

ORIGINAL RESEARCH ARTICLE

Company performance analysis based on ISO 9001 compliance using balanced scorecard method in PT. SN Electronics

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ABSTRACT

As business competition intensifies, sustainable growth strategies become imperative. With the projected 2030 demand for food and beverages estimated at \$194 billion, the need for coolers and freezers rises accordingly. Despite this, PT. SN Electronics faced a 6% sales revenue decline for coolers and freezers in 2020, contrasting with competitors' growth. Thus, this analysis assesses the company's performance, particularly its ISO 9001:2015 certification. Our evaluation uses the balanced scorecard method to analyze both financial and non-financial aspects of the company's performance. The study also examines ISO 9001:2015 compliance and its impact on overall performance. Primary data gathered through interviews and observations involving top management and employees, analyzed with NVivo 12 Plus software. Results indicate strong non-financial performance but underperformance in financial aspects. Nonetheless, the company maintains robust ISO 9001:2015 compliance, positively influencing overall performance. This research underscores the necessity for top management to address financial issues, including price adjustments, while preserving satisfactory non-financial performance. This pioneering research integrates ISO 9001:2015 compliance with the balanced scorecard method, a novel approach. The findings reaffirm ISO 9001:2015's significant role in enhancing company performance, aligning with its seven management principles.

Keywords: company performance; compliance management; balanced scorecard; ISO 9001

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1. Introduction

In the rapidly evolving landscape of global business competition, enterprises continually refine their strategies to enhance performance^[1,2]. While some industries experience exponential growth, others grapple with challenges that threaten their viability.

One sector that has undergone significant transformation is the food and beverage industry. Traditionally, food preparation and consumption primarily occurred within households. However, technological advancements and increasing demands on individuals' time have propelled the modernization of this industry. Today, readily available and diverse ready-to-eat food and beverage products are mass-produced and distributed globally^[3,4] ensuring easy access for consumers worldwide.

Ensuring the quality and shelf life of these products is essential, with cooling machines, commonly known as coolers or freezers, playing a pivotal role in this process^[5]. This holds particularly true in Indonesia, where coolers and freezers are indispensable for storing

packaged drinks and frozen products, preventing bacterial damage, and ensuring product freshness^[6,7].

Indonesia’s food and beverage market is substantial and poised for sustained expansion, with forecasts projecting a 5.2 percent growth rate from 2010 to 2030, potentially reaching a market value of \$194 billion by 2030^[8]. The demand for coolers and freezers in this burgeoning industry is evident, as illustrated in **Figure 1**.

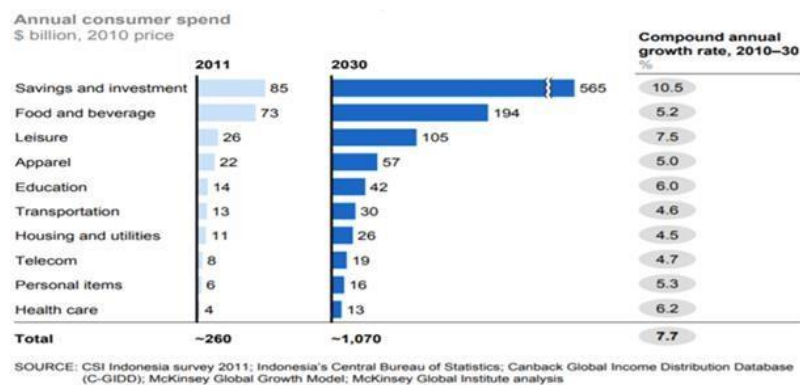


Figure 1. Consumer growth prediction in 2030.

Recognizing this market potential, PT SN Electronics actively pursued opportunities to enhance its performance and gain a foothold in the food and beverage sector. Operating as a nationwide distributor of coolers and freezers, PT SN Electronics targets renowned ready-to-drink beverage and frozen food companies. To expand its market share and drive sales, the company deployed a dedicated sales and marketing team focused on market penetration strategies.

Amidst fierce competition, PT SN Electronics achieved remarkable success in cooler and freezer sales during the period from 2019 to 2020, as indicated in **Table 1**.

Table 1. Sales data.

Product	Sales Qty 2019	Revenue (mio IDR)	Sales Qty 2020	Revenue (mio IDR)
Cooler	1833	6368	1716	5666
Freezer	7036	20,102	5989	15,452
Total	8869	26,470	7705	21,118

Source: Data taken from PT SN Electronics.

Despite its success, the company encountered difficulties in 2022 due to the lasting effects of the COVID-19 pandemic. PT SN Electronics experienced a 6 percent decrease in overall sales revenue in 2020 compared to the previous year. Although cooler sales saw an increase in revenue, freezer sales declined. This fluctuation in sales performance within the same sector raised concerns and led to a thorough investigation of PT SN Electronics, as its decline in sales turnover surpassed that of its competitors significantly.

This paper aims to conduct a thorough evaluation of PT SN Electronics’ performance, taking into account both financial and non-financial factors. This assessment is in line with the Balanced Scorecard framework developed by Norton and Kaplan in the early 1990s. The Balanced Scorecard approach offers a comprehensive view of company performance, considering not only financial indicators but also non-financial aspects and internal as well as external factors^[9,10].

In order to thrive in today’s global marketplace, companies need to align their operations with the ever-changing environmental factors^[11]. Achieving success is a culmination of strategic goals, customer satisfaction, and economic impact, all requiring dedicated effort and hard work^[12].

Compliance various regulations, both internal and external, is crucial for a company's success^[13]. In PT SN Electronics, the implementation of ISO 9001:2015 which started in 2021 represents an external regulation aimed at enhancing company performance.

In selecting PT SN Electronics as our research site, considered several factors that make this company particularly relevant for our study. The company operates within the highly competitive food and beverage industry in Indonesia, which presents a unique business environment characterized well defined in social, cultural, regulatory, and political settings. These settings especially different from those of other firms operating in various industries and regions, making PT SN Electronics an ideal case study for our research.

2. Theoretical framework

2.1. Strategic management

Strategic management encompasses both the art and science of formulating, implementing and evaluating decisions to help organizations achieve their vision and mission. It involves integrating aspects of business such, as marketing, operations, production, research, development, finance, accounting and technology to ensure success^[14]. Strategies encompass a range of approaches aimed at achieving goals while considering external factors, in both the long term. Strategic management includes planning, implementation and evaluation processes that are designed to sustain or improve advantage^[15]. Integrated strategic management involves combining the elements of formulation, implementation and evaluation^[16].

2.2. Company performance and measurement

The performance of a company, which is often referred to as performance reflects the outcomes of its activities. It serves as a benchmark, for assessing how well the company is progressing or facing setbacks. Prospective investors closely examine this performance to make investment decisions^[17]. In today's uncertain business landscape companies face increased pressures making effective strategic management essential for gaining a competitive advantage. Analyzing company performance is crucial, for improvement and long-term sustainability^[18]. Monitoring performance helps identify losses and guides actions that address both financial and non-financial aspects^[10].

Performance analysis is evaluating firm performance through measurement, a critical procedure for deciding if it is sufficient or suboptimal. Measurement is an important tool for business owners and entrepreneurs to use in predicting their company's future success or failure. Norton and Kaplan emphasised this approach in the 1990s^[19]. Performance measurement assesses an organization's operations and resources over a given time period from multiple perspectives^[12]. Performance is a multidimensional construct made up of interconnected indicators that demonstrate success through a variety of outputs and results^[9,20].

2.3. Balanced scorecard (BSC)

The introduction of the Balanced Scorecard in the 1990s represented significant achievement for the performance measurement. This achievement started from study conducted by the Nolan Norton Institute on "Measuring the Performance of the Future Organisation"^[9,12]. The study aims to look for the solutions to overcome the constraints by using only financial measurements to predict future economic value. The study, led by David P. Norton, CEO of Nolan Norton Institute, and Robert S. Kaplan, Renaissance Solutions consultant, involved several manufacturing and service companies such as Advanced Micro Devices, Apple Computer, DuPont, General Electric, Hewlett-Packard, and others^[9].

The study's outcomes led to the development of the Balanced Scorecard, a multidimensional performance measurement framework. The framework characterized by four distinct perspectives: Financial, Customer, Internal Business Processes, and Learning and Growth. Each perspective interconnected, focusing on driving

strategic success by aligning objectives with strategy^[21], customer satisfaction, internal processes, and organizational learning^[9,22].

Study by Nour, investigates the impact of implementing the Balanced Scorecard (BSC) on earnings quality in Palestinian banks listed on the Palestine Exchange from 2011 to 2019. The findings reveal significant effects, including a positive impact of internal business processes on earnings quality, but also highlight the need for improvements in earnings quality among these banks^[23].

Another research by, Amer et al. introduce the Balanced Scorecard for Healthcare Workers (BSC-HCW1), a tool designed to engage healthcare workers in the implementation of the Balanced Scorecard in Palestinian hospitals. Through a comprehensive study involving 454 questionnaires from 14 hospitals, they validate the instrument, demonstrating its reliability and effectiveness for assessing BSC perspectives and dimensions. This study provides valuable insights for healthcare managers to enhance worker satisfaction, loyalty, and performance evaluation using the BSC-HCW1^[24].

In summary, the Balanced Scorecard (BSC) has revolutionized performance measurement since its inception in the 1990s, addressing the limitations of relying solely on financial metrics. The pioneering work of Kaplan, Norton, and the Nolan Norton Institute led to the development of this multidimensional framework, encompassing financial, customer, internal processes, and learning and growth perspectives. Recent studies by Nour, Alamleh, Al-Atoot, Almomani, and Amer et al. demonstrate the BSC's applicability in diverse contexts, from improving earnings quality in Palestinian banks to engaging healthcare workers in Palestinian hospitals^[23,25]. These research endeavours reaffirm the BSC's enduring significance in aiding organizations to align objectives, enhance performance, and achieve sustainable success.

2.4. Quality management system ISO 9001

ISO 9000 introduced in 1987 and has undergone multiple revisions, with ISO 9001:2015 being the latest version in the ISO 9000 family^[26]. The implementation of ISO 9001:2015 management system is a strategic decision for organizations. Proper implementation can enhance overall company performance and provide a strong foundation for sustained growth and development^[26].

Benefits of proper ISO 9001:2015 implementation include: 1) consistent provision of products and services meeting customer needs and legal requirements; 2) improved customer satisfaction through effective management; 3) identification of risks and opportunities aligned with company scope and goals; 4) demonstration of compliance with modern management requirements.

ISO 9001:2015 employs a process approach that combines the PDCA (Plan, Do, Check, Action) cycle and risk-based thinking. The process approach encourages planning and interaction within business sectors, while the PDCA cycle ensures resource sufficiency, compliance, and performance enhancement. The PDCA cycle can optimize company performance across all levels. The cycle involves: 1) plan means, setting goals and objectives for each process; 2) do means, implementing processes to reach set goals; 3) check means, monitoring and measuring processes, ensuring alignment with targets; 4) act means, taking corrective actions based on evaluations.

The process approach is vital for company-wide implementation to ensure smooth operations and achievement of main objectives.

Risk-based thinking prompts companies to identify factors that might deviate processes from intended outcomes. It also emphasizes control and prevention to mitigate negative impacts and enhance opportunities^[26]. Risk-based thinking is crucial in ISO 9001:2015 implementation for effective and efficient company performance. It encompasses prevention actions to eliminate potential non-conformities, analyzing deviations, and taking actions to prevent recurrence. Companies must plan and execute actions to address potential risks

and opportunities. The goal is to eliminate risks and capitalize on opportunities, considering positive and negative impacts.

ISO 9001:2015 comprises clauses addressing various aspects of organizational management, including context, leadership, planning, support, operation, performance evaluation, and improvement. The clauses outline the necessity of aligning objectives, ensuring competence, communication, and documenting all aspects of the management system.

2.5. Principles of business management

ISO 9001:2015 encompasses seven management principles that enhance the quality of the management system (ISO.Org, 2022)^[26]. These principles are:

- 1) **Customer focus:** The main goal of quality management is to meet customer needs and strive to exceed customer expectations. Sustained success is achieved when an organization earns and maintains the trust of its customers and other stakeholders.
- 2) **Leadership:** Managers at all levels set or establish common goals and directions and create conditions for people to participate in achieving the organization's quality goals.
- 3) **Engagement of people:** Empowering competent and engaged people at all levels throughout an organization is essential to improving its ability to create and deliver value.
- 4) **Process approach:** ISO 9001:2015 recognizes the use of a process approach to develop, implement, and improve the effectiveness of a company's management system and to improve customer satisfaction.
- 5) **Improvement:** Successful companies always focus on improvement. Optimization is necessary for an organization to maintain the current level of performance in response to changing internal and external conditions and to create new opportunities.
- 6) **Evidence-based decision-making:** Decisions based on the analysis and evaluation of data and information are more likely to produce desired outcomes.
- 7) **Relation management:** Organizations manage relationships with stakeholders, such as suppliers, to ensure continued success.

ISO 9001:2015 emphasizes the process approach to develop, implement, and enhance the effectiveness of company management systems, promoting customer satisfaction. Understanding, managing, and maintaining interconnected processes contribute efficiently to achieving planned company outcomes. The approach synergizes operations across departments for continuous performance improvement. This applies to all company segments, not solely manufacturing but also supporting areas like finance and HR^[27,28].

In conclusion, ISO 9001:2015's seven management principles form the foundation for effective quality management. These principles, including customer focus, leadership, and evidence-based decision-making, promote customer satisfaction and continuous improvement. Embracing the process approach ensures synergy across all organizational segments, driving performance enhancement. Understanding and implementing these principles are crucial for organizations aspiring to achieve and maintain high-quality management systems.

2.6. Synergy and impact of ISO 9001 and balanced scorecard

Synergy between ISO 9001, a high-quality management system, and the Balanced Scorecard, a performance measurement method, reveals intriguing insights. ISO 9001's implementation involves goal setting, monitoring, evaluation, and improvement, enhancing the understanding of performance significance^[29]. Simultaneously, the Balanced Scorecard assesses financial and non-financial aspects from diverse viewpoints^[9,11].

Strong compliance within ISO 9001 implementation significantly impacts both financial and non-financial performance. It leads to reduced costs, increased revenue, and higher asset returns, while also enhancing customer satisfaction, operational efficiency, and employee development^[30].

Overall, a committed ISO 9001 implementation has substantial potential to elevate company performance. Balancing compliance and performance measurement perspectives empowers organizations to achieve excellence.

Numerous studies have examined the impact of ISO 9001 on business performance. Evidence suggests that implementing and certifying ISO 9001 can enhance operational, customer, financial, and overall business performance^[29,31]. It positively influences financial aspects by reducing costs and improving efficiency, while emphasizing customer satisfaction, effective processes, and employee development for non-financial performance enhancement^[30].

The convergence of ISO 9001 and the Balanced Scorecard offers a compelling performance measurement approach. Genuine ISO 9001 implementation, considering performance's importance, turns it into a strategic tool. While ISO 9001 shapes objectives and monitoring, the Balanced Scorecard spans financial and non-financial perspectives. Prudent ISO 9001 implementation with high compliance yields significant contributions to financial and non-financial performance. It boosts financial aspects, including cost reduction and revenue increase, alongside improved customer satisfaction, efficient processes, and enhanced employee development for non-financial gains.

In summary, ISO 9001 provides a comprehensive framework for compliance, performance enhancement, and continuous improvement. Proper implementation aligns operations with global quality standards, fostering trust among stakeholders and customers. ISO 9001's principles guide organizations toward customer satisfaction, effective processes, and sustainable growth. Furthermore, coupling ISO 9001 with the Balanced Scorecard magnifies the benefits from both approaches. ISO 9001's compliance orientation aligns with the Balanced Scorecard's balanced performance measurement, driving multi-dimensional excellence. The interplay of compliance, ISO 9001, and performance measurement underscores effective management systems' pivotal role in propelling organizations forward. These frameworks empower organizations to navigate complexity, adapt to change, and achieve enduring success in a dynamic business landscape. In relation wise illustrated on below **Figure 2** the support of ISO 9001:2015 compliance management to the balance score card to success company performance which is part of company vision and mission.

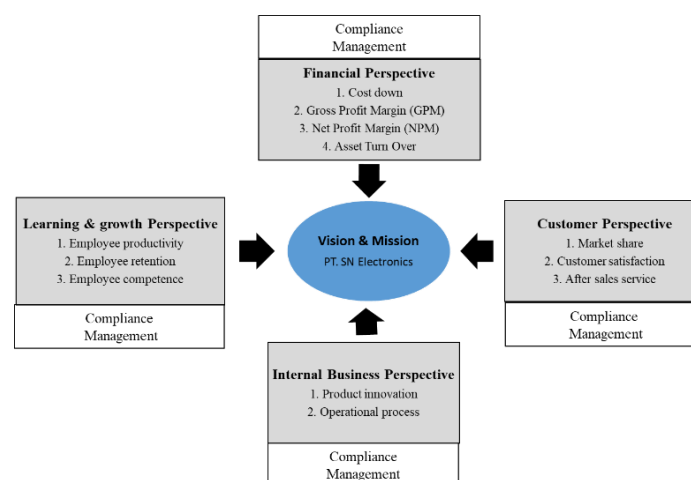


Figure 2. Conceptual framework.

3. Methodology

3.1. Research site description

PT SN Electronics, established in 2019, plays a pivotal role in distributing coolers and freezers within Indonesia's competitive food and beverage industry. With national coverage, the company employs 168 staff and collaborates with 36 technical service providers. While the organizational structure is confidential, its

significant presence in the ready-to-drink beverage and frozen food market is essential for this research. The company boasts a diverse workforce comprising various talents and expertise, and specific organizational details remain proprietary.

3.2. Research design and data collection

This study employed a qualitative research approach with a descriptive analytical method to investigate phenomena within PT SN Electronics, located in North Jakarta. The research spanned six months, from December 2021 to May 2022, encompassing all employees and company activities. Data collection involved direct observations and interviews with full consent and support from the company's leadership.

3.3. Sampling technique

To ensure the collection of relevant information, purposive sampling utilized, focusing on specific groups based on predetermined criteria. The sample size included five informants from company leaders and eight employees.

3.4. Data organization and analysis

Data from observations and interviews organized and compared using a measurement scale mutually established by the researcher and the company. The descriptive analytical method applied, involving data selection, categorization, and organization. The balanced scorecard method employed for descriptive analysis.

3.5. Triangulation for data validation

To enhance research validity and rigor, a triangulation method adopted using NVivo 12 Plus software. This involved data collection from multiple sources, analysis using NVivo, and comparing findings from direct observations and interviews to validate results. All interviews were transcribed, coded, and analyzed using NVivo 12 Plus software.

3.6. Performance evaluation

The study evaluated PT SN Electronics' performance using the balanced scorecard method. Descriptive data analysis conducted with operational weighting, following company-endorsed internal procedures.

3.7. Justification for inclusion of balanced scorecard dimensions

Financial perspective, explain why financial indicators such as sales turnover, COGS, GPM, NPM, and ATO are crucial for assessing PT SN Electronics' performance. Discuss how these financial metrics align with the company's strategic goals and overall business strategy.

Customer perspective, justify the inclusion of customer-related indicators like market share, customer satisfaction, and after-sales service. Describe how these metrics reflect PT SN Electronics' customer-centric approach and its impact on revenue and market positioning.

Internal business process perspective, provide reasoning for examining internal processes such as incoming inspection, product innovation, and on-time delivery. Explain how these aspects contribute to the company's operational efficiency and customer satisfaction.

Learning and Growth Perspective, clarify why employee satisfaction, retention, and productivity are essential indicators. Discuss how these factors influence overall organizational performance, employee well-being, and long-term sustainability.

Further detail of the balanced scorecard inclusion and compliance management ISO 9001:2015 parameter shown in **Table 2**.

Table 2. Operational variable.

Variable/Concept	Indicators	Scale
Financial Perspective	Revenue	0–10
	COGS	0–10
	GPM	0–10
	NPM	0–10
	ATO	0–10
	Market share	0–10
Customer Perspective	Customer satisfaction	0–10
	After-sales service	0–10
	Incoming inspection	0–10
Internal Business Process Perspective	Product innovation	0–10
	On-time delivery	0–10
	Employee satisfaction	0–10
Learning and Growth Perspective	Employee retention	0–10
	Employee productivity	0–10
ISO 9001 Management Compliance	Internal audit	0–10
	External audit	0–10
	Customer focus	0–10
	Leadership	0–10
	Engagement of people	0–10
ISO 9001 Contribution	Process approach	0–10
	Improvement	0–10
	Risk-based decision making	0–10
	Relationship management	0–10

Source: Data agreed by PT. SN Electronics.

4. Results

The research variables include financial performance indicators comprising five measures: sales turnover (revenue), COGS (Cost of Goods Sold), GPM (Gross Profit Margin), NPM (Net Profit Margin), and ATO (Asset Turnover). Analysis of the company's data, evaluated against the assessment criteria, yielded the following results in **Table 3**.

The financial performance outcomes were somewhat disheartening, as they fell into the moderate category for revenue, COGS, and GPM indicators, and even the poor category for the NPM indicator. However, the ATO indicator demonstrated excellent performance.

Regarding non-financial variables, the performance evaluated based on three additional perspectives of the balanced scorecard: customer perspective, internal business perspective, and learning and growth perspective. The performance results in the customer perspective encompassing indicators such as market share, customer satisfaction, and after-sales services are shown in **Table 4**.

Table 3. Financial perspective performance result.

Variable	Indicator	Measurement description	Performance result	Assessment	Score	Category
Financial Perspective	Increase in Sales revenue	Comparison sales turnover over year	27%	20%–30%	6	Fair
	COGS Reduction	COGS divide by Sales Revenue	77%	70%–80%	6	Fair
	Gross Profit Margin (GPM)	Profit before tax divide by sales revenue	23%	20%–30%	6	Fair
	Net Profit Margin (NPM)	Profit after tax divide by sales revenue	15%	10%–20%	4	Bad
	Assets Turn Over (ATO)	Sales revenue divided by total assets	169%	>60%	10	Excellent

Source: Data processed based on the results of this study.

Table 4. Customer perspective performance result.

Variable	Indicator	Measurement description	Performance result	Assessment	Score	Category
Customer Perspective	Market share	Average increase in B2B and retail customer number over 3 years	255%	> 40%	10	Excellent
	Customer satisfaction	Customer satisfaction data held by the company	4.41	4–5	8	Good
	After sales service	Percentage of warranty product defects	0.67%	< 3%	10	Excellent

Source of data processed based on the results of this study.

Another non-financial variable to evaluate is the performance of the internal business process perspective, which encompasses indicators such as incoming inspection, product innovation, and on-time delivery. The company's observations are shown in **Table 5**.

Table 5. Internal business perspective performance result.

Variable	Indicator	Measurement description	Performance result	Assessment	Score	Category
Internal process business perspective	Incoming inspection	10% random sampling with minimum passing rate 95%	97%	97%–99%	8	Good
	Product Innovation	YoY comparison of new model product	45%	> 40%	10	Excellent
	On-time delivery	On-time delivery based on schedule	1.02 day	0–1 day	10	Excellent

Source of data processed based on the results of this study.

The final non-financial variable to assess is the performance of the learning and growth perspective, which includes indicators such as employee satisfaction, employee retention, and employee productivity. The comprehensive results from the employee interviews and company data observations are shown in **Table 6**.

Table 6. Learning and growth perspective performance result.

Variable	Indicator	Measurement description	Performance result	Assessment	Score	Category
Learning and Growth Perspective	Employee Satisfaction	Based on interview result with employee	18	Interview data processed by NVivo 12 Plus	10	Excellent
	Employee Retention	Number of employees quite divided by total employee	8%	Percentage of quit employee	8	Good
	Employee Productivity	Based on MBO data from the company.	96%	Based on company MBO result	10	Excellent

Source of data processed based on the results of this study.

Employee satisfaction indicators assessed through interviews, encompassing eight sub-indicators: employee expectations, employee involvement, employee work adequacy, employee loyalty, employee improvement, employee career, employee satisfaction, and employee assessment of company compliance with regulations. The data collected from employee interviews was analyzed using NVivo 12 Plus software, and the findings visually represented as **Figure 3**.

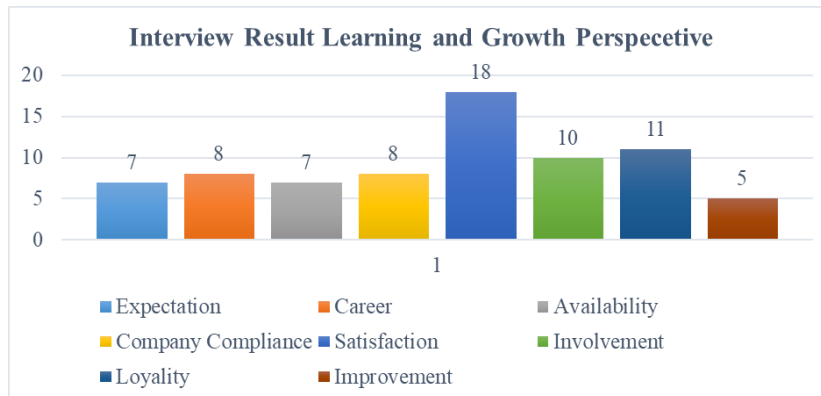


Figure 3. Customer satisfaction interview result.

Among the sub-indicators, the satisfaction sub-indicator receives the highest score of 18 points, while the other sub-indicators range from 5 to 11 points. The satisfaction sub-indicator captures various aspects related to employee satisfaction within the company.

Compliance management variables evaluated by conducting internal and external audits within the company. The observations and analysis of company data yield the following results in **Table 7**.

Table 7. Compliance management performance result.

Variable	Indicator	Measurement description	Performance result	Assessment	Score	Category
Compliance Management	Internal Audit Compliance to ISO 9001:2015	Internal Audit ISO 9001:2015 findings with Minor category	3	1–5	8	Good
	External Audit Compliance to ISO 9001:2015	External Audit ISO 9001:2015 findings with Major category	0	0	10	Excellent

Source: Data processed based on the results of this study.

The internal audit conducted at the company resulted in a good categorization, with three findings. External audits carried out by PT TUV Indonesia, an international independent party, shown zero non-conformity in the implementation of ISO 9001, indicating zero findings.

The variable contribution of ISO 9001 to the balanced scorecard comprises seven indicators: customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making, and relationship management. According to interviews with company leaders, these seven indicators, which represent the principles of management, significantly contribute to the company’s performance. The data from the interviews were processed using NVivo 12 Plus software, yielding the following results in **Figure 4**.

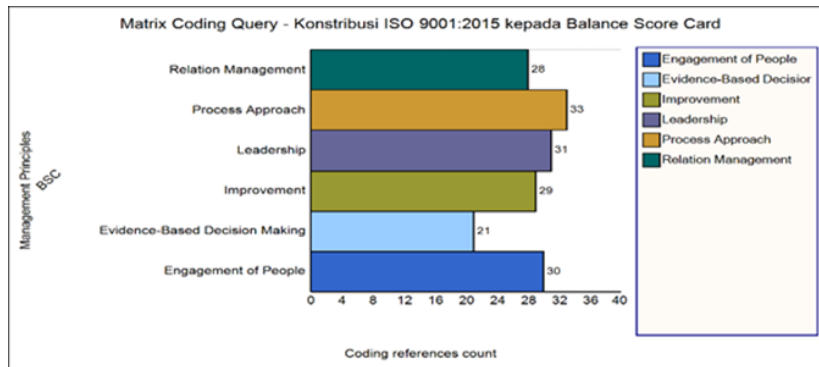


Figure 4. Interview result with company management team.

The analysis of NVivo data reveals that the process approach, particularly the utilization of the PDCA cycle (Plan, Do, Check, Act), significantly contributes to the overall performance of the company.

To validate the interview findings with company leaders, triangulation of sources conducted, utilizing NVivo 12 Plus software as shown in **Table 8**. The Pearson correlation coefficients ranged from 0.55 to 0.85, indicating significant relationships between the informants. The processed data found in **Table 7**. Notably, the interview results pertaining to the relationship between informant 2 and informant 5 fell within the medium category.

Table 8. Interview result ISO 9001:2015 contribution to the company.

Interview results	Interview results 4 other informants	Pearson correlation coefficient
Informant 1	Informant 2	0.79784
	Informant 3	0.847642
	Informant 4	0.76095
	Informant 5	0.780699
Informant 2	Informant 3	0.725101
	Informant 4	0.680615
	Informant 5	0.63553
Informant 3	Informant 4	0.780804
	Informant 5	0.575755
Informant 4	Informant 5	0.550599

Source: Data processed based on the results of this study.

To ensure the validity and credibility of the interview results regarding employee satisfaction, triangulation of sources and data processing using NVivo 12 Plus employed. The interview data from each employee informant subjected to Pearson correlation analysis within NVivo 12 Plus as shown in **Table 9**.

The maximum Pearson correlation coefficient obtained is 0.87, while the minimum is 0.79, signifying a highly significant connection between the different informants^[32]. The ongoing nature of this study revolves around capturing employee opinions regarding their satisfaction while working at PT SN Electronics. Thus, the validity of the employee satisfaction triangulation results, as depicted in **Table 9**, confidently established. The significant correlation observed in the interviews conducted among employees further supports the validity of these findings.

Table 9. Triangulation result.

Interview results	Interview results 7 others informants	Pearson correlation coefficient	Interview results	Interview results 7 others informants	Pearson correlation coefficient
Informant 1 AM	Informant 2 EC	0.837908	Informant 4 LK	Informant 5 LN	0.83727
	Informant 3 KD	0.874007		Informant 6 SF	0.817106
	Informant 4 LK	0.816341		Informant 7 SW	0.847395
	Informant 5 LN	0.831452		Informant 8 WW	0.842777
	Informant 6 SF	0.828528		Informant 6 SF	0.874606
	Informant 7 SW	0.83308		Informant 7 SW	0.811699
	Informant 8 WW	0.872671		Informant 8 WW	0.852943
	Informant 2 EC	Informant 3 KD		0.849614	Informant 6 SF
Informant 4 LK		0.802977	Informant 8 WW	0.832023	
Informant 5 LN		0.869515	Informant 8 WW	0.838057	
Informant 6 SF		0.815914			
Informant 7 SW		0.792354			
Informant 8 WW		0.861497			
Informant 3 KD	Informant 4 LK	0.798054			
	Informant 5 LN	0.816214			
	Informant 6 SF	0.813149			
	Informant 7 SW	0.820651			
	Informant 8 WW	0.863027			

Source: Data processed based on the results of this study.

After extensive research, a comprehensive relationship matrix formulated, illustrating the interconnections between four perspectives of the balanced scorecard and ISO 9001. The matrix presented below as **Table 10**.

Table 10. BCS and principal management matrix.

	Balanced Scorecard Perspectives			
	Financial Perspective	Customer Perspective	Internal Processes Business Internal Perspective	Learning and Growth Perspective
Customer Focus	On time Payment	Customer satisfaction	Satisfy all next processes	Employee satisfaction
Leadership	Budget tercapai (Budget Achievement)	Customer focus	Budgeted control	Training, re-training and skill up
Engagement of People	Team works all department	Understanding Customer needs	Works base on SOP	Team work
Process Approach	PDCA	PDCA	PDCA	PDCA
Improvement	Financial performance enhancement	Customer satisfaction enhancement	Efficiency and effectivity	Skill up
Evidence-based Decision making	Budgeting set up	Sales price vs Sales cost	Document and data accuracy	Working performance
Relationship Management	Tax, supplier	Product specification	Process Compliances	Employee Union

7 Principal Management ISO9001:2015

5. Discussion

In this comprehensive discussion, we address both financial and non-financial perspectives, providing valuable insights into PT SN Electronics' performance.

5.1. Financial performance perspective

Our study emphasizes financial performance as a primary measure of success. However, challenges revealed in this regard. Sales turnover, COGS, and Gross Profit Margin (GPM) were moderate, indicating a shortfall in revenue-related targets. Notably, the Net Profit Margin (NPM) indicator underperformed, warranting a closer examination of company objectives and strategies. To enhance financial performance, innovative measures are essential, while the Asset Turnover (ATO) indicator reflects efficient asset management.

Our findings align with Nour^[23] but do not find a significant influence of human capital on Return on Equity (ROE) in commercial banks in Jordan. Additionally, the Plan-Do-Check-Act (PDCA) cycle within ISO 9001 highlighted for addressing financial performance issues effectively.

5.2. Non-financial performance perspective

Turning to non-financial indicators, we explore the customer, internal business process, and learning and growth perspectives of the Balanced Scorecard, revealing positive results. Market share, customer satisfaction, and after-sales service excel in the customer perspective. This finding aligns with customer satisfaction playing an important role to increase profitability^[18]. In the internal business process perspective, ISO 9001 effectively governs processes, especially cooler/freezer imports, emphasizing incoming inspection and on-time delivery. Literature research related to the ISO 9001 standard and organization's performance also confirms that ISO 9001 implementation strengthened the internal business process^[33]. In the learning and growth perspective, ISO 9001 mandates employee competency enhancement, fostering a pleasant working environment and making compliance integral to company culture. A positive work environment improved employee performance^[34].

5.3. Informants' insights

Our informants emphasize the significant boost in market penetration and customer satisfaction achieved through ISO 9001 compliance. This enhances customer confidence, drives growth, and effectively governs business processes especially cooler/freezer imports with a focus on incoming inspections and timely deliveries. Additionally, ISO 9001 promotes employee competencies through training for operational excellence while fostering commitment via communication, rewards, and a positive work atmosphere. Ultimately it creates a culture of compliance.

A significant contrast exists between financial and non-financial performance. While non-financial indicators yield positive results, financial aspects face challenges. This contrast contradicts research by Tuan but may stem from company specific targets and circumstances.

5.4. ISO 9001 and compliance management

The study highlights how ISO 9001 compliance facilitates well-organized and transparent financial management. It emphasizes the importance of regular monitoring, collaboration between departments, and a continuous improvement mindset, contributing to optimal financial performance. The integration of ISO 9001 principles offers effective solutions to financial challenges, especially through the PDCA cycle. Adherence to regulations, a key aspect of ISO 9001, positively contributes to overall company performance.

While financial performance presented challenges, ISO 9001 integration has the potential to address them effectively. The PDCA cycle provides a systematic approach for identifying and rectifying financial issues,

and adherence to regulations, emphasized by ISO 9001, contributes to company performance. Therefore, the combined impact of ISO 9001 on financial performance should not be underestimated.

6. Conclusions

In summary, this study provides a comprehensive assessment of PT SN Electronics' performance, examining both financial and non-financial dimensions. The findings reveal a nuanced picture of the company's current standing.

6.1. Financial performance assessment

Financially, PT SN Electronics faces challenges in various key areas, including sales turnover, Cost of Goods Sold (COGS), Gross Profit Margin (GPM), and Net Profit Margin (NPM). These indicators have not met the anticipated targets, with only the Asset Turnover (ATO) demonstrating robust performance. This discrepancy between the financial indicators and the company's predetermined goals raises questions about the feasibility of these ambitious targets, as set by company leadership.

6.2. Non-financial performance assessment

In contrast, the company excels in non-financial performance. The implementation of ISO 9001 and adherence to compliance management principles have proven to be significant achievements. These endeavors have led to successful internal and external audits, ultimately resulting in the attainment of ISO 9001:2015 certification.

6.3. The role of ISO 9001

ISO 9001, as a high-quality management system, offers tangible benefits to PT SN Electronics. Its process-oriented approach has proven effective in problem identification, progress monitoring, and the implementation of corrective and improvement actions. The successful integration of ISO 9001 principles underscores its potential to enhance company operations and improve overall performance.

7. Recommendations and future research

For future research, it is imperative for PT SN Electronics to set realistic targets that align with the collaborative efforts of all employees. Ambitious goals balanced with pragmatic strategies, such as price adjustments and negotiations with suppliers to lower COGS. These strategies aim to bolster the company's financial performance and bring it in line with its overarching objectives.

While this study has provided valuable insights into PT SN Electronics' performance using the Balanced Scorecard method and compliance management within ISO 9001 based companies, there remain avenues for further research. Future studies should explore alternative measurement methods across diverse companies and organizations, offering a broader perspective on performance evaluation.

In summary, PT SN Electronics' journey towards improved performance is a dynamic one. By addressing financial challenges, optimizing non-financial achievements, and refining strategies, the company can work towards achieving its goals and enhancing its competitive position in the market.

Author contributions

Conceptualization, ER and THM; methodology, ER; software, ER; validation, ER, THM, BTC and FCY; formal analysis, ER; investigation, ER; resources, ER; data curation, ER; writing—original draft preparation, ER; writing—review and editing, ER; visualization, ER; supervision, BTC and FCY; project administration, ER; funding acquisition, ER and THM. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

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