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Original Article

Synergy between Balanced Scorecard and OKRs to Improve Performance and Efficiency in an Electronic Security Company: A Case Study in Peru

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Abstract - *This study integrates two strategic management tools, the Balanced Scorecard (BSC) and the Objectives and Key Results (OKR), which are applied in SEGELEC, a small electronic security company. The BSC was used to measure organizational performance in the medium and long term through four perspectives: Finance, Customers, Internal Processes, and People, while the OKR provided an agile and dynamic approach to achieve short-term objectives. This methodological combination allowed aligning strategic and operational goals, significantly improving business efficiency, especially in challenging contexts such as the COVID-19 pandemic. During the period analyzed, SEGELEC carried out 354 services, the most notable being 94 lifting doors and 78 alarm installations. Productivity increased by 10.5% and 11.0% in the first and second quarters of 2024, respectively, while second-quarter sales grew by 18% compared to 12% in the same period in 2023, with a cumulative total of 303,110 soles. In addition, the satisfaction rate reached 77.6%. The analysis reflects the total universe of services performed without sampling, ensuring that the results represent the company's performance. This study does not intend to generalize the findings but to evaluate the implementation of these strategic tools in the particular context of SEGELEC. The results demonstrate that the integration of BSC and OKR is viable and effective, providing a solid framework for facing challenges and improving organizational efficiency in a competitive business environment.*

Keywords - *Balanced Scorecard, Objectives and Key Results, PYMES, Performance and Efficiency, SEGELEC.*

1. Introduction

The COVID-19 pandemic has significantly impacted Peruvian companies, especially those that did not have solid digital channels to serve their customers, such as social media or e-commerce [1], [2]. This crisis accelerated the digital transformation, reaching levels of implementation that, under normal circumstances, would have been expected within five years. Companies must adopt innovative technological strategies to improve their competitiveness and meet the demands of customers who desire more personalized and high-quality services. However, not all companies have the resources or knowledge necessary to implement these transformations effectively, leaving a gap in understanding how strategic management tools can be adapted to the specific needs of small businesses in highly dynamic environments. In this context, the present research addresses the combined implementation of the Balanced Scorecard (BSC) and Objectives and Key Results (OKR) in SEGELEC, a small electronic security company in Peru. Despite the vast literature on BSC and OKRs, the novelty of this study lies in integrating both tools in a specific business context affected by the pandemic. The BSC, known for its ability to assess organizational performance across four key perspectives (Finance, Customers, Internal Processes, and People), is complemented by OKRs, an agile methodology geared toward achieving short-term goals. This combination offers a strategic framework to respond to the unique challenges of small businesses operating in sectors affected by increasing digitalization. While previous research has highlighted the effectiveness of BSC or OKRs in different contexts [3], [4], limited studies examine how both tools can be integrated to improve organizational performance in small businesses in the security services sector. This work seeks to fill this gap in the literature and assess how implementing these tools can transform the analytical capabilities, decision-making, and strategic performance of a company that previously faced critical challenges due to the pandemic. Furthermore, the opportunities digital transformation can generate in terms of market segmentation, optimization of business strategies, and improvement in measuring key performance indicators are explored. Through a data-driven approach and a rigorous analysis of SEGELEC's initial situation, this study offers not only relevant findings for the company in question but also an adaptable model that can be replicated in other similar

organizations. In doing so, it is expected to contribute to the practical development of business strategies and advance the literature on strategic management and digital transformation, providing concrete tools to face increasingly competitive business environments [5-7].

2. Objective

Integrate Balanced Scorecard (BSC) and Objectives and Key Results (OKR) methodologies to effectively improve the performance and operational efficiency of a small electronic security company to face organizational challenges in today's business environment see in Figure 1.

3. Literature Review

Digital transformation has revolutionized trade, significantly improving the relationship between buyers and sellers. Information and Communication Technologies (ICT) catalyze the economy by increasing productivity and competitiveness and diversifying companies' offerings [8]. This transformation, a cultural change focused on customer experience and engagement, occurs in an environment of hyperconnectivity and collaboration in all value chain activities. Disruptive technologies, new business models and competencies, and organizational innovations cause changes in multiple dimensions, especially in processes and business models, as well as in people [9]. Business Intelligence (BI) tools offer a comprehensive view of the business and are helpful in various areas of the organization. These tools improve decision-making by allowing deep data analysis, accelerating operational efficiency, identifying new revenue opportunities and market trends, and reporting on Key Performance Indicators (KPIs).

In addition, they facilitate the generation of reports and dashboards, optimizing strategic decision-making [10]. Implementing the Balanced Scorecard (BSC) in education has effectively addressed specific challenges. It provides an integrated approach with perspectives on financial, customer, internal process, and learning and growth. In Peruvian educational institutions, this approach has improved strategic planning, aligned educational objectives with daily activities, and enhanced accountability. The results have shown significant increases in operational efficiency, academic performance, and student and parent satisfaction [11].

Geographic information systems and business intelligence have improved decision-making in the tourism sector by integrating spatial and market data. Implementing the BSC in this sector has optimized activity planning and control, increasing customer satisfaction and operational efficiency and contributing to sustainable and competitive growth [12]. The use of the BSC in combination with OKRs has shown positive results in various industries. A study on a digital agency in Peru highlighted that implementing the BSC significantly improved operational efficiency, customer satisfaction, and quarterly revenue. Aligning OKRs with strategic goals improved coordination between departments and reduced operating costs [13]. Likewise, combining advanced data analysis and the BSC has improved negotiation strategies. Analytical data helps identify behavioral patterns and preferences, personalize negotiation strategies, and optimize results.

This methodology has reduced conflicts and promoted more informed and fair decisions [14, 15]. In conclusion, KPIs are essential tools for measuring and evaluating performance. They allow companies to improve the quality of their projects and achieve success and growth in their respective markets. Implementing BSC and OKRs, with BI tools and advanced data analysis, provides a robust structure for strategic and operational decision-making, improving organizations' competitiveness and efficiency [16-18].

4. Methodology

4.1. Basis

Initially, SEGELEC began its journey by offering essential services and presenting simple reports that were limited to financial and accounting aspects. These reports were primarily textual and lacked graphics, which made it difficult to interpret and analyze critical data for decision-making. The lack of a comprehensive reporting tool restricted the company's ability to evaluate its performance and respond quickly to market demands effectively. Aware of the urgent need to modernize and adapt to an increasingly competitive business environment, the company decided to implement the Balanced Scorecard (BSC) as an essential part of its technological transformation strategy. This change not only introduced a structured approach to performance management but also allowed the integration of financial and non-financial indicators within a unified framework.

The BSC facilitated a holistic view of the organization, aligning business activities with the company's vision and strategy, improving internal and external communication, and monitoring organizational performance against strategic objectives; on the other hand, implementing Objectives and Key Results (OKR) allowed for the establishment of a more robust reporting system with indicators that measure the company's progress and success. Its purpose is to establish and achieve objectives. Several of these key results support a specific objective.

Key results are measurable milestones that indicate progress toward the objective. OKRs are usually set quarterly, and they aim to align the efforts of an entire team or organization. Adopting the BSC and OKRs represented a paradigm shift in SEGELEC's company performance management. This integrative approach improved the company's analytical and decision-making capabilities and drove it toward a modernization essential for its long-term sustainability and success.

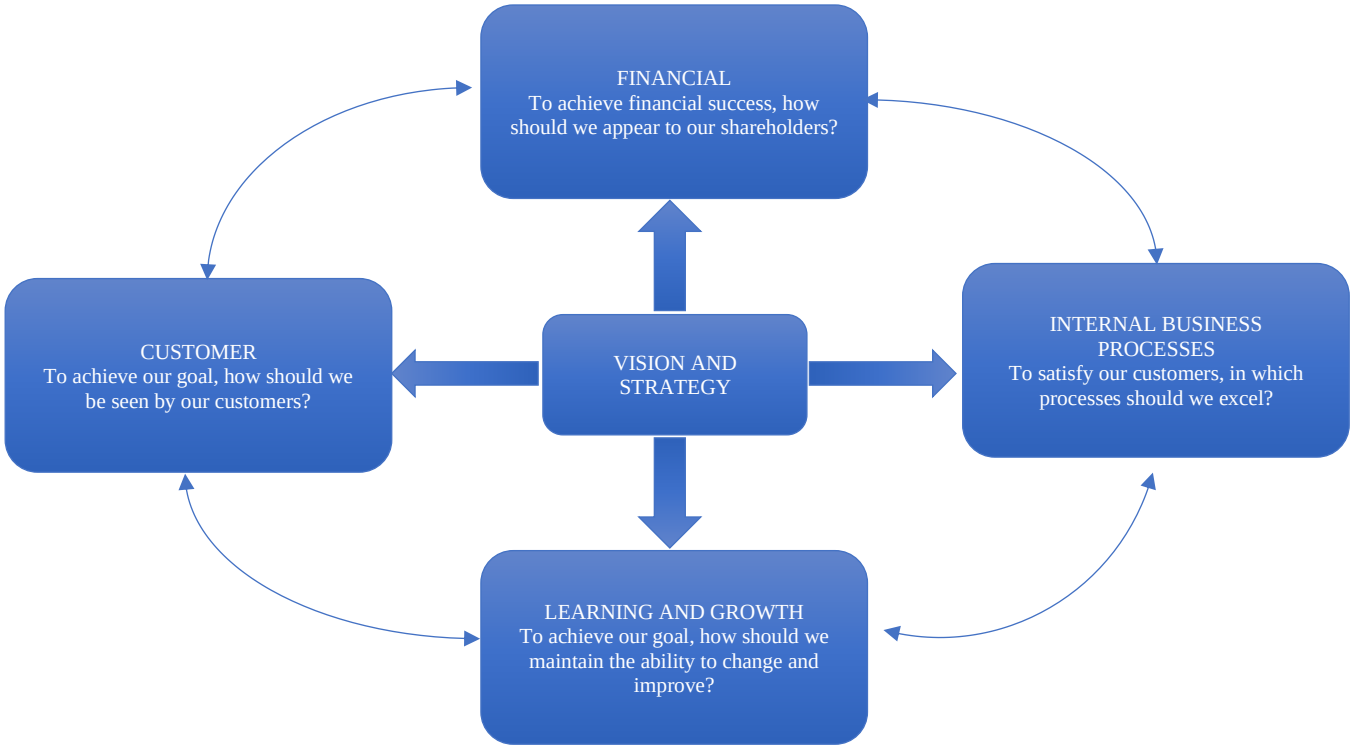

Fig. 1 Methodologies for enhancing operational efficiency

4.2. Proposed Model

Based on a thorough review of the scientific literature, an innovative proposal was developed that combines the Balanced Scorecard (BSC) and Objectives and Key Results (OKR) for the integrated management of SEGELEC. This model aims to improve profitability and radically transform the operation and management of the company, providing a structured approach to performance evaluation through four key perspectives: financial, customer, internal processes, and learning and growth.

The BSC allows the company to monitor and evaluate its performance fully, integrating financial and non-financial indicators into a coherent framework. This advanced tool generates detailed reports and interactive graphics, facilitating a clear and rapid understanding of the company's status. Implementing the BSC has significantly strengthened the company's ability to make informed decisions, identify areas for improvement, and capitalize on growth opportunities.

The incorporation of OKRs provides an agile and dynamic approach, allowing the company to set and achieve objectives in the short term. This approach complements the BSC by delivering a transparent methodology for identifying and monitoring specific goals aligned with the company's strategic objectives.

4.3. Step-by-Step BSC and OKR frameworks

Below is a step-by-step account of how the BSC and OKR frameworks were carried out at SEGELEC:

4.3.1. Initial diagnosis and definition of strategic objectives (BSC)

- A thorough assessment of SEGELEC's current situation (AS-IS model) identified strengths, weaknesses, opportunities, and threats.
- Four key BSC perspectives (Finance, Customers, Internal Processes, and People) were established and aligned with the company's strategic vision.

4.3.2. Identification of key performance indicators (KPIs)

- Specific KPIs were defined for each perspective. For example, quarterly sales growth was included in the finance perspective, as was the number of services completed in Internal Processes and the customer satisfaction index.

4.3.3. Definition of short-term objectives (OKR)

- Specific OKRs were designed based on the BSC KPIs. For example, "Increase sales by 15% in the second quarter of 2024" or "Improve customer satisfaction rate by 10%."

4.3.4. Implementation and internal communication

- Employees were trained on the BSC and OKR frameworks to ensure their understanding and acceptance.
- A continuous monitoring system was established through weekly meetings to assess the progress of the OKRs and adjust strategies as necessary.

4.3.5. Data centralization and visualization

- Business Intelligence (BI) tools such as Power BI were integrated to consolidate the company's operational and financial data, facilitating the measurement and monitoring of the defined indicators.

4.3.6. Evaluation and feedback

- Monthly and quarterly reports were generated to analyze progress concerning the objectives established in the BSC and OKRs.
- Continuous improvements were implemented based on the results and feedback from employees and customers.

This structure allowed SEGELEC to integrate both frameworks coherently, aligning its strategic objectives with clear operational goals. This process improved productivity and sales and strengthened the organizational culture based on informed and agile decision-making.

4.4. Components of the BSC model

The four phases of developing the proposed model are detailed below, as illustrated in Figure 2.

4.4.1. Component 1: Financial Perspective Analysis

In the first phase, activities are carried out to assess the current situation of the company and determine its needs and opportunities for improvement, both internal and external. This includes the creation of fundamental matrices and key models, starting with analyzing the company's strategic information. Next, a comprehensive study of the stages and processes is carried out, developing the Ishikawa matrices and flowcharts for identifying problems, bottlenecks, and the distinction between dependent and independent data in the development processes.

A Balanced Scorecard (BSC) is also carried out to objectively and honestly evaluate the organization from the four perspectives: financial, customers, internal processes, and learning and growth. With the current situation analyzed according to the financial analysis, its objective is to increase ROI profitability by 15%.

To achieve this, specific key results are defined: improve net profit margin (NPM) by 10%, increase security services revenue by 15% through new customer acquisition, generate a return on equity (ROE) of 15%, and reduce operating costs by 1% per month through process optimization. Once the company's needs and opportunities for improvement have been identified, the plan for the proposed new model is communicated.

4.4.2. Component 2: Customer Perspective Analysis

The second objective focuses on improving, innovating, and promoting products and services to increase customer satisfaction by more than 30%. This involves improving customer perception of the viability and effectiveness of services by achieving a 20% satisfaction rate as of this year. In addition, it seeks to improve public perception of the company through sustainable practices, achieving a 15% increase in the sustainability perception index during the same period. After defining these objectives, measuring them using indicators that align with the organization's main strategies is essential. Several meetings with management made it possible to develop a strategic plan with clear and quantifiable objectives, which have been successfully implemented.

These objectives include the Customer Satisfaction Index, calculated based on the number of satisfied customers divided by the total number of respondents, and the Sustainability Rate, which combines environmental, social, and governance sustainability scores, each multiplied by three. These goals are valuable for startups and established companies looking to improve customer satisfaction and sustainability performance.

4.4.3. Component 3: Internal Process Perspective Analysis

The third objective of the company is to optimize and unify operational processes to reduce operational cycle times by 20%, supported by a knowledge base that allows for improved efficiency, innovation, customer relations, and sustainability. This ensures integrated and effective management of all security services provided by the company's employees. Two key results have been established to achieve this objective. The first is to increase the productivity rate of the security services company by 10% through brand recognition in the market, using the formula Productivity Improvement Rate (%) = (P after - P before) ÷ P before × 100. The second key result is ensuring all services and projects are completed within the established deadlines and remain within budgetary limits.

This is crucial to maintaining customer satisfaction, optimizing resource use, and increasing company profitability, using the formula Service Time Improvement Rate (%) = (T before - T after) ÷ T before × 100.

4.4.4. Component 4: Learning and Growth Perspective Analysis

This phase focuses on constantly improving staff skills and competencies in electrical safety to deliver safer and more effective customer service. Therefore, Key Result #1 is to create a positive and motivating work environment, fostering an environment where employees feel valued, motivated, and committed to the company's values and goals. To measure this objective's success, the staff satisfaction and retention improvement rate is calculated by the formula (increase in staff satisfaction and retention / initial staff satisfaction and retention) x 100%. After analyzing the results using these indicators, it is necessary to gather the opinions of experts and stakeholders to discuss the goals achieved, generate new goals following the company's strategy, and improve the procedures and processes of those indicators that have not been completed.

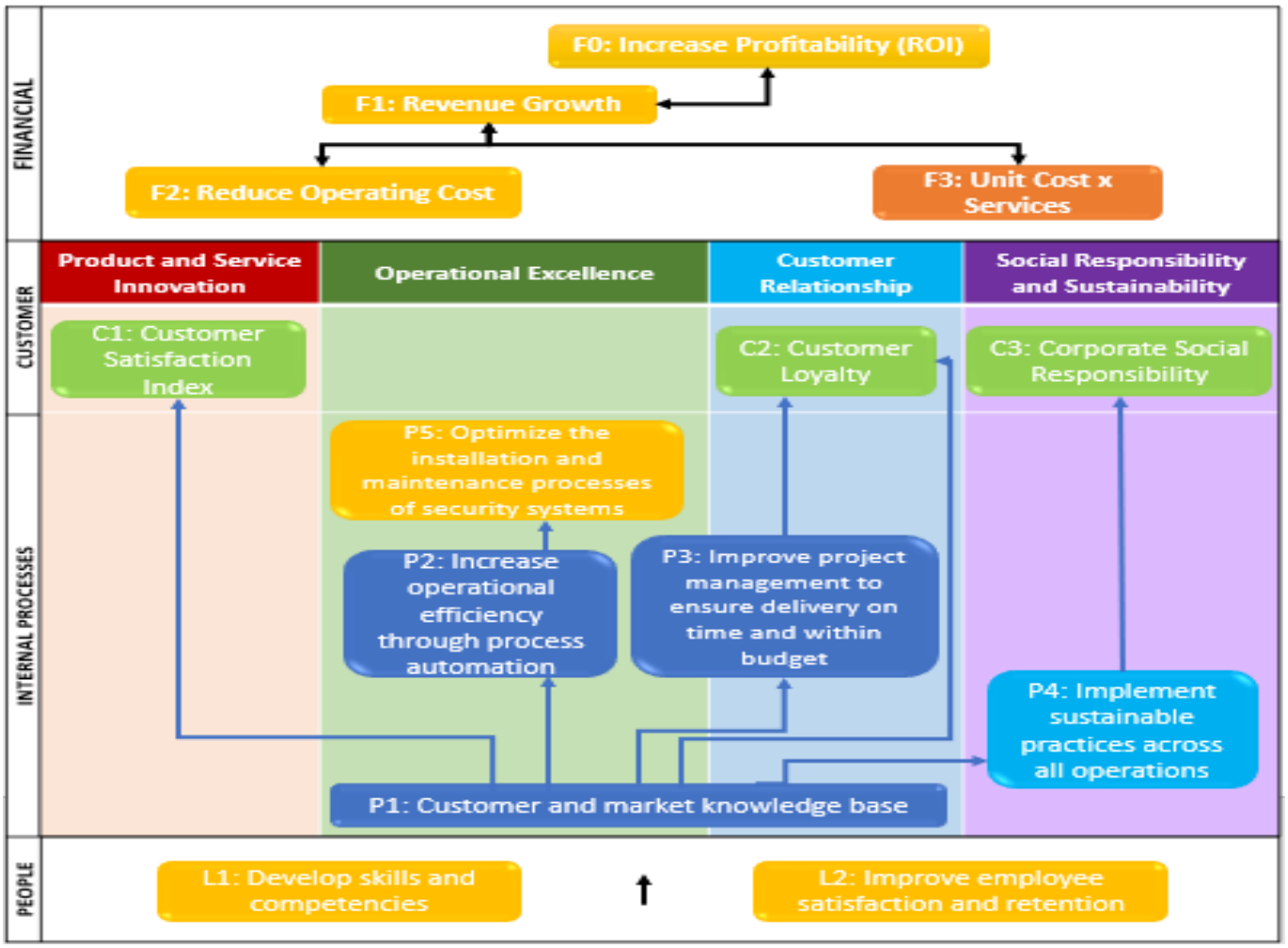

Fig. 2 Components of the BSC model

Table 1. OKR Framework for financial performance improvement in a security services company

OKR#1:	Financial	Measuring indicator
Objective #1: Increase the company's ROI profitability by 15%		
Key Result #1: Improve net profit margin (NPM) by 10%		MBN=(Total Revenue ÷ Net Profit)×100.
Key Result #2: Increase the security services company's revenue rate by 15% by expanding the new client base.		Revenue growth rate (%)=(Revenue in current period - Revenue in previous period) ÷ Revenue in previous period x 100.
Key Result #3: Increase the security services company's revenue by expanding the customer base, generating 15% ROE		Quantity of customer ROI = (Net profit÷Total equity) x 100.
Key Result #4: Reduce operational costs of materials and labor by less than 1% per month in the security services company through process optimization.		Operating Cost Reduction Rate = (Initial Operating Costs Initial Operating Costs − Final Operating Costs) × 100%

Table 2. OKR Framework for customer satisfaction improvement in a security services company

OKR#2:	Customer	Measuring indicator
Objective #2: Increase customer satisfaction by over 30% through innovative products and services.		
Key Result #1: Improve customer perception of the reliability and effectiveness of services through a 20% satisfaction rate starting this year.		(Customer Satisfaction Index x number of satisfied customers) ÷ total number of people who responded to the survey x 100
Key Result #2: Improve public perception of the company through sustainable practices, achieving a sustainability perception index of 15% during the current year.		Sustainability Rate = (Environmental Sustainability Score + Social Sustainability Score + Governance Score) ÷ 3

Table 3. OKR Framework for internal process optimization in a security services company

OKR#3:	Internal Processes	Measuring indicator
Objective #3: Optimize and unify operational processes to reduce operational cycle times by 20%, using a knowledge base to improve efficiency, innovation, customer relations, and sustainability. Ensure the company's employees integrate and effectively manage all security services.		
Key Result #1: Increase the productivity rate of the security services company by 10% through brand recognition in the market.		Productivity Improvement Rate (%) = (P after - P before) ÷ P before x 100
Key Result #2: Ensuring that all services and projects are completed within established time frames and budget limits is crucial to maintaining customer satisfaction, optimizing resource use, and increasing company profitability.		Service Time Improvement Rate (%) = (T before - T after) ÷T before x 100

Table 4. OKR Framework for employee development and engagement in a security services company

OKR#4:	People	Measuring indicator
Objective #4: Constantly improve the skills and competencies of staff in electrical safety to provide safer and more effective services to customers.		
Key Result #1: Create a positive and motivating work environment where employees feel valued, motivated, and committed to the company's values and objectives.		Staff satisfaction and retention improvement rate = (Increase in staff satisfaction and retention / Initial staff satisfaction and retention) x 100%.

5. Results and Discussion

Implementing Power BI, complemented with the Balanced Scorecard (BSC), enabled SEGELEC to achieve results, thanks to the synergy between advanced Business Intelligence (BI) tools and a comprehensive strategic approach. Unlike previous studies highlighting the benefits of using the BSC or BI separately [10], the approach combined these tools to maximize their potential. Power BI provides an advanced and interactive visualization of Key Performance Indicators (KPIs). At the same time, the BSC structured these metrics around the organization's strategic perspectives, such as finance, customers, internal processes, and learning and growth. This approach allowed for real-time monitoring of organizational performance and aligning operational activities with the company's strategic objectives, ensuring that each level contributed to global goals.

Compared to techniques reported in the literature, such as the use of isolated BI tools [10] or limited sectoral approaches, such as those applied in the education or tourism sector [11, 12], the implementation stood out for its transversal nature, integrating financial, operational and strategic data into a single ecosystem. This allowed for more effective addressing of heterogeneity in data, reducing interdepartmental conflicts, and customizing strategies based on advanced analytical data [14].

On the other hand, OKRs introduced an agile methodology oriented towards specific and measurable objectives, allowing SEGELEC to adapt more quickly to market fluctuations. The reviewed literature [13] underlines the benefits of OKRs in improving coordination between departments and reducing operational costs. However, the independent application of OKRs does not provide a measurement framework as structured as BS. Still, an approach further extended these improvements by automating and simplifying the interpretation of complex data with Power BI. Compared to state-of-the-art techniques, the 22.9% improvement in services delivered during the first two quarters of 2023-2024 was mainly due to the customization of interactive dashboards and charts designed in Power BI.

These dashboards facilitated informed decision-making and identified previously hidden patterns and trends. Finally, the use of the employee training protocol, along with the promotion of an organizational culture geared toward data-driven decision-making, made a key difference in the implementation. This made it possible to overcome common challenges reported in the literature, such as resistance to change or lack of adoption of new technologies by staff [16]. In summary, the superior results are explained by the unique combination of Power BI and BSC, which integrates data from multiple business systems, customizes analytical dashboards, and strategically aligns with KPIs, significantly impacting organizational competitiveness, efficiency, and sustainability.

Figure 3 shows a Power BI report that facilitates the visualization of complex data through easy-to-interpret graphs and diagrams and has ensured that the available information is always current and relevant through real-time updates. As a result of this study, the electronic security company has substantially increased its ability to make informed decisions, identify areas for improvement, and capitalize on growth opportunities. Modernization has consolidated its position in the market, allowing it to offer a more efficient service tailored to the specific needs of its clients.

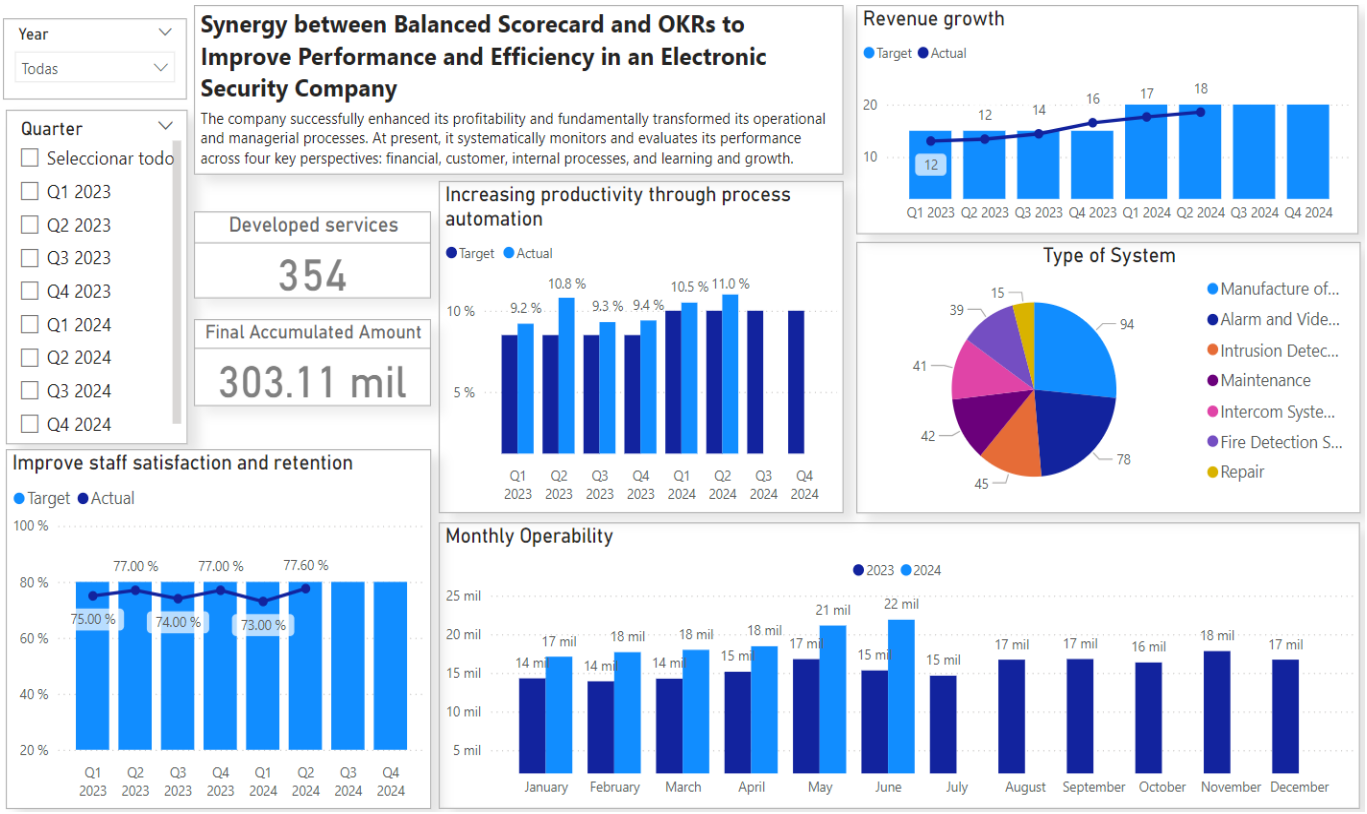

Fig. 3 Power BI report

6. Conclusion

In conclusion, the holistic approach allowed the company to evaluate and align its strategic and operational objectives, significantly improving its efficiency in the medium term. The company performed 354 services, of which the largest service was obtained from 94 lifting doors, followed by 78 alarm installation services; there was an increase in productivity of 10.5% and 11.0% in the first and second quarters of 2024, respectively. Regarding sales growth in the second quarter of 2024, it grew by 18% compared to the 12% reached for the same quarter of 2023. The satisfaction index grew by 77.6%. Total accumulated sales were 303,110 soles in the second quarter of 2024. The results demonstrate that the synergy between BSC and OKR is viable and can enhance organizational performance. The integration of BSC and OKR is emerging as an effective strategy to face organizational challenges and improve efficiency in today's business environment.

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