

Implementation of the Simple Additive Weighting (SAW) method in supporting the business transformation process of PT Virama Karya (Persero) to become PT Agrinas Jaladri Nusantara (Persero)

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ABSTRACT

Business transformation is a strategy adopted by companies to maintain long-term sustainability. In support of the government's program to achieve food self-sufficiency through the development of the fisheries commodity ecosystem, PT Virama Karya (Persero), which was originally engaged in the construction sector, shifted to PT Agrinas Jaladri Nusantara (Persero) through horizontal diversification into the fisheries sector. In this case, the company transformed its business while maintaining its construction sector. This shift requires a more objective and measurable decision-making process. Although the company has implemented a weighting system, its use has been limited to assessing the feasibility of alternatives, and the final decision still relies on direct appointments. To support the transformation process, several key aspects must be considered, including the selection of a Public Accounting Firm (KAP), employee training programs, determining the best employees, and employee rotation. This study used the Simple Additive Weighting (SAW) method with a quantitative method through a descriptive approach and semi-structured interviews for data collection. This method requires criteria weighting, matrix normalization, and identification of alternative rankings to determine the most appropriate choice. This study revealed that the SAW method improves a company's ability to make objective and measurable decisions. It can be concluded that the SAW method used in this study can assist the decision-making system at PT Agrinas Jaladri Nusantara (Persero) objectively and measurably and can increase the company's cost efficiency.

Keywords: Business transformation, Horizontal diversification, Simple Additive Weighting (SAW), Decision-making, PT Agrinas Jaladri Nusantara (Persero)

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1. INTRODUCTION

Business transformation is a strategic step taken by companies to ensure long-term sustainability and competitiveness amid increasingly dynamic industrial change. PT Virama Karya (Persero), a consulting company specializing in engineering services, such as road, bridge, and other civil engineering management, faces the major challenge of aligning its business direction with national development needs. Based on the Letter of the Minister of State-Owned Enterprises of the Republic of Indonesia number S-62/MBU/02/2025 concerning Approval of Name Changes, Changes in Purpose and Objectives and Business Activities, Changes in Articles of Association, and Changes in Logo, PT Virama Karya (Persero) officially transformed its business into PT Agrinas Jaladri Nusantara (Persero). This transformation is intended to support the government's program in achieving food self-sufficiency through the development of the fishery commodity ecosystem, but without abandoning its core business in the construction sector.

This transformation is categorized as horizontal diversification, a strategy for entering new businesses that are related to but not directly related to the core business. According to [Tegowati et al. \(2024\)](#), horizontal diversification is one approach that companies use to expand their business portfolio while strengthening their resilience to market fluctuations. Therefore, PT Virama Karya's transformation into PT Agrinas Jaladri Nusantara (Persero) reflects not only the courage to seize new opportunities but also a strategic adaptation to the direction of national development in the food sector.

Sound decision-making is crucial in the transformation process, particularly in the areas of finance and personnel. Key decisions include selecting a Public Accounting Firm (KAP) for financial audits, determining employee training programs, identifying top employees, and deciding on job rotations. PT Virama Karya has a simple weighting system, but its application has been limited to assessing the feasibility of alternatives. The final decision remains dominated by a direct appointment mechanism, often leading to transparency issues and a lack of an objective and measurable basis for calculations.

To address these weaknesses, this study implemented the Simple Additive Weighting (SAW) method. The SAW method is considered effective because it can assist decision-making involving multiple criteria in an objective, systematic, and measurable manner. According to [Azkiyah and Novichasari \(2022\)](#), SAW is a more accurate and faster method for determining the best alternative because it is based on predetermined, weighted criterion values. The basic concept of the SAW is to find the weighted sum of the performance level of each alternative against all existing criteria. The result is a ranking of alternatives that facilitates management in determining the most appropriate choice to support business transformation strategy.

Furthermore, business transformation is closely linked to human resource management. Employee training is a crucial tool for creating a competent, adaptive, and productive workforce. [Srinivas \(2023\)](#) emphasized that organizations seeking to survive change require a continuous training strategy, as it forms the foundation of resilient and adaptive organizations. Furthermore, employee rotation is necessary to place individuals with appropriate competencies in the right positions. [Putri \(2023\)](#) stated that the "right man in the right place" strategy is key to organizational effectiveness in addressing changes.

Furthermore, recognizing exemplary employees is a crucial strategy for strengthening work commitment. [Kustiani \(2021\)](#) demonstrated that rewarding significantly impacts loyalty and work motivation, even more so than other factors such as organizational culture or leadership style. [Salsabila \(2024\)](#) added that identifying exemplary employees can strengthen affective and normative commitment, which is crucial for navigating the dynamics of business transformation and improving employee performance.

However, the audit function is equally crucial in the transformation process. [Riantono \(2023\)](#) emphasized that internal audit now plays a strategic role as a management partner in ensuring good corporate governance, controlling risks, and supporting the success of digital and business

transformation. Therefore, selecting the right public accounting firm using the SAW approach is the first step in building a company's financial credibility after transformation.

Thus, the application of the SAW method in this study aims to support objective strategic decision-making at PT Agrinas Jaladri Nusantara (Persero) in Indonesia. This study contributes to improving cost efficiency and organizational effectiveness and provides a theoretical basis for demonstrating that multi-criteria decision-making methods can support the successful business transformation of state-owned enterprises (SOEs) in Indonesia. It is hoped that this research can serve as a reference for other companies facing similar transformation processes, particularly in adopting transparent and measurable decision support systems.

Transformation is a planned change directed at three key organizational factors: organizational structure, management processes, and culture. The goal of transformation is to ensure an organization's continuity and viability in an increasingly competitive environment. According to Siagian (2023), transformation does not always take the form of development; it can also involve major restructuring measures, such as mergers, takeovers, and even business unit closures. In advanced industrialized countries, transformation is often associated with massive changes, including the centralization of work relationships and the restructuring of organizational systems to increase competitiveness.

Horizontal diversification is understood as a company's strategy to enter new business lines that are related to the core business, although they are not directly related. Tegowati et al. (2024) explain that this strategy helps companies expand their business portfolios while increasing their resilience to market uncertainty. With horizontal diversification, companies can balance risks and increase opportunities to remain competitive in the long term.

Internal audit in the context of business transformation no longer functions solely as a monitoring mechanism but also as a strategic partner for the management. Riantono (2023) emphasized that audit plays a crucial role in ensuring that the digital transformation process adheres to good governance principles, is manageable, and avoids detrimental risks. Therefore, internal audits support companies' ability to adapt to change through risk management and increased transparency.

Employee training and development are the primary foundations for organizations seeking to survive and thrive amidst change. According to Srinivas (2023), employee training plays a crucial role in creating a competent, motivated, and productive workforce, thereby enhancing the organization's adaptive capabilities. Targeted and ongoing training programs better prepare companies to face new challenges.

Employee rotation is a human resource management strategy that supports the effective and efficient achievement of organizational goals. Putri (2023) explains that the concept of placing the right people in the right positions is crucial in the transformation process, particularly in addressing digital changes that demand high levels of flexibility and adaptability from employees.

Designating exemplary employees serves not only as a form of appreciation but also as a strategy for strengthening work commitment. Kustiani (2021) found that award-giving significantly increases employee loyalty, even more so than the influence of leadership style or organizational culture. Salsabila (2024) added that work commitment, both affective and normative, is strengthened when supported by the designation of exemplary employees and leadership that integrates the organization's vision with active employee involvement.

The Simple Additive Weighting method is a multi-criteria decision-making method used to determine the best alternative from several options. The basic concept of this method is to perform a weighted summation of the performance level of each alternative against all the existing criteria. Azkiyah and Novichasari (2022) state that the advantage of the SAW method over other decision support systems lies in its ability to provide more accurate assessments because it is based on predetermined criterion values and weightings. Through normalization and ranking, the SAW method helps organizations make more objective, systematic, and measurable decisions.

2. METHOD

This study uses a quantitative method with a descriptive approach to illustrate the application of the Simple Additive Weighting method in supporting the business transformation process of PT Virama Karya (Persero) into PT Agrinas Jaladri Nusantara (Persero). Primary data was obtained through semi-structured interviews with the company's procurement department and Human Capital Bureau. Semi-structured interviews were chosen because they provide flexibility in gathering more in-depth information while maintaining a focus on criteria relevant to the research (Foley, 2021). Furthermore, this study utilized secondary data through a literature review that referenced previous research related to the use of the SAW method in various contexts.

The analysis is conducted in several stages: criteria identification, weighting, decision matrix development, matrix normalization, and alternative ranking. This approach allows for objective and measurable decision-making, particularly in the selection of Public Accounting Firms, employee training program determination, employee selection, and employee rotation. This process strengthens the role of the SAW method as a transparent, efficient, and accurate decision-support system (Azkiyah and Novichasari, 2022).

3. RESULT AND DISCUSSION

This study focuses on the application of the Simple Additive Weighting (SAW) method to support the business transformation process of PT Virama Karya (Persero) into PT Agrinas Jaladri Nusantara (Persero). The analysis was conducted on four main aspects: selection of a Public Accounting Firm, employee training programs, determination of the best employees, and employee rotation. The results show that the SAW method can provide objective calculations, thus supporting a more transparent and measurable decision-making process.

The selection of a Public Accounting Firm (KAP) was conducted by considering two main criteria: technique and cost of audit. Technique was categorized as a benefit, whereas cost was categorized as a cost. The weighting was 70 percent for technique and 30 percent for cost. After normalization, the final score showed that the best alternative was KAP Jojo Sunaryo & Rekan with a value of 1.00, followed by Herlianto & Rekan with 0.88 and Djoko Sidik & Indra with 0.79. This shows that SAW can balance technical quality considerations with cost efficiency (see Table 1).

Table 1. KAP Ranking Results

Alternative	Technique	Cost	Final Score	Ranking
Djoko Sidik & Indra	0.80	0.75	0.79	3
Herlianto & Partners	1.00	0.60	0.88	2
Jojo Sunaryo & Partners	1.00	1.00	1.00	1

The training program was determined using five criteria: materials required by experts, tools for measuring knowledge, tools for measuring skills, up-to-date materials, and training costs. The SAW results yielded the highest score for PPM Management, with a score of 0.99. This demonstrates that PPM Management is considered the most appropriate for the company's needs in preparing employee competencies for business transformation. These results also reinforce the argument that employee training is a vital strategy in creating a human resource that is adaptive to change (see Table 2)

Table 2. Training Program Ranking Results

Alternative	Final Score	Ranking
PPM Management	0.99	1
Danareksa LI	0.96	2
One Class	0.96	3

FHCI	0.94	4
Three Archipelagos	0.94	5

The assessment of the best employees was conducted using three criteria: performance, value, and potential. The weighting given was 60 percent for performance, 25 percent for core values, and 15 percent for potential. From the calculation results, employee Dzikri Elfahmi received a score of 1.00, followed by Dhio Ulhaq with 0.96, and Deasy Natasha with 0.94. These findings prove that the SAW method can support the selection process for the best employees in a fair and data-based manner, while also serving as a motivational tool for other employees to improve their performance (see Table 3).

Table 3. Results of the Best Employee Ranking

Employee Name	Final Score	Ranking
Dzikri Elfahmi	1.00	1
Dhio Ulhaq	0.96	2
Deasy Natasha	0.94	3
Edwin Nugraha	0.90	4

Employee rotation is assessed based on five criteria: soft and hard skills, adaptability, initiative and proactivity, experience, and understanding business processes. The SAW calculation results showed that Riva Rizky Ramadhani was ranked first with the highest score, followed by Della Werdi, Alfin Nurizky, and Cessa Aprilia Putri. This confirms that the SAW can help management design a fairer rotation strategy, avoid subjectivity, and improve cross-functional competencies (see Table 4).

Table 4. Employee Rotation Ranking Results

Employee Name	Final Score	Ranking
Riva Rizky Ramadhani	Highest	1
Della Werdi	Tall	2
Alfin Nurizky	Intermediate	3
Cessa Aprilia Putri	Intermediate	4

The research results show that the SAW method provides the best alternative for every aspect of critical decisions in business transformation. In the aspect of selecting a Public Accounting Firm, decisions are more measurable because they consider technical quality and cost efficiency. In terms of employee training, SAW helps companies choose programs that are most relevant to competency needs in the new sector, namely, fisheries. In terms of determining the best employees, this method provides clear assessment standards based on performance, core values, and potential, thereby encouraging a culture of meritocracy. Meanwhile, in employee rotation, SAW support the development of more flexible, adaptive human resources who are ready to face challenges in the new sector.

The SAW method supports the principles of objectivity, transparency, and cost efficiency in the decision-making process. These results align with the findings of Azkiyah and Novichasari (2022), who stated that the SAW can improve decision accuracy through measurable calculations based on clear criteria. Thus, this study not only contributes to strengthening PT Agrinas Jaladri Nusantara's transformation strategy but also provides empirical evidence that the SAW method is relevant for application to other state-owned enterprises undergoing business transformation.

4. CONCLUSION

The method produced in this study is the SAW method, which can Support the Business Transformation Process of PT Virama Karya (Persero) to Become PT Agrinas Jaladri Nusantara. The SAW was created to provide effective results in a decision-making system that has so far still used a direct appointment mechanism. In addition, the SAW method is able to provide accurate tender winner

data where so far the weighting system at PT Agrinas Jaladri Nusantara (Persero) has only been to determine the feasibility of an alternative. The realization of cost efficiency is also a contribution from the application of this method because the company can utilize human resources within the company with employee training, so that the company no longer conducts large-scale recruitment to meet the needs of the fisheries sector. Overall, it can be concluded that the Simple Additive Weighting (SAW) Method used in this study is able to help the decision-making system at PT Agrinas Jaladri Nusantara (Persero) objectively and measurably and is able to increase the company's cost efficiency

Ethical Approval

Ethical approval was not required for this study

Informed Consent Statement

Not Applicable

Authors' Contributions

AHS contributed to the conceptual framework, data collection, and application of the Simple Additive Weighting (SAW) method in the study. RAS contributed to the methodological design, data analysis, validation of the results, and manuscript supervision as the corresponding author.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data Availability Statement

The data presented in this study are available on request from the corresponding author due to privacy reasons.

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Notes on Contributors

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