



Literature Study on Problems of Office Management Vocational School Teachers in Implementing Learning Technology

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ABSTRACT

This systematic literature review investigates the challenges faced by vocational school teachers in implementing educational technology. Adopting the PICOC framework, it synthesizes findings from 10 articles published between 2014-2024, selected from Scopus, Web of Science, EBSCOhost, and ProQuest databases. The review explores factors influencing teachers' readiness and effectiveness in integrating technology, such as digital competence, infrastructure, and leadership support. Key challenges identified include time constraints, inadequate training, and limited technical support. Strategies to enhance readiness involve continuous professional development, ICT expert support, diverse training programs, and collaborative learning communities. The findings contribute to developing effective policies and initiatives to support vocational teachers in successfully leveraging technology, ultimately improving education quality and preparing students for the digital era.

Keywords:

Learning Technology,
Vocational
Education; Office
Management
Vocational School;
Technology
Integration; Digital
Competency

INTRODUCTION

The digital era has brought significant changes in various aspects of life, including in the education sector (Al-Labadi & Sant, 2021; Haleem et al., 2022; Kowitlawakul et al., 2022). Adaptation to learning technology is the main key to improving the quality of education (Alrawashdeh et al., 2024), especially in Vocational High Schools (SMK) that focus on vocational education such as Office Management (Dharma et al., 2023; Faridah et al., 2023). However, in practice, there are still many teachers who have difficulty implementing learning technology (Blikstad-Balas & Klette, 2020; Børte, Lillejord, et al., 2023; Børte, Nesje, et al., 2023), as is the case with SMK teachers majoring in Office Management (Arief et al., 2020). Some of the specific problems faced include limited infrastructure and access to the latest technology, lack of training and professional development on the use of learning technology, and challenges in designing learning materials that are suitable for the technology used (Anwar et al., 2024).

Although learning technology offers many benefits, its implementation in Office Management Vocational Schools still faces various challenges. The impact of the problems faced by teachers in implementing learning technology is very significant on the quality of learning and the competence of graduates. Teachers' limited skills in using technology can hinder effective and innovative learning processes (Negrín-Medina et al., 2022; Redmond et al., 2021). Teachers often face barriers such as lack of digital skills, anxiety in using ICT, and limited access to professional development opportunities (Noskova et al., 2022; Timotheou et al., 2022). This can cause SMK graduates, especially Office Management majors, to be less prepared to face the



demands of an increasingly competitive and technology-based world of work. According to data from the tempo for Vocational High School (SMK) graduates, the open unemployment rate (TPT) in 2022 is the highest compared to other levels of education. BPS data shows that the unemployment of Vocational High School graduates is 9.42 percent, more than that of high school graduates (8.57 percent) (Javier, 2023). One of the factors contributing to the high TPT of SMK graduates is the lack of relevant skills of SMK graduates to the needs of the industry, including skills in the use of technology. (Herun, n.d.)

Previous research has attempted to examine the effectiveness of the application of learning technology in Office Management Vocational Schools. The literature review on this topic begins with research conducted by (Citra & Rosy., 2020) which reveals that the use of learning media based on Quizizz Educational Games effectively improves student learning outcomes in Office Technology class X OTKP subjects at SMK Ketintang Surabaya. Furthermore, research (Ramadhani & Pahlevi., 2023) conducted at SMKN 1 Ngawi revealed that there was an effect of the simulation learning model assisted by kumospace learning media on the learning motivation of XI MP class students in office management subjects. However, these studies have not comprehensively explored the various types of learning technologies that can be utilized in the context of Office Management Vocational Schools and the factors that influence success or failure in their application. The literature review in this study also includes research in the Indonesian context, such as the study by Arief et al. (2020) which revealed the challenges faced by SMK Office Management teachers in implementing learning technology, such as limited infrastructure and lack of training. Taking into account previous studies and existing gaps, this study aims to make theoretical and practical contributions. Theoretically, this research will enrich the understanding of the factors that influence the successful implementation of learning technology in the context of vocational education. Practically, the findings of this study can be the basis for developing effective strategies and policies to improve the quality of learning in Office Management Vocational Schools through optimal utilization of technology, to contribute to efforts to improve the quality of vocational education in Indonesia.

In addition to research in the Indonesian context, international studies also provide important insights regarding the implementation of learning technology in vocational education. In a broader context, international research by (Antonietti et al., 2022), revealed that technology implementation can be applied successfully in the context of vocational education. In particular, the use of technology perceived as beneficial by teachers was strongly associated with to use of digital tools in teaching practices. In addition, the results also showed that teachers' beliefs about digital competence were positively related to their beliefs about the usefulness of technology in teaching, which in turn correlated with intending to use technology. So it is important to design teacher training to improve the success of technology integration and to foster connectivity between various vocational education learning sites. Furthermore, research by (Mahmod Eyadat., 2023) states that according to the views of teachers, the challenges of applying technology in teaching vocational education are





quite serious. This is due to several things including the high financial cost of some educational devices and the lack of computerized software that suits the nature of the curriculum used.

Based on the literature review that has been presented, it can be concluded that this proposed research has significant relevance and urgency in the context of vocational education, especially in Office Management Vocational Schools. Findings from previous studies show that learning technology is an urgent need to improve learning effectiveness. However, previous studies tend to focus on the use of specific learning technologies or their impact on learning outcomes and student motivation, while the factors that influence success or failure in the implementation of learning technologies have not been explored in depth.

Therefore, this study aims to comprehensively investigate the existing literature on the use of learning technology in vocational schools, particularly in Office Management. This includes an in-depth review of studies that address the effectiveness, challenges, and implementation strategies of technology in the context of vocational education. The main objective is to identify key factors that influence success or failure in learning technology integration, such as technology infrastructure, teachers' digital competencies, and institutional readiness. In addition, this research also aims to analyze effective strategies that have been implemented to overcome challenges in the implementation of learning technology, to provide practical insights for institutions experiencing similar difficulties. To achieve the outlined research objectives, this study seeks to answer the following three research questions (RQ);

1. RQ1: What challenges do Vocational Office Management teachers face in integrating learning technology into the learning process?
2. RQ2: What are the factors that influence the ability and readiness of Vocational Office Management teachers in implementing learning technology?
3. RQ3: What strategies are needed to improve the readiness and effectiveness of Vocational Office Management teachers in implementing learning technology?

a. Teacher Problems

Teachers are an important pillar in the world of education (Lestari & Nugraheni, 2022). However, teachers still face various problems, both from within themselves and from outside (Hwang et al., 2024; Jensen, 2021). Internal problems include a lack of mastery of subject matter, limitations in using innovative teaching methods, and lack of motivation (Timotheou et al., 2023). Meanwhile, external problems include a lack of learning facilities and resources, heavy workloads, and education policies that are less favorable to teachers. These problems can certainly have an impact on the overall quality of education (Natsir, 2021).

Teachers' problems in implementing learning technology, especially in Office Management Vocational Schools, include several significant challenges. First, limited digital competence is often a major barrier, with many teachers not having sufficient skills to use learning technologies effectively (Arief et al., 2020; Blaskó et al., 2022). This is exacerbated by inadequate technology infrastructure and resources, such as unstable internet connections and lack of hardware, which limit their ability to apply technology in learning. In addition, resistance to change from teachers, who may be



comfortable with traditional teaching methods or doubt their ability to adapt, is also a barrier to educational innovation (Timotheou et al., 2023).

The lack of professional support, both in the form of ongoing training and technical support, makes it difficult for teachers to improve their technological skills or overcome technical challenges (Hennessey et al., 2022). They also face difficulties in the design and development of learning materials that utilize technology, which requires time, resources, and specialized expertise. Adapting to technology-based evaluation and assessment methods, as well as concerns about data security and student privacy, add to the complexity of the challenges teachers face (Alieto et al., 2024).

Addressing these issues requires a collaborative approach involving teachers, school administration, policymakers, and the professional community (Liou & Bjorklund Jr, 2023). This includes developing continuous training and professional development, improving technological infrastructure, and providing adequate support to motivate teachers (Liu & Zhang, 2024). Through this joint effort, it is possible to improve teachers' ability to integrate learning technology, thus facilitating a more effective and innovative learning experience for students of Office Management Vocational Schools.

b. Learning Technology

Learning technology is a field in education that utilizes information and communication technology to design, implement, assess, and manage the learning process (AlShaikh et al., 2024; Divanji et al., 2023). The use of technology in learning aims to improve the effectiveness and efficiency of the educational process, enable more individualized learning, and facilitate access to extensive and diverse learning resources (Haleem et al., 2022). The use of technologies such as online learning platforms, mobile applications, virtual reality, and simulation tools, can help in understanding concepts better and realistic simulations (Buditjahjanto, 2022). The development of learning technologies has had a significant impact on the way teaching and learning are conducted. For example, the use of interactive videos and educational games can increase student engagement in the teaching and learning process (López-Fernández et al., 2023). In addition, learning management platforms such as Moodle, Blackboard, or Canvas allow teachers to organize course materials online, assign tasks, conduct quizzes, and provide feedback to students in a more systematic and structured way.

One of the main advantages of learning technology is its ability to support individualized and collaborative learning (Gyamfi et al., 2019). Technologies such as online discussion forums and collaboration tools can encourage interaction between students and between students and teachers, facilitate group discussions, and enable collaboration on projects. However, the implementation of learning technologies also poses challenges. Therefore, educational institutions need to provide adequate training and support for teachers and students in using learning technologies. In addition, the development of effective policies to ensure ethical and responsible use of data and technology is an important step to maximize the benefits of learning technology (Chauncey & McKenna, 2023).





METHOD

This research uses a Systematic Literature Review (SLR) approach. SLR is used not only to investigate and evaluate the literature relevant to the research topic but also to systematically organize and categorize the findings, enabling the identification of research gaps and the development of future models or ideas in a more structured manner (Tóth et al., 2023). The SLR process began with a planning stage that involved drawing conclusions from the selected literature and developing a research question (RQ) designed to address the specific needs of the study, ensuring that the RQ included the five key elements: population, intervention, comparator, outcome, and context (PICOC).

At the implementation stage, literature selection was conducted through careful analysis and according to predefined inclusion and exclusion criteria, focusing on the relevance of the material to the context and research problem. This process includes searching for data with keywords contained in the abstract, selecting literature that matches the research criteria, and creating its criteria, such as the period of the release, the discussion raised by the researcher, and the relevance to the problems of Vocational High School Office Management teachers in implementing learning technology.

Literature Search

The literature search strategy in this study was conducted systematically and comprehensively using specific keywords relevant to the research topic. The keyword combinations used included "educational technology", "vocational school teachers", "office management", "implementation challenges", "adoption barriers", "digital competence", "technology integration", "e-learning", and "technology-based learning effectiveness". The search was conducted using Boolean operators "AND" and "OR" to effectively combine keywords and limit the search results to be more relevant. We chose the Scopus and Web of Science databases as the primary sources due to their internationally recognized reputation for providing high-quality, peer-reviewed literature from various disciplines. To broaden the search scope, EBSCOhost and ProQuest databases were also included as they offer access to a large number of academic publications, including journal articles, e-books, theses, and conference papers that may not be indexed in Scopus or Web of Science. Search limitations were applied to manage the volume of results and ensure the relevance of the literature obtained. The search was restricted to articles published in the 2014-2024 timeframe to obtain the most recent and state-of-the-art findings in this research domain. In addition, only English and Indonesian articles were included to facilitate in-depth analysis by researchers. The publication type was also limited to journal articles to ensure the quality and validity of the synthesized findings.

By applying this structured and comprehensive search strategy, the researcher was able to efficiently identify the most relevant and high-quality literature to answer the research question on the problematics of Vocational High School Manajemen Perkantoran teachers in implementing learning technology.



RESULTS AND DISCUSSION

Inclusion and exclusion criteria focused on evidence from published articles. Meanwhile, eligibility allows the research value of the search results on the problematics of Vocational School Office Management teachers in implementing learning technology. A summary of the data searched and the screening results can be seen in Table 1 below;

Table 1. Summary of data searched and screening results

No	Author s	Title	Aims	Metho d	Result
1	(Anwar et al., 2024)	Digital technology practices for vocational teachers in the industrial revolution 4.0: Mediating technology self-efficacy	Examine the impact of infrastructure and social support through technological self-efficacy on vocational teachers' digital technology practices during the Industrial Revolution 4.0.	Quantit ative metho d	The findings of this study underscore the critical role of infrastructure and social support in shaping digital technology practices among vocational teachers in the context of the Industrial Revolution 4.0. The research demonstrates the significant impact facilitated by technological self-efficacy, emphasizing the interconnectedness of these factors.
2	(Adu & Zondo, 2024)	Enhancing teachers' digital skills in teaching economics in south african secondary schools	Investigate how teachers' digital skills can be improved and how Economic curriculum policy documents can be changed to guide teachers towards successful ICT integration.	Qualita tive metho d	The results reveal that professional learning communities, continuous professional development, and the introduction of ICT experts as efforts to improve teachers' digital skills.
3	(Hyow on Park, 2023)	Secondary Special Education Teachers' Perception of Technology Integration and Its Use in Classroom Instructions	Investigate the challenges, efforts, and demands faced by Korean elementary school teachers in developing digital literacy skills.	Semi- structu red interview metho d	The findings of this study provide recommendations for improving teachers' digital literacy, including creating an infrastructure and environment that supports teachers to prioritize improving digital literacy, providing a variety of training programs, manuals, and guidelines tailored to each literacy component, fostering collaborative support networks between teachers, considering a long-term perspective.
4	(Elm et al., 2023)	Academic Teachers' experiences of technology enhanced learning (TEL) in higher	Analyse academic teachers' experiences with digital technologies that support student learning in higher education.	Qualita tive metho d	The results show that teachers who have experience using digital technologies in their teaching have a higher awareness of the potential benefits and challenges arising from these tools, and they are aware of the impact digitalization has on the learning process.





No	Authors	Title	Aims	Method	Result
		education – A Swedish case			
5	Sarva & Puriṇa-Biezā (2023)	Educators' Perspectives on the Main Challenges and Opportunities for Implementing Digital Solutions in Learning and Teaching	Identify key challenges and opportunities for implementing the use of digital solutions in learning and teaching.	Mixed methods between quantitative and qualitative.	The results show that the main obstacle faced by educators is the scarcity of time to integrate new technologies. Furthermore, successful implementation of digitalization in the school environment can be achieved by providing support for the development of student and educator competencies.
6	(Schmitz et al., 2023)	Transformational leadership for technology integration in schools: Empowering teachers to use technology in a more demanding way		Quantitative method	This research shows that in technologically advanced countries, infrastructure quality is not the most important factor in technology integration. In this case, teachers' positive attitudes towards digital technology, teachers' digital skills, and teachers' skills in teaching with digital technology seem to play a more important role, and transformational leadership also has a positive impact.
7	(Chu et al., 2023)	Exploring factors influencing pre-service teacher's digital teaching competence and the mediating effects of data literacy: empirical evidence from China	Investigate the factors that influence pre-service teachers' digital teaching competence, namely technology attitudes, technology operations, technology ethics, and data literacy.	Quantitative method	The results show that cultivating positive attitudes towards technology, technology operation, and technology ethics can improve pre-service teachers' data literacy and enhance their digital teaching competence.
8	(Zhao et al., 2021)	The Impact of Gender and Years of Teaching Experience on College Teachers' Digital	Describe pre-service teachers' self-perceptions of digital competence in the context of higher education and analyze the impact of gender and teaching experience on	Quantitative method	The results showed that the research subjects evaluated themselves as having information and data literacy, communication and collaboration, and security and problem-solving skills. However, they tended to rate themselves negatively in terms of digital



No	Author s	Title	Aims	Metho d	Result
		Competence: college teachers' digital An Empirical competence. Study on Teachers at Gansu Agricultural University			content creation skills. Regarding the variables studied, there were significant differences in the perception of digital competence between male and female teachers in higher education. Concerning teaching experience, teachers with less teaching experience reported higher confidence in the aspects of communication and collaboration, as well as in digital content creation, security, and problem-solving.
9	(Berecz ki & Kárpáti , 2021)	Technology- enhanced creativity: A multiple case study of digital technology- integration expert teachers' beliefs and practices	Explore education teachers' beliefs and experiences in developing creativity in technology- integrated learning environments.	Qualita tive metho d	Analyses suggested that skilled teachers' epistemic beliefs in creativity have a significant impact on technology-based creativity development practices, where beliefs about the assessment process were identified as a significant constraint.
10	(Ghavif ekr et al., 2016)	Teaching and Learning with ICT Tools: Issues and Challenges from Teachers' Perceptions	Analyse teachers' perceptions of the challenges faced in using ICT tools in the classroom.	Quantit ative metho d	The results stated that the main problems and challenges found in the use of ICT tools by teachers are: limited accessibility and network connection, limited technical support, lack of effective training, limited time, and lack of teacher competence.

This study aims to find out various aspects related to the integration of learning technology by teachers of Office Management Vocational Schools, considering factors that affect teachers' ability and readiness, challenges faced in the integration process, the effectiveness of technology use, and strategies and resources that can improve teachers' readiness and effectiveness. Various studies show that individual, institutional, and leadership factors are interrelated and influence how teachers use learning technology. The research results that have been described can be linked to three research questions (RQ) in the literature study on the problematics of vocational office management teachers in implementing learning technology. Challenges of Vocational School Office Management teachers in integrating learning technology into the learning process

The results of the literature review show that Vocational School Manajemen Perkantoran teachers face several key challenges in integrating learning technology into the learning process





First, lack of time is a significant barrier for teachers to learn and implement new technologies (Sarva & Puriņa-Biezā, 2023; Ogundare et al., 2023; Purnairawan & Janah, 2022). Teachers often have a heavy workload, including lesson preparation, assessment, and administrative tasks, leaving little time for technology-related professional development. This particularly affects SMK Manajemen Perkantoran teachers who may need more time to master new technologies. Secondly, SMK Office Management teachers also face limited network accessibility and connectivity, lack of technical support, and inadequate training (Ghavifekr et al., 2016). The limited technological infrastructure in some vocational schools may hinder teachers' efforts to integrate digital tools and resources into learning. Lack of responsive technical team support may also cause teachers to be reluctant to try new technologies due to concerns about potential technical issues that may arise. Finally, unsustainable or one-off training is a barrier to teachers integrating learning technologies (Ghavifekr et al., 2016). Training should be designed as an ongoing process, not just a one-off activity, to support continuous professional development and ensure that teachers remain up-to-date with the latest technological developments.

Factors affecting Vocational School Office Management teachers' ability and readiness to implement learning technology.

The literature review identified several key factors that influence the ability and readiness of Vocational School Manajemen Perkantoran teachers to implement learning technology

First, adequate infrastructure and social support play an important role in facilitating teachers' use of technology (Anwar et al., 2024). Adequate infrastructure includes hardware, software, high-speed internet access, and digital learning platforms. This allows teachers to implement various technology-supported learning methods, such as blended learning, flipped classrooms, and the use of educational apps to enhance students' learning experience.

Social support from school committees, principals, government, and the general public is just as important as physical infrastructure. This support can take the form of mentorship, communities of practice, and professional training, which help teachers feel more confident in using technology and more open to sharing innovative learning ideas and strategies. Support from school management in the form of policies that support the use of technology, time allocation for training, and recognition of learning innovations can motivate teachers to adopt and integrate technology into their teaching practices.

Second, positive attitudes towards technology, technological operational skills, and technological ethics also contribute to teachers' digital teaching competencies (Chu et al., 2023). Teachers who have a positive outlook toward technology tend to be more open to experimenting and using new tools in learning. Technology operational capability, which includes knowledge and practical skills in using hardware and software, enables teachers to effectively integrate technology into the curriculum and utilize it to support learning objectives. In addition, strong technology ethics, such as respecting students' privacy and personal data, ensuring online safety, and using digital content ethically, help create a learning environment that is safe, and inclusive and values intellectual integrity.



Strategies needed to improve the readiness of Vocational School Office Management in implementing learning technology

The literature review highlights several key strategies to improve the readiness and effectiveness of Vocational School Office Management teachers in implementing learning technologies. First, the introduction and support of Information and Communication Technology (ICT) experts can provide teachers with direct guidance and assistance in integrating technology into their teaching (Adu & Zondo, 2024). The presence of ICT experts in educational settings can help teachers overcome technical and pedagogical challenges, including the selection of appropriate technology tools, how to integrate them into lesson plans, as well as strategies to increase student engagement. Second, the creation of supporting infrastructure and the provision of diverse training programs are also important for improving teacher readiness (Hyowon Park, 2023). Adequate infrastructure includes hardware, software, and access to digital learning resources and collaborative platforms. Diverse training programs should cover various aspects, from basic technical skill development to pedagogical application of technology in learning, and be tailored to teachers' specific needs and flexible in terms of time and format.

In addition, findings from the reviewed studies highlight the importance of providing ICT expert support, investing in robust technology infrastructure, designing diversified training programs, facilitating the sharing of experiences and best practices among teachers, and promoting transformational leadership. The combination of these strategies can help Office Management Vocational School systematically improve teachers' readiness to effectively implement learning technologies, create a culture that supports technological innovation, and foster continuous improvement in teaching practices.

Discussion

The findings from this study provide valuable insights into the challenges that Vocational Office Management teachers face in implementing learning technology, as well as the factors that need to be considered to overcome them. Challenges such as time constraints, inadequate infrastructure, lack of technical support, and ineffective training need to be addressed comprehensively through a multifaceted approach involving various stakeholders. This is in line with findings from studies by Sarva & Puriņa-Biezā (2023), Ogundare et al. (2023), and Purnairawan & Janah (2022) who highlighted lack of time as a major barrier for teachers in learning and implementing new technologies. Ghavifekr et al. (2016) also identified limited accessibility, network connectivity, technical support, and training as obstacles faced by high school teachers in integrating learning technology.

Factors that influence the success of learning technology implementation, such as adequate infrastructure, social support, positive teacher attitudes, digital competence, and transformational leadership, need to be considered in designing interventions and support programs for teachers. Anwar et al. (2024) emphasized the importance of adequate infrastructure and social support in facilitating teachers' use of technology. Strong infrastructure, including hardware, software, internet access, and digital learning platforms, enables teachers to implement various technology-





based learning methods (Anwar et al., 2024). Social support from various parties, such as school committees, principals, government, and the general public, also plays an important role in motivating and empowering teachers to adopt learning technology (Anwar et al., 2024).

In addition, Chu et al. (2023) showed that positive attitudes toward technology, technology operational skills, and technology ethics contribute to teachers' digital teaching competencies. Teachers who have positive attitudes, practical skills in using technology, and an understanding of technology ethics tend to be more successful in integrating technology into their teaching practices (Chu et al., 2023). A holistic approach that integrates these factors can improve teachers' readiness and effectiveness in integrating learning technologies.

The strategies identified in the literature review, such as ICT expert support, supporting infrastructure, diverse training programs, and collaborative learning communities, can serve as a foundation for efforts to improve the digital competencies of Vocational Office Management teachers. Adu & Zondo (2024) highlighted the importance of the introduction and support of ICT experts in providing guidance and direct assistance to teachers in integrating technology into teaching. The presence of ICT experts can help teachers overcome technical and pedagogical challenges and build digital competencies gradually (Adu & Zondo, 2024).

Hyowon Park (2023) emphasizes the need to create supporting infrastructure and provide diverse training programs to improve teacher readiness. Adequate infrastructure and training programs that cover various aspects, from basic technical skills to pedagogical application of technology, can equip teachers with the necessary knowledge and skills to implement learning technology effectively (Hyowon Park, 2023). Findings from the various studies reviewed (Adu & Zondo, 2024; Anwar et al., 2024; Chu et al., 2023; Hyowon Park, 2023) suggest that a comprehensive and collaborative approach, involving teachers, administrators, ICT experts, and other stakeholders, is essential for creating a culture that supports technological innovation and continuous improvement in teaching practices. Through the implementation of the recommended strategies, SMK Manajemen Perkantoran can systematically improve teachers' readiness to effectively implement learning technologies.

Nonetheless, this study has limitations, such as focusing on literature published within a certain period and using selected databases. Further research can be conducted by expanding the scope of literature, exploring different contexts, or using other research methods to generate a more in-depth understanding of Vocational Office Management teachers' problematics in implementing learning technology.

Overall, the findings of this study provide a strong foundation for understanding and addressing the problematics of SMK Office Management teachers in implementing learning technology. By implementing appropriate strategies and providing adequate support, as suggested by Adu & Zondo (2024), Anwar et al. (2024), Chu et al. (2023), and Hyowon Park (2023), it is expected that the vocational office management teachers can be more successful in integrating learning technology, thus improving the quality of education and preparing students to face challenges in the digital era.



CONCLUSION

The results of the literature review show that Office Management Vocational School teachers face various challenges in implementing learning technology, such as time constraints, inadequate infrastructure, lack of technical support, and ineffective training. Factors that influence the success of learning technology implementation include teachers' positive attitudes toward technology, teachers' digital competence, social support, and transformational leadership. The literature review also reveals strategies that can be applied to overcome these problems, such as continuous professional development, introduction of ICT experts, provision of supportive infrastructure, and diverse training programs. In addition, building professional learning communities and collaborative support networks among teachers are also considered important for improving teachers' digital literacy and digital teaching competencies.

The findings from this study provide valuable insights into the challenges that SMK Manajemen Perkantoran teachers face in implementing learning technology, as well as the factors that need to be considered to overcome these challenges. The results of this study can serve as a basis for the development of policies, training programs, and initiatives aimed at enhancing the effective integration of learning technology in Office Management Vocational Schools. Nonetheless, this study has limitations, such as focusing on literature published within a certain period and using selected databases. Further research can be conducted by expanding the scope of the literature, exploring different contexts, or using other research methods to generate a more in-depth understanding of the problematics of Vocational Office Management teachers in implementing learning technology. Overall, this study provides a strong foundation for understanding and addressing the problems of vocational office management teachers in implementing learning technology. By implementing appropriate strategies and providing adequate support, it is expected that vocational office management teachers can be more successful in integrating learning technology, thus improving the quality of education and preparing students to face challenges in the digital era.

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