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Improvement of SMK Senopati's Quality using SMART-Based Strategic Management and SWOT Analysis

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Abstract : *The success of SMK Senopati Sidoarjo is very important, because it can increase the competitiveness of its graduates in the world of work. Therefore, it is necessary to make efforts to improve the performance of SMK Senopati Sidoarjo, especially from the perspective of productivity and quality. The study was conducted to determine the criteria for success of SMK Senopati Sidoarjo, assess the achievement of KPIs and design a robust strategic management. The research methodology uses a mix method, involving respondents to fill out AHP questionnaires, secondary data related to KPI achievement targets to design SMART, which underlies the strategy design process using SWOT. The results showed that there were 17 KPIs that were not achieved. Based on the internal factor analysis summary, the IFAS score was 2.59 and the EFAS score was 2.96 this shows that there is still potential to improve the performance of SMK Senopati Sidoarjo, especially in the perspective of productivity and quality. This vocational school needs to implement an W-O strategy, which is a strategy that utilizes strengths to seize existing opportunities. SMK Senopati Sidoarjo needs to improve the productivity and quality of its graduates by strengthening collaboration with industry, improving the quality of the learning process, and conducting more intensive socialization and promotion.*

Keywords*: AHP, productivity, SMART, SWOT*

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INTRODUCTION

Indonesia has enhanced the quality of its education system to guarantee that students possess the necessary skills, particularly in order to attain quality learning with well-defined indicators. The progression of time is an inevitable consequence of the necessity for change at various educational levels in Indonesia, including elementary, middle, high, and vocational schools. In order to remain relevant and engage in the transformations of the swiftly changing world, it is imperative that we adjust our capabilities (Isamuddin et al., 2021). The educational system of vocational education has been organised according to specific areas of knowledge and levels of education, which is why its definition is not singular. The vocational high school level is a pre-secondary education stage that is designed to prepare students for careers in specific fields of study (Yaqin et al., 2023).

In Indonesia, the government and society must prioritize the primary role of schools as micro-educational institutions in the development of high-quality human resources. Through their function as the education service industry, schools produce competitive human resources. The inability of an educational institution to adapt to the circumstances surrounding external threats and opportunities is the primary cause of its decreasing competitiveness and lackluster outcomes (Yahya et al., 2021). The optimal operation of schools is made possible by the support of four primary components: a planned management system, competent human resources, adequate facilities and infrastructure, and appropriate educational funding. The quality of

education and the utilization of educational institutions' potential can only be achieved through the consistent application of regulations and standard management systems. Quality institutions are also associated with the enhancement of quality human resources (Heriyantoro et al., 2020). As the quality of a school improves, its output and input will be more consistent. The performance of an institution is significantly influenced by the quality of its human resources, whether they are educators or educational personnel (Setyawan et al., 2022). In order to sustain and foster their existence, educational institutions must implement a responsive, innovative, and creative strategy in response to the fierce competition in the field of education. One critical objective that may be pursued is the utilization of strategic management to enhance the quality of education. Especially in the present era, the primary pillar that the organization's senior leaders must implement is strategic management. Educational organizations must be capable of developing and implementing appropriate strategies to ensure their survival, as well as to adapt and evolve in accordance with the demands of the current environment, thereby enhancing their productivity and effectiveness.

Strategic management allows schools to systematically monitor, assess, and evaluate their performance, ensuring that organizational goals are achieved effectively and efficiently. Strategic management requires consistent teamwork over time, whether short-term, medium-term, or long-term, to facilitate effective planning (Pongsamma & Hariastuti, n.d.). Implementation and strategic evaluation are three interconnected stages. In that environment, the principal serves as a coordinator, facilitator, and decision-maker (Wiyono & Welsa, 2019).

Strategic management covers various critical aspects that require focus, particularly the three primary components: input, process, and result (Putra & Hariastuti, 2021). Input in Educational Institutions refers to all resources necessary to facilitate the educational process, encompassing human resources and software. The process includes all actions or programs conducted during the educational time to convert inputs into superior results, such as the learning process, institutional management, extracurricular activities, assessment, and evaluation. Simultaneously, the output refers to the products generated by the educational institution, including policies, graduates, and several other effects. (Chamidi, & Baety H, 2019). This research does a thorough analysis of SMART and SWOT, without concentrating on any one unit within the Educational Institution. This research employs a strategic management framework utilising SMART and SWOT analyses, complemented by the AHP (Analytical Hierarchy Process) for addressing complex and unstructured issues, alongside the OMAX (Objective Matrix) method for assessing partial productivity across the company's divisions. The objective is to offer recommendations for developing effective strategies by leveraging strengths and opportunities while mitigating weaknesses and threats (Garnika et al., 2021).

The quantity of educational institutions distributed around Sidoarjo. The competitive landscape in the education sector compels each school in Sidoarjo Regency to strive for superior educational quality. SMK Senopati Sidoarjo is a distinguished institution in Sidoarjo Regency, designated as a participant in the SMK center of excellence program, a developmental initiative for vocational schools aimed at enhancing quality and performance via skill competences. This program is enhanced through collaborations and alignment with the business and industrial sectors, ultimately aiming for the PK school to evolve into a benchmark vocational institution that serves as a model for other private vocational schools.

This study aims to describe and analyse how strategic management is implemented at SMK SENOPATI SEDATI utilising the SMART and SWOT techniques as methodologies for quality improvement. It is anticipated that all staff members at the SMK SENOPATI institution will benefit from this research.

The SMART model analysis (Strategic Management Analysis and Reporting Technique) is a framework created by Wang Laboratory. This approach employs an objective strategy as the foundation for design, featuring a pyramid structure aligned with the management tiers of the industrial organization. The objective-oriented strategic approach is thought to facilitate the seamless functioning of the company (Setyawan et al., 2022).

Figure 1. Perspective of the SMART Method (Nisak & Iriani, 2023).

That Second pictures shows the SMART perspective, which illustrates that the institution's operations contribute to the realisation of the vision. The aim plan is outlined in the company's vision and primary functions, which include financial and market considerations. Successful financial and market performance is only possible if the business can meet consumer expectations, apply product adaptability, and produce effectively and efficiently (Ramadandi et al., 2021).

SWOT analysis is defined as Strengths, Weaknesses, Opportunities, and Threats. Strengths and weaknesses are internal characteristics of the organization, whereas opportunities and threats are external factors arising from the company's environment and the larger market (Retnawati & Saurina, 2020). The efficacy of a SWOT analysis is significantly contingent upon the active participation of the founders and organizational leaders. The chosen team must encompass many organizational tasks, including sales, customer support, marketing, and product development. Every team member must participate in accordance with their area of expertise (Wiyono & Welsa, 2019).

The SWOT 4-K matrix, comprising Context, Competition, Consumer, and Channel, is structured with the horizontal axis representing internal environmental variables and the vertical axis representing external environmental variables (Isamuddin et al., 2021). Presented here is Figure 3, illustrating the SWOT 4-K matrix.

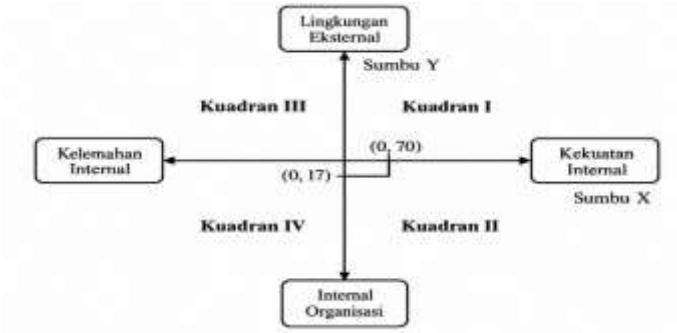

Figure 2. Matrix of SWOT 4 Kuadran (Putra & Hariastuti, 2021)

Quadrant I describes a very advantageous scenario that facilitates the practical implementation of an assertive expansion strategy. Quadrant II describes an organization's state of possessing internal strengths while contending with multiple threats. The optimal method is to capitalize on long-term prospects through products. Quadrant III defines a substantial market opportunity; however, the organization struggles with internal difficulties. The strategic focus is to mitigate internal weaknesses to effectively capitalize on market opportunities. Quadrant IV

describes a disadvantageous scenario due to the organization's exposure to external threats and internal weaknesses.

The SWOT Matrix analysis is used to develop school work guidelines and conduct self-evaluation. Based on these results, the school can establish strategies and future development programs (Jayanti & Noviandari, 2019).

METHODOLOGY

The purpose of this thesis research is applied, which means that the researcher implements Strategic Management for Quality Improvement using the Strategic Measurement And Reporting Technique (SMART) approach and SWOT Analysis on activity data from 2022-2023 collected at SMK SENOPATI Sedati Sidoarjo. Employees work at the Senopati School, including teachers and educational support staff, become research subjects. Furthermore, to measure the level of consumer satisfaction with the services given, data collecting was carried out with parents as subjects.

Performance is the level of achievement of someone's job results as measured on a regular basis, both in terms of quality and quantity, in accordance with the stated goals, standards, and guidelines. Performance represents the execution of authority and duty in a job inside an organization, which is influenced by a variety of elements in order to meet the organization's goals within a given time frame (Raharjo et al., 2018). Performance is described as an individual, team, or organization's ability to achieve established strategic goals through work behavior that satisfies expectations. Figure 4 depicts the stages of this investigation as a flowchart diagram.

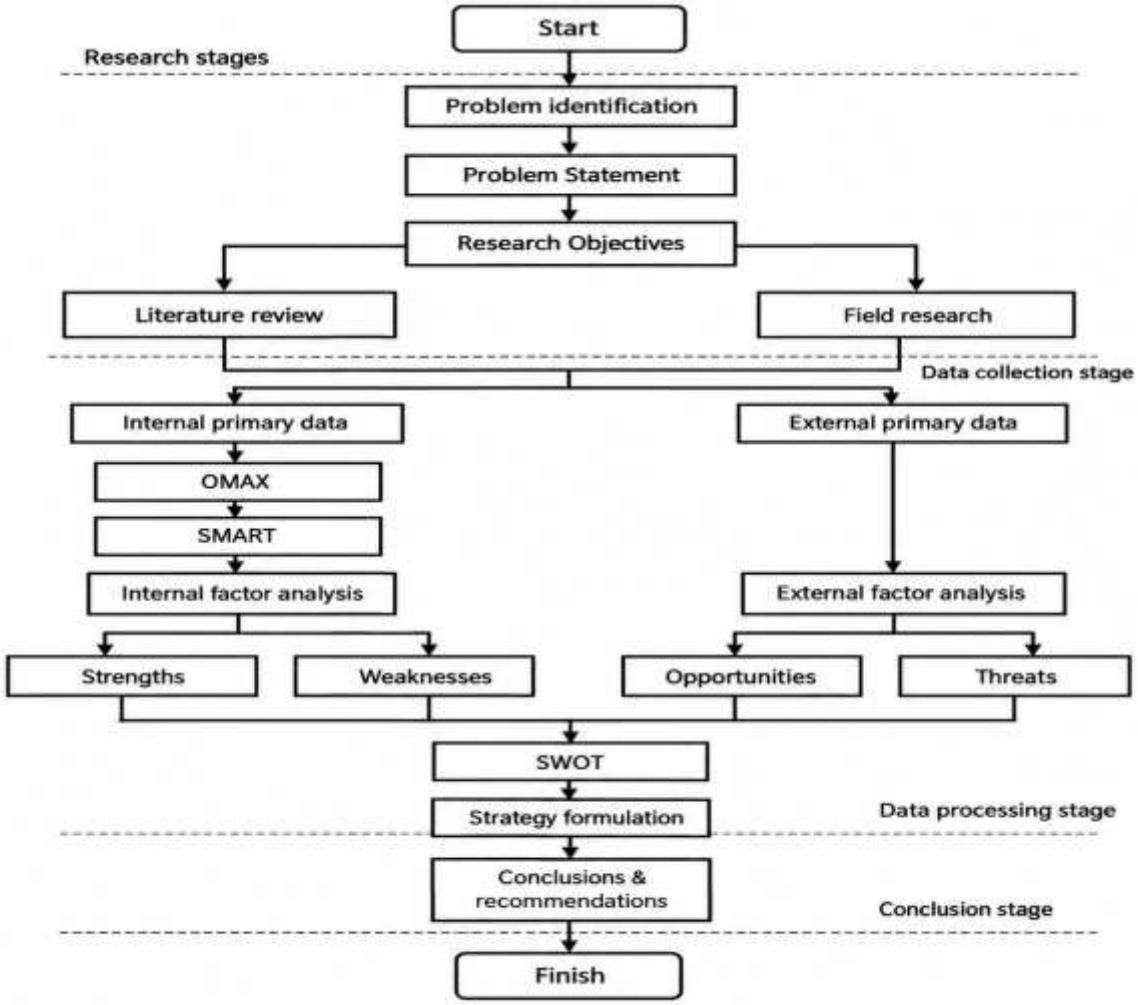

Figure 3. Research Flowchart

The research started in 2022–2023 and was conducted for one semester at SMK SENOPATI. The research methodology includes the steps of the research. The steps in the research method are as follows:

1. Literature Review dan Library Research
2. Field Study
3. Data collection, the data collected thru observation, interviews, questionnaires, and data from the SMK SENOPATI institution
4. Data processing, at this phase the data obtained from data collection will be processed using SMART and SWOT methods.
5. Conclusion and recommendation, the final phase, results of data processing and analysis, from which conclusions or problem formulations and research objectives are drawn.

RESEARCH RESULTS AND DISCUSSION

Analysis of the SMART Model

The Key Performance Indicators were coded using an existing KPI framework. This was followed by interviews with the Headteacher, the Deputy Headteacher for Curriculum, and the Head of the Office Management Department.

The respondents consisted of 3 teaching teams from the vocational school who have between 10 and 20 years of work experience.

Table 1. Respondent Identification

No.	Name	position	code	Experience (th)	Weight (%)	Age (th)
1	Asma Lutfah, S.Pd,.M.Pd	Headteacher	Res 1	16	0,35	43
2	Siti Amin, S.Pd	Head of OTKP	Res 2	16	0,35	46
3	Lia Safitri,S.Kom	Deputy Headteacher curriculum	Res 3	10	0,3	34

Processed Data Interview, 2024

Based on the strategy of SMK from the 2022 Archive, several strategies implemented by SMK to improve the quality of its graduates can be identified.

Respondent Identification

Table 2. Key Peformance Indicators

No	Indicator	No	Indicator
1	KPI-1 Percentage of graduates employed	15	KPI-15 Creating a positive school environment
2	KPI-2 Percentage of graduates continuing to higher education	16	KPI-16 Dropout rate
3	KPI-3 High interest in vocational schools	17	KPI-17 Repeating rate
4	KPI-4 Total revenue from product or service sales	18	KPI-18 Reducing offline administrative activities

5	KPI-5 Total operational costs	19	KPI-19 Time needed to produce job-ready graduates
6	KPI-6 Balance between income and expenses	20	KPI-20 Time needed to complete administrative processes
7	KPI-7 Number of graduates per year	21	KPI-21 Timely learning process
8	KPI-8 Number of teachers per student	22	KPI-22 Number of study hours per student per week
9	KPI-9 Technology in teaching	23	KPI-23 Student satisfaction with counselling services
10	KPI-10 School's ability to adapt to changing job market needs	24	KPI-24 Effective use of technology
11	KPI-11 School's ability to respond to student needs	25	KPI-25 Graduate quality 2
12	KPI-12 Offering internship learning programs	26	KPI-26 Quality of the learning process
13	KPI-13 Student satisfaction with the learning process	27	KPI-27 Teacher training
14	KPI-14 Parent satisfaction		

Based on the analysis of the data processing results, it can be concluded that vocational schools have implemented various strategies to improve the quality of their graduates. The grouping of business levels and perspectives can be considered quite comprehensive by adding objective strategies according to SMK data, as shown in Table 3.

Table 3. Objective Strategy

Business Level	Perspective	Objective Strategy
Business Unit	Market	Percentage of graduates who are employed
		Percentage of graduates who continue to higher education
		The high interest in vocational schools
	Financial	Total revenue from the sale of products or services
		Total operating costs
		Balance between income and expenses
Business Operating System	Productivity	Number of graduates each year
		Number of teachers per student
		Technology in teaching
	Flexibility	The school's ability to adapt to the changing needs of the job market
		The school's ability to respond to students' needs
		Offering an internship learning program
	User Satisfaction	Student satisfaction with the learning process
		Parental satisfaction with the school
		Creating a positive school environment

Department & Work Center	Waste	School dropout rate	
		Repeating number	
		Reducing offline administrative activities	
	Cycle Time	The time required to produce job-ready graduates	
		The time required to complete the administrative process	
		Timely learning process	
	Delivery	The number of study hours for students per week	
		Satisfaction with counselling guidance by students	
		Utilizing technology effectively	
	Quality	Quality of graduates	
		Quality of the learning process	
		Teacher training	

Processed Data, 2024

IFAS Matrix Design

The design of the IFAS matrix uses a mapping of strengths and weaknesses derived from KPIs from each perspective based on SMART. The rating values are filled in by averaging the ratings from 3 respondents to obtain the mean rating, then to determine the weight value using the global weight reference from AHP. The score calculation for each KPI uses the multiplication of the mean rating with the global AHP weight. The weighted value calculation for KPI-8, as an example, is done with the following formula.

:

$$Mean\ Rating = \frac{\sum_1^3 n}{3} \quad (1)$$

$$Mean\ Rating = \frac{5+5+5}{3} = 5{,}000$$

Mean rating valued at 5,000 is then calculated using the following formula.

$$Skor = mean\ rating\ x \text{ Weight } global\ AHP \quad (2)$$

$$Skor = 5{,}000\ x\ 0{,}033 = 0{,}165$$

In the same way, the calculation of all KPI values is presented in Table 2.

Table 4. IFAS Matrix Design

IFAS	KPI Code	Respondent			Mean Rating (A)	Weight Global AHP (B)	Skor (A x B)
		1	**2**	**3**			
Strengths	KPI-8	5	5	5	5,000	0,033	0,165
	KPI-15	5	5	4	4,667	0,019	0,088
	KPI-5	3	5	3	3,667	0,044	0,162
	KPI-19	5	4	5	4,667	0,039	0,182
	KPI-20	3	3	5	3,667	0,029	0,107
	KPI-21	4	3	3	3,333	0,012	0,039

	KPI-16	4	5	4	4,333	0,043	0,185
	KPI-17	4	4	5	4,333	0,015	0,064
	KPI-18	4	4	5	4,333	0,008	0,034
	KPI-22	3	3	4	3,333	0,041	0,136
			Total				**1,162**
Weaknesses	KPI-7	1	3	3	2,333	0,114	0,267
	KPI-9	1	3	2	2,000	0,044	0,088
	KPI-13	1	3	1	1,667	0,107	0,178
	KPI-14	3	3	3	3,000	0,048	0,145
	KPI-10	2	1	2	1,667	0,103	0,172
	KPI-11	1	3	3	2,333	0,025	0,058
	KPI-12	1	2	3	2,000	0,015	0,029
	KPI-4	1	3	1	1,667	0,059	0,099
	KPI-6	2	3	1	2,000	0,025	0,050
	KPI-1	3	1	2	2,000	0,058	0,117
	KPI-2	3	1	1	1,667	0,041	0,068
	KPI-3	2	2	3	2,333	0,011	0,026
	KPI-23	2	2	2	2,000	0,016	0,032
	KPI-24	3	1	2	2,000	0,006	0,011
	KPI-25	3	2	1	2,000	0,022	0,044
	KPI-26	2	1	2	1,667	0,013	0,021
	KPI-27	2	3	1	2,000	0,010	0,021
			Total				**1,427**
			Total IFAS			**1,000**	
			Total Score Of Strengths and Weaknesses				**2,589**

Processed Data, 2024

Based on Table 4 of the IFAS Matrix Design, it can be concluded that the company has greater weaknesses than strengths. This is evident from the positive IFAS score of 2.589. The positive IFAS score indicates that the company has a competitive position in the vocational school.

This mapping utilise SWOT theory regarding the opportunities and threats that exist. Based on the result of the FGD, the following is an analysis of the opportunities and threats that have occurred.

Table 5. Code FGD Opportunities and Threats

O	OPPORTUNITIES	T	THREATS
O1	Increasing demand for skilled workers	T1	Competition among vocational schools
O2	Technological Advancements	T2	Changing labour market demands
O3	Growing public awareness of the importance of vocational education	T3	Economic instability
O4	Government support for vocational education	T4	Restriction on the education budget
O5	Collaboration with industry	T5	Rapid technological changes
O6	Opportunities to enhance the quality of graduates	T6	Lack of student interest in pursuing vocational education
		T7	Insufficient government support

EFAS matrix design

Design the EFAS matrix based on FGD to determine statements for mapping opportunities and threats. To determine the rating value, it involves 3 respondents who are the leaders at SMK Senopati Sidoarjo. Meanwhile, in determining the weight value, it involves the intuition and ideas of the three stakeholders who are jointly appointed. Here is the mean rating calculation for the FGD O1 code.

$$Mean\ Rating = \frac{\sum_1^3 n}{3} \quad (3)$$

$$Mean\ Rating = \frac{3+5+5}{3} = 4{,}333$$

the calculation of the criteria score is done using the following formula.

$$Skor = mean\ rating\ x \text{ Weight of stakeholder} \quad (4)$$

$$Skor = 4{,}333\ x\ 0{,}08 = 0{,}3471$$

The score for O1 is 0.347, and the same calculation was performed on other FGDs, which are summarized in Table 3.

Table 6. EFAS Matrix Design Based on FGD

EFAS	Kode FGD	Responden			Mean Rating (A)	Weight of stakeholder	Skor (A x B)
		1	2	3			
Opportunities	O1	3	5	5	4,333	0,08	0,347
	O2	5	3	5	4,333	0,07	0,303
	O3	4	2	5	3,667	0,06	0,220
	O4	3	3	5	3,667	0,10	0,367
	O5	4	3	5	4,000	0,07	0,280
	O6	2	5	3	3,333	0,10	0,333
Total							**1,85**
Threats	T1	1	3	3	2,333	0,05	0,117
	T2	1	2	2	1,667	0,05	0,083
	T3	2	1	2	1,667	0,10	0,167
	T4	2	3	3	2,667	0,05	0,133
	T5	2	3	2	2,333	0,12	0,280
	T6	2	2	3	2,333	0,10	0,233
	T7	1	3	2	2,000	0,05	0,100
				Total			**1,113**
				Total EFAS		**1,000**	
				Total Score Of Opportunities and Threats			**2,963**

Processed Data, 2024

External factors that can benefit the school are in the opportunities. Based on Table 2, the greatest opportunity for the school is O1: Increased demand for skilled labour with a score of 0.347. This indicates that there is a high demand in society for skilled labour. Schools can take advantage of this opportunity by improving the quality of their graduates to be job-ready and meet industry needs.

Design of IFAS and EFAS Quadrants

The quadrant design using coordinate codes formed from the IFAS and EFAS matrices is quantitatively explained in Table 4 and Figure 5.

Table 7. IFAS and EFAS Quadrants

Internal	**2,59**	**External**	**2,96**
Total Score (S)	1,16	Total Score (O)	1,85
Total Score (W)	1,43	Total Score (T)	1,11
S – W	-0,27	O - T	0,74

Processed Data, 2024

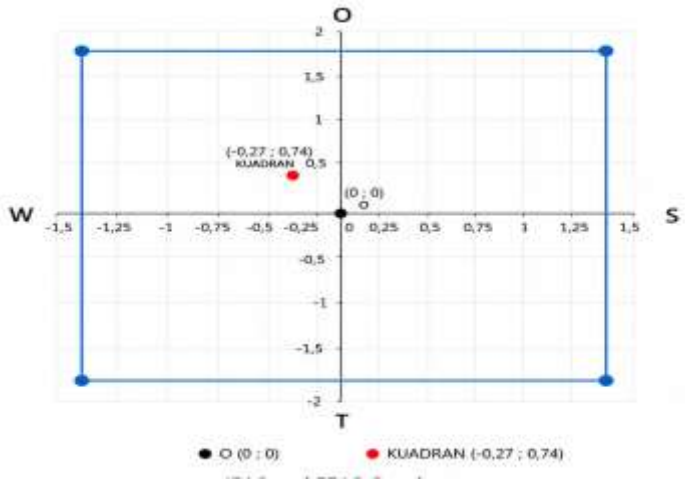

Figure 4. IFAS and EFAS Quadrants

Figure 5 and Table 4 of the internal coordinates with a value of 2.59 show that the school has greater strengths compared to its weaknesses. Meanwhile, the external coordinates with a value of 2.96 indicate that the school has greater opportunities compared to its threats. The S-W distance is the distance between the internal coordinate point and the weakness coordinate point. Based on the calculation, the S-W distance of SMK Senopati is -0.27. This indicates that the school has weaknesses that are not too significant compared to its strengths.

The O-T distance is the distance between the opportunity coordinate point and the threat coordinate point. Based on the calculations, the O-T distance is 0.74. This indicates that the school has a greater opportunity compared to its threats.

The IFAS and EFAS matrices are used to design robust strategies for each KPI code for IFAS and FGD code for EFAS. These matrices connect each code to design strategies that align with the expectations of stakeholders at SMK Senopati thru FGD evaluation. The evaluation results in 4 strategic design drafts as follows:

Table 8. TOWS

TOWS	STRENGTHS (INTERNAL)	WEAKNESSES (INTERNAL)
OPPORTUNITIES (EXSTERNAL)	**S/O** formulating the strength of the teacher-to-student ratio can be optimized to produce graduates who are job-ready according to industry needs. Schools can develop	**W/O** Conducting surveys with the industrial world to determine the skills needed by stakeholders. Surveys are conducted using various methods, including

	vocational education programs that align with industry needs, for example, by collaborating with the industrial world to design curricula and learning materials.	interviews, questionnaires, or focus group discussions. The results of these surveys can then be used to develop a curriculum that aligns with industry needs.
THREATS (EXTERNAL)	**S/T** Building partnerships with other vocational schools by sharing resources to improve the quality of education. This strategy aims to enhance the quality of vocational school education by utilizing the resources possessed by other vocational schools.	**W/T** Strategy refers to KPI-7, 10, 11, 12, 25, 26: This weakness can be addressed by improving the quality of the learning process. This can be done thru regular evaluation and improvement, as well as adjusting the curriculum and learning materials to meet the needs of the job market.

CONCLUSION

The research results indicate that the recommended strategy that can be implemented by SMK Senopati SDA is the WO strategy. This strategy refers to the development of educational programs that align with the needs of the workforce, which must be supported by competent human resources and adequate facilities and infrastructure. Therefore, the school needs to recruit and train teachers in accordance with industry needs, as well as provide technology-based learning facilities. The development of innovation strategies in technology-based learning and work practices should be carried out gradually and measurably, taking into account the abilities and needs of the students. For this reason, in its implementation, it is necessary to conduct socialization and training for students and teachers to use technology in learning and work practices. Overall, SMK Senopati has demonstrated a fairly good level of performance, particularly in terms of productivity and quality perspectives. It is recommended that future researchers not only formulate strategies but also test feasibility of implementing the WO strategies that have been produced through interviews with industry partners and productive teachers.

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