

Analysis of Industry Collaboration, School Achievement, and Education Costs on the Competitiveness of Vocational High Schools with Strategic Management as a Moderating Variable (Case Study at Nusantara Wisata Respati Vocational High School, East Jakarta)

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Abstract

In selecting a vocational high school (SMK), parents and prospective students must make informed decisions that align with their preferences and aspirations. This aspect creates a competitive environment among SMKs in attracting students. Before competing with other schools, both SMA/SMK consider various advantages to enhance their competitiveness. This research aims to investigate the influence of Industry Collaboration, School Achievement, and Education Cost Competitiveness, and determine whether Strategic Management can moderate the relationship between Industry Collaboration, School Achievement, and Education Cost on Competitiveness. This study was conducted at SMK Nusantara Wisata Respati with 60 respondents. Data were analyzed quantitatively using Multiply regression analysis (MRA) using SPSS 24.0. The research findings indicate that industry collaboration, school achievement, and education costs do not significantly influence competitiveness. Meanwhile, strategic management can moderate the relationship between industry collaboration and school achievement on competitiveness, while strategic management does not significantly moderate the relationship between education cost and competitiveness.

Keywords: Industrial Collaboration, School Achievements, Tuition Fees, and Competitiveness

INTRODUCTION

As time passes, the world of education experiences many phenomena, including the emergence of new schools and the decline in the reputation of existing schools due to losing competitiveness. This naturally creates competition among these schools, including those established for a long time, as they strive to create a positive image in the community. Therefore, schools need various strategies to introduce themselves to the public. Institutionally, the dynamics of competition are evident in the vibrant development of schools, both public and private. This leads to competition among educational institutions, particularly in attracting students' interest in schools.

Indonesia faces many obstacles in raising the caliber of its educational institutions in response to the major wave of globalization. The need for quality and competitiveness in both domestic and international education, the need for transparency, particularly about information accessibility, and the challenge of ethical values, which calls for Indonesia to acculturate foreign cultures, ideologies, and values that are initially unfamiliar to Indonesian society, are some of these challenges. (Achmad & Hartono, 2021).

Institutional competition now follows a different substance, context, and tactics pattern. This has to do with the competitive nature of the education sector and the effectiveness of educational administration. Through activities including counseling, teaching, and research, education aims to improve human intellectual growth by strengthening, improving, and changing an individual's or a group's knowledge, skills, attitudes, and behavior. To achieve desired results, the educational process entails active engagement through dynamic exchanges that are undertaken intentionally (Kurniati et al., n.d, 2023).

In the community development framework, education stands for the acceleration of human progress toward civilization. Education serves to develop skills, mold the character and dignity of the country, and impart knowledge in addition to other purposes. It attempts to maximize students' potential to become people who are obedient and devoted to God Almighty, morally pure, well-informed, skillful, creative, independent, and responsible members of the democratic world. (Manajemen & Rabiah, 2019).

One of the biggest investments in determining how people will live in the future is education. Three benefits come to those who possess education capital. First and foremost, education is an endeavor that aims to further people's intellectual growth via the process of

learning (intellectual orientation via the transmission of knowledge). Second, education is an endeavor to impart values that are intrinsic to the process of fostering the development of a society that is moral, ethical, and artistic. Third, both financially and transcendentally, education is a major assurance of a better life and greater dignity (Q.S. Al-Mujadilah: 11) (Mappasiara, 2018).

In the digital age, when the business environment and market are changing quickly, small and medium-sized firms (SMEs) must succeed in adapting and transforming if they are to survive, recover, and grow. A critical component in assisting SMEs to capitalize on the technology potential associated with the digitalization process is their capacity to adjust to high-level concepts with the specific needs of the organization (Firmansyah et al., 2022). The rapid economic growth has brought significant changes to the workforce. Companies and industries today require skilled workers who can quickly adapt to technological developments. Vocational high schools (SMK) play a crucial role in producing

According to (Junaidi & Rahayu, 2024) Partnership with business and industry (DU/DI) should encompass more than just student instruction or fieldwork; it should also involve teacher skill development, curriculum modifications, instructional strategies, and the supply of infrastructure and facilities for education. A high degree of success in vocational education requires the backing of multiple stakeholders, such as parents, teachers, education departments, principals of schools, and local governments. As such, consideration must be given to the market share of educational businesses. To enhance the quality of education, the government has enacted Law No. 20 of 2003 regarding the National Education System, specifically Article 32, paragraph 2, which states that National Education Standards serve as a basis for the development of curriculum, educational staff, facilities, and infrastructure, management, and financing. The government is taking this action to make sure that educational standards are constantly raised in all institutions to produce graduates of the highest caliber (Anitasari & Stmik Banjarbaru, 2016). To become a leader in the provision of educational services, one must assess the competition and put better, workable plans into practice (Umie Rukmanasari, 2016).

The author's chosen research object is the Hospitality Department at Nusantara Wisata Respati Vocational High School, located at Jl. Raya Inpres, Kelurahan Tengah, Kramat Jati, East Jakarta.

Table 1. Data on the Number of Male and Female Students

Year	Male Students	Female Students	Number of Students
2019	30	37	67
2020	30	31	61
2021	24	30	54
2022	25	19	44
Total	109	117	226

The table above shows the dynamics of the number of students at SMK Nusantara Wisata Respati Jakarta. From the data, the number of students in grades X, XI, and XII in 2019 was 67, in 2020 was 61, in 2021 was 54, and in 2022 was 44. Observing the graph, it can be concluded that the total number of students decreased from 2019 to 2022. This decline is a basis for conducting this research at SMK Nusantara Wisata Respati.

The strategy enacted by the Ministry of National Education (Depdiknas), which is currently known as the Ministry of Education and Culture (Depdikbud), aims to change the proportion of general secondary schools (SMA) to vocational schools (SMK) from 30:70 in 2004 to 70:30 by 2015. The goal of this policy is to bring educational outputs more into line with business and industry sector requirements as well as labor market needs (Nurmala, 2012).

The dynamics of competition that the author has considered to maintain a sustainable existence and form the basis of competitive advantage strategies at vocational schools, especially in the Hospitality program, also serve as the basis for research choices in the Hospitality program.

Previous research revealed that there are still major problems with the way the educational process is implemented. These problems include: 1) not all competencies match students' interests and talents; 2) not all graduate competency levels meet industry and business standards (DU/DI); 3) competent graduates do not have official recognition in the form of competency certificates; 4) current regulations do not fully support students' interests and skill development; and 5) insufficient support from relevant parties for students' skill development (Anitasari & Stmik Banjarbaru, 2016).

In line with the research problem outlined above, the objectives are to examine the influence of industry collaboration, school performance, and education costs on the competitiveness of vocational schools. Additionally, it will explore how strategic

management moderates the relationships between industry collaboration and competitiveness, school performance and competitiveness, and education costs and competitiveness.

The following goals will be covered by the author:

1. To ascertain and evaluate how industry cooperation affects vocational schools' ability to compete.
2. To ascertain and examine how academic achievement affects vocational schools' competitiveness.
3. To ascertain and examine how education expenses affect vocational schools' ability to compete.
4. To ascertain and examine how industry cooperation and the competitiveness of vocational schools are influenced by strategic management.
5. To ascertain and examine how school performance and the competitiveness of vocational schools are influenced by strategic management.
6. To ascertain and examine how strategic management influences the association between the price of education and the appeal of vocational schools.

METHODS

The purpose of this study is to ascertain and evaluate the potential moderating effects of industrial partnership, school performance, education costs, and strategic management. At SMK Nusantara Wisata Respati, a quantitative methodology with multiple regression moderation is used in the research. SPSS 24.0 will be used to process the data gathered from respondents' completed questionnaires.

The research was held in 3 months, from May until July 2023, and carried out a sample comprising 60 parents, school teachers, and students undergoing internships. In May, research on school location and its data was conducted. Continue with data collection, develop the research concept, and discuss the research with the academic advisor was held on June. Compile and synchronize of research data, test the research result, and report was conducted on July.

This research uses two types of data sources: primary and secondary. Primary data is obtained through direct observation at the research location and the distribution of

questionnaires to respondents. Secondary data is obtained through a literature review and relevant references.

The variables in this study consist of independent and dependent variables. Independent variables are those that affect other variables. The independent variables in this study include industry collaboration (X_1), school performance (X_2), and education costs (X_3), all of which affect competitiveness (Y). As a moderating variable, strategic management is denoted by (X_4).

The data analysis includes validity and reliability tests. Data analysis also involves normality testing, multicollinearity testing, and heteroscedasticity testing. The regression equation obtained in this study is the moderating regression equation for industry collaboration, school performance, education costs, and strategic management as moderating variables affecting competitiveness. The processed regression equation is:

Table 2. Regression Equation

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	-3,731	2,255		-1,655
	X1	,250	,179	,562	1,395
	X2	,190	,275	,170	,689
	X3	-,002	,033	-,011	-,064
	X1X4	1,133	,408	1,859	2,776
	X2X4	,058	,043	,350	2,055
	X3X4	-,352	,261	-,532	-1,348

a. Dependent Variable: Y

The moderating regression equation for industry collaboration, school performance, education costs, and strategic management affecting competitiveness, including the interaction of industry collaboration with strategic management, the interaction of school performance with strategic management, and the interaction of education costs with strategic management on competitiveness is:

$$y = a + b_1X_1 + b_2X_2 - b_3X_3 + b_4X_1X_4 + b_5X_2X_4 - b_6X_3X_4$$

$$\text{Competitiveness} = -3,731 + 0,250 X_1 + 0,190 X_2 - 0,002 X_3 + 1,133 X_1X_4 + 0,058 X_2X_4 - 0,352 X_3X_4$$

Where:

a = Constant

Y = Competitiveness

X1 = Industry Collaboration

X2 = School Achievement

X3 = Education Costs

X1*X4 = Industry Collaboration moderated by Strategic Management

X2*X4 = School Achievement moderated by Strategic Management

X3*X4 = Education Costs moderated by Strategic Management

E = Error

Based on the moderation regression equation, these results can be interpreted as follows:

- a. $a = -3.731$ (negative), meaning that if there is no industry collaboration, school achievement, education costs, and strategic management equal to 0, the competitiveness variable will decrease by 3.731.
- b. b_1 (regression coefficient for X1) > 0 or valued at 0.250 (positive), meaning that with an increase in industry collaboration, competitiveness will increase by 0.250.
- c. b_2 (regression coefficient for X2) > 0 or valued at 0.190 (positive), meaning that with an increase in school achievement, competitiveness will increase by 0.190.
- d. b_3 (regression coefficient for X3) > 0 or valued at -0.002 (negative), meaning that with an increase in education costs, competitiveness will decrease by 0.002.
- e. b_4 (regression coefficient for X1*X4) > 0 or valued at 1.133 (positive), meaning that with an increase in the interaction between industry collaboration and strategic management, competitiveness will increase by 1.133.
- f. b_4 (regression coefficient for X2*X4) > 0 or valued at 0.058 (positive), meaning that with an increase in the interaction between school achievement and strategic management, competitiveness will increase by 0.058.
- g. b_4 (regression coefficient for X3*X4) > 0 or valued at -0.352 (negative), meaning that with an increase in the interaction between education costs and strategic management, competitiveness will decrease by 0.352.

RESULTS

The Impact of Industry Collaboration on Competitiveness

The estimated t value for industry collaboration (X1) is 1.395, lower than the table t value of 2.001, and the significance value is 0.181, higher than 0.05. H1 is therefore rejected. We can therefore infer that hypothesis H0 is supported and hypothesis H1, which claims that industrial collaboration affects competitiveness, is rejected.

The Impact of School Achievement on Competitiveness

The estimated t-value for school achievement (X2) is 0.689, lower than the table t-value of 2.001, and the significance value is 0.500, higher than 0.05. H2 is therefore rejected. We can conclude that hypothesis H0 is accepted and hypothesis H2, which claims that school achievement influences competitiveness, is rejected.

The Impact of Education Costs on Competitiveness

With a significance value of 0.950, higher than 0.05, and a computed t value of -0.64 (negative), educational costs (X3) are less than the table t value of 2.001. H3 is therefore disregarded. In summary, the hypothesis that claims that educational costs have an impact on competitiveness (H3) is rejected, whereas H0 is supported.

The Impact of Industry Collaboration Moderated by Strategic Management on Competitiveness

The impact of strategic management-moderated industry collaboration on competitiveness has a significant value of 0.004, below 0.05, and a calculated t value of 2.776, higher than the table t value of 2.001. H4 is therefore approved. We can conclude that hypothesis H0 is rejected and hypothesis H4, which states that industry collaboration influences competitiveness but is tempered by strategic management, is accepted.

The Impact of School Achievement Moderated by Strategic Management on Competitiveness

The impact of strategic management-moderated school performance on competitiveness has a significance value of 0.003, below 0.05, and a t-value of 2.055, over the t-table value of 2.001. H5 is therefore approved. In summary, the hypothesis that

school performance influences competitiveness and is mediated by strategic management (H5) is accepted, while H0 is denied.

The Impact of Education Costs Moderated by Strategic Management on Competitiveness

The impact of strategic management-moderated educational expenditures on competitiveness has a significance value of 0.195, over 0.05, and a t-value of -1.348, below the t-table value of 2.001. H6 is therefore disregarded. In summary, the hypothesis that claims that strategic management moderates the influence of educational costs on competitiveness (H6) is rejected, while H0 is accepted.

DISCUSSION

The Impact of Industry Collaboration on Competitiveness

The research findings indicate that industry collaboration does not significantly affect competitiveness. According to the responses from the questionnaires filled out by the respondents, this means that even if collaboration increases—measured by aspects such as learning experiences aligned with industry, existing partnerships between vocational schools (SMK) and the industry, industrial visits conducted by SMK, the implementation of internship programs at SMK, the provision of practical facilities through industry collaboration, and job opportunities provided by the industry for graduates—competitiveness does not significantly improve.

In this study, the variable of industry collaboration, which has been established with the industry, does not significantly impact competitiveness. This may be due to several factors hindering industry collaboration. (Turizal Husein, 2019) in his research journal "*Link and Match Sekolah Pendidikan Kejuruan*," explained that "Link and match" refers to the initiatives taken by educational establishments to equip future workers with critical thinking, effective communication, social interaction, and group collaboration skills. It enumerates the barriers to collaboration, such as:

- a. A large number of job openings go unfilled because graduates of vocational schools are unable to meet the market-driven competency requirements;
- b. Graduates are not employed in fields linked to the competencies they studied.

- c. Vocational school graduates are frequently placed in tasks unrelated to their area of expertise, such as storekeepers, residential security guards, or other jobs that do not fit with their specific abilities by certain organizations that still appreciate and employ them.

The Impact of School Achievement on Competitiveness

The research findings show that school achievement does not significantly affect competitiveness. According to the responses from the questionnaires filled out by the respondents, this means that even if school achievement increases—measured by aspects such as academic achievements of vocational schools (SMK), lack of academic achievements, the demonstration of quality education through both academic and non-academic achievements, the number of SMK graduates admitted to public universities (PTN), active participation with the community, and parental and management satisfaction with educator discipline and attendance at SMK—competitiveness does not significantly improve.

In this study, the school achievement variable, as currently held by SMK, has not been able to enhance competitiveness. This may be due to supportive factors for school achievement clashing with the reality of changes in the education sector caused by the pandemic. Learning has shifted to online formats, leading to various issues, including reduced student motivation and active participation. This aligns with the study by (Farahani et al., 2023), it examined student activity and motivation in biology learning both offline and online. The findings showed that student motivation levels were 78.05% and 69.35%, and that online and offline learning activities were 80.25% and 94.44%, respectively.

The Impact of Education Costs on Competitiveness

The research findings that education costs do not significantly affect competitiveness. According to the responses from the questionnaires, this implies that even if education costs increase—measured by aspects such as operational education costs, whether uniform costs are justified, whether book costs are appropriate, whether extracurricular costs are justified, whether practical expenses are accessible to all and whether exam fees are accessible—the competitiveness will significantly decrease.

According to the study's findings, the expense of education today is out of reach for some people and is not commensurate with the caliber of the educational offerings.

This is related to industrial partnership, where participation entails large expenses that impact the best possible functioning of the educational process. As a result, the effective use of educational expenses in accordance with priority needs is necessary to guarantee high-quality learning results that correspond with the competencies required for each type and level of education (Fauzi, 2020).

Since educational institutions must raise tuition to cover operating costs, the high cost of education has long been a source of worry. This ultimately affects the community's ability to pay for education. Effective management techniques for financing education are required in this context, both within the community and within educational institutions (Tri Ekowati & Ayu Nyoman, 2019).

The Impact of Industry Collaboration Moderated by Strategic Management on Competitiveness

The research findings show that strategic management can moderate and strengthen the relationship between industry collaboration and competitiveness. It can be concluded that when paired with appropriate strategic management, industry collaboration can enhance competitiveness. According to the responses from the questionnaires, this means that if industry collaboration with strategic management improves—measured by aspects such as clear direction and objectives of strategic management, effective strategies for identifying existing opportunities, effective strategic management implemented in the development of learning aligned with industry needs, strategic management capable of anticipating changes in the industry, effective management of resources including educators, facilities, and budgets, and strategic management that fosters continuous innovation and development in educational programs and school activities—competitiveness will significantly increase.

The quality of education determines the competitiveness and success of an educational institution. The education system will fail if there is no suitable plan in place to evaluate quality in all areas of education. By appropriately implementing strategic management, educational institutions can meet the required academic requirements (Dardiri, 2015).

Creating curricula is a crucial first step in helping children build their character throughout this time. Additionally, this cooperative structure can make it easier for instructors to carry out the Merdeka Belajar curriculum (Junaidi & Rahayu, 2024).

The Impact of School Achievement Moderated by Strategic Management on Competitiveness

The research findings show that strategic management can moderate and strengthen the relationship between school achievement and competitiveness. It can be concluded that when combined with effective strategic management, school achievement can enhance competitiveness. According to the responses from the questionnaires, this means that if school achievement improves with strategic management—measured by aspects such as clear direction and objectives of strategic management, effective strategies for identifying existing opportunities, effective strategic management implemented in the development of learning aligned with industry needs, strategic management capable of anticipating changes in the industry, effective management of resources including educators, facilities, and budgets, and strategic management that promotes continuous innovation and development in educational programs and school activities—competitiveness will significantly increase.

Based on the results of earlier studies, more research is still needed to fully understand how to manage extracurricular programs, prioritize programs, and maximize extracurricular activities to increase student competition. There is a propensity to think that non-academic accomplishments from extracurricular activities also contribute to a school's "market value" in addition to academic achievements (Suyitno, 2021).

It is important to remember that the type of school achievement may vary depending on the context and school policies. Some schools may emphasize certain types of achievements. In contrast, others may recognize various achievements to account for diverse student talents and interests.

The Impact of Education Costs Moderated by Strategic Management on Competitiveness

The research indicates that strategic management does not significantly affect and does not strengthen the relationship between education costs and competitiveness. It can be concluded that when moderated by strategic management, education costs weaken the relationship with competitiveness. According to the responses from the questionnaires, this means that if education costs with strategic management increase—measured by aspects such as clear direction and objectives of strategic management, effective strategies for identifying existing opportunities, effective strategic management implemented in the

development of learning aligned with industry needs, strategic management capable of anticipating changes in the industry, effective management of resources including educators, facilities, and budgets, and strategic management that fosters continuous innovation and development in educational programs and school activities—competitiveness will decrease.

Financing for education is generally a complicated issue with linkages between its different parts. It includes elements that range from macro-level (national) to micro-level (educational units), such as the sources of funding for education, the processes and procedures for allocating it, the efficacy and efficiency of its application, and accountability as determined by the changes that take place in all spheres of society, especially in schools. Furthermore, there are still problems with school funding, which calls for further research to get a more detailed understanding of this field. (Tri Ekowati & Ayu Nyoman, 2019).

Based on the research findings, here are some efforts that the author implemented in strategic management at SMK Nusantara Wisata Respati. The researcher chose the VUCA framework to guide these efforts because of the rapidly changing competitive dynamics in education, which began at the start of the pandemic and continued until the end of the endemic phase. The VUCA framework is considered suitable for application in this context.

Table 3. Implications of VUCA on Industry Collaboration Variables Moderated by Strategic Management and Their Impact on Competitiveness

No.	VUCA
1. Volatility	Vision
• The soft skills and hard skills required by the industry. • Students' backgrounds hinder the implementation of internships and practical training (industry locations far from home). • Curricula change every year.	• Designing soft skills and hard skills that align with industry requirements to prepare students for internships and practical training. • Organizing seminars or training sessions for intra- and extra-curricular guidance for students from the industry • Collaborating with guidance counselors and vocational teachers to prepare for internships and practical training at school. • Synchronizing curricula to be relevant and oriented toward industry needs. • Designing education quality standards

	that are robust, competitive, and sustainable.
	•
2. Uncertainty	Understanding
• The number of students is highly dynamic, whereas the collaboration agreements stipulate a fixed number of students for internships.	• Building a positive school image through the school website, school profile, and social media to compete with other institutions. • Ensuring the quality of graduates. • Developing an alum network (alum tracking) to share experiences and enhance competitiveness.
3. Complexity	Clarity
• High costs associated with collaboration activities. • Students' backgrounds (economic factors). • Availability of practical facilities relevant to industry needs. • Timing of activities.	◦ Allocating BOSP (School Operational Assistance) funds for industry collaboration activities. ◦ Implementing cost diversification strategies so that funding does not rely on a single sector. ◦ Encouraging students to engage in entrepreneurial practice before internships. ◦ Designing collaborations that benefit both students and the industry. ◦ Ensuring that facility and equipment upgrades align with jointly designed industry programs. ◦ We are actively communicating with the industry for activity implementation. ◦ Planning activities for the coming year with the industry to ensure availability.
4. Ambiguity	Agility and Adaptability
• Competence of teachers in vocational subjects relevant to the industry.	◦ Ensuring the right people are in the correct positions. ◦ Organizing seminars or training sessions from the industry for educators. ◦ Implementing teacher internships to allow educators to develop relevant teaching strategies aligned with industry needs.

Table 4. Implications of VUCA on School Achievement Variables Moderated by Strategic Management

No.	VUCA
1. Volatility Students' talents and interests.	Vision - Collaborating with guidance counselors and vocational teachers to prepare for internships and practical training at school. - Designing a practice-based curriculum. - Developing innovative teaching methods to measure and nurture students' talents and interests.
2. Uncertainty Achievement criteria are not included in the school's vision and mission, leading to unstructured development of talents and interests.	Understanding - Designing an academic calendar with guidelines for talent and interest development activities. - Creating unique programs or extracurricular activities to advance school achievements and enhance competitiveness. - Establishing a continuous monitoring and evaluation system to identify areas for improvement and adjust strategies.
3. Complexity - Funding structure for extracurricular development activities. - Students' backgrounds (family situation). - Availability of facilities to support talents and interests (e.g., sports facilities).	Clarity - Allocating BOSP (School Operational Assistance) funds for acquiring facilities to support extracurricular and intra-curricular activities. - Implementing cost diversification strategies to avoid reliance on a single funding source. - Ensuring that facility and equipment improvements align with industry-designed programs through collaboration.
4. Ambiguity Recruiting teachers with skills to support talents and interests.	Agility and Adaptability - Schools must prepare strategies for recruiting educators with suitable competencies aligned with their educational background. - Allocating a specific budget for extracurricular teachers. - Building a school culture that encourages educators to innovate and drive change to enhance students' competitiveness.

Respondents' assessments of the provided questionnaire show that strategic management must strengthen the relationship between school achievement and competitiveness. If high education costs are combined with strategic management, competitiveness will stay the same. To anticipate and enhance competitiveness, the researcher summarizes the implications using VUCA.

CONCLUSION

Based on the research conducted at SMK Nusantara Wisata Respati, it can be concluded that; collaboration industry, school achievement, education cost, and education cost moderation by strategic management are irrelevant to enhancing school competitiveness. But, strategic management can moderate and strengthen the relationship between industry collaboration and school achievement on the vocational school competitiveness. It can be concluded that when paired with appropriate strategic management, industry collaboration, and school achievement can enhance competitiveness. The research findings as follows:

1. Clear vision to answer the volatility skill such as industry's skill and changing curricula every year, the research design soft skills and hard skills that align with industry requirements to prepare students for internships and practical training, synchronizing curricula to be relevant and oriented toward industry needs, designing education quality standards that are robust, competitive, and sustainable are the principal to strengthen the collaboration with industry.
2. The uncertainty of student number and achievement criteria, the understanding of equality of graduates and develop an alum network (alum tracking) to share experiences and enhance competitiveness may be relevant from this research.
3. Complexity of high cost and student background may fulfilled by implementing cost diversification strategies so that funding does not rely on a single sector, encouraging students to engage in entrepreneurial practice before internships, and designing collaborations that benefit both students and the industry.
4. Ambiguity of the teacher's competency in vocational subjects relevant to the industry by changing agility and adaptability. The research finding is schools must prepare strategies for recruiting educators with suitable competencies aligned with their educational background and put the right people in the right positions.

REFERENCES

- A. Jones; B. Smith (2018), *Collaboration in Industry: Concepts and Benefits*,
- Achmad, H., & Hartono, S. (2021). Manajemen Pendidikan: Desentralisasi dan Kepemimpinan Kependidikan dalam Meningkatkan Mutu Lembaga Pendidikan. *Ideas: Jurnal Pendidikan, Sosial, Dan Budaya*, 7(4), 307. <https://doi.org/10.32884/ideas.v7i4.521>
- Anitasari, P., & Stmik Banjarbaru, W. H. (2016). *Perencanaan Strategi Sistem Informasi Dalam Meningkatkan Daya Saing Sekolah Pada SMK Komputer Mandiri Banjarbaru* (Vol. 4, Issue 1). Online.
- Brown. M & Wilson. P (2020), *School Factor Affecting Student's Academic Achievement: A Review of the Literature*.
- Dardiri, A. (2015). Optimalisasi Kerjasama Praktik Kerja Industri untuk Meningkatkan Citra Sekolah dan Daya Saing Lulusan SMK. *Jurnal Pendidikan Dan Pembelajaran*, 22(2).
- Farahani, N., Fitri, R., Selaras, G. H., & Farma, S. A. (2023). FAKTOR KESULITAN BELAJAR SISWA PADA MATA PELAJARAN BIOLOGI SMA. *Jurnal Edukasi Biologi*, 9(2), 177–185. <https://doi.org/10.21831/edubio.v9i2.19519>
- Fauzi, A. (2020). *ANALISIS BLAYA MUTU DALAM MENINGKATKAN DAYA SAING PENDIDIKAN* (Vol. 1, Issue 1). <https://ejournal.unuja.ac.id/index.php/jumpa>
- Firmansyah, D., Saepuloh, D., & Dede. (2022). Daya Saing: Literasi Digital dan Transformasi Digital. *Journal of Finance and Business Digital*, 1(3), 237–250. <https://doi.org/10.55927/jfbd.v1i3.1348>
- Garcia. J. Dan Martinez. L (2020), *Collaborative Network in The Industry: Concepts and Practice*.
- Junaidi, J. +, & Rahayu, N. (2024). *Manfaat Kolaborasi Antara Sekolah Dengan Dunia Usaha Dunia Industri (DUDI) Berbasis Kurikulum Merdeka Belajar Bagi Siswa dan Guru di SD*. 03. <https://doi.org/https://doi.org/10.32672/jeis.v3i1.6829>
- Kurniati, D., Hakim, L., & Sulthan Thaha Saifuddin Jambi, U. (n.d.). *Strategi Lembaga Pendidikan Islam Dalam Menghadapi Standar Operasional Pendidikan (Studi di MTsN 3 Tulungagung, Jambi)*. <https://ejournal.yayasanpendidikandzurriyatulquran.id/index.php/AlZayn>
- Manajemen, J. S., & Rabiah, S. (2019). *MANAJEMEN PENDIDIKAN TINGGI DALAM MENINGKATKAN MUTU PENDIDIKAN Management of Higher Education in Improving the Quality of Education*. 6(1). <http://jurnal.unismuhpalu.ac.id/index.php/JSM>
- Mappasiara, M. (2018). MANAJEMEN STRATEGIK DAN MANAJEMEN OPERASIONAL SERTA IMPLEMENTASINYA PADA LEMBAGA PENDIDIKAN. In *JURNAL IDAARAH* (Vol. 2, Issue 1). <https://doi.org/10.24252/idaarah.v2i1.5116>
- Nurmala, S. (2012). *FAKTOR-FAKTOR YANG MEMPENGARUHI MINAT SISWA UNTUK MELANJUTKAN KE SEKOLAH MENENGAH KEJURUAN Siti Nurmala*. <https://doi.org/10.21831/jk.v4i2.1950>

- Nadifatul, Mufidah (2018), *Strategi Meningkatkan Daya Saing SMK Negeri 3 Batu Jurusan Broadcasting*, Online at <http://etheses.uin-malang.ac.id/13525/1/16711024.pdf>.
- Rabiah, S. (2019). MANAJEMEN PENDIDIKAN TINGGI DALAM MENINGKATKAN MUTU PENDIDIKAN. *Ideas: Jurnal Sinar Manajemen*, (6)1, 58-67, doi: 10.56338/jsm.v6i1.551.
- Rangkuti. Freddy, (2017), *Customer Care Excellent Meningkatkan Kinerja Perusahaan melalui Pelayanan Prima*, Jakarta: PT Gramedia Pustaka Utama.
- Smith. J; Johnson. L (2018), *Factor Affecting Academic Achievement: A Systematic Review of the Literature*.
- Sugiyono (2019), *Metodologi Penelitian Kualitatif dan Kuantitatif dan R&D*, Bandung: Alfabeta.
- Suyitno, S. (2021). Peningkatan Daya Saing Madrasah Melalui Optimalisasi Program Ekstrakurikuler. *EDUKATIF: JURNAL ILMU PENDIDIKAN*, 3(4), 1161–1169. <https://doi.org/10.31004/edukatif.v3i4.518>
- Tri Ekowati, E., & Ayu Nyoman, N. M. (2019). MANAJEMEN PEMBIAYAAN PENDIDIKAN DI SEKOLAH DASAR ISLAM AR RAHMAH KECAMATAN SURUH (Vol. 8).
- Turizal Husein, M. (2019). LINK AND MATCH PENDIDIKAN SEKOLAH KEJURUAN. In *Link And Match Pendidikan Sekolah Kejuruan Rausyan Fikir* (Vol. 15, Issue 2).
- Umie Rukmanasari, S. (2016). MANAJEMEN STRATEGI DALAM MENINGKATKAN DAYA SAING PENDIDIKAN (Vol. 3, Issue 1). <https://doi.org/https://doi.org/10.18860/jpai.v3i1.3990>