisational performance (De Geuser, Mooraj et al. 2009). One of the key areas where the BSC excels is in enhancing employee engagement (Albertsen, Lueg 2014). Research has shown that engaged employees are more likely to contribute to strategic success (Upadhyay, Palo 2013) since they are more likely to create positive customer experiences, which strengthens the overall value chain of the organisation (Thompson, Mathys 2008).

2.7.2 The Limitations of the BSC

While the BSC model has been widely adopted and praised, some critics stated that its implementation faces several challenges including its rigid structure, flawed cause-and-effect relationships, lack of external focus, and significant resource demands (Malgwi, Dahiru 2014). The BSC model is resource-intensive and requires external training for employees to effectively use it (Sanchez-Marquez, Albarracin et al. 2020). Lack of employee engagement and support is a common roadblock. Employees often resist the BSC especially when they perceive it as a top-down approach (Hepler, Anderson et al. 2016).

Organisations may struggle to balance financial and non-financial measures leading to difficulties in achieving the intended results (Anand, Sahay et al. 2005). The process of implementing the BSC is often lengthy and costly, requiring a thorough cost-benefit analysis to determine its viability (Hegazy, Tawfik 2015). Failure to recognise a misalignment between BSC objectives and organisational strategy can impede performance improvement (Wagner, Ullrich et al. 2014).

A major criticism of the BSC is its reliance on unproven cause-and-effect relationships between performance measures. Critics argue that these links are oversimplified, lack empirical validation, and may lead to dysfunctional organisational behaviour (Nørreklit 2000). This flaw is compounded by the failure to account for the time lag in cause-and-effect processes, with performance results often not immediately visible after implementing certain actions (Nørreklit, Jacobsen et al. 2008; Sushil 2008).

While Kaplan said that the BSC is flexible, other experts say that it is rigid in nature. Its structure, focusing on four defined perspectives, limits adaptability and neglects cross-perspective interactions (Voelpel, Leibold et al. 2006). This rigidity can result in an inadequate BSC design that fails to account for industry-specific dynamics or external factors, such as competition, market trends and technological changes (Sinha, Shankar et al. 2019; Nørreklit 2003). This internal focus often leads to misalignment with evolving business environments, thus limiting the BSC's effectiveness (Awadallah, Allam 2015). Moreover, without mechanisms to update the initially defined measures, the BSC risks becoming

obsolete as the firm's strategy and external conditions change (Hudson, Smart et al. 2001).

2.8 The BSC within the case company

2.8.1 The BSC within SMEs

SMEs face significant volatility due to both internal and external factors, often forcing them to focus on survival. Choosing an appropriate PMS is challenging for owner-managers who must juggle multiple objectives (Jarvis, Curran et al. 2000). While the BSC has been mostly applied to large organisations, it can still benefit SMEs by aligning short-term objectives with long-term goals, fostering strategic focus, and helping these businesses compete (Andersen, Cobbold et al. 2001).

Despite these potential advantages, SMEs often rely heavily on financial indicators like cash flow for PM, which lack broader, long-term perspectives (Hudson, Bennett et al. 1999). SMEs are also resistant to adopting new techniques like the BSC (Blackburn, Jarvis 2010; Giannopoulos, Holt et al. 2013). For instance, Blackburn and Jarvis (2010) found that financial metrics dominate SME performance evaluation. However, new management techniques like the BSC face resistance due to lack of knowledge and awareness about their benefits. Many SMEs are unaware of the BSC, especially in the UK and Cyprus (Giannopoulos et al. 2013), and in other countries like Portugal (Machado 2013). Nevertheless, the BSC's use has grown in SMEs, where it provides a formalised structure that aids in aligning employee actions with company strategy, enhancing accountability, and facilitating knowledge exchange (Cardinal, Sitkin et al. 2004; Busco, Quattrone 2015).

However, implementing the BSC in SMEs presents challenges. The flexible and less hierarchical structure of SMEs, which are key to their adaptability, may be compromised when implementing the BSC, as it can be perceived as an additional layer of control (Malagueno, Lopez-Valeiras et al. 2017). Furthermore, the limited resources such as time, capital and personnel, make it difficult to conduct comprehensive performance evaluations (Ates, Garengo et al. 2013).

Younger SMEs, lacking defined structure, struggle with adopting sophisticated management practices, limiting their ability to benefit from the BSC (Lopez, Hiebl 2015).

One of the unique challenges SMEs face with the BSC is their tendency to revise strategies frequently due to the rapidly changing environment. This leads to adjustments in performance metrics, which undermines the BSC's utility in tracking long-term progress and creating strategic consistency (Rompho 2011). In fact, Rompho (2011) found that frequent strategy changes in an SME led to confusion among employees and management, making it difficult to establish cause-and-effect linkages between performance measures. This contrasts with the experience of larger organisations, where measures are typically stable even in the face of strategic shifts (Kaplan, Norton 2001).

Ultimately, SMEs benefit from selecting critical performance indicators due to their limited resources, and management's commitment is crucial for successful implementation (Tenhunen, Rantanen et al. 2001; Fernandes, Raja et al. 2006). The implementation process is often faster in SMEs due to their smaller size and simpler structures. However, this also limits their ability to gain the full strategic benefits of the BSC, such as improved communication of strategic objectives (Andersen et al. 2001).

2.8.2 The BSC within the HVAC industry

Similar to other sectors, financial indicators remain central to performance measurement, especially in terms of satisfying owners, with EVA as a key measure (Horvathova, Mokrisova 2023). Other critical indicators that contribute to company growth include ROI, profitability, shareholder value, income growth, and unit costs, the latter being particularly important as a delayed measure of strategic success (Fooladvand, Yarmohammadian et al. 2015). According to Horvathova and Mokrisova (2023), crucial HVAC KPIs include total debt to assets, labour to revenue, and return on costs, while return on assets was not considered as significantly important.

In the HVAC industry, effective supply chain management and technological adaptations are vital since HVAC sellers deal directly with customers (Marketos, Theodoridis 2006; Ganesan, George et al. 2009). Overreliance on financial metrics can lead to neglecting intangibles, which may affect company success (Marrocu, Paci et al. 2011). Servitisation, or offering comprehensive service packages, has become increasingly crucial, boosting income and customer loyalty, particularly for long-lasting products like HVAC systems (Vandermerwe, Matthews et al., 1989; Rodrigo, Alvarez et al., 2014). Therefore, many HVAC companies provide maintenance plans and service contracts, often bundling services together at a lower cost than paying individually. These plans may include cleaning, leak inspection, emergency service calls, and minor part replacement (Brill 2024). This shift from product-centric to service-centric models focuses more on customer value than on asset valuations (Almeida, Trindade et al. 2022), and enhances customer retention (Rodrigo et al. 2014).

A sustainable BSC may be implemented for HVAC companies due to the integration of smart technologies, renewable energy solutions and heightened focus on energy efficiency and environmental sustainability (Dunsby 2024). According to Kyzar Air Conditioning (n.d.), an HVAC firm, in the past, HVAC systems were simple, manual and required frequent adjustments. Over time, technological advancements introduced automation, digital controls and energy-efficient designs, transforming the industry (Kyzar Air Conditioning n.d.).

These advancements not only enhance system efficiency but also reduce environmental impact, aligning with the industry's sustainable goals. Energy-efficient systems reduce energy consumption while maintaining comfort levels, leading to lower utility costs and a smaller carbon footprint. However, the integration of new technology can present challenges, particularly with ensuring compatibility with older systems, which may involve additional costs (Rossi 2023).

HVAC firms need to carefully assess financial, regulatory and technical factors to provide seamless solutions. The rapid pace of technological advancement necessitates continuous training for HVAC technicians. As systems grow more complex, technicians must remain updated on the latest tools and techniques to

ensure proper installation, maintenance and repair. Organisations that invest in robust training programs will be better equipped to provide high-quality service and maintain a competitive edge (Dunsby 2024).

The HVAC industry comprises manufacturers, consultants, contractors, and retailers, all responsible for various aspects of HVAC. The industry's key objective is understanding customer needs and delivering business contracts that help clients achieve their goals (Suganda, Gabriel 2021). Like any other industry, success in this field hinges on factors like leadership, business models, technology, and value co-generation (Oe, Yamaoka 2023). The BSC enables an HVAC company to gather valuable feedback on customers, finance, internal efficiency, development, and environment. This leads to better future decisions and effective response to industry competition (Salem 2023).

2.9 Conclusion

This chapter underscores the added value of PMS like the BSC. The BSC is regarded as a key advancement in PMS, linking traditional to non-traditional metrics and serving as a vital strategic management tool. This chapter emphasises that the BSC is valuable for supporting SMEs, whose survival often presents its difficulties.

The subsequent chapters will apply these concepts to the case study of an HVAC SME. The next chapter will detail the research methodology used to collect the primary data needed for this study.

CHAPTER 3

Research Methodology

“Case study theory building is a bottom up approach such that the specifics of data produce the generalizations of theory.”

(Eisenhardt 1989 p.547)

3.1 Introduction

This chapter outlines the research methods used, beginning with the dissertation timeline as disclosed in Section 3.2, and an overview of the preliminary research in Section 3.3. Section 3.4 details the three methodological approaches, with Section 3.5 focusing on case study research as adopted in this study. Section 3.6 covers data collection, interview design, and participants. Section 3.7 explains data analysis and validation of findings. Section 3.8 addresses this study's limitations, whilst Section 3.9 highlights this study's ethical considerations. Finally, Section 3.9 concludes this chapter.

Figure 3.1 provides a visual representation of the sections within this chapter.



3.2	• Dissertation Timeline
3.3	• Preliminary Research
3.4	• The Research Approach: Qualitative vs Quantitative vs Mixed Methods
3.5	• Case Study Research
3.6	• Data Collection
3.7	• Data Analysis
3.8	• Limitations of this research
3.9	• Ethical Considerations
3.10	• Conclusion

Figure 3.1: Chapter three overview

3.2 Dissertation Timeline

Figure 3.2 shows a visual overview of the tasks carried out throughout this dissertation and the corresponding period within which each task was accomplished.

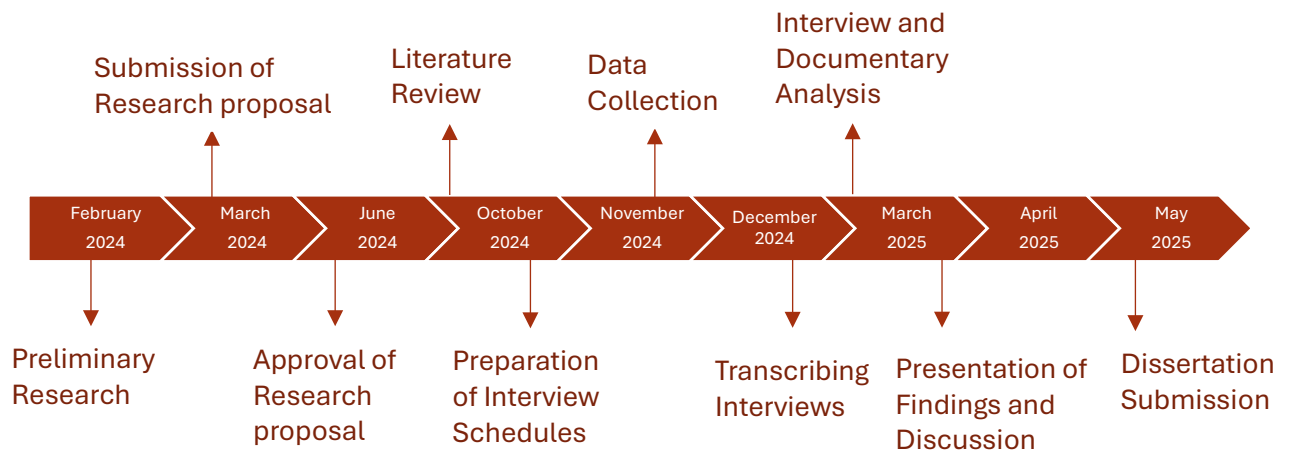


Figure 3.2: Dissertation Timeline

3.3 Preliminary Research

This research on PM in the HVAC sector addresses specific literature gaps related to Maltese HVAC SMEs. Recognizing the growing relevance of the BSC as a PM tool, this study aims to evaluate its applicability within a local context by designing a BSC approach tailored for an HVAC SME.

A preliminary interview with the SME's founder and CEO revealed an understanding of PM's importance, but an absence of a structured PMS. The case company's lack of an existing BSC approach, combined with the CEO's willingness to participate, confirmed both feasibility and relevance of this study.

3.4 The Research Approach: Qualitative vs Quantitative vs Mixed Methods

The selection of an appropriate research methodology is fundamental for gathering and analysing data in alignment with the study's objectives (Mackey, Gass 2016). As categorised by scholars such as Bryman (2006), and Creswell

(2018), research methodologies fall into three types: quantitative, qualitative and mixed methods. Each approach offers distinct advantages and limitations, and none is inherently superior to others (Mackey, Gass 2016). The methodological choice should therefore depend on the nature of the research problem, the researcher's expertise, and the intended audience (Creswell 2018).

Quantitative methods emphasise the measurement and analysis of variables using statistical tools to establish patterns, correlations and test hypotheses within large samples (Apuke 2017). Conversely, qualitative research aims to explore complex phenomena from a holistic perspective (Creswell 2018) by examining motivations and behaviours, and permitting for open-ended inquiry (Hennink, Hutter, Bailey 2020). To bridge the drawbacks of both, a mixed methods approach integrates elements from both paradigms (Bigler, Amacker et al. 2019).

Whether using a qualitative or quantitative approach, Kumar (2019) states that the methodological decision should be based on the research problem. Qualitative research focuses on investigating, understanding and clarifying complicated circumstances without strictly depending on generalisation (Kumar 2019). Given the study's objectives, a qualitative approach was deemed most appropriate.

Merriam and Tisdell (2015) describe qualitative research as an interpretative technique that facilitates in-depth analysis by concentrating on participants' lived experiences. This is appropriate for understanding the distinct environment and dynamics of the HVAC industry through the employees' perspectives.

3.5 Case Study Research

A qualitative research approach was determined to be the most suitable for this dissertation, considering the objectives of designing a BSC. This study adopted a case study method to examine the BSC's applicability in an HVAC SME since it needs to be customised to every firm's particular conditions. The case study approach is extremely useful for analysing complex phenomena in real-world environments (Saunders, Lewis et al. 2019). According to Yin (2009), case studies allow researchers to investigate occurrences within their natural context.

3.5.1 Weaknesses of Case Study Research

While rich in contextual insights, case study research has been critiqued for its limited generalisability (Simon, Goes 2013; Flyvberg 2006). Nevertheless, this limitation is less relevant for this dissertation, which aimed to design a BSC tailored to one HVAC SME rather than develop generalised conclusions. The findings, however, may still inform similar firms seeking to adopt a BSC framework.

Another significant limitation involves managing and presenting large volumes of complex qualitative data (Yin 2011). Case study research can be tedious and heavily reliant on participant engagement, both of which can reduce productivity (Gaille 2018). Additionally, researcher bias is a known issue, as qualitative research often relies on subjective interpretation (Yin 2011).

This study used several tactics to overcome these weaknesses. Semi-structured interviews with well-defined objectives were carried out, and the data gathered was methodically coded to improve manageability.

3.6 Data Collection

This research utilised both primary and secondary data to address its objectives effectively. Primary data was collected through in-depth, semi structured interviews, a method known for its flexibility and ability to highlight detailed, rich insights (DeJonckheere, Vaughn 2019). These interviews incorporated open-ended questions to encourage participants to share spontaneous and thorough responses, while also allowing the researcher to probe further where necessary (Harrell, Bradley 2009). This primary data was supported by secondary sources, including internal documents from the case company, such as financial records, and external sources like academic journals, books, dissertations, and local studies. Together, these sources provided a robust foundation for analysis and enhanced credibility of the study.

3.6.1 Semi-structured Interviews

The study involved conducting 16 semi-structured interviews with 11 participants, each holding diverse roles and responsibilities within the HVAC SME, as depicted in Figure 3.3. These interviews took place on the firm's premises between November 2024 and December 2024 and lasted between 60 minutes to 180 minutes. To gain a comprehensive understanding of the company, participants were selected from all departments. It was deemed essential to include both owner-managers and all middle-level managers, as well as employees at lower organisational level to capture a holistic perspective of the operations.

Among the 12 HVAC technicians employed by the SME, interviews were conducted with 6 individuals. This selection was based on reaching the point of data saturation and prioritising technicians with the longest tenure, as their experience provided more valuable insights compared to recently hired employees. Prior to the interviews, participants were provided with an introduction letter and a set of interview questions. This preparatory step ensured that they were familiar with the research topic, facilitating more focused discussions during the interviews.

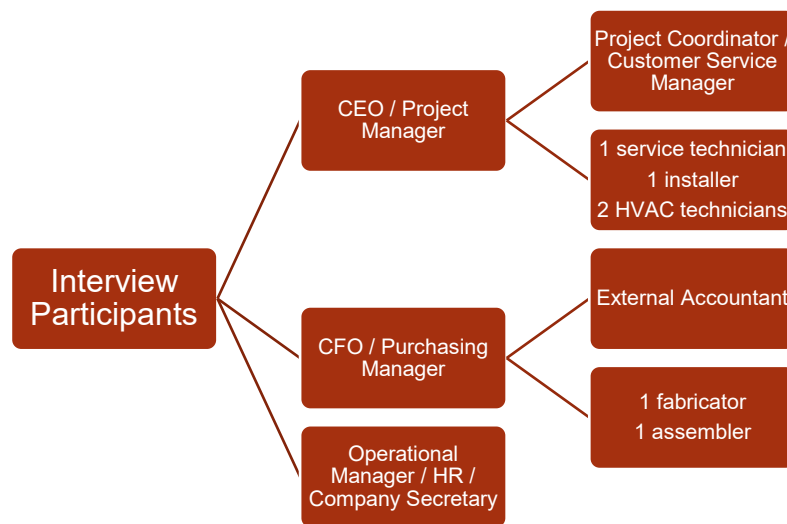


Figure 3.3: Interviewed Employees

3.6.2 Interview Schedule Design

The interview schedules, outlined in Appendix 2, were designed to explore the SME's SWOT, employees, operations, and relationships with the primary aim of developing of a BSC. Tailored to the diverse roles and responsibilities of each interviewee, the open-ended questions encouraged in-depth discussions about the business's inner workings, employee roles, targets and areas for improvement. Each interview was structured in two parts. The first part focused on obtaining a general understanding of the company, including the interviewee's main roles and responsibilities. The second part delved into specific departmental insights, emphasising PM and its integration with the BSC. This structured approach ensured that the collection of comprehensive data aligned with the study's objectives, enabling the creation of a valid BSC.

3.7 Data Analysis

For this study, thematic analysis was used to analyse the qualitative data collected. This method systematically identifies, organises, and interprets patterns within data, offering insights into shared meanings and experiences (Braun, Clarke 2012). Its accessibility and flexibility make it particularly effective for qualitative research, as it facilitates systematic coding and the linkage of findings to theoretical frameworks.

The analysis followed Braun and Clarke's (2006) six-phase framework: familiarising with the data, generating initial codes, searching for themes, reviewing those themes, defining and naming themes, and producing the report. Data from interviews was transcribed, thoroughly reviewed, and coded into smaller, meaningful segments, allowing for the identification of themes aligned with Kaplan and Norton's (1992) four BSC perspectives. Themes were reviewed to ensure adequacy, with links between perspectives noted for deeper insights. These themes were cross-referenced with the literature in Chapter 2 and adapted to the specific context of the case company, generating case-specific interpretations.

After drafting the BSC and the SM, validation interviews were conducted with the owner-managers. This was done to evaluate the appropriateness of the objectives, measures, targets and initiatives within each perspective.

The findings and discussions are presented in Chapter 4, reflecting the integration of participant views, thematic insights and literature comparisons. Through this rigorous process, the study ensured that the final BSC framework was comprehensive, actionable and tailored to the case company's operational and strategic context.

3.8 Limitations of this research

Apart from weaknesses of case study research, which was explored in Section 3.5.1, there are other limitations which might have occurred whilst collecting the data. The first limitation that was noticed is the subjectivity of responses from the interviewees. They might have provided biased or overly optimistic answers to reflect themselves or the company positively. The employees might have hesitated to voice their honest opinions about company weaknesses or areas of improvement due to the fear of getting sacked.

Moreover, even though the longest-serving employees working with the SME were interviewed, their insights were confined to the experiences and opinions of the selected participants. Employees may not have a comprehensive understanding of the company's strategic goals or challenges, leading to gaps in the data collection. Since English is not the HVAC technicians' first language, some might have not fully articulated their thoughts or might have omitted critical details due to a lack of understanding. The researcher's tone, phrasing of questions or reactions can unintentionally influence the responses, leading to skewed results. Since interviews are inherently less structured than quantitative methods, it makes it harder to compare responses across participants. Hence, the variability in the depth of answers can make it challenging to come up with consistent conclusions.

3.9 Ethical Considerations

Since sensitive information was gathered from management and HVAC technicians, several ethical issues are raised in this study. The CEO and founders of the SME were given a letter of introduction explaining the study's objectives and inviting them to join before the research proposal has been developed. This communication emphasised that all data collected would remain confidential and used solely for research purposes.

The Faculty's Research Ethics Committee assessed the suitability of the interview schedules before interviews were conducted. Each participant was asked to sign a consent form expressing their desire to participate in the study. Additionally, interviewees also had the right to withdraw their consent at any point while the study was underway.

The study did not reveal the names of the company or its employees to preserve confidentiality.

3.10 Conclusion

This chapter outlines the research methodology employed in this study, detailing the preliminary research, various methodological approaches, and concluding with data analysis and ethical considerations.

The next chapter will present and discuss the findings derived from the data analysis based on the methodology described in this chapter.

CHAPTER 4

Findings and Discussion

*“Process improvement programs are like
teaching people how to fish. Strategy maps and
scorecards teach people where to fish.”*

(Kaplan 2008)

4.1 Introduction

This chapter includes the research findings from the interviews held together with the analysis to attain the research objectives mentioned in Section 1.4.

Section 4.2 investigates the reason why the case company requires a PMS and provides reasons behind selecting the BSC as the implementation framework. Section 4.3 presents an overview of the SWOT analysis which supports the mission, vision and strategic direction of the firm. These two sub-sections combine to fulfil the first research objective.

The second and the third research objectives are achieved in Sections 4.4 through 4.6 by introducing the perspectives that lead to the BSC development and ultimately the drawing up of the SM.

Section 4.7 focuses on the elements and challenges that can affect BSC implementation in the case company. This discussion will fulfil the fourth research objective. The chapter's sections are illustratively represented in Figure 4.1 below.

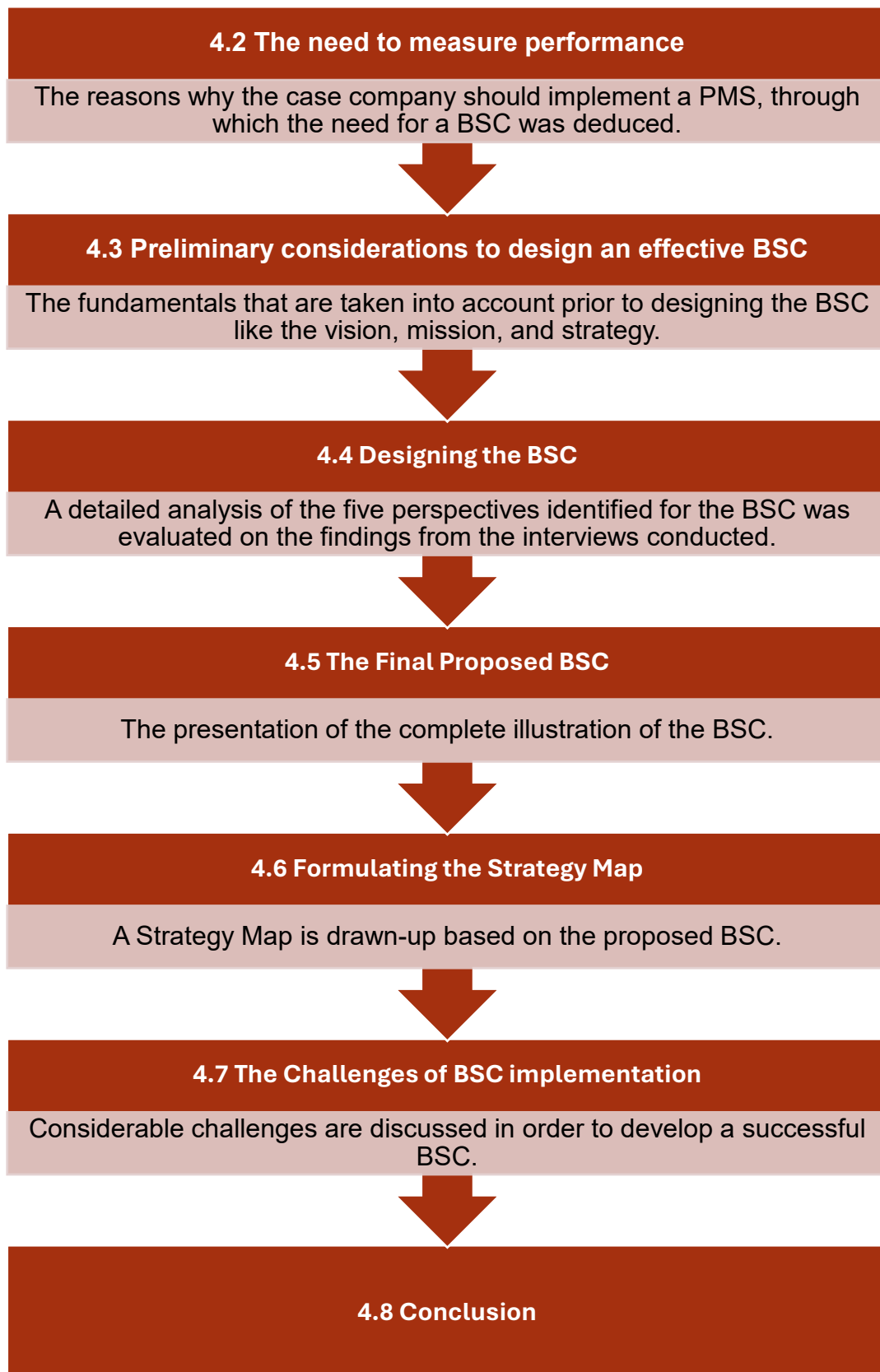


Figure 4.1: Overview of Chapter 4

4.2 The need to measure performance

To ensure growth, operational efficiency, and financial stability, an HVAC SME must implement performance monitoring systems. As Kaplan and Norton (1996) argue, financial measures alone cannot drive future business success. The BSC becomes necessary because it lets businesses connect their strategic goals to measurable performance indicators. In line with Horvathova, Mokrisova (2023), without a PMS, the HVAC SME risks performance irregularities that harm its ability to survive and become profitable in the long run.

Financial stability was highlighted by the CEO as the organisation's main priority:

“Profitability because ultimately, we want to make a profit from this business, and cashflow is important because we would not be able to pay our suppliers.”

However, the lack of financial KPIs such as profit margins, receivable days and cost efficiency ratios prevents the SME from monitoring its financial condition. Unmonitored profitability creates cashflow challenges besides allowing uncontrolled costs and preventing proper project evaluations according to the accountant's interview:

“The biggest financial risk is when the business does not know the issues that contributed in having a low profit. They turn to me, when they should have been the ones calculating the associated costs and revenues for each project beforehand and control costs as much as possible.”

Failure to adequately price services or effectively manage outstanding payables and receivables may expose the company to financial strain, disrupt supplier relationships, and result in delayed salary payments. The HVAC SME would achieve stronger financial stability through its implementation of net profit margin tracking, operating expense ratios and trade receivable days' monitoring.

Customer satisfaction requires the implementation of proper PMS. The Customer Service Manager discussed how the organisation lacked structured approaches to collect customer feedback except the normal *“are you happy with the result?”*. Such absence prevents the company from gathering repeat customer complaints and implementing solutions to speed up responses. Kaplan and Norton (1996)

identify customer satisfaction as a predicator of financial performance. Failure to monitor service delays will cause the SME to lose customers, which subsequently diminishes their market standing. A properly implemented BSC would provide the company with the best customer targets to optimise service quality outcomes.

The Customer Service Manager expressed concern about project delays which could ruin the SME's reputation. The interview results showed that inventory management together with technician's deployment system needed improvement due to *"delayed material delivery and shortage of staff because of overbooked technicians."* Research demonstrates that companies must focus on internal process optimisation to satisfy clients and preserve costs (Kaplan, Norton 2004). The SME becomes more operationally efficient through process KPIs which enable tracking of service completion time and inventory days.

The HR Manager highlighted that high turnover rates leads to *"increased recruitment and training costs and disrupts service continuity, which may potentially impact customer satisfaction and profits negatively"*. SMEs depend on employee retention for sustained growth (Upadhyay, Palo 2013). Yet, the SME lacks training and engagement metrics to monitor employee development, job performance, and satisfaction (Kaplan, Norton 1996).

The SME further lacks a sustainability agenda, even though it is important for future business growth. The CEO acknowledged the absence of environmental impact measurement tools. This threatens the firm's appeal to environmentally conscious clients, especially those that report under the Corporate Sustainable Reporting Directive (CSRD). As Danchev (2006) argues, integrating environmental metrics strengthens long-term competitiveness. Without sustainability tracking, the SME risks missed opportunities in green innovation and compliance.

4.3 Preliminary considerations to design an effective BSC

As previously stated in Chapter 2, part of Rohm's (1997) 'Nine Steps Framework' indicates that fundamental steps such as establishing mission, vision and

strategy with SWOT analysis create solid ground for developing effective objectives and performance measures. This aligns with Niven's research (2014), which suggests that organisations benefit from pre-implementation analysis by creating defined directions, lowering resistance to change and developing an organised system for BSC implementation within company operations. If firms don't lay a solid groundwork, their BSC just becomes a passive tool which fails to deliver ongoing improvement (Kumar, Lim et al. 2024).

4.3.1 Stating the vision and the mission

This section addresses the first research objectives being the establishment of a vision, mission and strategy. Echoing the views of Kaplan and Norton (2008), mission and vision statements guide decision-making by aligning staff efforts with strategic goals. The HVAC SME aspires to be recognised for exceptional quality and superior customer care. Its vision statement reflects a commitment to delivering high-quality HVAC solutions, emphasising skilled workmanship, friendly service, competitive pricing, and strong client relationships. These statements, presented in Figure 4.2, create a dependable link between the BSC's perspectives and the company's extensive goals.

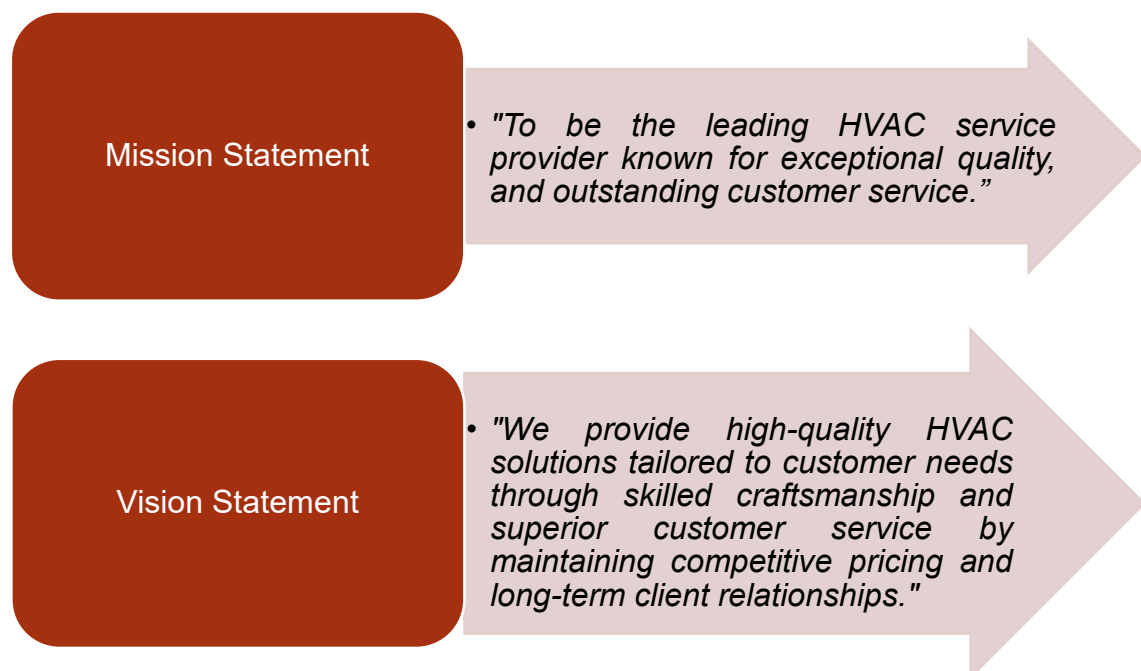


Figure 4.2: Vision and Mission Statements

4.3.2 Conducting a SWOT analysis

In line with Quezada's (2019) study, a thorough SWOT analysis is essential before BSC implementation. It enables the HVAC SME to identify its strengths, weaknesses, marketplace opportunities, and threats¹. According to Kaplan and Norton (2004), strategic alignment between the BSC and the firm's positioning allows firms to concentrate on critical competitive performance areas. After discussing with the CEO, CFO and the other managers, a few important focus areas were spotted as outlined in Figure 4.3 below.



Figure 4.3: SWOT analysis

The SME's strengths include skilled technicians, strong customer relationships and competitive pricing. However, weaknesses such as inefficient job schedules, poor organisational structure and inconsistent cashflows require tailored BSC objectives. Opportunities exist in rising demand for energy-efficient HVAC solutions and long-term maintenance contracts. Threats include rising material costs, growing competition, and high staff turnover. Therefore, consistent performance tracking and adaptability are necessary for long-term success.

¹ Appendix 1 (p. 110) for a comprehensive description of the HVAC SME's SWOT analysis.

4.3.3 Constructing a strategy

In line with Parmenter (2015) research, following the refinement of the mission and the vision in Section 4.3.1 and the SWOT analysis in Section 4.3.2, the next step is to develop a business strategy. For this SME, the strategy should centre on customer centricity, employee development and financial growth to ensure alignment with its vision.

4.3.3.1 Customer Centricity

The SME operates around its customers and the interviews held with the SME's employees exposed that customer relationships are a major strength. The company's lack of a structured system for measuring customer satisfaction causes important feedback to go unnoticed. A customer satisfaction tracking system will be established by the company to boost service quality and build customer trust as it enables them to feel heard and valued.

4.3.3.2 Employee Development

Among all company assets, the technicians and workforce represent its most valuable resources. Although the SME invests in the employees by continuously training them internally, these training hours are not recorded anywhere. Structured training sessions generate superior service delivered by more effective personnel that lead to customer satisfaction. Performance-based incentives should be introduced to reward employees so that they feel valued and motivated.

4.3.3.3 Financial Growth

Customers seek affordable solutions, but the SME must also ensure profitability for future growth. The CFO's interview revealed that pricing strategies are currently based on intuition rather than systematic cost analysis. The accountant stated that it is essential for the SME to monitor the profit per project to ensure that every contract contributes positively to revenue and to maintain competitive pricing while ensuring financial stability. The firm should introduce stringent policies to control cashflow problems so client delays will not harm financial performance.

4.4 Designing the BSC

The assessment of the literature review in Chapter 2, together with the case company data analysis led to the conclusion that the BSC needs to incorporate the perspectives shown in Figure 4.4. This section directly addresses the second research objective, which is designing a customised BSC with the relevant perspectives. The BSC implementation integrated a fifth perspective to the original four perspectives defined by Kaplan and Norton. According to Lansituoto and Jarvenpa (2010), the changing business needs of the environment serve as inspiration behind this additional viewpoint. Each of the five perspectives addresses the SME's objectives, measures, targets and initiatives, all of which were shaped by the findings from interviews with the case company. This aligns with the second stage outlined in Section 2.6.

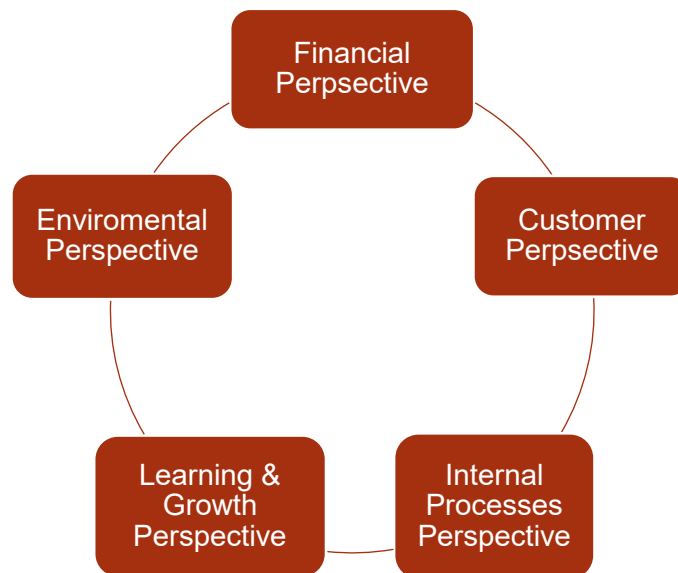


Figure 4.4: Perspectives of a BSC

4.4.1 The Financial Perspective

As noted by Bshayreh et al. 2024, the HVAC SME needs financial tracking methods with structured cost control systems and budgeting to keep itself competitive and maintain profitability. As mentioned in Section 4.2, the business faces financial challenges due to the absence of profitability tracking, pricing strategies and budget compliance. The implementation of BSC will help the

organisation improve its financial measurement and analysis so that better financial decisions are made leading to greater profitability.

4.4.1.1 Profitability Measurement & Pricing Strategies

Accurately measuring profitability and setting prices is crucial for the HVAC SME to ensure financial stability and support sustained growth. Kaplan and Norton (1996) noted that financial performance should not merely reflect historical data but should serve as predictive tools for future business success. In this context, the accountant suggested that one of the main goals should be ensuring that each contract contributes positively to overall profit.

A KPI identified by the accountant was *profit per contract*. This involves comparing total revenue from a specific contract with both its direct and indirect costs. The accountant recommended introducing basic cost budgeting using Excel and calculating the Overhead Absorption Rate (OAR) based on labour hours, since the services they offer are labour intensive. The OAR helps allocate overheads proportionately across contracts and prevents under-pricing, which could threaten financial stability, or overpricing, which could harm competitiveness. Since HVAC projects vary in scope and complexity, contract-level profitability analysis helps identify which services adds the most value and which erode profits.

Job costing can serve as a highly beneficial tool for the HVAC SME, especially because the SME often deals with custom installations and variable job specifications. By accurately tracing the costs associated with the individual jobs, the SME is better equipped to understand the cost structure of each service offered. Table 4.1 below illustrates an example of how the SME may develop a job cost card.

Job Cost Card - Client: ABC Limited				
Category	Description	Quantity/ Hours	Rate (€)	Total (€)
Direct Materials	AC Unit Model	1 unit	XXX	XXX
	Ducting & Insulation	Lump sum		XXX
Total Materials				XXX
Direct Labour	Technician A	10 hours	XX/hr	XXX
	Technician B	4 hours	XX/hr	XXX
Total Labour				XXX
Overheads	Allocated	14 hours	OAR	XXX
Total Job Cost				XXX
Markup (25%).	Cost-plus pricing			XXX
Selling price				XXX

Table 4.1: Job Cost Card - Example

The CFO stated that the company set Gross Profit Margin (GPM) and Net Profit Margin (NPM) targets at 25% and 10% respectively. However, Table 4.2 shows that these targets are not always achieved. Management's passive stance was reflected in the comment, *"it's not the end of the world. We will try to do better the next year."* According to Fooladvand et al. (2015), such underperformance should trigger an investigation into cost overruns, labour inefficiencies or pricing flaws.

Between 2021 and 2023, the SME kept a steady GPM, averaging 34%. It slightly decreased to 33% in 2022 before rising to 35% in 2023, indicating sound control over direct costs despite annual material price increases. In contrast, the NPM remained below the 10% target, registering at 2% in 2021, 7% in 2022, and 8% in 2023. As noted by Horvathova and Mokrisova (2023), this promising growth is offset by high administrative expenses, which substantially reduce profit. The gap between GPM and NPM suggests that although projects may appear profitable at the gross level, inefficiencies or overlooked overheads diminish returns.

	2021	2022	2023
Gross Profit Margin	34%	33%	35%
Net Profit Margin	2%	7%	8%

Table 4.2: Gross Profit Margin & Net Profit Margin for 2021-2023

The SME has set a strategic goal of increasing profits by 15% annually. As illustrated in Table 4.3, from 2021 to 2022, profits surged by 232%, primarily due to the weak performance in 2021, which was severely impacted by the COVID-19 pandemic. Management said that the pandemic caused project delays and administrative inefficiencies, reducing profitability. The 2022 rebound indicates a return to normalcy and improved operational conditions. Profit continued to grow 28% from 2022 to 2023, driven by increased revenue and expansion of the customer base, thereby exceeding the 15% growth target.

Year	% Profit growth from previous year
2021	-89%
2022	232%
2023	28%

Table 4.3: % profit growth from 2021-2023

An initiative to tracking the above KPIs better could be to integrate real-time expense tracking with financial management software, so managers can keep an eye on project costs as they happen instead of waiting for past data. However, in line with Ates et al. (2013), the accountant stated that he was not a fan of the idea since it is a small business, and such technology may produce more costs rather than benefits.

4.4.1.2 Cost Control

Congruent to Horvathova and Mokrisova's study (2023), the highest costs in the HVAC SME are labour costs, material costs and administrative expenses. As shown in Table 4.4., labour and material costs together accounted for 66% of total revenue in 2021, 67% in 2022, and 65% in 2023. Administrative expenses made up 30% of total revenue in 2021, 24% in 2022, and another 24% in 2023. In response, management expressed an intent to reduce labour and material costs to 60% and administrative expenses to 20% of total revenue within the next three years, without compromising the quality for which the company is recognised.

	2021	2022	2023
Labour & Material Costs	66%	67%	65%
Administrative Costs	30%	24%	24%

Table 4.4: % Costs of Revenue from 2021-2023

The CFO acknowledged that material costs have fluctuated significantly due to external geopolitical factors, including the Russia-Ukraine war. As demonstrated by Ghifari et al. (2022), this volatility complicates pricing, as rising input costs challenge the firm's ability to maintain competitive prices and satisfy customers. Without an effective cost control system like target costing, the SME risks reduced profit margins due to delayed financial oversight. The purchasing manager noted that inventory is fast-moving and suggested long-term fixed price contracts and bulk purchasing agreements to mitigate cost volatility. However, careful inventory management is necessary to avoid overstocking and potential waste.

Labour costs, another major expenditure, are particularly difficult to reduce without affecting service quality. The fabricator and assembler reported spending most of their time in the workshop, whereas installers and service technicians are primarily at client sites. A viable cost-reduction strategy is to improve technician scheduling by aligning job assignments with location and skill set, thereby minimising travel time. As explored further in Section 4.4.3, enhancing operational efficiency is one of the most effective ways to reduce labour costs. Congruent to Kairu et al. (2013), although training is provided, implementing cross-training programmes would allow technicians to perform a wider range of tasks, reducing the need for additional hires. Given recent technician shortages, cross-training can also serve as a short-term solution by enabling staff to fill in for absent colleagues.

Administrative expenses, although slightly reduced by 6% in 2022, have since remained stable. Despite limited financial resources, the company secretary proposed adopting a low-cost Enterprise Resource Planning (ERP) system. While the initial investment in an ERP system may appear substantial, it is a one-

time lump sum expense that can generate long-term efficiencies and cost savings. Regular monthly expense reviews would help identify and eliminate non-essential expenditures, aiding the firm in reaching its 20% administrative cost target.

4.4.1.3 Revenue Growth & Cashflow Stability

As dictated by Blackburn and Jarvis (2010), enhancing revenue and maintaining cashflow are essential for long-term survival of HVAC SMEs. Although the case company has excellent customer relationships, its dependence on one-time installation projects results in revenue volatility. The CFO stated, *“longer project durations tie up resources and delay payments, straining cash flow and reducing profitability.”*

Consistent with Rodrigo et al.’s (2014) research, a primary objective is to increase revenue through maintenance contracts, which are more predictable and help smooth out cashflow. The key measure for this objective is to calculate the *maintenance revenue ratio* to assess the firm’s ability to generate stable income streams. The CFO agreed that they would aim for a 30% increase in this KPI within the next 3 years in order to stabilise cashflow:

Maintenance Revenue Ratio

$$= \frac{\text{Total revenue from maintenance contracts}}{\text{Total Revenue}} \times 100$$

The numerator, revenue per maintenance contract, may be determined by estimating the service costs including labour, materials, allocated overheads, followed by the application of a profit margin. To support the maintenance revenue ratio, the SME should promote preventive maintenance plans to the current customers and offer discounted multi-year service agreements.

Fooladvand et al. (2015) underscores the importance of increasing revenue. The Revenue Growth Rate (RGR) is used to measure how effectively the company increases sales over time. From 2021 to 2022, the RGR was at 3%, and from 2022 to 2023, it increased to 7%. As discussed with management, the HVAC SME set a target RGR of at least 10% annually:

$$\text{Revenue Growth Rate} = \frac{\text{Current revenue} - \text{Previous revenue}}{\text{Previous period revenue}}$$

If revenue growth slows, management should assess whether it stems from ineffective customer acquisition strategies or declining competitiveness. Social media advertising was identified as a cost-effective strategy to attract new customers. However, the SME must ensure its marketing efforts are tailored and efficient, as customer acquisition is expensive, and the HVAC sector is highly competitive. Werner and Xu (2012) emphasised that offering sustainable HVAC solutions can differentiate firms and attract high-value clients, though such innovations require upfront investment in equipment and technician training.

Following Ates et al. (2013), a rapidly growing HVAC SME may struggle with cashflow, particularly if the business overextends its operational capacity. This phenomenon is commonly referred to as overtrading, and it occurs when expansion outpaces working capital, leading to liquidity issues and service inconsistencies. Management was advised to monitor growth carefully and implement cashflow forecasting to detect and address projected shortfalls.

Revenue growth does not guarantee liquidity, and therefore, one of the KPIs for cashflow management is *Receivable Days*.

	2021	2022	2023
Receivable Days	30 days	29 days	45 days

Table 4.5: Receivable Days from 2021-2023

It was suggested that the HVAC SME targets for a 30-receivable days period. To reduce the receivable days, the HVAC SME can send payment reminders to the customers, offering discounts for early payments and tightening up credit policies for new customers. However, the SME must consider that strict payment policies might deter some customers, especially since most of their customers are commercial ones. Such clients are known to hold off on payments because of slow corporate payments cycles, which can really delay the income for the HVAC firm.

The HVAC SME must have the operational setup to keep up with fast growth because it could run into service delays and logistical inefficiencies, ultimately hurting customer satisfaction.

4.4.1.4 Financial Perspective Summary

Table 4.6 gives a quick rundown of the financial perspective's objectives, KPIs, targets and initiatives that will be part of the final HVAC SME Scorecard.

Objective	KPIs	Targets	Initiatives
Profitability Measurement	Profit Per Contract	10%	Implement job costing and forecast profit before the work begins. Introduce post-project profitability reviews to identify deviations from the job card.
	Gross Profit Margin	25%	Adopt a cost-plus pricing model. Improve procurement practices to reduce material costs through bulk purchasing.
	Net Profit Margin	10%	Streamline administrative processes using automation tools.
	% Yearly Profit Increase	10%	Diversify services to increase recurring income. Monitor the profit regularly to adapt quickly if target is not met.
Cost Control	% Material & Labour Cost to Revenue	60%	Track labour efficiency per job and reward high performance.
	% Administrative Cost to Revenue	20%	Invest in an ERP system. Managers work from home.
Revenue Growth	Maintenance Revenue Ratio	30%	Group HVAC services to ensure recurring revenue.
	Revenue Growth Rate	10%	Promote the firm on social media.
	Receivable Days	30 days	Implement clear credit terms & offer early payment discounts.

Table 4.6: Financial Perspective Summary

4.4.2 The Customer Perspective

One of the HVAC SME's strongest competitive advantages is customer satisfaction. The customer service manager stated that *“one of our biggest strengths is definitely our reputation for great customer service. People know they can rely on us.”* This has set them apart from larger competitors who often depend on subcontractors, whereas this SME maintains a more direct and personal relationship with its clientele. Congruent to Pham et al. (2020), these personalised interactions have translated into a high number of referrals. However, despite the strength of its customer relationships, the SME lacks a formal system to measure and track customer satisfaction over time, instead relying on informal feedback collection. This gap presents a missed opportunity for continuous service improvement.

The BSC plays an important role in maintaining customer satisfaction as a competitive advantage. It provides a structured framework for setting clear goals, targets and KPIs, and roll out strategic initiatives (Kaplan, Norton 1996).

4.4.2.1 Customer Satisfaction

According to the CFO, the SME's focus on communication and detail really helps in *“customer referrals”*. Following Dunsby (2024), maintaining service excellence through systematic feedback collection should be a primary objective. A key metric is the CSAT, which looks at how customers feel about the service after it is completed:

$$\text{Customer satisfaction} = \frac{\text{Number of positive responses}}{\text{Total number of responses}} \times 100$$

In the validity interview, management agreed to implement a post-service survey for customers to provide ratings and comments. They stated that they would aim for a CSAT score of at least 90% to make sure most customers are happy with their experience. Consistent with Punniyamoorthy, Murali (2008)'s research, a drop below this threshold would signal the need to evaluate service performance components such as response time or quality. To support this goal, the SME plans to introduce personalised follow-up calls aimed at enhancing the customer experience and ensuring feedback is acted upon.

Management has established a Net Promoter Score (NPS) to see how likely customers will recommend the SME's services. Customers score their chances on a scale from 0 to 10, with Promoters (9-10) being super happy, Passives (7-8) being indifferent, and Detractors (0-6) not satisfied at all. A high NPS reflects strong customer advocacy, while a decline may indicate issues requiring attention. Management aims to maintain a high NPS by reaching out to detractors to resolve their concerns, thereby protecting the firm's reputation and sustaining customer referrals.

Quick and efficient service delivery is another key in maintaining high satisfaction. The Operations Manager flagged the difficulty in balancing "*immediate response times with high quality service*", particularly during high-demand periods. Although automation in scheduling could alleviate this issue, the SME has deferred such investment due to perceived cost-benefit imbalances. Instead, the firm is ready to introduce an average response time:

$$\text{Average Response Time} = \frac{\text{Total time taken to respond}}{\text{Total number of responses}}$$

If response times go over acceptable limits, customers might get frustrated and look elsewhere. Hence, management set a target average response time of under 4 hours for emergency calls and under 24 hours for regular services. To hit this target, technicians will be deployed based on job urgency, location and availability. Such deployments will be recorded so that if an emergency happens, the technicians who are nearest and readily available would assist immediately.

4.4.2.2 Service Quality

In line with Almedia et al. (2022), service quality is a fundamental driver of customer satisfaction. To maintain service quality, management decided they needed a formal feedback system gathering insights about what the customers feel the most satisfied about. As highlighted by Krishnan (2008), monitoring satisfaction trends is vital for maintaining competitiveness. Categorising common complaints, such as delayed service or repeated equipment failure, can help identify root causes and guide corrective actions. For instance, if a significant percentage of complaints related to poor installations, potential responses could

include additional technician training, quality control checks post-installation, or switching to higher-quality suppliers.

Management has agreed to keep an eye on a *complaint resolution rate* in order to track how quickly they address customer complaints:

Complaint Resolution Rate

$$= \frac{\text{Resolved complaints in a given period}}{\text{Total complaints received in a given period}} \times 100$$

The SME is aiming for a complaint resolution rate of 80%, signalling a commitment to prompt and effective issue resolution. Ideally, it is best to stop complaints before they even happen. Many of them arise due to delays, miscommunication and poor equipment quality. Introducing strict quality control procedures can reduce such complaints. However, as Nørreklit (2000) argues, implementing a Total Quality Management (TQM) within SMEs can be constrained by limited resources. To mitigate this, the CEO proposed a standardised service checklist to ensure consistency in job completion without excessive time or cost.

Customer dissatisfaction often arises not solely from poor service but from misaligned expectations. Management noted that misunderstandings arise because of incorrect service quotes and timelines. For example, complex repairs in an air duct can frustrate customers if completion times are underestimated. To address this, the SME must prioritise transparent and accurate communication regarding service timelines.

4.4.2.2.1 Sustainable service giving

According to Dunsby (2024), sustainability is becoming a key differentiator in the HVAC industry. With increasing customer preference for eco-friendly solutions, the SME must adapt or risk losing market share. To this end, a new metric has been introduced:

$$\text{Sustainable Project \%} = \frac{\text{Sustainable HVAC projects}}{\text{Total projects completed}} \times 100$$

This metric tracks the proportion of installations involving energy-efficient systems. When discussing with management, it was estimated that a target of 30% within three years is to be achieved to demonstrate environmental commitment. Aligned with Rossi's (2023) conclusions, low uptake may indicate that customers are unaware of or deterred by the perceived cost of sustainable options. To counteract this, management plans to educate customers on long-term cost savings and performance benefits associated with green HVAC systems.

4.4.2.3 Preserving Customer Trust through Maintenance Contracts

As highlighted in Section 4.4.1.3, transitioning the business model toward long-term maintenance contracts offers opportunities for greater financial stability and improved customer satisfaction. These contracts must consider visit frequency, operational costs and pricing. One of the main goals is to grow the percentage of customers signed up for maintenance contracts:

$$\text{Maintenance Contract Rate} = \frac{\text{Total maintenance contract customers}}{\text{Total customers}} \times 100$$

This informs management the portion of the total customers that are opting for long-term service instead of just one-off installations. Management proposed a target of at least 40% of customers on maintenance contracts within two years. Reflecting Rodrigo et al.'s (2014) study, a low rate may suggest that customers do not see enough value in servitisation, prompting a need for compelling pricing or clearer communication of benefits. To encourage uptake, the SME plans to offer discounted contracts for the first year and train the technicians to promote the advantages of preventive maintenance during service visits.

Congruent to Almeida et al.'s (2022) paper, the key to long-term success of maintenance contracts is customer retention. Therefore, the *customer retention rate* would be ideal to expose what percentage of customers renew their maintenance contracts instead of cancelling after their first term:

$$\begin{aligned} &\text{Customer Retention Rate} \\ &= \frac{\text{Customers renewing maintenance contracts}}{\text{Total maintenance contract customers}} \times 100 \end{aligned}$$

A target of 80% was set to ensure continued customer engagement and satisfaction. A declining retention rate would signal potential dissatisfaction with contract value or execution. To mitigate this, the firm must ensure that maintenance contracts are properly priced, based on accurate assessments of labour, material, overheads and desired profit margins.

4.4.2.4 Customer Perspective Summary

Table 4.7 summarises the customer perspective's objectives, KPIs, targets and initiatives that will be part of the final HVAC SME Scorecard.

Objective	KPIs	Targets	Initiatives
Customer Satisfaction	CSAT	90%	Introduce post-service surveys to capture feedback.
	NPS	9-10	Actively follow up with Detractors to resolve issues.
	Average Response Time	4 hours (emergency) 24 hours (regular)	Start deploying technicians based on job urgency, location and availability.
Service Quality	Customer Issues	20% of 1 issue type	Introduce quality assurance checklists for each type of service.
	Complaint Resolution Rate	80%	Implement strict quality control measures to ensure that every project is done right.
Sustainable Service	% Sustainable Projects	30%	Promote green HVAC systems by educating clients about the long-term energy cost-savings.
Trust Preserved Through Maintenance Contracts	Maintenance Contract Rate	40%	Introduce discounted contracts for the first year. Train technicians in emphasising the benefits of preventive maintenance when talking to customers.
	Customer Retention Rate	80%	Discounted renewals for returning maintenance contracts.

Table 4.7: Customer Perspective Summary

4.4.3 The Internal Process Perspective

To remain efficient, cost-effective, and competitive, the HVAC SME must address internal inefficiencies in procurement, inventory control, supplier relationships, and workflow standardisation. The Operations Manager commented that:

“Sometimes, it takes a long time for specific parts to be received... Unpredictable demand is a challenge ... if they need something big, we might have to wait until all the products are in our hands.”

Without solid performance tracking, the firm is facing unnecessary delays, risks in the procurement process and not utilising resources to their full potential.

By implementing the BSC, the SME can keep an eye on critical metrics, fine-tune job scheduling and improve how inventory is managed to make sure that projects wrap up in time.

4.4.3.1 Inventory & Supplier Management

As evidenced in Marketos and Theodoridis’ (2006) article, managing inventory and suppliers efficiently is crucial for maintaining excellent service quality. The CFO stated that inventory is fast-moving, with most classified as work-in-progress (WIP) at year-end, typical for project-based businesses. Monitoring WIP helps management assess resource use and detect potential project delays early, enhancing transparency and customer trust. However, the reliance on WIP also delays payments from clients. Given the SME’s limited financial flexibility, this can hinder the ability to pay suppliers promptly and affect access to bulk discounts.

Therefore, it was suggested that management measures *payable days* to see the average time it takes the company to settle its obligations with the suppliers. In 2021, it took the SME 153 days to pay suppliers. In 2022, payable days increased to 216 days and in 2023, it decreased significantly to 93 days.

	2021	2022	2023
Payable Days	153 days	216 days	93 days

Table 4.8: Payable Days from 2021-2023

This improvement was due to better cashflow. Management now targets a 90-day or lower threshold to preserve supplier relationships and maintain favourable credit terms.

To further streamline procurement, the firm will adopt the Economic Order Quantity (EOQ) to determine optimal order sizes and reduce inventory-related costs. EOQ calculations will consider past demand, project timelines, and supplier reliability. By doing so, the SME aims to minimise last-minute orders and ensure critical parts are always available.

4.4.3.2 Operational Efficiency & Process Optimisation

The argument made by Lipe and Salterio (2000) supports that operational efficiency and process optimisation are important for the HVAC SME to maintain profits, finishing projects on time and providing a great service. The SME often suffers from inaccurate cost estimates, which undermine pricing strategies and resource allocation.

The main goal is to get better at project scheduling and completing tasks on time to increase service delivery and customer satisfaction. This can be done by measuring how much the actual time differs from what was planned:

Project Completion Time Variance

$$= \frac{\text{Actual Completion Time} - \text{Planned Completion Time}}{\text{Planned Completion Time}} \times 100$$

A high rate indicates delays, which may result in lost opportunities to attract new customer who require work to be done within a short period of time, increase labour costs and possibly lead to penalties if contracts are breached. Therefore, management has chosen to set a target rate of 10% or less variance to ensure that most projects remain on schedule.

Echoing the results of Raval et al. (2019), another key objective is to tighten up cost control. Therefore, a KPI measuring the gap between what was estimated and what was spent on completed projects was established:

$$\text{Cost Deviation} = \frac{\text{Actual Project Cost} - \text{Estimated Project Cost}}{\text{Estimated Project Cost}} \times 100$$

Management settled that this rate is to be below 10% to ensure that they are forecasting costs accurately, especially because they are new to budgeting. As time passes and the SME decides to adopt target costing, they will try to aim for this rate to be at 5%. If cost deviation exceeds the target, management must analyse the cost drivers being material and labour costs, as previously mentioned in Section 4.4.1.2, or inefficiencies, and unexpected issues on site. This will be achieved by using detailed cost estimation models, checking out historical project data and reviewing finances after every project.

4.4.3.2.1 Process Standardisation & Workflow Efficiency

As affirmed by Kaplan and Norton (1996), to keep things running smoothly, it is crucial for the HVAC to standardise the processes and optimise workflows. This helps them to deliver consistent service, cut down labour costs and administrative expenses, and get the scheduling right. Emergency jobs/repairs disrupt workflows, causing delays in scheduled projects. Manual coordination between office staff and technicians slows down job assignments, which creates inefficiencies. Without standardised installation procedures, some jobs take longer and require management intervention. The accountant remarked that:

“Management should have a structure (pyramid) ... inefficiency arises due to bad decision-making ... If they are short-staffed, they should not be the ones.”

Another goal is making sure installations are done right. When there are inconsistencies, costs and service times increase. This is where an *Installation Accuracy Score* comes in to track how many jobs can be completed without defects or straying from the standards:

$$\text{Installation Accuracy Score} = \frac{\text{Total Accurate Installations}}{\text{Total number of installations}} \times 100$$

Management is aiming to score at least 95% to make sure installations are up to standard. If that target is not reached, it points to a need for more training, tightening up installation guides or possible quality issues with the materials used. Therefore, management is willing to have formal quality control steps such as

standardised installation protocols, spot checks from management, and post-installation inspections.

4.4.3.3 Technology adoption for process improvement

The current use of informal methods to track inefficiencies fails to provide a complete picture. Job prioritisation is based on revenue potential, complexity, and deadlines. However, without structured tracking, hidden inefficiencies persist. While office-technician communication is functional, manual scheduling contributes to delays and errors. Aligning with Ganesan et al.'s (2009) research, although budget constraints prevent a full technological overhaul, incremental upgrades are being considered. At present, technology is only updated when breakdown occurs. The Operations Manager argued that *“investing in technology that enables automation is costly, but I can focus on other important things rather than doing everything manually”*.

Management has expressed the need for a technological ROI KPI to expose whether new tools are generating financial benefits compared to the cost:

Technology ROI

$$= \frac{\text{Efficiency gains} + \text{Cost savings} - \text{Technology Investment Cost}}{\text{Technology Investment Cost}} \times 100$$

That is why a target ROI of at least 20% within two years was implemented to help management see the real value from these investments. If the ROI is low, management shall investigate whether there are cheaper options that could be more cost effective. For instance, bringing in automated invoicing and payment follow-up tools will help manage cashflow better by cutting billing errors and ensuring they get paid on time. Using an ERP system will also make it easier to keep track of materials and reduce stock issues as per Section 4.4.3.1. It is important to offer employee training on these technological updates to make sure that staff is on board and ready to get the most out of the technological investment.

4.4.3.4 Internal Process Perspective Summary

Table 4.9 illustrates the internal process perspective's objectives, KPIs, targets and initiatives that will be part of the final HVAC SME Scorecard.

Objective	KPIs	Targets	Initiatives
Supplier Management	Payable Days	90 days	Establish long-term supplier agreements that secure 90-day payment terms without penalties or lose early payment discounts.
Increase Operational Efficiency	Project Completion Time Variance	10%	Assign jobs based on technician skills, proximity, and availability to reduce idle time. Monitor job progress to flag early warning signs of project delay.
	Cost Deviation	<10%	After each project, conduct reviews to identify cost overruns and revise future budgeting assumptions.
	Installation Accuracy Score	95%	Create task-specific checklists to guide technicians through standard procedures. Train technicians regularly to upskill them on complex systems.
Technology Adoption	Technology ROI	20%	Train employees to maximise usage of new adopted technology tools. Track process improvements and time-saved post-implementation to quantify the benefits.

Table 4.9: Internal Process Perspective Summary

4.4.4 The Learning & Growth Perspective

The HVAC SME has a talented team, but they could really use some solid training in topics like financial knowledge, leadership skills, performance tracking new technologies and new processes. While the HR Manager claimed that “*we compensate the employees competitively with the market and foster a positive work environment*”, the lack of structured training and performance monitoring may still contribute to inefficiencies and high employee turnover. The company can start measuring how effective their training is, boost motivation and improve employee retention rates by implementing the BSC framework.

4.4.4.1 Skill Development & Training Needs

As noted by Parmenter (2015), continuous skill development is essential for maintaining operational efficiency and improving financial decision-making. Presently, key managerial staff demonstrate insufficient competency in cost analysis and budgeting, posing risks to strategic planning. The accountant advised,

“They could take a management accounting course to be able to calculate the planned profit and see whether the contract is loss-making or not.”

By investing in management accounting programmes, managers can equip the team with the business acumen needed for tighter financial control.

According to Narayanamma and Lalitha (2016), the main goal should be to boost financial knowledge among the key team members to improve business decisions. Therefore, a *training hours per employee* KPI will be implemented to see how many hours each employee spends on business management training. Management approved that a target of at least 30 hours of training per employee each year is set so that the team gets enough financial training. If the numbers are low, they shall implement initiatives like mandatory workshops on pricing strategies and budgeting training.

All HVAC technicians said that it is management that provides them with training throughout the year. They also informally watch YouTube videos or read HVAC news on the internet. To assess whether the SME is investing sufficiently in

upskilling its workforce over time, it should conduct an *annual comparison of its training hours*. Management has agreed to set a 10% year-on-year increase in training hours. This KPI would allow management to ascertain progress in employee development and to ensure the workforce remains competent. Therefore, the SME may offer certification-based external training and financially supporting employees in their studies.

4.4.4.2 Employee Productivity

As demonstrated by Albertsen and Lueg (2014), keeping employees productive and engaged is important because it affects how well operations run, the quality of the service they provide, and workforce retention. The fact that the firm does not track performance makes it difficult to spot any inefficiencies or recognise top performers. They only track how long it takes to complete a job, but that does not show how complex some tasks are, how well service was delivered, or how much work the technicians are handling. Management does not monitor employee engagement, which means there's not much recognition or incentives tied to performance. Consistent with Werner and Xu's (2012) paper, all the interviewed employees said that they would like a performance bonus to not lose motivation over time.

Management's aim is to maximise efficiency without burning anyone out. Therefore, they will be measuring an employee utilisation rate, which is a percentage of the available hours that technicians are spending on productive work that clients are paying for:

$$\text{Employee Utilisation Rate} = \frac{\text{Billable hours worked}}{\text{Total available work hours}} \times 100$$

Aiming for a target of at least 80% helps keep the technicians busy while ensuring they do not get overwhelmed. If this rate decreases, it probably means that management is not assigning jobs efficiently. It is important to note that traveling to and from client sites is factored into total available hours but excluded from the billable hours' numerator. Initiatives like better distributing workloads and performance-based initiatives can really help with this.

The HR Manager expressed that:

“Success is measured through reduced turnover and higher employee satisfaction. They show this whenever something urgent happens on the weekends, they are still willing to work on such days.”

As observed by Upadhyay and Palo (2013), keeping employees engaged and motivated is critical for long-term productivity. Hence, management stated that they will start conducting regular anonymous employee satisfaction surveys to be able to address morale issues and concerns:

$$\text{Employee Satisfaction Index} = \frac{\text{Total positive survey responses}}{\text{Total survey responses}} \times 100$$

Management highlighted that aiming for a target of at least 85% is key to keeping high morale and engagement. If they notice that this index is dropping, they will implement initiatives like performance bonuses and promotions to help increase job satisfaction.

4.4.4.3 Workforce Retention & Turnover Risks

Hepler et al. (2016) emphasise keeping the workforce happy and committed is important, especially since the firm relies on foreign labour. This makes the SME vulnerable to employee migration and job instability. When turnover is high, it can really throw a wrench in the works, making it tough to keep things running smoothly. It also comes with extra costs for hiring and training new employees, which can slow down overall efficiency. When talented team members leave, there is always a gap as newcomers take their time to get up to speed. Therefore, to tackle this, a solid retention plan that boosts job satisfaction and opens up promotions is needed.

It was decided to start tracking the *employee turnover rate* and aim for a target of under 15% a year to help keep a steady workforce and reduce disruptions caused by frequent resignations. If turnover rates increase, management implemented a policy to dig into insights from exit interviews to find out why people are leaving and start initiatives like better working conditions, promotions and salary increases.

4.4.4.4 Learning & Development Perspective Summary

Table 4.10 displays the learning and development perspective's objectives, KPIs, targets and initiatives that will be part of the final HVAC SME Scorecard.

Objective	KPIs	Targets	Initiatives
Skill Development & Training Needs	Training hours per employee	30 hours	Mandatory workshops on management accounting. Training sessions on pricing strategies and budgeting training.
	Annual Comparison of Training hours	10%	Paying the certification exam fees and providing study materials and practice tests. Offer bonuses, pay increases for successfully completed certifications.
Employee Productivity	Employee Utilisation Rate	80%	Better distributing workloads. Convert more clients to maintenance contracts.
	Employee Satisfaction Index	85%	Surveys to assess employee sentiment regularly. Encourage open communication.
Workforce Retention	Turnover Rate	<15%	Exit interviews. Better working conditions.

Table 4.10: Learning & Development Perspective Summary

4.4.5 The Environmental Perspective

Even though environmental sustainability has not been a top priority for the SME because they “*do not measure it*”, it is starting to become a big deal for staying competitive in the future. Currently, the absence of immediate regulations and not much customer demand reflects the findings of Kalendar and Vayvay (2016), who emphasised that such companies can carefully map out their sustainability efforts without feeling the immediate financial pressure later.

4.4.5.1 Regulatory Landscape

Rossi (2023) pointed out that the regulatory environment within the HVAC sector is changing, with a growing focus on environmental sustainability and energy efficiency. While the HVAC SME currently functions without stringent legal mandates enforcing eco-friendly practices, regulations such as the CSRD, might impose more strict compliance requirements. The CSRD requires sustainability reporting for larger enterprises, but as regulatory frameworks broaden, even SMEs may be required to disclose their environmental impact of its operations as part of the client’s sustainability requirements. Preparing for these upcoming challenges will help ensure the company remains ahead of compliance expectations and secures a competitive advantage in the market.

In response, management has started investing in sustainability initiatives such as installing solar panels, replacing outdated vehicles with hybrids, and enacting waste management policies. Rossi (2023) continues to argue that waste management and minimising carbon emissions are essential sustainability areas that the SME must tackle to meet changing environmental standards. Other initiatives include recycling, transitioning to paperless operations, offering remote work to administrative staff, and reducing waste. However, these efforts remain informal and inconsistently applied, with no systematic tracking. Formalising and monitoring these initiatives are necessary to meet future environmental standards and demonstrate regulatory compliance.

A central objective is to minimise the firm’s environmental impact prior to stricter sustainability regulations. The *carbon footprint reduction* tracks the percentage reduction in carbon emissions stemming from operational activities:

Carbon Footprint reduction

$$= \frac{\text{Prior year emissions} - \text{Current year emissions}}{\text{Prior year emissions}} \times 100$$

A target of 15% over five years would ensure a gradual shift towards more energy-efficient operations. If this percentage remains inadequate, the company should adopt hybrid service vehicles and invest in more energy-efficient HVAC equipment. These energy efficiency initiatives might make the HVAC firm eligible under the EU Taxonomy to figure out whether the SME's activities can actually contribute to sustainability goals.

4.4.5.2 Financial Considerations & Cost Barriers

Nonetheless, a significant barrier to sustainability remains the high upfront cost of green systems, an issue also highlighted by Rossi (2023). Although long-term savings are possible, limited financing capacity may prevent the SME from pursuing such investments without external support, such as grants or tax incentives. The company has yet to investigate available government aid that could mitigate these financial burdens.

To evaluate the financial viability of green investments, the SME should apply tools such as the Net Present Value (NPV), which compares future cash inflows with initial outlays. NPV analysis also enables the company to prioritise projects based on expected financial returns.

Additionally, management should assess the ROI on sustainability projects. As indicated by Rossi (2023), the integration of sustainability with financial objectives is vital. Management has set a minimum ROI target of 15% within five years to ensure that these sustainability investments help keep the company's finances in good shape. Where ROI projections fall short, comprehensive cost-benefit analyses should precede any adoption of new technologies. Over time, the SME can also consider the payback period of investments to see how long it takes for a sustainability investment to generate money and cover upfront costs. A target of less than five years ensures that green investments stay financially feasible.

Another objective is to keep track of and maximise savings from energy-efficient solutions. The *energy cost savings ratio* can help in showing the percentage drop in energy costs after implementing sustainable technologies:

Energy Cost Savings Ratio

$$= \frac{\text{Previous energy cost} - \text{Current energy cost}}{\text{Previous energy cost}} \times 100$$

Management decided that this target be 20% within 3 years to make sure that investments in sustainability lead to real cost cuts. If this target is low, the company training employees on energy-saving practices. However, the ratio has inherent limitations, as it assumes constant operating conditions. In reality, variations in customer volume and project intensity may distort outcomes. For instance, fewer customers in one year could reduce energy use independently of sustainability efforts, while increased workload could inflate energy consumption despite green updates. Hence, this ratio must factor in the number of contracts completed to better reflect operational efficiency no matter whether business is growing or not.

4.4.5.3 Market Demand & Customer Perception

Market conditions in Malta pose further challenges. Customer demand for sustainable HVAC solutions remains limited, with cost and system reliability as the primary concerns. This puts the company in a tight spot when it comes to making big investments in going green. The CEO noted that:

*“We want to start servicing green solutions but that’s not up to us.
It mostly comes from when the clients will start asking us to.”*

However, things might start to change as people become more aware of the new regulations push for eco-friendly systems. Dunsby (2024) contends that big companies, especially those serious about ESG commitments, are likely to want sustainable solutions soon. This could open a new revenue stream for the SME. Hence, they need to keep an eye on what customers want, track how much money is coming from sustainable HVAC installations, and help educate the

market on the cost-benefits of going energy-efficient. These findings are consistent with the observations reported by Suganda and Gabriel (2021).

A key goal is to keep track of how customer interest is shifting towards sustainable HVAC solutions. This can be measured by calculating the percentage of total revenue arising from sustainable HVAC solutions to match changing customer preferences:

$$\begin{aligned} & \text{Revenue from green HVAC solutions} \\ &= \frac{\text{Revenue from green HVAC services}}{\text{Total Revenue}} \times 100 \end{aligned}$$

Management stated that they would aim for a target of at least 20% within five years. If this target is not met, management decided to recommend HVAC solutions to potential clients and offer incentives like discounts on energy-efficient installations to push for more adoption.

4.4.5.4 Environmental Perspective Summary

Table 4.11 shows the environmental perspective's objectives, KPIs, targets and initiatives that will be part of the final HVAC SME Scorecard.

Objective	KPIs	Targets	Initiatives
Regulatory Landscape	Carbon Footprint Reduction	15%	Replace older service vans with electric vehicles. Prioritise eco-friendly HVAC inventory from suppliers who comply with EU standards. Invest in energy-efficient HVAC equipment.
Financial Consideration	Sustainable ROI	15%	Use NPV and Payback to prioritise energy-efficient upgrades that yield long-term returns.
	Energy Cost Savings Ratio	20%	Use solar panels to reduce warehouse utility bills. Use smart energy meters to detect areas of high consumption.
Market Demand	Revenue from green HVAC solutions	20%	Recommend HVAC solutions to potential clients. Offer incentives like discounts on energy-efficient installations.

Table 4.11: Environmental Perspective Summary

4.5 The Final Proposed BSC

Figure 4.5 presents the proposed BSC for the HVAC SME by incorporating the five perspectives, and their underlying components identified in Section 4.4. The central blue circle symbolises the vision, whilst the orange, green and pink arrows depict the strategy through which this mission is to be achieved, as discussed in Section 4.3.3.

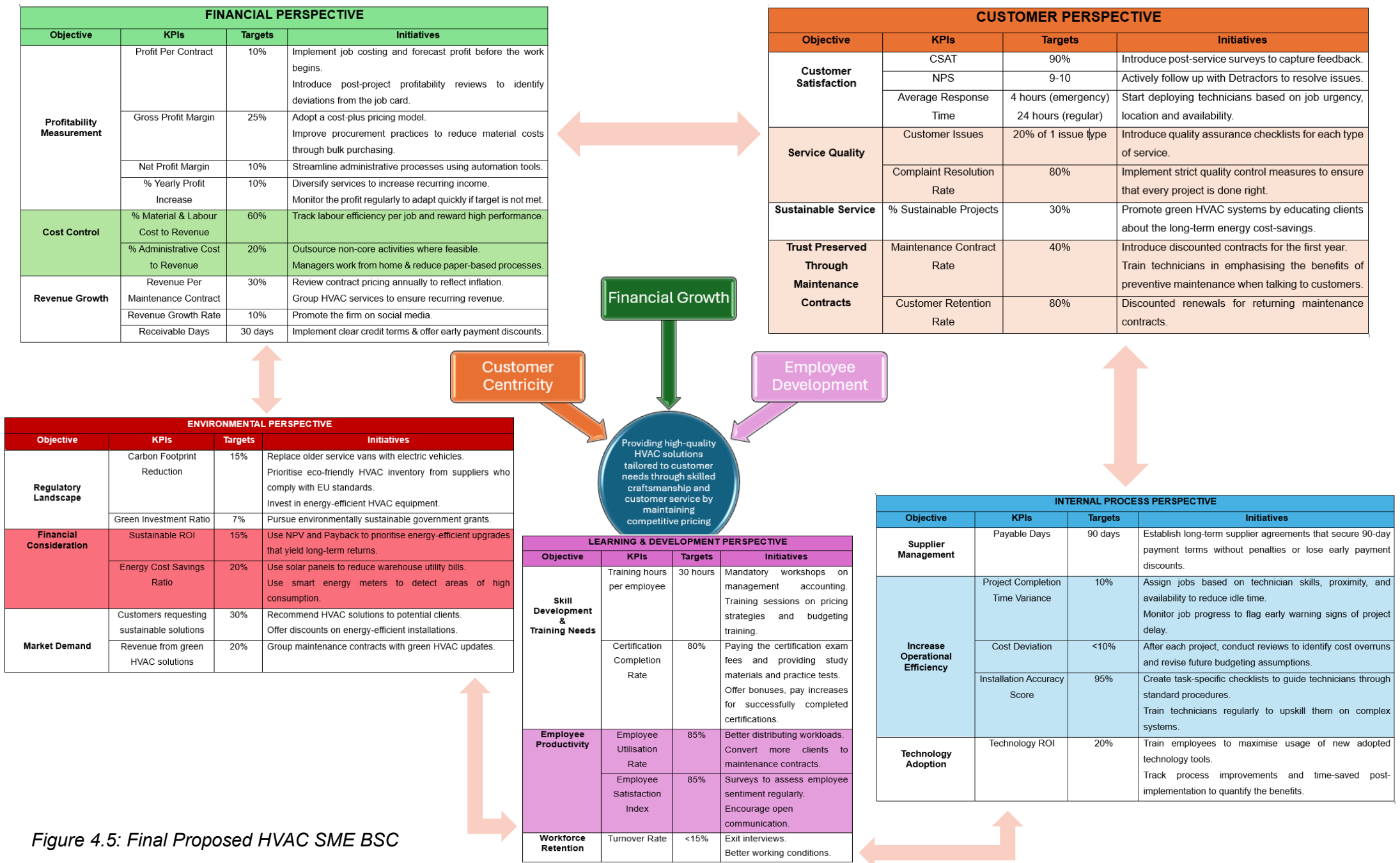


Figure 4.5: Final Proposed HVAC SME BSC

4.6 Formulating the Strategy Map

Following the three-phase approach mentioned in Section 2.6, the BSC was developed and followed by creating the SM, hence, fulfilling the third research objective. Figure 4.6 clearly shows how the strategic objectives are connected, leading back to the BSC displayed in Section 4.4. The SM tells a story about how the SME can create value and how the strategy aligns with the vision and the mission (Kaplan, Norton 2004).

At the base of the SM is the environmental perspective, displaying goals like reducing carbon footprint and increasing revenue from green HVAC solutions. These objectives emphasise how important sustainability has become to be able to stand out in the market. By reducing carbon emissions, the SME would not just be following environmental laws but also boosting the reputation and opening new business avenues. Therefore, this ties to enhancing profitability, especially since there is a growing demand for sustainable solutions from customers who need to follow EU regulations and encouraged by government incentives.

The learning and development perspective is all about building the firm's human capital. Objectives like training employees, which reduces labour turnover and encourage job motivation and satisfaction, show how important employee skills and engagement are in driving productivity and change within the firm. If personnel are not trained and supported enough, they can feel overwhelmed, and resist change instead of accepting it.

The internal business process perspective covers essential operational goals like investing in technology to increase productivity, efficiency and reduce project delays, which seems to be a current concern for the SME. A well-trained and motivated team is much more likely to effectively use new technologies. When productivity improves and delays are reduced, the customers can be given a more reliable service, which benefits satisfaction.

The customer perspective emphasises how essential it is to provide excellent service and engage with customers. Goals like good service quality reduce complaints and maximise customer satisfaction, which increase customers in the long run. Simplifying processes and reducing delays boost the customer

experience and mitigates costs. Great service builds trust, which customers show by requesting a maintenance contract and refer the company to other business seeking HVAC solutions. This increases revenue because maintenance contracts stabilise cashflows to be able to pay obligations on time.

At the top, the financial perspective zooms in on controlling costs and increasing revenue affecting profitability growth. These financial goals are all about how well the other areas are performing. Keeping costs down means having less staff turnover, smarter scheduling and fewer cost overruns on projects. At the same time, revenue growth comes from broadening the customer base and tapping into the green HVAC market.

To sum up, this discussion aligns with Lueg's (2015) argument. The SM lays out a picture showing how being environmentally responsible and investing in employee development and technology lead to efficiencies which result in happier customers and better financial performance.

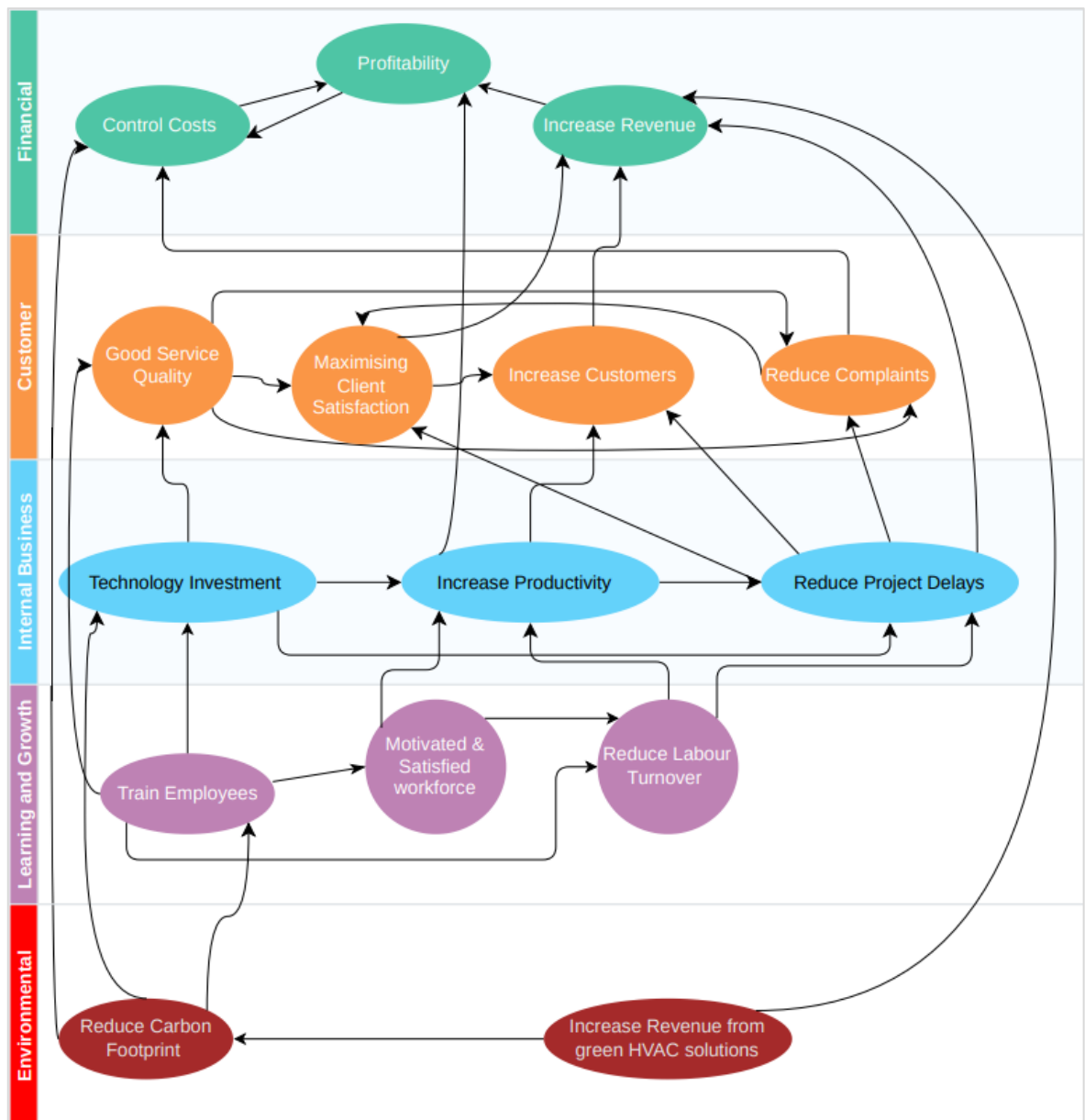


Figure 4.6: The Strategy Map

4.7 The Challenges of BSC implementation

Implementing the BSC in an HVAC SME can be tricky due to the typical limitations that come with smaller companies as also noted by Malgwi and Dahiru (2014). While the BSC gives a solid way to line up strategic goals with measurable KPIs across the areas mentioned in Section 4.4, putting it into practice can be tough since the SME operates in a labour-intensive environment. This section contributes to the fourth research objective by examining the key challenges likely to emerge during BSC implementation. The firm having limited management resources, not enough technology tools, and not enough capacity for collecting and analysing data can get in the way of the consistent tracking and assessment that the BSC needs. In fact, the CFO argued that:

“Balancing initial costs with short-term profitability is challenging because the benefits will not show immediately, and even if we do benefit, the initial investment is quite a lot and it will outweigh the benefits. This would affect our yearly profits”.

It may be harder to keep an eye on the KPIs, especially when there are no formal processes or documentation in place. Employees and managers do not know much about performance management tools like the BSC, which can lead to resistance during implementation. While the BSC has potential to upgrade decision-making, its success depends on tackling these challenges with strategies.

4.7.1 Resistance to Change

Resistance to adopting the BSC in the HVAC SME is a difficulty resulting from numerous psychological, cultural and structural influences. This finding is consistent with Hepler et al.'s (2016), who emphasised that both employees and management might see the BSC's implementation as a hindrance instead of an opportunity for development. A primary concern is the fear of increased workload, as personnel already feel overwhelmed by their current duties. The introduction of new tools for PM can induce anxiety, particularly among employees unfamiliar with data-driven decision-making or those concerned that their evaluations would become stricter. In this SME, where informal and adaptable work settings are often prioritised, employees may view the BSC as a transition toward a more

corporate and less personal environment. In fact, two out of six HVAC technicians interviewed expressed their disapproval of the BSC because *“it would change the way we work, and we would have to be assessed regularly”*. This can lead to disengagement and reluctance to accept change because of their concerns on how this new framework will affect their job security.

4.7.2 Commitment from Management

From a managerial standpoint, resistance may arise from doubts about the practicality of implementing the BSC within the current business model. This supports the argument made by Hegazy and Tawfik (2015) where the managers could be uncertain whether the advantages of the BSC warrant the time and resources needed for its adoption. The HVAC SME prioritises short-term demands and resources are quite constrained, and therefore, managers fear that introducing the BSC will distract from immediate business requirements. Management needs to fully grasp the objectives mentioned in Section 4.4 to champion the BSC implementation and change the employees' resistance to change perception. The tone at the top is important to positively influence the other employees fearing that the BSC is a means of control rather than a development tool.

4.7.3 Effective Employee Communication

According to Zorek (2020), to address the above concerns, management needs to improve the communication with their employees by making it clear that the BSC is all about improvement, not punishment. When questioned about the level of communication within the firm, all employees interviewed (8/8) confirmed that communication with management is very strong. By focusing on how the BSC can help increase efficiency, keep the goals aligned with strategy and introduce bonuses if targets are met, employees might feel more positive about it. In the view of Malagueno et al. (2017), management needs to show how the BSC supports individual and team performance to clear any misunderstandings by effectively communicating with the employees. Another key strategy is to provide training on how the BSC works in terms of KPIs and how employees can benefit from it.

4.7.4 Time & Resource Constraints

As noted by Sanchez-Marquez et al. (2020), time and resource constraints are challenges that the HVAC SME must tackle when implementing the BSC. This is mainly because both managers and employees are busy with project work, keeping customers happy, and engaging in supplier relationships. When throwing a new PMS into the mix, it can be perceived as an additional burden, pulling precious time away from what really matters. Managers stated that it will be difficult for them to juggle daily tasks whilst tracking performance, and technicians are reluctant in gathering data and report performance unless there are some automated tools which could assist them. Such automated tools cost money, which could lead to some hesitancy about fully jumping on board with the BSC. Another concern seems to be that monitoring KPIs may consume time that could have been spent generating revenue.

4.7.4.1 Lack of Data Collection

The HVAC SME is stuck using manual methods and informal notetaking, meaning that there are no solid data collection systems in place, which makes keeping track of KPIs a challenge. As reported by Rompho (2011), without a centralised system, data can get inconsistent and incomplete which undermines performance evaluations. To fix this, the accountant proposed that management starts using Excel spreadsheets or logbooks for manual tracking. Although not efficient as automated systems, they are a great step toward creating a culture of PM. Once employees are comfortable with tracking key metrics, the SME can invest in affordable ERP systems to make data collection and reporting smoother because they reduce administrative tasks while improving accuracy.

4.7.5 Unrealistic Expectations

Given the resource constraints and the daily challenges of managing an SME, imposing an excessive number of KPIs or setting overly ambitious targets can quickly frustrate employees and managers. If the KPIs set within the BSC are too complex or do not really fit into daily operations, it will be tough for the team to figure out how to engage with these metrics, which makes the BSC less effective. If the firm attempts to track a huge list of metrics right from the start, it will confuse

the employees and create inefficiencies. As observed by Kanji and Sá (2001), when bombarded with too many KPIs, management and employees lose sight of what is important, making it hard to focus on key business goals. When setting ambitious targets without keeping in mind the industry benchmarks, it can lead to disappointment and low morale. If the team thinks the targets are unattainable, they might disengage from the PM, rendering the BSC ineffective.

4.8 Conclusion

This chapter looked at the main takeaways from the interviews conducted, and the findings were backed up with relevant literature from Chapter 2. This discussion led to the development of the BSC specifically for the case company. The proposed BSC was validated with a follow-up chat with one of the owner-managers to make sure that it really meets the company's needs. The insights shared in this chapter set the stage for the next chapter, which will offer a final summary of the dissertation. The final chapter will outline key recommendations and suggest paths for future research to dive deeper into the findings presented in the study.

CHAPTER 5

Summary, Recommendations & Conclusions

“A better understanding of conditions that facilitate or inhibit BSC-adoption and implementation might help to improve the tool’s effectiveness in managing firms strategically”

(Braam and Nijssen 2008, p.3)

5.1 Introduction

This chapter brings the study to an end. Section 5.2 provides a summary of the key findings and conclusions based on the research objectives outlined in Section 1.4. Following this, Section 5.3 presents the validation of the study. Section 5.4 and 5.5 offer practical recommendations and areas for further research. Lastly, Section 5.6 delivers the concluding remarks.

5.2 Summary and Conclusions reached

This study aimed to examine the application of a BSC framework within the context of a small-to-medium-sized enterprise operating in the HVAC industry. To support this overarching aim, three core research objectives were identified, each of which is summarised below.

5.2.1 BSC Mission, Vision, Strategy and Targets

The first objective focused on the formulation of the SME's mission, vision and strategy to establish appropriate performance targets. This was accomplished through a detailed rationale for PM, and a comprehensive overview of the key considerations for the design of an effective BSC. The vision and mission were supplemented by a SWOT analysis to identify the internal and external capabilities and challenges. The company's strategy was found to revolve around three fundamental pillars being customer centricity, employee development and financial growth as indicated in Section 4.3.3. The BSC was developed to integrate the SME's mission, vision and strategy into a coherent framework, ensuring that successful strategic implementation aligns with the company's long-term vision, as outlined below:

"To provide high-quality HVAC solutions tailored to customer needs through skilled craftsmanship and superior customer service by maintaining competitive pricing and long-term client relationships."

5.2.2 Designing the customised BSC and SM

Following the establishment of the company's mission, vision and strategic direction, the design of the BSC was initiated. While the four traditional perspectives – financial, customer, internal processes, and learning and growth – were retained, the inclusion of an additional environmental perspective was deemed essential in view of the company's potential for growth. For each perspective, objectives, KPIs, targets and corresponding initiatives were systematically developed. This process was derived from semi-structured interviews conducted with employees, as well as internal documentation provided by the firm. In doing so, the study successfully addressed the second research objective, namely the design of the BSC incorporating the relevant perspectives. A summary of the principal objectives aligned with each perspective is presented in Figure 5.1 below.

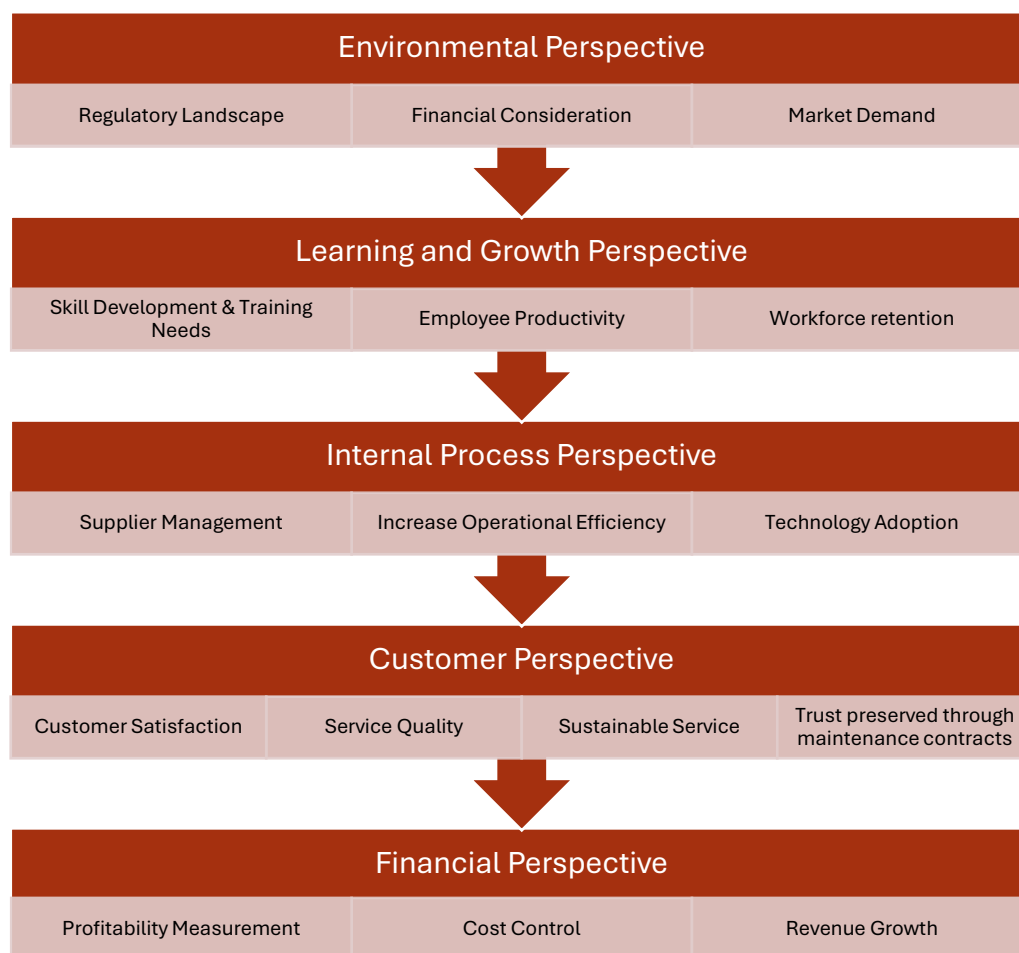


Figure 5.1: Objectives Summary

These objectives were subsequently analysed to identify a cause-and-effect relationship, which formed the basis for the development of the SM outlined in Section 4.6.

5.2.3 Ensuring BSC success

In alignment with the overarching aim of this study, the final research objective involved evaluating the potential challenges the case company may encounter in ensuring the long-term success of the BSC. In support of the BSC's contextual suitability, the findings highlight a strong degree of executive commitment to the initiative. This leadership support must be complimented by the employees' positive disposition towards organisational change, as well as the firm's communicative culture as highlighted in Section 4.7.3. The study identified challenges that may hinder the sustained success of the BSC if not appropriately addressed. The need to balance ongoing service delivery with strategic performance monitoring can place additional strain on already stretched human and financial capital. Moreover, the initial set of performance targets may require further refinement to ensure they are specific, measurable, achievable, relevant and time-bound (SMART). Addressing these issues will be essential for embedding the BSC into the company's long-term performance management framework.

5.3 Validating the Study

Upon completion of the research study, the findings along with the final BSC and SM were shared with the owner-managers during the final validation meeting. In the session, each objective, KPI, target and related initiative was systematically reviewed and discussed. The feedback received from the founders was positive and provided some great insights.

Both founders acknowledged how thorough the BSC was because it gave a solid overview of how the firm is performing and where it is heading. However, the founders expressed that the sustainability targets seemed ambitious due to the big investment required. The CFO was on board with pushing for the BSC's

implementation and said that *“necessary actions will be taken to implement a cost budget and job costing before examining whether a BSC is suitable”*.

Therefore, the BSC and the SM may be considered validated within the company since they fit well with the founders' strategic vision.

5.4 Recommendations

Based on the findings outlined in Chapter 4, the following recommendations have been formulated:

- **Management to take management accounting courses**

A recurring theme in the HVAC SME is that management is not aware of PMS. The interviews revealed that management was unfamiliar with core concepts such as pricing strategies, budgeting, data-driven decision making and the BSC's strategic utility. Therefore, expecting employees to embrace the BSC without managerial knowledge is unrealistic. It is essential that managers take training courses focusing on budgeting and pricing before they introduce the BSC. This would equip them with the skills to guide the other employees as presented in Section 4.4.4.1.

- **Establish a cost budget and cost management systems**

Before fully diving into BSC implementation, it is important for the SME to set up a solid cost management system. This would help figure out if their strategic goals are financially sound. As discussed in Section 4.4.1.1, not having accurate cost systems has made pricing and strategic planning a real challenge. This financial fog could derail the BSC's success. To make sure the BSC is conceptually sound and financially sustainable, the SME needs a budgeting approach that aligns with its strategic goals. This method allows for project pricing that guarantees a positive profit.

- **Gradual implementation of the BSC**

The SME lacks the internal infrastructure to manage complex changes in strategy. A gradual implementation of the BSC may be the solution to the above and may help in mitigating resistance. Rather than introducing the entire BSC at once, it should be introduced in phases, starting with key

financial and operational metrics before expanding to the broader areas. This approach allows employees to adjust progressively to the new system, reducing overwhelming stress. The SME can only test the understanding of the BSC and refine data collection practices when introducing the KPIs slowly.

- **Engaging employees through shared vision, incentives and managerial commitment**

A significant portion of value creation within the SME is attributed to the contributions of lower-level employees. Therefore, employee engagement and motivation are important to building a shared vision and incentivising performance. Employees must understand how their individual goals contribute to the firm's strategic objectives through KPIs such as customer satisfaction ratings, skill development and productivity metrics. To ensure alignment and practicality in performance expectations, management must consult with lower-level employees before setting targets because they possess the most direct knowledge of operational challenges. Adopting a bottom-up approach, supported by regular team briefings can foster a culture of transparency and accountability. The findings in Section 4.4.4.2 illustrate that employee engagement can be strengthened by introducing a structured incentive system tied to the BSC outcomes, such as performance-based bonuses.

- **Sustaining BSC relevance through continuous updates**

According to Pujas (2010), the BSC should be regarded as a dynamic PMS that requires continuous adaptation in response to both internal firm developments and external environmental changes. For the HVAC SME, whose business model has been refined to support growth, the BSC must be treated as a 'living document'. This entails ensuring that the framework accurately reflects the firm's current strategic direction while remaining responsive to evolving customer expectations, regulatory demands, service expansion, and potential economic disruptions. It is therefore recommended that, after the initial BSC implementation, the firm evaluates the BSC's effectiveness and applies the necessary modifications without delay. Such an

approach ensures that the BSC remains a relevant instrument for PMS within a dynamic business environment.

5.5 Areas for Further Research

Several areas for further research have been identified, aimed at improving the current study or building upon its findings.

- **Cost-Benefit Analysis of BSC implementation within an HVAC SME.**

Following the implementation of the BSC in the case company, a subsequent study could be undertaken to evaluate the costs and benefits of its application. This would allow for an empirical assessment of both the financial and operational implications, as well as the practical suitability of the BSC design in this research.

- **Integrating Artificial Intelligence into the BSC framework.**

As business environments continue to evolve in response to digital transformation, one significant area of future research lies in the integration of Artificial Intelligence within PMS. As Maltese companies seek to improve operational efficiency and customer responsiveness, AI could play a role in automating key processes and improve interactions. A study investigating how AI-driven tools can feed real-time data into a BSC or any PMS to enhance decision-making could be conducted. This could offer valuable knowledge into making a BSC or PMS more adaptable to dynamic operational conditions.

- **Aligning BSC with other Performance Measurement Systems**

While the BSC is widely acknowledged for its strategic value, it may not always capture day-to-day operational metrics that other systems such as Total Quality Management, Lean Management or Six Sigma framework might emphasise. A study exploring how companies in Malta can blend such methodologies into a hybrid PMS can be carried out. This would be ideal for companies with resource constraints, where balancing long-term strategy with immediate operational performance is essential.

5.6 Concluding Remark

The successful design and implementation of the BSC within an HVAC SME depends not only on choosing the right metrics, but also on aligning those metrics within the firm's overarching mission, vision and strategy. The BSC becomes more than just a PMS since it matures into a strategic framework that connects daily operations with long-term goals. This alignment ensures that every target set, and every initiative taken moves the company closer to fulfilling its mission. The BSC acts as a mechanism that allows the SME founders to translate vision into action, ensuring that strategic direction is implanted in all areas of performance. As stated by Jack Welch, former General Electric's Chairman and CEO,

“Good business leaders create a vision, articulate the vision, passionately own the vision, and relentlessly drive it to completion.”

Ultimately, it is strategic clarity, communication and commitment that drive sustainable success.

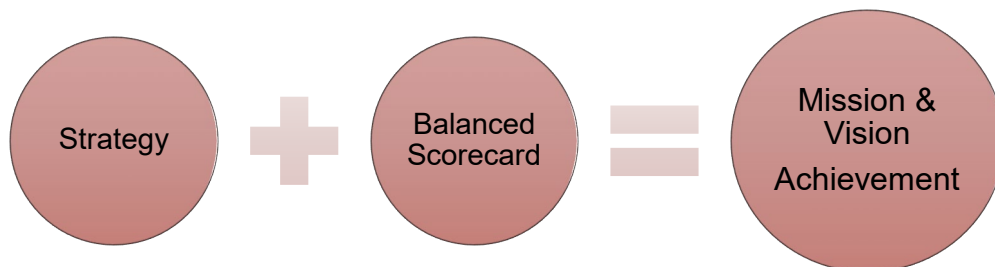


Figure 5.2: Mission and Vision Achievement through Strategy and BSC

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Appendices

Appendix 1: SWOT Analysis

This SWOT analysis puts together insights from interviews with various stakeholders in the HVAC SME, including the CEO, CFO, the accountant, customer service manager, operations manager and the other employees that were interviewed as per Appendix 2. By looking at what they said, the company's strengths, weaknesses, opportunities and threats were determined. This appendix provides a detailed breakdown of the SWOT analysis results. A summary of this SWOT analysis is also given in Figure 4.3.

Strengths

Strong Reputation and Customer Relationships

The Customer Service Manager shares that the company has a great reputation for a top-notch service and happy customers. In fact, customers keep coming back for maintenance contracts and spread the word with other businesses they engage with. Unlike larger HVAC firms that might focus more on volume rather than quality, the SME shines by providing personalised care for each client.

Skilled Workforce

The operations manager, CEO and HVAC technicians stated that the team is super skilled and know how to treat customers right. The technicians love to share maintenance tips with customers, which boost their confidence. The CEO emphasised that the team takes pride in what they do, making sure that the installations are spot on from the get-go.

Competitive Pricing

The CFO and CEO pointed out that while they don't have the lowest prices, the rates are still competitive, while making sure that they give the best service. Although they do not control costs systematically, they still keep an eye on them, just like they keep an eye on improving labour efficiency and resource use to maintain a good profit level.

Decision-Making Flexibility

As a small business, they can make fast decisions without excessive bureaucracy. The Project Coordinator and Operations Manager stated that the owner-managers are involved in the day-to-day running of the business. They have the responsibility to make decisions on resource allocation, job scheduling and problem-solving, which allows the SME to be agile and responsive to challenges.

Weaknesses

Lack of a Budgeting System

The external accountant noted that financial performance is not tracked, with no official budgeting or financial planning system in place. He continued on saying that it would help a lot if they at least draw-up a budget on an Excel Spreadsheet. The owners tend to make financial calls based on gut feeling rather than relying on solid data, which can lead to cash flow problems and unnecessary costs. In fact, the CFO pointed out that they often deal with cash flow issues because customers are slow to pay, while suppliers want upfront payments. This creates financial instability and makes it tricky to invest in new growth opportunities.

Minimal Use of KPIs

The Operations Manager and HR manager admitted that while they keep an eye on project deadlines and completion rates, they don't have any real KPIs set up for tracking workforce productivity, technician efficiency or how well they are serving their customers. This makes it tough to spot areas where they can improve and to properly reward those who are doing a great job.

Shortage of technicians

The CEO, Project Coordinator and HVAC technicians agreed that they were facing labour shortages, which makes juggling multiple big projects at once really hard. If a couple of key personnel leave, it puts a lot of pressure on the rest and could lead to delays in getting projects done. The problem is that not a lot of local people are specialised to do this job, and hence, the business would have to reply on importing foreign labour. This could lead to another shortage in the future if they decide to leave Malta or even worse, start their own HVAC business.

Opportunities

Increasing Demand for Green HVAC solutions

The Customer Service Manager and CFO said that currently more customers and businesses are caring about the environment and that they have been on the lookout for energy-efficient HVAC systems. If the SME promotes that it offers sustainable HVAC options, they could tap into a whole new group of customers and maybe even score some government incentives.

Increasing Revenue with Servitisation

According to the CEO and Project Coordinator, focusing on longer-term maintenance contracts could give them a steady stream of income. Therefore, they do not want to solely rely on on-time installation jobs. This approach would help keep the customers around longer and make the cash flow more stable.

Threats

Tough competition from larger HVAC firms

The CEO and CFO shares that larger companies have the upper hand with more resources, allowing them to compete on price and offer extended warranties, which makes it hard for smaller businesses to win big project bids. The external accountant continued on saying that even if such companies compete by decreasing the price to reflect the cost so that they dominate the market, bankruptcy will be inevitable. Moreover, bigger companies can offer higher pay and better benefits to technicians, which make it harder for the small businesses to find local technicians.

Rising costs of materials and labour

The CFO warned that inflation and supply chain issues are driving up the costs of material and labour. This is a threat because it squeezes the firm's profit margin unless they figure out cost-savings measures, which is why cost control should be tracked and measured.

Appendix 2: Interview Schedule

2.1 CHIEF EXECUTIVE OFFICER / DIRECTOR

General questions

1. Could you provide a brief history of the HVAC company and outline the range of services you offer?
2. How many employees does the company currently have and what roles do they have?
3. Can you explain your role and responsibilities within the company?
4. How is the HVAC firm structured in terms of departments?
5. What do you think are the company's strengths, weaknesses, opportunities and threats?
6. What are the SME's vision and mission statements?
7. Through which strategy are the vision and the mission achieved?
8. Are the mission, vision and strategy reviewed as business environment changes?
9. Does the SME experience any challenges whenever there is economic downturn such as COVID-19, the Russia- Ukraine war, and others?

BSC-specific questions

10. Do you use any Performance Measurement Systems (PMS) to measure performance and reward employees accordingly and if yes, what is it?

The Balanced Scorecard is a strategic management tool that firms use to translate their vision and strategy into actionable objectives and targets. It incorporates non-financial measures to provide a more holistic view of business performance. It helps in balancing short-term and long-term goals by looking at performance from multiple perspectives:

- *Financial*
- *Customer*
- *Internal Process*

- *Learning and Growth*
- *Environmental*

11. What financial objectives are the most important for success of your HVAC business?
12. How is inflation impacting your financial planning and financial reporting?
13. What are the key financial risks your company faces?
14. Who are your target customers and what do you see as their primary needs?
15. Is customer satisfaction measured?
16. How are customer complaints handled?
17. Are customers content with the price and the quality of the services?
18. What differentiates your HVAC business from competitors?
19. How do you prioritise customers in terms of the service they are getting?
20. Are there any customer service challenges or opportunities you'd like to address using a BSC?
21. In what ways do supply chain management, inventory control and vendor relationships impact your business?
22. What role does the use of technology play in enhancing operations, and how would you measure progress?
23. Do you take on large projects such as winning tenders?
24. Do employees get frequent refresher training, especially with new technology being developed?
25. How do you manage employee productivity, and what performance metrics are most useful to ensure continuous improvement and innovation?
26. In terms of technology adoption, how do you assess the company's readiness?
27. What is your long-term vision for the company's role in promoting sustainability and reducing environmental impact?
28. What initiatives have you introduced to make the company's operations more environmentally friendly?
29. How do you measure the environmental impact of your company's HVAC services?

30. How do you balance business growth with environmental sustainability in the HVAC industry?

2.2 PROJECTS MANAGER

1. What are the key success factors for projects?
 2. How do you track the performance of different projects?
 3. How do you manage resources to ensure efficiency?
 4. How do you identify and manage risks in your project?
 5. What process does the SME employ in its day-to-day operations?
 6. Do you offer a servitisation contract after the initial installation?
 7. What internal processes do you believe need the most attention to improve operational efficiency and customer satisfaction?
 8. How do you measure the performance of your technicians?
 9. What skills and competencies are critical for your team to stay competitive in the HVAC market?
 10. To what extent do you prioritise safety on the field?
 11. How do you ensure that environmental impacts are factored into decision-making for project timelines and resource allocation?
 12. What potential environmental risks do you foresee in current or future projects and how are you going to mitigate them?
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2.3 CHIEF FINANCIAL OFFICER / DIRECTOR

General Questions

1. Can you describe your position and responsibilities within the company?
2. What do you think are the company's strengths, weaknesses, opportunities and threats?
3. What are the SME's vision and mission statements?
4. Through which strategy are the vision and the mission achieved?

5. Are the mission, vision and strategy reviewed as business environment changes?
6. Does the SME experience any challenges whenever there is economic downturn such as COVID-19, the Russia- Ukraine war, and others?

BSC-specific questions

7. How important is the financial aspect to the HVAC SME?
8. What financial or performance metrics do you currently track?
9. What are the key financial goals for the company over the next 5 years?
 - a. Are objectives revised when there is an environment change?
10. For each financial objective and measures, are there any targets set?
11. What specific financial are most concerning to you?
12. In terms of cost management, which areas have the biggest impact on profitability?
13. What are the strategies for improving profitability?
14. How do customer acquisition and retention affect your financial planning?
15. In what ways do customer satisfaction and service impact revenue growth?
16. From a financial perspective, what internal processes need improvement to enhance profitability and cash flow?
17. What metrics would you recommend for tracking the efficiency of key processes like installation, maintenance and repairs to ensure cost-effective operations?
18. How does project duration or lead times impact cash flow and profitability?
19. What financial impact do inefficiencies in inventory management or technician productivity have on the business?
20. How do you view the relationship between employee training, retention, and financial performance?
21. Did you know that you can benefit from a Skills Development support measure which encourages you to invest in your employees by proving skills and training to have a knowledgeable workforce?
22. How do you assess the company's investment in technology?

23. What is your approach to managing capital investments and how would you track the financial returns on these investments in the BSC?
 24. How do you account for financial impact of sustainability initiatives in the company's budget?
 25. What financial challenges do you encounter when trying to implement sustainable practices in the company's operations?
 26. How do you assess the cost-benefit ratio of investing in new technologies that reduce the environmental footprint?
-

2.4 PURCHASES MANAGER

1. How do you ensure the purchases contribute to the SME's strategic objectives such as cost reduction and quality improvement?
 2. What are the key goals when purchasing materials and equipment from suppliers?
 3. How do you ensure that the materials and equipment you purchase meet the quality standards necessary for high customer satisfaction?
 4. How do you ensure that the materials and equipment you purchase meet the quality standards necessary for high customer satisfaction?
 5. What risks do you face when purchasing materials and equipment and how are these mitigated?
 6. How do you stay updated on supplier innovations and new HVAC technologies?
 7. How do environmental considerations factor into your procurement decisions such as choosing suppliers with sustainable practices?
 8. How do you evaluate the environmental impact of materials and equipment purchased?
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2.5 OUTSOURCED ACCOUNTANT

General questions

1. Can you describe your position and responsibilities within the company?
2. For how long have you been working with the HVAC SME?
3. What do you think are the company's strengths, weaknesses, opportunities and threats in such an industry?

BSC-specific questions

4. Do you think that it is financially beneficial if the company uses any Performance Measurement Systems (PMS) to measure performance and reward employees accordingly?
5. What are the key financial metrics you would track for the HVAC SME, and how would they align with the overall business strategy?
6. What financial goals do you believe are critical to track in the HVAC industry for a SME?
7. What do you think are the biggest financial risks facing the HVAC company?
8. How does customer service impact financial performance, and what customer-related metrics would you consider important?
9. Do you think that offering a servitisation contract (i.e. maintenance) after the initial installation would be more profitable?
10. What operational processes do you think should be optimised to improve profitability and efficiency?
11. How do inventory management, supplier relationships, and equipment lead times affect operations, and what KPIs would you suggest monitoring these areas?
12. Do you think that advanced technological adoption could improve financial reporting for the HVAC SME?
13. Do you think that if the company measured employee productivity, it would do better financially and strategically?
14. How would you assess the financial impact of the company's environmental sustainability initiatives?
15. What financial benefits and challenges do you foresee when investing in eco-friendly HVAC technologies?

16. How would you evaluate the cost-effectiveness of environmentally sustainable practices in the SME's operations?
 17. What are the financial risks and benefits of investing in environmentally friendly products or services?
 18. How could long-term sustainability investments impact the company's financial health and how should this be measured?
 19. What financial indicators related to environmental sustainability are most relevant to stakeholders?
 20. From your expertise:
 - a. Do you think that a BSC can be beneficial for an HVAC SME if implemented?
 - b. What improvements would you expect from it?
 - i. Do you think that the BSC would help the company adapt to industry changes or scale its operations more effectively?
 - ii. What would be your criteria for the success of a BSC implementation?
 - c. What do you see as the biggest challenge to implementing a BSC in an HVAC SME?
-

2.6 OPERATIONS MANAGER

General questions

1. Can you describe your position and responsibilities within the company?
2. For how long have you been working with the HVAC SME?
3. What do you think are the company's strengths, weaknesses, opportunities and threats in such an industry?
4. What are the main goals that you set?
5. Do you feel that you are involved enough in the decisions taken?
6. How would you describe your relationship with top management?
 - a. Is there effective communication between you and top management?
 - b. Do you forward any feedback to top management and vice versa?

- c. Do you have any suggestions on how this relationship can be improved?

BSC-specific questions

7. Do you think that it is beneficial if the company uses any Performance Measurement Systems (PMS) to measure performance and reward employees accordingly?
8. How is your performance evaluated?
9. What areas of operation do you think have the most impact on cost efficiency?
10. How do you track operational costs relating to labour, equipment maintenance, and service delivery?
11. What operational improvements would help enhance profitability?
12. What key operational challenges does the HVAC business face?
13. What are the most critical processes that drive operational efficiency in the SME?
14. How do you currently track and improve process efficiency?
15. What are the main bottlenecks or inefficiencies in the HVAC service delivery process, and how would you suggest they be monitored and addressed?
16. Did you make use of any government incentives or grants designed specifically for SMEs' diversification and productivity such as the Equipment and Machinery Grant for SMEs or Micro Invest?
17. How do you ensure quality control in the services your team delivers?
18. How do you manage resource allocation for technicians, equipment, and supplies to ensure optimal productivity and cost control?
19. How do you track technician productivity and performance?
20. What challenges do you face with inventory management?
21. From an operational perspective, how do you ensure high levels of customer satisfaction?
22. How do you balance the need for quick response times with the quality-of-service delivery?
23. What role does customer feedback play in your operations?

24. How do you ensure that your team stays updated with the latest HVAC technologies and best practices?
 25. What role does technology play in improving operational efficiency?
 26. How do you foster innovation and continuous improvement in operational processes?
 27. In terms of safety and compliance, how do monitor adherence to regulations?
 28. What steps have you taken to reduce the environmental impact of daily operations?
 29. How do you evaluate the environmental efficiency of the HVAC systems the company installs and services?
 30. How do you train and educate your employees to adopt environmentally friendly practices in their daily tasks?
 31. What challenges do you face in implementing environmentally responsible practices in field operations?
 32. What future initiatives do you see as critical for reducing the environmental impact of HVAC operations?
 33. From your perspective, is there something that you would suggest to further improve the success of the company?
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2.7 COMPANY SECRETARY

General questions

1. Can you describe your position and responsibilities within the company?
2. For how long have you been working with the HVAC SME?
3. What do you think are the company's strengths, weaknesses, opportunities and threats in such an industry?
4. Do you feel that you are involved enough in the decisions taken?
5. How would you describe your relationship with top management?
 - a. Is there effective communication between you and top management?
 - b. Do you forward any feedback to top management and vice versa?

- c. Do you have any suggestions on how this relationship can be improved?

BSC-specific questions

6. Do you think that it is beneficial if the company uses any Performance Measurement Systems (PMS) to measure performance and reward employees accordingly?
 7. How do you help ensure that customer service standards and commitments are consistently met?
 8. What practices do you implement to ensure continuous learning within the organization?
 9. How do you ensure that the SME adheres to legal and regulatory requirements?
 10. What are the major risks facing the company?
 11. How do you manage communication between key stakeholders?
 12. Do you engage in any Corporate Social Responsibility (CSR)?
 13. What steps do you take to incorporate sustainability practices into company governance?
 14. How do you ensure that the company's corporate culture aligns with ethical standards and legal requirements?
-

2.8 HUMAN RESOURCES

1. How do you ensure that the HR contributes to broader business objectives such as growth, profitability, and customer satisfaction?
2. What HR-related financial metrics are most important to your role?
3. How do you balance labour cost efficiency with maintaining a skilled and motivated workforce?
4. How does employee turnover impact the company's financial performance?
5. How do you assess the ROI on training and development programs?
6. What HR initiatives do you have in place to ensure that employees are motivated to deliver high-quality customer service?

7. What internal HR processes are most critical to your HVAC SME?
 8. How do you manage the recruitment process to ensure good quality hires?
 9. What specific actions do you take to reduce employee turnover and how would you measure the success of these actions?
 10. How do you support employee growth and career development?
 11. How do you measure employee satisfaction and engagement?
 12. What role does HR play in ensuring compliance with industry-specific health and safety regulations?
 13. How do you promote environmental awareness and sustainable practices among employees?
 14. What steps do you take to reduce the environmental footprint of HR activities?
-

2.9 CUSTOMER SERVICE MANAGER

General questions

1. Can you describe your position and responsibilities within the company?
2. For how long have you been working with the HVAC SME?
3. What do you think are the company's strengths, weaknesses, opportunities and threats in such an industry?
4. What are the main goals that you set?
5. Do you feel that you are involved enough in the decisions taken?
6. How would you describe your relationship with top management?
 - a. Is there effective communication between you and top management?
 - b. Do you forward any feedback to top management and vice versa?
 - c. Do you have any suggestions on how this relationship can be improved?

BSC-specific questions

7. Do you think that it is beneficial if the company uses any Performance Measurement Systems (PMS) to measure performance and reward employees accordingly?
 8. How is your performance evaluated?
 9. How do you measure customer satisfaction?
 10. How do you balance the cost of service with maintaining high customer satisfaction?
 11. How do project coordination activities impact customer satisfaction?
 12. What measures do you take to ensure that project timelines and quality meet client needs?
 13. What are the main customer complaints or issues?
 14. What steps do you take to improve customer retention?
 15. What internal processes are critical for customer service success?
 16. What initiatives do you take to foster a culture of customer-centric service?
 17. How do you incorporate environmental considerations into your customer service processes?
 18. What strategies do you use to educate customers about the environmental benefits of your products or services?
 19. How do you handle inquiries related to energy efficiency or eco-friendly options?
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2.10 PROJECT COORDINATOR

1. From a project coordination perspective, what financial metrics are most critical (e.g. project budget adherence, cost savings)?
2. How do you manage project budgets and ensure cost efficiency?
3. What are the most critical internal processes you manage?
 - a. How do you measure and improve them?
4. How do you ensure projects are completed on time?
 - a. Do you use any KPIs to measure project efficiency and timeliness?
 - i. How would you measure project delays or adjustments?
5. How do you allocate resources across multiple projects?

- a. What metrics would you use to ensure optimal resource utilisation?
 - 6. What strategies do you use to ensure continuous learning and improvement in project coordination?
 - a. How would you measure team development and growth?
 - 7. How do you ensure that you stay updated with new project management tools and techniques?
 - 8. How do you ensure that the projects you coordinate adhere to environmental guidelines and minimise ecological impact?
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2.11 HVAC TECHNICIANS

General questions

- 1. Can you describe your daily responsibilities within the company?
- 2. For how long have you been working with the HVAC SME?
- 3. What do you think are the company's strengths, weaknesses, opportunities and threats in such an industry?
- 4. How would you describe your relationship with top management?
 - a. Is there effective communication between you and top management?
 - b. Do you forward any feedback to top management and vice versa?
 - c. Do you have any suggestions on how this relationship can be improved?

BSC-specific questions

- 5. Do you think that it is beneficial if the company uses any Performance Measurement Systems (PMS) to measure performance and reward you accordingly?
 - a. What goals or targets are you currently working toward?
 - b. Are there other aspects of your job that should be measured?
- 6. What are the biggest operational challenges you face in your daily work?
- 7. What tools or resources do you use to complete your tasks?
 - a. What area do you feel improvements could be made?

8. How do you think the company's processes could be improved to make your job easier and more efficient?
9. Are there any bottlenecks that frequently slow down your work?
10. How do you ensure customer satisfaction in your work?
 - a. What do you think could be done to improve customer service across the company?
11. How often do you interact with customers, and what feedback do you receive from them?
12. What challenges do you face in delivering high-quality service to customers?
13. Do you feel you receive enough training and support to perform your job well?
 - a. What additional training or skills do you think would help you be more effective?
14. How are new technologies and tools introduced to you, and do you feel confident using them?
15. How do you stay updated on industry changes?
 - a. What role could the company play in supporting your ongoing development?
16. How often do you receive feedback on your work from management?
17. How would you describe the work environment and culture at the company?
18. What motivates you in your role?
 - a. What could the company do to improve job satisfaction for employees at your level?
19. Do you feel recognised and appreciated for your work?
20. How are you involved in the company's efforts to reduce its environmental impact?
21. What training or guidance have you received on environmentally friendly practices in your daily work?
22. What challenges do you face in following environmentally friendly practices on the job?

23. How do you think your individual performance should be measured to better reflect your contributions to the company's overall success?

2.12 VALIDITY INTERVIEW WITH DIRECTORS

General Questions

1. Does the strategy align with the company's mission and vision?
2. Are the KPIs associated with the targets measurable and trackable

Financial Perspective

1. Do the proposed financial targets reflect the company's revenue and cost-saving goals?
2. Are the initiatives practical and realistic given the company's current resources and capabilities?
3. Are there financial risks associated with these initiatives?

Customer Perspective

1. Do these customer satisfaction and retention targets reflect real customer expectations?
2. How feasible are the proposed initiatives in improving customer service?

Internal Process Perspective

1. Do the proposed targets align with the company's efficiency and process improvement?
2. Are the efficiency-related initiatives realistic given the current HVAC challenges?
3. Are there any potential challenges that these initiatives might cause?

Learning & Development Perspective

1. Do you agree with the targets suggested?
2. Do the initiatives address skill gaps or training needs effectively?

Environmental Perspective

1. Do you think that the proposed environmental targets can be achieved?

2. Do the initiatives create a competitive advantage in the green HVAC sector?
3. How feasible are these environmental initiatives in balancing sustainability and profitability?

End Questions

1. Do any of the targets seem unrealistic or too ambitious?
2. Which targets do you think will be difficult to track/measure?
3. Are the initiatives clearly defined and actionable for achieving these targets?
4. What challenges do you foresee in implementing these initiatives?