

## **Design Of Balanced Scorecard-Based Performance Measurement System For Small And Medium Enterprises: Case Study On Cv Erpa Utama Lombok, NTB**

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### **Abstract**

*This study aims to design an objective strategy that is aligned with the Vision and Mission of CV. Erpa Utama and know the application of AHP and ANP methods in measuring the weight of each performance indicator in the perspective of the Balanced Scorecard that has been designed. This research is a case study using descriptive qualitative methods. Data was collected through questionnaires, interviews, and documentation. The informant in this study was the Director of CV. Erpa Utama. The results of this study analyze the weighting method of AHP and ANP to determine strategic priorities in managing company performance. AHP places Customer Perspective as a top priority, followed by Internal Business, Growth and Learning, and Finance. Meanwhile, ANP gives higher priority to Financial, Customer, Internal Business, and Growth and Learning Perspectives, reflecting a different approach to variable dependence. The prioritized KPIs are also different; AHP emphasizes Customer Satisfaction, Product Quality, and Customer Growth, while ANP highlights Product Innovation, Revenue Increase, and Customer Satisfaction. From a global perspective, AHP affirms priorities on Customer Satisfaction, Revenue Increases, and Employee Training, while ANP highlights Product Innovation, Revenue Increases, and Customer Satisfaction. Although both methods provide insight into resource allocation for operational efficiency, revenue growth, and customer satisfaction, differences in BSC (Financial Priority ANP, Customer Priority AHP) ratings show the influence of respondents' interpretation. Therefore, integration of weighting methods and regular evaluation is necessary to improve strategic decision making by understanding differences and accommodating changing organizational conditions.*

**Keywords:** Performance measurement, Balanced Scorecard, Analytic Hierarchy Process, Analytical Network Process

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## INTRODUCTION

The Micro, Small and Medium Sector (MSMEs) play an important role in driving the Indonesian economy as they contribute to GDP and enable job creation. Data shows that MSMEs in Indonesia have 65.4% of the workforce, contributing 114.7% to the country's GDP. However, MSMEs also made a higher contribution to GDP, with 37.3% of the contribution coming from the pandemic (dailysocial.id, 2023).

During the Covid-19 pandemic, some MSMEs did not even survive, and not a few had to go bankrupt. Through the Job Creation Law (UU Ciptaker), MSMEs have the potential to become one of the ones that will recover quickly during the current pandemic. Through various kinds of facilities obtained, namely related to licensing, certification, financing, market access, training, digital infrastructure, implementation of electronic systems and transactions and the business climate in the e-commerce sector (cnbcindonesia.com, 2022)

Based on data from the Ministry of Cooperatives that two years after the Covid-19 pandemic, the condition of the MSME sector is arguably better. Compared to 2020 and 2021 which were so gloomy because many MSMEs went out of business due to the impact of the world and national economic downturn, 2022 is expected to be a year of revival for MSMEs as one of the pillars of the country's economy because MSMEs have great potential to create jobs, drive economic growth and strengthen the sustainability of the business sector at the local and national levels (ukmindonesia.id, 2023)

In the context of MSMEs, company performance measurement is very important to evaluate business success and sustainability even though company performance measurement using traditional performance approaches in the current economic era is no longer effective, because it only assesses in financial terms, while non-financial conditions have not been met and are not focused on the causes and impacts for company continuity. In fact, non-financial conditions related to performance management in the company's internal have a major effect on company profits, one of which is related to customer satisfaction and employee loyalty in a business process. Weaknesses of traditional performance measurement or in providing a comprehensive picture of company performance. (Solichah, 2015)

Performance measurement with *Balanced Scorecard* is closely related to the decision-making method to be used. The method used in the *Balanced Scorecard* allows companies to give weighting to relevant performance indicators, so as to gain a better understanding of the contribution of each indicator to the achievement of the organization's vision and mission. In this study, researchers will use the *Analytic Hierarchy Process* (AHP) and *Analytic Network Process* (ANP) methods. The AHP method

is used to perform weighting on *relevant Key Performance Indicators* (KPIs). AHP allows authors to assign relative weights to each KPI. In addition, the ANP method will be used to identify and measure complex linkages between KPIs. This will help in understanding how KPIs relate to each other and affect overall performance measurement. Research related to performance measurement using the Balanced Scorecard and the AHP and ANP methods has been done quite a lot, including research conducted by the Integrity of the Balanced Scorecard method and AHP shows that the customer perspective has a very significant influence among the four perspectives in the Fithri, et al (2017) *Balanced Scorecard*. Another study was also conducted by This study discusses performance design in the perspective of Sahar, et al (2022) *Balanced Scorecard* using the ANP method. In this study, it was found that there is a *Scorecard List* consisting of 13 KPIs that are used to evaluate the performance of the Principal from various perspectives. The KPI that has the highest priority is the Implementation of Supervision of the Learning Process by Schools (09), with a weight of 0.1992 or equivalent to 20%. This shows that learning supervision is a top priority. Both studies show that importance from each perspective can be measured using the AHP and ANP methods.

CV. Erpa Utama which is a company engaged in the fish processing industry, especially freezing and buying and selling fish caught by fishermen. CV. Erpa Utama has marketed its products to several regions in Indonesia. Company CV. Erpa Utama wants all business processes to meet targets, satisfy consumers so as to grow loyalty, and expand as an effort to compete with competitors. To achieve all these things is certainly not easy and will take a long time. For this reason, it is necessary to evaluate the achievements carried out regularly and improve strategies for the future. According to Handayani and Hudaya (2002), the key to successful achievement evaluation is if the company can measure its performance, so that qualitatively the target to be achieved can be determined. In this case, company performance measurement is an important thing that must be owned by a company

## **2. LITERATURE REVIEW**

### **2.1 Contingency Theory**

Contingency theory is a theory of leader conformity which means adjusting the leader to the right conditions. The theory proposed by Fiedler's (1967) argues that, the performance of leaders is determined by their understanding of the situation in which they lead. The contingency theory mindset philosophy is based on that every organization has its own characteristics and faces different problems. Therefore, this approach holds the view that different situations must be faced with different leadership behaviors, and

each organization must be faced with its own leadership style. Contingency Theory focuses its attention on the law of the situation (*Law of The Situation*). Leadership is a situation, that is, a situation or situational that requires different demands and applications to time and place. This theory defines leadership styles that are tailored to different situations. In other words, this theory tries to try to relate leadership style with contingency factors, namely different situations. In different situations, the leadership style to be applied will also be different (Asmar, 2021)

The concept of contingency is an approach to planning and managing emergency situations or unexpected changes in a business or organization. This involves risk identification, development of alternative plans, and preparedness to deal with disruptions. The goal is to minimize negative impacts and ensure operational continuity. In this study, the application of contingency theory can explain the existence of CV. The Main ERP can help in considering the size and type of company, industry and business environment, business strategy and goals, as well as organizational structure and corporate culture. By paying attention to these factors, the company will be able to achieve organizational goals satisfactorily, so that the goals of this theory can be achieved

## 2.2 SWOT Analysis

SWOT analysis is a form of analysis in company management or within the organization that can systematically assist in efforts to formulate a mature plan to achieve goals, both short-term goals and long-term goals. Another definition of SWOT analysis is a form of situation analysis and also conditions that are descriptive or give an overview (Albert Humphrey). This analysis places situations and conditions as input factors, and then grouped according to their respective contributions. One thing that needs to be remembered carefully by users of this analysis, that SWOT analysis is solely as an analysis intended to describe the situation at hand, and not a magic analysis tool that can provide solutions to the problems at hand. SWOT stands for *strengths*, *weaknesses*, *opportunities*, *threats* (Sonatasia, 2020)

## 2.3 Micro, Small and Medium Enterprises (MSMEs)

In the Indonesian economy, Micro, Small and Medium Enterprises (MSMEs) are the largest business group. In addition, this group proved to be resistant to various kinds of economic crisis shocks. The management of micro, small and medium enterprises involving many groups seems to have become a must. The criteria for businesses included in micro, small and medium enterprises have been regulated under the legal umbrella based on the law. (Witanti. et al, 2016)

## 2.4 Definition of Performance Measurement

Performance measurement is the ongoing oversight of the achievement of a program. From long-term goals can be obtained its development. Performance measurement is directed by management, as well as activities related to the program, program *outputs in the form of products or services, and outcomes of these products or services*. A programme can be an activity, function, project or policy that has an identifiable purpose (Artley, 2001)

## 2.5 Definition of Balanced Scorecard

According to (Norton and Kaplan, 2000) *the Balanced Scorecard*, it is the translation of a company's mission and strategy into an overarching set of measures that provide a framework for achieving financial goals. Meanwhile, Mulyadi (2001) stated that the *Balance Scorecard* is a card used to record the score of one's work. Scorecards can also be used to plan scores that personnel want to realize in the future. Meanwhile, according to Gaspersz (2003) *Balance Scorecard* is a communication tool between employees and companies in carrying out business plans..

## 2.6 History and Definition of AHP

*The Analytical Hierarchy Process (AHP)* was first introduced by Thomas L. Saaty in 1971. Saaty is a mathematician from the University of Pittsburgh in the United States. At the beginning of its introduction, AHP was used as a method that regulates the allocation of scarce resources and the planning of military needs. The AHP method developed by Saaty is used to solve complex problems in the form of very little data and statistical information from these problems. (Saaty, 1987) (Hussain et al. 2015)

## 2.7 History and Definition of ANP

The ANP method is a development of the AHP method. *Analytical Network Process (ANP)* was introduced by Thomas L. Saaty in 1996 in his book entitled "The Analytic Network Process" as a form of refinement of the AHP method. The AHP method is also referred to as a special form of the ANP method because the concept of ANP is derived from the AHP theory which is based on the interdependence relationship between several components. ANP is a mathematical theory that allows one to systematically treat dependencies *and feedback that captures and combines tangible and intangible factors*. (Gencer and Gürpınar 2007)

## 2.8 Research Mindset

CV. Erpa Utama is a company engaged in freezing and buying and selling fish services. CV. Erpa Utama has goals in accordance with the vision and mission that has been set. In order to achieve this goal, it is very important to measure performance within a certain time so that business financial performance can be known. One form of measurement that can be done to balance financial results is the application of the *Balanced Scorecard method* as one of the performance measurements.

Here is figure 1 which is the framework of this study.

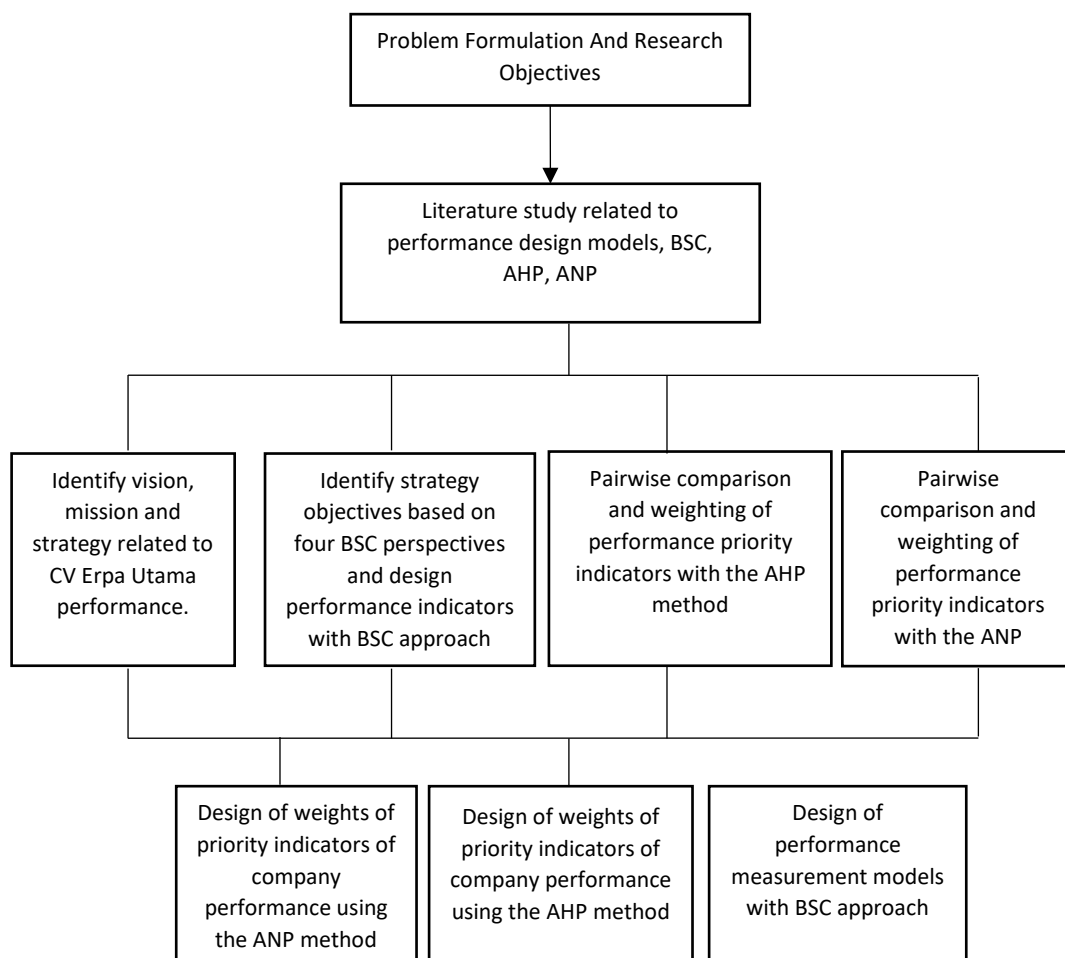


Figure 1 Research Frame of Mind

### **3. RESEARCH METHOD**

#### **3.1. Research Approach**

This research is a case study using descriptive qualitative methods as a research approach by describing the vision, mission and strategy of CV. Erpa Utama by using a performance measurement system based on *Balanced Scorecard* using the weighting of AHP and ANP methods.

#### **3.2. Informant**

A research informant is someone who can provide information related to the data needed for research. In observing, it is carried out by distributing questionnaires and interviews to informants. The informant in this study was the owner of the CV. Erpa Utama.

#### **3.3. Research Location**

This research was conducted on CV. Erpa Utama which is located at Jalan Raya Sembelia, Labuhan Lombok Village, Pringgabaya District, East Lombok Regency, West Nusa Tenggara – Indonesia.

#### **3.4. Data Collection Procedure**

In conducting research, it is necessary to have the information needed. In this case, the information is in the form of data, where the data is obtained from parties related to the research.

##### **a. Primary Data**

Primary data are data obtained directly at the place of the object of study.

The primary data used by researchers in this study are the results of observations and records obtained during the study.

##### **b. Secondary Data**

The supporting data used by the researcher is obtained indirectly. For example, from data or company files related to the object under study.

#### **3.5. Data Collection Methods**

In conducting this study, researchers need data such as primary data and secondary data. Therefore, researchers will use several methods in collecting data, namely field studies which consist of interviews, observations, then the next is a literature study by looking at references related to researchers.

#### 1. Documentation

Documentation is a data collection process used by collecting documents needed by the author. The data in question are financial data, customer data, employee data as well as organizational structure and an overview of CV. Erpa Utama.

#### 2. Interview

Interview is one of the data collection techniques carried out by holding questions and answers, either directly or indirectly with data sources. In this study, interviews were conducted directly to parties involved in the company's business processes such as interviews with company managers and employees.

#### 3. Questionnaire

The questionnaire technique is a direct data collection technique carried out by asking a list of questions to respondents. According to questionnaire is a data collection technique that provides respondents with a set of questions or written statements. The questionnaire distributed will be given directly to the owner of CV. Erpa Utama.(Sugiyono 2018)

### 4. RESULT

#### 4.1. Company SWOT Analysis

SWOT analysis is a method to determine the internal and external conditions of the company today. The purpose of the SWOT analysis is to design strategies that remain in accordance with the conditions experienced by the company today. CV. Erpa Utama currently has no strategy. Therefore, to assist companies in carrying out their business processes, the author conducts strategic design using SWOT analysis.

In defining the company's internal conditions which include the weaknesses and strengths of the company, interviews are conducted with the company. The following is the result of an analysis of the strengths and weaknesses of the CV. Erpa Utama.

**Table1 Related Company Conditions of Strength and Weakness**

| No | STRENGTH                       | WEAKNESS                                                   |
|----|--------------------------------|------------------------------------------------------------|
| 1. | The company has regular buyers | The company does not have a performance measurement system |

|    |                                 |                                                                               |
|----|---------------------------------|-------------------------------------------------------------------------------|
| 2. | Have a HACPP certificate        | The inability of the company to obtain fish raw materials in a certain season |
| 3. | Has complete product facilities | Uneven human resource capabilities                                            |
| 4. | Have strong capital             | Uneven human resource capability                                              |

Source : The result of discussions with the company

After defining the strengths and weaknesses of the company, then identification is carried out related to the external conditions of the company. An interview was conducted with the company. The following is a table about the condition of the CV. Erpa Utama.

**Table.2 Related to Company Conditions of Opportunity and Threat**

| No | OPPORTUNITY                                                                                             | THREAT                                                                                                                        |
|----|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1. | The amount of fish consumption both domestically and export destination countries continues to increase | The cost for shipping products is calculated based on the number of containers, not based on the quantity of products shipped |
| 2. | Rapid technological development                                                                         | There are changes in regulations in the destination country regarding standardization of export product quality               |
| 3. | Large number of fish suppliers                                                                          | The existence of companies that have similar products                                                                         |

Source: the result of discussions with the company

From the two tables above, it can be known the internal and external conditions that are being faced by the company today.

#### 4.2. Balanced Scorecard Perspective Weighting Results

**Table 3.Results of Priority Weighting Between Balanced *Scorecard Perspectives***

| Perspective       | Weight  |
|-------------------|---------|
| Internal Business | 0.29208 |

|                     |         |
|---------------------|---------|
| Customer            | 0.50358 |
| Growth and Learning | 0.11735 |
| Finance             | 0.08699 |

Inconsistency Ratio Value: 0.28496

Based on the results of priority weighting between perspectives of the *Balanced Scorecard* presented in table 4.3. It was concluded that the customer perspective showed the highest weight (0.50358), signaling a strong influence, emphasizing the importance of focusing on customer satisfaction within the company's strategic framework, affirming its significant role in the *Balanced Scorecard* strategy. This perspective is considered very important in the achievement of organizational goals. Followed by Internal Business Perspective, which has a weighting of 0.29208, confirms its significant role in the *Balanced Scorecard* strategy. This perspective is considered very important in the achievement of organizational goals. While Growth and Learning, with a weight of (0.11735), has a lower influence than the previous two perspectives, it is still considered an important factor for long-term growth and adaptability of organizations. In contrast, the Financial Perspective shows the lowest weight (0.08699) in this weighting, although it still has an important role in measuring organizational performance.

Within the framework of the *Balanced Scorecard*, Internal Business and Customer Focus aspects play a key role in achieving strategic objectives, while Growth and Learning also play an important role, albeit with a lower level of influence. Meanwhile, the Financial aspect, although important, shows a lower level of influence in overall performance evaluation.

### 4.3. KPI Weighting Results with AHP Method

#### 4.3.1 Financial Perspective KPI Weighting Results

**Table 4. Results of KPI Priority Weighting Financial Perspective**

| KPIs              | Weight  |
|-------------------|---------|
| Increased Revenue | 0.45608 |
| Profit Increase   | 0.43852 |
| Cost Efficiency   | 0.10541 |

Inconsistency Ratio Value: 0.53926

The results of KPI weighting on Financial Perspective, as listed in table 4.4, show that in the priority assessment of *Key Performance Indicators*, the Increased Revenue KPI has the highest weight of 0.45608. This indicates a significant level of this aspect in the evaluation of financial performance. Followed by KPI Profit Increase with a weight of

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0.43852, affirming the importance of efficiency in financial management. While the Cost Efficiency KPI has the lowest weight of 0.10541 in this assessment.

#### 4.3.2 Customer Perspective KPI Weighting Results

**Table 5. KPI Priority Weighting Results Customer Perspective**

| KPIs                                            | Weight  |
|-------------------------------------------------|---------|
| Customer Satisfaction Level with CV. Erpa Utama | 0.78261 |
| Customer Growth Rate CV. Erpa Utama             | 0.17391 |
| Level of Customer Loyalty to CV. Erpa Utama     | 0.04348 |

Inconsistency Ratio Value: 0.48077

KPI weighting results in Customer Perspective on *Balanced Scorecard* Provide a clear picture of the priority given to key aspects in the company's interaction with customers. Customer Satisfaction Level with CV. The Main Erpa obtained the highest weighting of 0.78261, indicating the importance of understanding and meeting customer satisfaction in organizational strategy. Meanwhile, CV. The Main Erpa has a weighting of 0.17391, reflecting a focus on the growth and expansion of the customer base. Level of Customer Loyalty to CV. The Main Erpa, with a weight of 0.04348, is also recognized as an important factor in maintaining long-term relationships with customers. An inconsistency ratio value of 0.48077 confirms a good level of consistency in the weighting process, providing confidence that decisions taken are based on reliable data. Thus, this evaluation provides a comprehensive view of the achievement of organizational goals in understanding, satisfying, and retaining the customer base.

#### 4.3.3 Internal Business Perspective KPI Weighting Results

**Table 6. Internal Business KPI Priority Weighting Results**

| KPIs                          | Weight  |
|-------------------------------|---------|
| Product Quality               | 0.64757 |
| Risk management effectiveness | 0.24580 |
| Increased Product Innovation  | 0.10663 |

Inconsistency Ratio Value: 1.31337

The results of KPI weighting in Internal Business Perspective on *the Balanced Scorecard* confirm the priority and relative contribution of key performance indicators. Product Quality obtained the highest weighting of 0.64757, indicating the organization's focus on achieving high quality standards as a key element for operational success and

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customer satisfaction. Risk Management effectiveness gains a weighting of 0.24580, signifying significant recognition of the importance of effective risk management in supporting overall business performance. Despite the lower weight, the Increased Product Innovation with a weight of 0.10663 is still recognized as an important factor in maintaining the competitiveness and relevance of products in the market. The inconsistency ratio value of 1.31337 confirms that the weighting process is carried out with sufficient consistency, providing a solid basis for strategic decision making. This evaluation provides a holistic view of key aspects in the Internal Business, helping the organization to direct efforts and resources to continuously improve performance and innovation.

#### 4.3.4 Results of KPI Breaking: Growth and Learning Perspectives

**Table 7. Growth and Learning KPI Priority Weighting Results**

| KPIs                   | Weight  |
|------------------------|---------|
| Employee Training      | 0.66667 |
| Use of Technology      | 0.16667 |
| Business Collaboration | 0.16667 |

Inconsistency Ratio Value: 0.48077

The results of KPI weighting in Growth and Learning Perspectives on the *Balanced Scorecard* provide a significant picture of the organization's focus and priorities on key aspects. Employee Training received the highest weighting of 0.66667, demonstrating the organization's commitment to enhancing employee skills and capabilities as the foundation of growth and learning. Technology use and business collaboration received an equal value weighting of 0.16667, reflecting recognition of the role of technology in supporting operational efficiency and innovation. Meanwhile, Business Collaboration with a weight of 0.04654 remains recognized as an important element in building mutually beneficial relationships and cooperation. However, an inconsistency ratio value of 0.48077 indicates a degree of uncertainty or imbalance in the weighting process, which may be a focus for future improvement. Thus, this evaluation provides strategic insights to direct investment and development efforts in Growth and Learning Perspectives to improve organizational capabilities and adaptability.

#### 4.4. KPI Global Weighting Results

**Table 7. Global Weighting Results KPI Priorities**

| KPIs                                            |    | Weight   |
|-------------------------------------------------|----|----------|
| Cost Efficiency                                 | F1 | 0.009170 |
| Increased Revenue                               | F2 | 0.039674 |
| Profit Increase                                 | F3 | 0.038147 |
| Level of Customer Loyalty to CV. Erpa Utama     | C1 | 0.021895 |
| Customer Satisfaction Level with CV. Erpa Utama | C2 | 0.394103 |
| Customer Growth Rate CV. Erpa Utama             | C3 | 0.087579 |
| Increased Product Innovation                    | I1 | 0.031144 |
| Product Quality                                 | I2 | 0.189146 |
| Risk management effectiveness                   | I3 | 0.071795 |
| Employee Training                               | L1 | 0.078232 |
| Use of Technology                               | L2 | 0.019558 |
| Business Collaboration                          | L3 | 0.019558 |

The results of the analysis of the global weighting data of KPIs in the *Balanced Scorecard* in table 7 above provide significant strategic insights. From these results, it can be seen that the Level of Customer Satisfaction with CV. The Main ERP (C2) gets the highest weight, demonstrating the organization's commitment to providing services that meet and exceed customer expectations. A high priority on customer satisfaction becomes a strategic cornerstone, viewing it as a key driver of business growth and sustainability. The focus on increasing Revenue (F2) is also a major concern, signaling the importance of financial aspects in organizational strategy.

In addition, the weighting results show the sustainability of customer growth (C3) is in focus with significant weighting. This reflects the organization's efforts to not only attract new customers but also retain existing ones. Product Quality (I2) and Employee Training (L1) also received high attention, signifying the importance of product innovation and human resource development in improving competitiveness and service quality.

The importance of Cost Efficiency (F1) reflects an organization's desire to maintain operational efficiency, despite gaining a lower weight. Use of Technology (L2) and Business Collaboration (L3) are recognized as important elements, albeit with relatively little weight.

Although the weighting results provide a clear direction, the presence of an inconsistency ratio value of 0.42598 signals an expansion of uncertainty or imbalance in the weighting process. Therefore, organizations are advised to conduct further evaluations to ensure optimal consistency in strategic decision making.

#### 4.5. KPI Weighting Results with ANP Method

**Table 8. ANP Weighting Results**

| BSC Perspective            | Node<br>KPIs | Weights<br>per KPI | Perspective<br>Weighting | Perspective<br>Weight (%) |
|----------------------------|--------------|--------------------|--------------------------|---------------------------|
|                            |              |                    |                          |                           |
| F (Finance)                | F1           | 0.065337           | 0.324476                 | 32,44%                    |
|                            | F2           | 0.180239           |                          |                           |
|                            | F3           | 0.078900           |                          |                           |
| C (Customer)               | C1           | 0.013545           | 0.223763                 | 22,37%                    |
|                            | C2           | 0.149835           |                          |                           |
|                            | C3           | 0.060383           |                          |                           |
| I (Internal<br>Business)   | I1           | 0.190381           | 0.303984                 | 30,39%                    |
|                            | I2           | 0.029935           |                          |                           |
|                            | I3           | 0.083668           |                          |                           |
| L (Growth and<br>Learning) | L1           | 0.066454           | 0.147778                 | 14,77%                    |
|                            | L2           | 0.047130           |                          |                           |
|                            | L3           | 0.034194           |                          |                           |

The results of KPI weighting using the Analytic Network Process (ANP) method, as recorded in Table 4.9, show the allocation of weighting analysis using the *Analytical Network Process* (ANP) on a *Balanced Scorecard* (BSC) perspective revealing the priorities and relative contributions of each Key Performance Indicator (KPI) to the organization's strategic objectives. From a Financial (F) perspective, Cost Efficiency (F1) stands out with an overall weighting of 32.44%, indicating the importance of operational efficiency in the achievement of financial goals. Increased Revenue (F2) and Increased Profit (F3) also made significant contributions, albeit with lower weighting.

Customer Perspective (C) highlights Customer Satisfaction (C2) as a key KPI with an overall weighting of 22.37%, indicating the organization's commitment to customer satisfaction as a strategic priority. In Internal Business (I), Product Innovation (I1) is the

main focus with an overall weight of 30.39%, while Product Quality (I2) and Risk Management Effectiveness (I3) make significant contributions.

The Growth and Learning (L) perspective emphasizes Employee Training (L1) as the main element with an overall weight of 14.77%, affirming the importance of human resource development in achieving organizational growth and learning. Overall, the results of the ANP analysis provide a comprehensive view of strategic priorities and the relative contribution of each aspect in achieving organizational goals. This evaluation can help with smarter decision making and effective allocation of resources to support the organization's vision and mission.

#### **4.6. Ranking of AHP and ANP Method Weighting Results**

From the comparison of the *Balanced Scorecard* (BSC) perspective weight ranking using the Analytical Hierarchy Process (AHP) and *Analytical Network Process* (ANP) methods, there are significant differences in prioritization. In the AHP method, Customer Perspective (C) ranked first with a weight of 0.50358, indicating that customer satisfaction is considered a top priority in achieving organizational goals. Followed by Internal Business Perspective (I) with a weight of 0.29208 and Financial Perspective (F) with a weight of 0.08699. Meanwhile, Growth and Learning Perspective (L) ranks last with a weight of 0.11735.

Meanwhile, in the ANP method, Financial Perspective (F) dominates the first rank with a weight of 0.324476, indicating the importance of cost efficiency, increased revenue, and increased profit in achieving financial goals. Customer Perspective (C) ranked second with a weighting of 0.303984, emphasizing customer satisfaction as a key success factor. Internal Business Perspective (I) ranked third with a weighting of 0.223763, while Growth and Learning Perspective (L) remained in last rank with a weight of 0.147778.

In conclusion, the ranking results between the AHP and ANP methods showed significant differences in the priority assessment of BSC perspectives. This difference can be due to the different characteristics and approaches between the two methods. Therefore, the selection of methods should be based on the specific objectives and characteristics of each research or decision making. The BSC AHP and ANP Perspective Weight rankings can be seen in table 4.10 below.

**Table 9. BSC Perspective Weight Ranking AHP and ANP Method**

| Balanced Scorecard Perspective | Rating (AHP) | Weight (AHP) | Rating (ANP) | Weight (ANP) |
|--------------------------------|--------------|--------------|--------------|--------------|
| F (Finance)                    | 4            | 0.08699      | 1            | 0.324476     |
| I (Internal Business)          | 2            | 0.29208      | 3            | 0.223763     |
| C (Customer)                   | 1            | 0.50358      | 2            | 0.303984     |
| L (Growth and Learning)        | 3            | 0.11735      | 4            | 0.147778     |

Furthermore, from the results of ranking the weight of *Key Performance Indicators* (KPI) using the Analytical Hierarchy Process (AHP) and Analytical Network Process (ANP) methods, there are significant differences in prioritization. In the AHP method, KPI Customer Satisfaction Level to CV. The Main Erpa (C2) was ranked first with a weight of 0.394103, indicating that the organization gives the highest priority to the aspect of customer satisfaction. Followed by Product Quality KPI (I2) with a weight of 0.189146 and Customer Growth Rate KPI CV. Erpa Utama (C3) with a weight of 0.087579.

Meanwhile, in the ANP method, the Product Innovation Improvement KPI (I1) led the first rank with a weight of 0.190381, indicating the organization's focus on product innovation. KPI Revenue Increase (F2) ranked second with a weight of 0.180239 and KPI Customer Satisfaction Level against CV. Erpa Utama (C2) dropped to third place with a weight of 0.149835.

Analysis of ranking differences between AHP and ANP methods can be due to different approaches in dealing with dependencies and interdependencies between criteria. In conclusion, the selection of weighting methods should be adapted to the specific context and goals of the organization, taking into account the characteristics of each method in order to obtain more accurate and relevant results. The ranking of AHP and ANP KPI weights can be seen in table 10 below.

**Table 10 Ranking KPI Weights AHP and ANP Methods**

| AHP (Analytical Hierarchy Process) Method | KPIs | Rating | Weight   | ANP (Analytical Network Process) Method | KPIs | Rating | Weight   |
|-------------------------------------------|------|--------|----------|-----------------------------------------|------|--------|----------|
|                                           | C2   | 1      | 0.394103 |                                         | I1   | 1      | 0.190381 |
|                                           | I2   | 2      | 0.189146 |                                         | F2   | 2      | 0.180239 |
|                                           | C3   | 3      | 0.087579 |                                         | C2   | 3      | 0.149835 |
|                                           | L1   | 4      | 0.078232 |                                         | I3   | 4      | 0.083668 |
|                                           | I3   | 5      | 0.071795 |                                         | F3   | 5      | 0.078900 |

|                          |    |    |          |                          |    |    |          |
|--------------------------|----|----|----------|--------------------------|----|----|----------|
| <b>Weighting Results</b> | F2 | 6  | 0.039674 | <b>Weighting Results</b> | L1 | 6  | 0.066454 |
|                          | F3 | 7  | 0.038147 |                          | F1 | 7  | 0.065337 |
|                          | I1 | 8  | 0.031144 |                          | C3 | 8  | 0.060383 |
|                          | C1 | 9  | 0.021895 |                          | L2 | 9  | 0.047130 |
|                          | L2 | 10 | 0.019558 |                          | L3 | 10 | 0.034194 |
|                          | L3 | 11 | 0.019558 |                          | I2 | 11 | 0.029935 |
|                          | F1 | 12 | 0.009170 |                          | C1 | 12 | 0.013545 |

## 5. DISCUSSION

The results of the analysis of various weighting methods, such as AHP (Analytical Hierarchy Process) and ANP (Analytical Network Process), provide an in-depth view of the organization's priorities and strategic focus in managing company performance. The AHP method establishes that the Customer Perspective (C) becomes the highest priority, followed by the Internal Business Perspective (I), the Growth and Learning Perspective (L), and the Financial Perspective (F). Meanwhile, the ANP method ranked it higher on the Financial Perspective, followed by the Customer Perspective, Internal Business Perspective, and Growth and Learning Perspective. This disparity reflects a different approach to dealing with dependencies between variables.

The importance of certain KPIs (*Key Performance Indicators*) is also reflected in this analysis. The AHP method highlights the highest priority on the Level of Customer Satisfaction with CV. Erpa Utama (C2), Product Quality (I2), and Customer Growth Rate (C3). On the other hand, ANP emphasizes the importance of Increased Product Innovation (I1), Increased Revenue (F2), and Customer Satisfaction Level of CV. Erpa Utama (C2). This difference can be interpreted as a reflection of the organization's need to achieve a balance between customer satisfaction, product innovation, and revenue growth.

When viewed from a global perspective, the AHP method confirms that the level of customer satisfaction with CV. Key Erpa (C2), Revenue Increased (F2), and Employee Training (L1) have the highest priority in achieving company goals. Meanwhile, ANP highlighted Increased Product Innovation (I1), Increased Revenue (F2), and Customer Satisfaction Level with CV. Erpa Utama (C2). Both methods provide important insights into how organizations should allocate resources to achieve the optimal balance between operational efficiency, revenue growth, and customer satisfaction.

In addition, BSC's perspective weighting ranking results show that Financial Perspective (F) is ranked highest according to ANP, while AHP places Customer Perspective as the highest priority. This suggests that respondents' methods and interpretations of questionnaire questions can influence ranking results.

In order to improve the strategic decision-making process, companies may consider integrating various weighting methods, combining advantages and understanding differences in the specific context of the organization. In addition, it is necessary to conduct regular evaluations of the methods used to ensure compliance with changing external and internal conditions of the organization.

## **6. CONCLUSION AND ADVICE**

### **6.1 Conclusion**

Based on the results of the design of the Cv. Erpa Utama performance measurement model based on the *Balanced Scorecard* and weighting with the AHP and ANP methods, the following conclusions can be drawn:

1. From the results of the analysis using *the Analytical Hierarchy Process (AHP) and Analytical Network Process (ANP) methods*, there is a significant difference in the priority emphasis of the *Balanced Scorecard* (BSC) perspective. AHP places more emphasis on Customer Perspective as the highest priority, while ANP assigns a higher rating to Financial Perspective. These variations reflect the complexity of respondents' assessments of dependencies between variables and emphasize the importance of a holistic approach in assessing organizational performance.
2. At the Global KPI level, it can be seen that ANP emphasizes the importance of Customer Satisfaction Level to CV. Erpa Utama (C2), Increased Revenue (F2), and Employee Training (L1). On the contrary, AHP places more emphasis on Increasing Product Innovation (I1), Increased Revenue (F2), and Customer Satisfaction Level on CV. Erpa Utama (C2). The integration of results from both methods can provide a more comprehensive view and assist organizations in making more effective strategic decisions.

### **6.2 Advice**

It is recommended to conduct a sensitivity evaluation to assess the impact of changes in parameters and weighting methods appropriate to the characteristics and needs of the organization. Using a participatory approach, relevant stakeholders can be involved in strategic decision making. There may be ideas to combine AHP and ANP results or use weighting methods, which can look at aspects of complex interactions and relative comparisons. Consider the weighting methods used periodically to consider changes in the business and its environment. Therefore, companies can improve the reliability and relevance of weighting results and ensure that strategic decisions are in line with current goals and circumstances.

**REFERENCES**

- Andi Hamdayana Asmar, et al. 2021. "Pengaruh Gaya Kepemimpinan, Fasilitas Kerja, Dan Kepuasan Kerja Terhadap Kinerja Pegawai Sekretariat Daerah Kabupaten Pinrang." *Journal of Accounting Finance (JAF)* 2 (2): 133–47.
- Artley, W., Ellison, D., & Kennedy, B. 2001. *The Performance-Based Management: Establishing and Maintaining a Performance-Based Management Program*. University of California.
- cnbcindonesia.com. 2022. "Omnibus Law UU CIPTAKER." 2022. <https://www.cnbcindonesia.com/entrepreneur/20201015194607-25-194728/omnibus-law-uu-cipta-kerja-bikin-umkm-cepat-pulih>.
- dailysocial.id. 2023. "Tren Digitalisasi UMKM Di Indonesia 2023: Tantangan Dan Peluang." 2023.
- Fithriyah, Jamilatul, and Zeplin Jiwa Husada Tarigan. n.d. *Integrasi Metode Balance Scorecard Dan Analytical Hierarchy Process Untuk Pengukuran Kinerja Di Perguruan Tinggi Swasta*.
- Gaspersz, Vincent. 2003. *Balanced Scorecard Dengan Six Sigma*. Jakarta: Gramedia Pustaka Umum.
- Gencer, Cevriye, and Didem Gürpınar. 2007. "Analytic Network Process in Supplier Selection: A Case Study in an Electronic Firm." *Applied Mathematical Modelling* 31 (11): 2475–86. <https://doi.org/10.1016/j.apm.2006.10.002>.
- Hussain, Matloub, Mian M. Ajmal, Mehmood Khan, and Hussein Saber. 2015. "Decision Making with The Analytic Hierarchy Process." *Journal of Manufacturing Technology Management* 26 (6): 791–806. <https://doi.org/10.1108/JMTM-03-2014-0020>.
- Kaplan, Robert S., dan David P. Norton. 2000. *Menerapkan Strategi Menjadi Aksi Balanced Scorecard*. Jakarta: Erlangga.
- Saaty, R. W. 1987. "THE ANALYTIC HIERARCHY PROCESS-WHAT IS IT AND HOW IT IS USED." *Mathematical Modelling* 9 (3–5): 161–76. [https://doi.org/10.1016/0270-0255\(87\)90473-8](https://doi.org/10.1016/0270-0255(87)90473-8).
- Sahar, Rahmah Laila, and Ahmad Chirzun. 2022. "Perancangan Kinerja Kepala Sekolah Menengah Atas Dalam Perspektif Balanced Scorecard (BSC) Menggunakan Analytical Network Process (ANP) (Studi Kasus : SMA ABC Jakarta)." *JURNAL AL-AZHAR INDONESIA SERI SAINS DAN TEKNOLOGI* 7 (1): 10. <https://doi.org/10.36722/sst.v7i1.844>.

- Solichah, et al. 2015. "Analisi Balanced Scorecard Sebagai Sarana Pengukuran Kinerja Perusahaan(Studi Kasus Pada Pabrik Gula Pesantren Baru Kediri)." Jurnal Administrasi Bisnis (JAB) 27 (1): 1-10.
- Sonatasia. 2020. "Strategi Meningkatkan Loyalitas Konsumen Makanan Khas Kota Curup Kabupaten Rejang Lebong."
- Sugiyono. 2018. Metode Penelitian Kuantitatif Kualitatif Dan R&D. alfabeta, Jakarta.
- ukmindonesia.id. 2023. "Kemenkop UMKM." 2023. <https://www.ukmindonesia.id/baca-deskripsi-posts/refleksi-2022-dan-outlook-2023-kemenkop-ukm-ungkap-pencapaian-dan-rencana-untuk-pelaku-umkm>.
- Witanti, Wina, dan Asep Id Hadiana, and Universitas Jenderal Achmad Yani Jl Terusan Jenderal Sudirman. 2016. "Pengukuran Kinerja Pada Usaha Mikro Kecil Dan Menengah (Umkh) Dengan Balanced Scorecard (BSC)."