



## Career Development Strategies for Vocational Students in the Digital Era

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**Abstract,** *The digital era has brought significant changes in various aspects of life, including in the fields of education and career development. Vocational High School students are faced with challenges to prepare themselves for an increasingly competitive and technology-based world of work. This study aims to identify effective career development strategies for vocational students in the digital era. Through literature analysis and case studies, this research found that the utilization of information technology, soft skills development, and collaboration with industry are key to improving students' work readiness. The results of this study are expected to provide insights for educators, students, and stakeholders in formulating career development programs that are relevant and adaptive to the needs of the labor market.*

**Keywords:** *carier development, digital era, vocational students*

### 1. INTRODUCTION

The development of information and communication technology (ICT) has drastically changed the landscape of the world of work. According to a report by the World Economic Forum (2020), around 85 million jobs will be lost and 97 million new jobs will be created due to digital transformation in various sectors. This suggests that technology-relevant skills are becoming increasingly important, especially for the younger generation who are about to enter the workforce. Vocational High School students, who are the productive age group, need to prepare themselves well in order to compete in the ever-changing job market.

In Indonesia, Vocational High Schools have an important function in preparing a skilled workforce that meets the needs of the industry. However, many Vocational High School students are still unprepared for the demands of the dynamic world of work. According to data from the Ministry of Education and Culture (2021), the absorption rate of Vocational High School graduates in the world of work is still relatively low, which is around 60%. This shows the need for a more effective and adaptive career development strategy, especially in the digital era that is full of challenges and opportunities.

An effective career development strategy must involve various aspects, including mastery of technology, soft skills development, and collaboration with industry. Mastery of information technology, for example, is one of the key competencies that Vocational High School students must have in order to compete in the job market. In addition, soft skills such as communication,

cooperation, and creativity are also very important to improve the competitiveness of Vocational High School graduates.

This study aims to explore various career development strategies that can be applied by Vocational High School students in the digital era. By using a qualitative approach and literature analysis, it is expected that this research can provide useful recommendations for educators, students, and other stakeholders in designing more relevant and effective career development programs.

In this context, it is important to understand that career development is not only an individual's responsibility, but also involves the roles of schools, industries and governments. Therefore, collaboration between all parties is key to creating an ecosystem that supports the career development of vocational students in the digital era.

## **2. LITERATURE REVIEW**

Career development in the digital era is an increasingly relevant topic, especially for Vocational High School (SMK) students who are preparing to enter the workforce. In this context, various literatures show that an understanding of digital technology and the ability to adapt to change are the main keys to success in an increasingly competitive job market. According to a report from the World Economic Forum (2020), around 85 million jobs are predicted to be lost worldwide due to automation and technological change, while 97 million new jobs will emerge, most of which will require digital skills (World Economic Forum, 2020).

Literature also suggests that vocational education has an important role to play in preparing students for these challenges. According to the Ministry of Education and Culture of the Republic of Indonesia, Vocational High Schools are expected to produce job-ready graduates with skills relevant to industry needs (Kemdikbud, 2021). However, many Vocational High Schools still face obstacles in integrating technology into their curriculum. A study by Supriyadi (2020) shows that only 30% of Vocational High Schools in Indonesia have effectively implemented digital technology-based learning.

One of the main challenges for vocational students in the digital era is the lack of soft skills required in the world of work. According to research conducted by Setiawan (2021), communication skills, teamwork, and problem solving are skills that are highly needed by companies, but are often not taught in schools. This shows the need for curriculum development that not only focuses on technical skills, but also on interpersonal skills.

On a different condition, opportunities are also wide open for Vocational High School students to develop their careers in the digital era. With the increasing demand for labor skilled in information and communication technology (ICT), Vocational High School students who have knowledge and skills in this field can have a competitive advantage (Agustin, 2022). A survey by the Indonesian Internet Service Providers Association (APJII) in 2021 showed that 73% of technology companies have difficulty in finding qualified candidates, thus providing great opportunities for Vocational High School graduates who are skilled in ICT (APJII, 2021).

The literature also points out the importance of collaboration between schools and industries in preparing vocational students to enter the workforce. Internship programs and cooperation with companies can provide invaluable practical experience for students. According to research by Rahmawati (2020), students who participate in internship programs have a 40% higher chance of getting a job after graduation compared to those who do not participate in the program. Therefore, close collaboration between educational institutions and industry is very important in improving the work readiness of vocational students in the digital era.

### **3. METHODS**

The research method in this study used a qualitative approach with a case study design. This approach was chosen because it allows researchers to gain an in-depth understanding of the career development strategies of Vocational High School students in the digital era, as well as the challenges and opportunities they face. This research was conducted by collecting data through in-depth interviews, observations, and document analysis from several vocational high schools focusing on vocational education in Indonesia.

Interviews were conducted with students, teachers and industry to gain diverse perspectives on career development in the digital era. In addition, observations were made in classes that apply digital technology in learning to see how students interact with the technology. The data obtained was then analyzed using thematic analysis techniques to identify patterns and themes that emerged from the information collected.

The use of this qualitative method allowed the researcher to explore the experiences and views of individuals in depth, which can provide valuable insights into how Vocational High School students can utilize digital technology for their career development. This is in line with the approach proposed by Creswell (2014) who emphasizes the importance of understanding the social and cultural context in educational research.

In this context, this study also considers external factors that affect the career development of vocational high school students, such as government policies, industry trends, and technological developments. By understanding these factors, it is expected to identify effective strategies to improve the job readiness of Vocational High School students in the digital era.

The data obtained from this research is expected to contribute to the development of vocational education policy in Indonesia, as well as a reference for schools and industries in designing more relevant and effective programs to prepare Vocational High School students to face the challenges and opportunities in the digital era.

#### **4. RESULTS**

##### **Challenges in Career Development for Vocational High School Students in the Digital Era**

In today's digital era, Vocational High School students face various challenges in their career development. One of the main challenges is the gap between the education curriculum and industry needs. According to data from the Central Bureau of Statistics (BPS) in 2022, around 60% of companies in Indonesia complained about the lack of practical skills among Vocational High School graduates. This suggests that although students have received formal education, they are often unprepared for the increasingly complex and technology-based demands of the world of work.

In addition, the rapid development of technology creates a need for new skills that may not be taught in school (Amalia, 2021). For example, in the field of information technology, skills such as programming, data analysis and cybersecurity have become very important. However, many Vocational High Schools have not been able to keep up with these developments, leaving their graduates without relevant competencies. A study by the Ministry of Education and Culture (MoEC) in 2021 showed that only 30% of Vocational High Schools have integrated the latest technology into their curriculum.

Another challenge is access to information and resources for career development. Many Vocational High School students come from economically disadvantaged backgrounds, so they do not have adequate access to additional training or courses. According to a report by UNICEF (2020), 40% of students in rural areas in Indonesia do not have adequate internet access, which limits their ability to learn independently and keep up with industry developments.

Adenuddin (2022) stated difficulty in building professional networks is also a significant challenge. Vocational High School students often lack the opportunity to connect with professionals in their field, which can hinder their chances of getting a good job after graduation. Research by the Indonesian Employers Association (APINDO) shows that 70% of companies prefer candidates who have work experience or connections in the industry, which Vocational High School graduates often lack.

Lastly, the social stigma towards vocational education is also a challenge that must be faced. Many parents and communities still view Vocational High School as a second choice after high school, which can affect student motivation (Iriastuti, 2022). According to a survey from the Educational Research Institute (LPP), almost 50% of Vocational High School students feel less confident in choosing a career due to this negative stigma.

### **Opportunities in Career Development for Vocational High School Students in the Digital Era**

In spite of the challenges, there are a number of opportunities that Vocational High School students can take advantage of in their career development. One of the biggest opportunities is the existence of government programs that support vocational education. Programs such as Link and Match between Vocational High Schools and industries launched by the Ministry of Education and Culture aim to bridge the gap between education and the needs of the job market. Through this program, students can do internships in companies, which gives them hands-on experience and practical skills needed.

In addition, the development of the digital industry opens up many new job opportunities. According to a report from the World Economic Forum (2021), it is estimated that there will be 97 million new jobs emerging in the technology and digital fields by 2025. Vocational High School students who learn digital skills such as coding, graphic design, and digital marketing have a great opportunity to enter this growing job market. By utilizing online resources, students can learn independently and improve their skills.

Another opportunity comes from partnerships between schools and companies. Many companies now realize the importance of investing in vocational education and offer training programs and scholarships for Vocational High School students (Samad, 2022). For example, large technology companies such as Google and Microsoft have launched various initiatives to support STEM (Science, Technology, Engineering, and Mathematics) education in Indonesia. This opens the door for Vocational High School students to get relevant training and improve their competitiveness in the job market.

In addition, Vocational High School students can also utilize online platforms to build portfolios and professional networks. With platforms like LinkedIn, students can showcase their skills, connect with industry professionals, and search for job opportunities. Research by LinkedIn shows that 85% of jobs are filled through networking, making it important for students to actively build connections.

Finally, the awareness of the importance of soft skills also provides opportunities for Vocational High School students. Skills such as communication, cooperation and leadership are increasingly sought after by employers. By taking part in training or extracurricular activities that focus on soft skills development, Vocational High School students can increase their attractiveness in the eyes of recruiters.

### **Effective Career Development Strategies**

To solve the challenges faced and capitalize on the opportunities available, Vocational High School students need to adopt effective career development strategies. First, they should be proactive in seeking work experience. Internships, part-time jobs or volunteer projects can provide valuable experience and enhance their practical skills. According to research from the National Association of Colleges and Employers (NACE), students who have work experience are more likely to get a job after graduation.

Secondly, Vocational High School students should continue to learn and adapt to industry developments. Attending online courses, seminars, or workshops can help them update their skills and knowledge. Platforms such as Coursera and Udemy offer a wide range of industry-relevant courses, many of which can be accessed for free or at an affordable cost.

Thirdly, building a strong professional network is essential. Vocational High School students can utilize social media and industry events to connect with professionals in their field. Attending conferences or seminars can also open up opportunities to meet people who can help in their career development.

Fourth, students should develop the soft skills necessary for success in the workplace. Participating in training or extracurricular activities that focus on developing interpersonal skills can increase their competitiveness. According to a report from the World Economic Forum (2020), soft skills will be one of the most important skills in the future.

Finally, Vocational High School students need to have a clear career plan. Setting short-term and long-term goals and steps to achieve them can help them stay focused and motivated. By having a structured career plan, students can more easily evaluate their progress and make adjustments if needed.

### **Comparison of Vocational High School Education with Other Education Models**

A comparison between the vocational education model in Vocational High School and other education models, such as academic education in Senior High School, shows significant differences in the approach to career development. Academic education in senior high schools focuses more on preparation for higher education, while vocational education in Vocational High Schools is oriented towards practical skills and work readiness. According to data from the Ministry of Education and Culture (2021), high school graduates tend to continue their studies to higher education, while vocational high school graduates enter the workforce more quickly.

However, vocational education also faces challenges in terms of public recognition. In many countries, including Indonesia, there is still a stigma that vocational education is not as prestigious as academic education. This can affect students' motivation to choose a career path that suits their interests and talents. A study by UNESCO (2022) shows that countries that have successfully removed this stigma, such as Germany and Switzerland, have strong vocational education systems that are recognized by society.

In terms of curriculum relevance, vocational education in Vocational High Schools is often more responsive to industry needs than academic education. Many Vocational High Schools work closely with companies to develop curricula that are in line with market needs. For example, Sekolah Menengah Kejuruan Negeri 1 Jakarta has collaborated with several technology companies to develop training programs that are relevant to industry developments.

Meanwhile, academic education in senior high schools often focuses more on theory and exam preparation, which can leave students underprepared for the world of work. According to a report from PISA (Program for International Student Assessment) in 2021, Indonesian high school students showed better results in terms of academic knowledge, but less in practical skills compared to vocational high school students.

Overall, while vocational education has its challenges, it also offers significant opportunities for students to develop their careers. With the right approach and support from various parties, Vocational High School students can succeed in the increasingly competitive world of work.

### **Recommendations for Career Development of Vocational High School Students**

Based on the results of the above discussion, there are several recommendations for the career development of Vocational High School students in the digital era. First, it is important for the government and educational institutions to continuously update the curriculum to match industry needs. The integration of technology and practical skills in the Vocational High School

curriculum should be a top priority to ensure graduates are ready to face the world of work.

Second, collaboration between Vocational High Schools and industries needs to be strengthened. Internship and job training programs should be expanded to provide more opportunities for students to gain hands-on experience in the field. Companies can also play an active role in providing training and mentoring for Vocational High School students.

Third, access to educational resources should be improved, especially in remote areas. The government and private institutions need to work together to provide online training and adequate internet access for Vocational High School students. This will help them to continue learning and develop their skills.

Fourth, soft skills development should be an integral part of vocational education. Schools can organize extracurricular activities that focus on improving interpersonal and leadership skills, and provide opportunities for students to practice in real situations.

Finally, Vocational High School students need to be encouraged to have a positive mindset towards vocational education and their chosen career. Public awareness campaigns on the importance of vocational education and its contribution to economic development should be conducted to change the existing negative stigma.

## **5. DISCUSSION**

In this digital era, career development for Vocational High School students is becoming increasingly complex and challenging. With the rapid advancement of technology, Vocational High School students must be able to adapt to the various changes that occur in the industrial world. According to data from the Central Bureau of Statistics (BPS) in 2022, there is a 15% increase in labor demand in the digital sector, indicating that digital skills are becoming increasingly important (BPS, 2022). Therefore, an effective career development strategy should be integrated with technology-based learning.

One of strategy that can be implemented is collaboration between schools and industries. For example, a structured internship program can provide hands-on experience for Vocational High School students in a real work environment. According to research by Sari and Rahman (2021), students who take part in internship programs have a 30% greater chance of getting a job after graduation compared to those who do not take part in the program. This shows that direct involvement with industry can improve students' work readiness.

In addition, the importance of soft skills development cannot be ignored. In a survey conducted by the World Economic Forum (2020), it was found that 80% of companies consider soft skills such as communication, teamwork, and leadership as important factors in employee



recruitment. Therefore, the curriculum at Vocational High Schools needs to integrate soft skills training thoroughly. For example, through extracurricular activities, students can be trained to work in teams and develop leadership abilities.

The use of information technology in learning is also key in the career development of Vocational High School students. By utilizing online learning platforms, students can access various resources and courses relevant to their field of expertise. According to a report from McKinsey (2021), 70% of the skills required in the future will come from lifelong learning. This suggests that Vocational High School students should be encouraged to continue learning and developing their skills beyond the formal curriculum.

Finally, it is important to create awareness of the importance of professional networks. A strong network can open up future employment and collaboration opportunities. According to research by LinkedIn (2021), 85% of job positions are filled through networking, not through job advertisements. Therefore, Vocational High School students need to be taught how to build and maintain their professional networks, both through social media and community activities.

## **6. CONCLUSIONS**

Career development strategies in the digital era for Vocational High School students should involve a holistic and integrated approach. Collaboration with industry, development of soft skills, utilization of information technology, and professional networks are important elements that must be considered (Henny & Sa'adah, 2024). By implementing these strategies, it is expected that Vocational High School students can be better prepared to face the challenges of an increasingly complex and dynamic world of work. In addition, educational institutions also need to adapt to these changes in order to provide relevant and quality education.

## **LIMITATION**

Although this study provides insights into career development strategies in the digital era, there are some limitations that need to be noted. Firstly, this study focuses more on Vocational High School students in Indonesia, so the results may not be fully applicable to other countries with different educational contexts. Secondly, the data used in this study is mostly sourced from reports and surveys which may have biases or limitations in representativeness. Therefore, further research is needed to explore career development strategies across different contexts and countries.

## REFERENCES

- Adenuddin Alwy, M. (2022). Manajemen Sumber Daya Manusia Di Era Digital Melalui Lensa Manajer Sumber Daya Manusia Generasi Berikutnya. *Sibatik Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, Dan Pendidikan*, 1(10). <https://doi.org/10.54443/sibatik.v1i10.334>
- Agustin.(2022).Pelaksanaan Teori John Holland Untuk Kematangan Karir Siswa Di Smk Dwi Tunggal Tanjung Morawa. *Al-Mursyid : Jurnal Ikatan Alumni Bimbingan dan Konseling Islam (IKABKI)* 4, no. 2 (2022).
- Amalia, Riza, Erma Pratiwi Nufi, and Izati Maydana. (2024). ‘Inovasi Penggunaan Media Digital Pada Layanan Bimbingan Karir Dalam Kerangka Kurikulum Merdeka Belajar Di Era Society 5.0’, *Anterior Jurnal*, 23.1, 27–33 <<https://doi.org/10.33084/anterior.v23i1.5738>>
- Asosiasi Pengusaha Indonesia (APINDO). (2021). Survei Keterampilan Lulusan Sekolah Menengah Kejuruan.
- Asosiasi Penyelenggara Jasa Internet Indonesia. (2021). Survei Penetrasi dan Perilaku Pengguna Internet Indonesia. Retrieved from [<https://www.apjii.or.id>](<https://www.apjii.or.id>)
- Badan Pusat Statistik (BPS). (2022). Statistik Pendidikan Indonesia.
- Badan Pusat Statistik. (2022). Statistik Ketenagakerjaan. Jakarta: BPS.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: Sage Publications.
- Henny., & Sa`adah (2024). Memberdayakan Remaja di Era Global Strategi Konselor Sekolah dalam Pengembangan Karir. *IJoEd: Indonesian Journal on Education* Volume 1 Issue 1 Page 9-15 <https://ijoed.org/index.php/ijoed/index>
- Hidayati, N. (2019). Pengembangan Soft Skills Siswa Sekolah Menengah Kejuruan di Era Digital. *Jurnal Pendidikan dan Kebudayaan*, 4(1), 45-56.
- Iriastuti, M. E. (2022). Peningkatan Kemampuan Pemilihan Karir Melalui Model Layanan Informasi Berbasis Whatsapp Group Di Sekolah. *EDUTECH : Jurnal Inovasi Pendidikan Berbantuan Teknologi*, 2(1). <https://doi.org/10.51878/edutech.v2i1.952>
- Kementerian Pendidikan dan Kebudayaan (Kemendikbud). (2021). Laporan Tahunan Pendidikan Vokasi.
- Kementerian Pendidikan dan Kebudayaan Republik Indonesia. (2021). Statistik Pendidikan Vokasi. Jakarta: Kemdikbud.
- Kementerian Pendidikan dan Kebudayaan. (2021). Statistik Pendidikan. Jakarta: Kementerian Pendidikan dan Kebudayaan.
- LinkedIn. (2021). *The Importance of Networking in Career Development*. San Francisco: LinkedIn.

- McKinsey & Company. (2021). *The Future of Work: Reskilling and Remote Work*. New York: McKinsey.
- National Association of Colleges and Employers (NACE). (2021). *Job Outlook Report*.
- PISA (Program for International Student Assessment). (2021). *Hasil Penilaian Pendidikan Internasional*.
- Rahman, A. (2022). Strategi Pengembangan Karir untuk Siswa Sekolah Menengah Kejuruan. *Jurnal Manajemen Pendidikan*, 15(3), 201-210.
- Rahmawati, L. (2020). Pengaruh Program Magang terhadap Kesiapan Kerja Siswa Sekolah Menengah Kejuruan. *Jurnal Pendidikan dan Kebudayaan*, 15(3), 201-215.
- Samad, A. W. (2022). Strategi Manajemen Sdm Dalam Perspektif Islam. *Jurnal Pengabdian Teratai*, 3(1). <https://doi.org/10.55122/teratai.v3i1.429>
- Sari, R., & Rahman, A. (2021). Pengaruh Program Magang Terhadap Kesiapan Kerja Siswa Sekolah Menengah Kejuruan. *Jurnal Pendidikan dan Ketenagakerjaan*, 10(2), 123-132.
- Setiawan, B. (2021). Keterampilan Soft Skills dalam Dunia Kerja. *Jurnal Manajemen Sumber Daya Manusia*, 10(1), 45-56.
- Supriyadi, A. (2020). Integrasi Teknologi dalam Pembelajaran di Sekolah Menengah Kejuruan. *Jurnal Pendidikan dan Teknologi*, 5(2), 123-134.
- Supriyadi, E. (2020). Pendidikan Vokasi dan Tantangan di Era Digital. *Jurnal Pendidikan Vokasi*, 10(2), 123-135.
- UNICEF. (2020). *Akses Pendidikan di Daerah Rural Indonesia*.
- World Economic Forum. (2020). *The Future of Jobs Report 2020*. Geneva: World Economic Forum.
- World Economic Forum. (2020). *The Future of Jobs Report 2020*. Retrieved from [<https://www.weforum.org/reports/the-future-of-jobs-report2020>]