

# The Effectiveness of Utilizing Digital Media in Enhancing Career Guidance Services Provided by School Counselors at Various Levels of Education

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## ARTICLE HISTORY

Received: January 03, 2026

Revised: March 13, 2026

Accepted: March 28, 2026

## DOI

<https://doi.org/10.52970/grdis.v6i2.2011>

## ABSTRACT

This study aims to analyze the effectiveness of digital media in enhancing student engagement and career readiness in career guidance and counseling services. This research employs a qualitative method based on a literature review. The literature used is derived from scientific journals and relevant articles discussing the utilization of digital technology in career guidance services. The data collection process involved a systematic search of Google Scholar using keywords aligned with the study's focus. The data were analyzed by identifying, classifying, and synthesizing the main themes that emerged from the systematically reviewed literature. The results indicate that the use of digital media, such as instructional videos, online service platforms, and game-based learning media, consistently increases student engagement, motivation, and active participation in career guidance services. The use of digital media facilitates easier access to information, offers flexibility in time and place, and creates a more interactive and engaging service environment. These conditions enable students to obtain broader, more in-depth career information, thereby supporting the tailored improvement of career readiness for each student's needs and characteristics. The use of digital media by school counselors can serve as an innovative and adaptive strategy to improve the quality of career guidance services in schools. The appropriate selection and use of digital media are expected to help students better prepare to meet the evolving dynamics and demands of the labor market.

**Keywords:** Digital Technology, Career Guidance Services, Digital Career Guidance.

## I. Introduction

The development of digital technology in education has brought significant changes across various aspects of life, including the education sector. One important area affected is school guidance and counseling services, particularly in the implementation of career guidance. The use of digital media can be considered an effective strategy for counselors or school guidance teachers to deliver career-related information services to students (Putri et al., 2025). Digital media enable information to be presented interactively and flexibly, thereby increasing student participation and engagement in school career guidance activities. This approach aims to enhance student participation and introduce digital career exploration media based on hypermedia, which provide information that connects various types of media (text, images, audio, video, and graphics) in a non-linear manner through links or hyperlinks, allowing users to navigate and interact freely, similar to the

World Wide Web as a more advanced form of hypertext (Solihah, 2023). Through this approach, students can repeatedly access information as needed and according to their interests, enabling a more in-depth, personalized career exploration.

Career guidance is one of the most important components of education, supporting students in making informed decisions about their educational pathways and future careers (Mardiah et al., 2025). According to Santoso and Wulandari (2020), many students experience difficulties in planning their further studies effectively due to limited information, a lack of structured career guidance, and limited access to learning media that support career-planning skills. In this context, the use of digital media has the potential to provide more comprehensive career guidance services, including information on educational pathways, interest and aptitude assessments, and career planning simulations, accessible to students at any time. These conditions help students improve their self-understanding, strengthen their decision-making readiness, and recognize career options aligned with their interests and abilities. Counselors, as professional practitioners, play a strategic role in optimizing the use of digital technology in guidance and counseling services. Counselor professionalism is demonstrated not only through pedagogical competence but also through the ability to utilize technology as an innovative and adaptive service medium in response to contemporary developments. Technology-based media such as interactive presentations, digital booklets, motivational videos, and various online platforms can increase students' motivation and participation in guidance and counseling services (Putri et al., 2025). Therefore, the use of technology is expected to assist counselors and guidance teachers in assessing students' career knowledge, which can then serve as a reference for providing career guidance services in schools. Consequently, students can more easily understand the information delivered by guidance teachers during career guidance sessions and are better able to implement the next steps in planning their future after receiving career guidance services.

However, the success of utilizing digital media in career guidance services is not determined solely by the availability of technology, but also by the extent to which these media can effectively improve students' understanding and career readiness. During adolescence, individuals are in a crucial phase of identity formation and career orientation. Many students face external pressures, such as parental influence in choosing academic majors that do not always align with their interests and talents (Solihah, 2023). Therefore, this study aims to analyze the effectiveness of utilizing digital media in career guidance services in improving students' participation and readiness in making career decisions. Specifically, this research seeks to answer the following question: Does the use of digital media in career guidance services significantly improve students' participation and career readiness?

## II. Literature Review and Hypothesis Development

### 2.1. Utilization of Digital Media in Career Guidance Services

The development of digital technology has driven a transformation in guidance and counseling services, particularly in career guidance. Various studies indicate that integrating digital media not only increases access to information but also strengthens students' participation and career readiness. Amalia et al (2024) found that the use of digital media in career services produces positive outcomes. Their analysis shows that the implementation of digital technology in career guidance services in the Society 5.0 era remains effective in supporting students' needs. In the process of delivering career guidance services, knowledge about the world of work achieved high results, ranking second after career planning. Meanwhile, the use of digital media in career guidance services related to career decision-making also demonstrated strong outcomes. Knowledge related to career decision-making involves integrating existing knowledge with critical thinking to develop future career plans. This ability reflects students' capacity to apply knowledge and reasoning to plan their career paths. The use of digital media facilities in career guidance services is believed to facilitate the delivery of information and guidance to students. This finding indicates that technological developments within the education sector, particularly career counseling, have significant potential to

enhance students' career development by optimizing the quality and effectiveness of services delivered. In essence, the diversity of digital media applications today enables individuals to access platforms more easily, obtain information quickly, and simplify career guidance in the digital era. Dewi (2023) emphasizes that, in the educational environment, media serve as tools for delivering messages in the learning process and as a medium for communication and interaction among relevant stakeholders. In general, media are used to deliver messages in educational activities. This also applies to information services within guidance and counseling activities. Media or applications used include PowerPoint presentations enriched with visual elements, such as images and graphs, and with key points summarized. Such information design aims to deliver messages in a simple and easily understandable format. This information is important in helping students understand guidance and counseling media in a simplified form, serving as a channel for conveying messages that stimulate students' thoughts, feelings, attention, and abilities, including recognizing personal potential and solving problems. Digital media not only function as tools for delivering information but also support various aspects of student development, such as thinking skills, decision-making abilities, emotional awareness, and emotional management. Through this approach, students are also assisted in recognizing their potential, including interests and talents, both in academic contexts and in planning their future paths. In essence, digital media make it easier for individuals to access information and function as tools for delivering messages in the learning process, including in guidance and counseling services.

Tantri and Lilik (2021) found that optimizing guidance and counseling services requires the use of technology-based media. Guidance counselors use various digital media, such as educational videos, interactive presentations, and digital posters, through available media projects. These materials can be presented on classroom projectors or shared directly with students via class WhatsApp groups, Google Classroom, or school websites. In addition, technological media are used through discussion activities via chat or video call features in various applications. This approach offers particular advantages for students who feel uncomfortable or shy about expressing their feelings directly. Through chat or private video calls, students can communicate more freely and feel less embarrassed when expressing their thoughts or feelings, which ultimately supports more appropriate decision-making. Thus, technology-based media serve as tools to provide students with information, with the primary objective of helping them make appropriate career decisions aligned with their individual potential. In essence, digital media represent internet-based technologies that support both communication and learning processes. Ahmad et al. (2024) emphasize that technology can also be developed as a medium for students' career planning, for example, through website-based posters that provide information about various career options. The implementation of technology in career guidance can positively impact students' career readiness and maturity. Many students still struggle to choose career paths and recognize their own potential. Therefore, the presence of digital technology provides substantial benefits in learning processes, including career guidance. Technology-based learning also enables teachers to deliver materials more easily through videos or presentation slides, allowing students to learn online. Teachers can distribute materials through platforms such as Google Classroom, which facilitate learning activities even when teachers cannot attend class in person. In essence, technological advancements enable easier access to information, including career-related information.

Aliya et al. (2025) found significant improvements in students' ability to select subjects aligned with their interests. Before receiving career guidance services, many students struggled to determine their academic specialization in Grade 11. However, after participating in guidance activities, students became more capable of selecting subjects based on their interests and the results of relevant assessments. In extracurricular activities, many students initially participated only because it was mandatory. After being directed to create animated poster projects linking extracurricular activities to future study programs, students became more actively engaged. Prior to receiving the service, students lacked a clear understanding of the steps they should take after graduation. With the assistance of multimedia tools, students were assigned tasks to design their career pathways using tools such as career path mapping and Google Earth. Sadra and Hayati (2025) state that the use of technological media generally increases student attendance during guidance and counseling services. Students' motivation also increases because technological media offer

easier access, more engaging and interactive methods, and facilitate the monitoring and adjustment of guidance services based on information about students' engagement (Gusti et al., 2024). By utilizing various forms of digital media, guidance counselors can deliver counseling and guidance materials in more creative and engaging ways, thereby increasing students' participation and interest in the learning process. In addition to improving the effectiveness of counseling and guidance services, this approach also helps students better understand and overcome various challenges they face (Widiyastuti, 2023). The development of technology also encourages counseling services to offer online counseling to students who wish to receive it (Haryati, 2020). Online counseling is a form of mental health intervention conducted between counselors and clients, either individually or in groups. According to Sigit Dwi Sucipto et al. (2024), communication in this procedure relies heavily on technology. In other words, online counseling uses platforms such as video calls, chat applications, and email to facilitate communication and information exchange between clients and counselors. This approach provides greater flexibility and accessibility to mental health services, enabling clients to receive psychological support without direct physical interaction with counselors.

Rudy et al. (2023) state that career guidance services can be delivered to students without limitations of space and time through online career guidance media. During the pandemic, career guidance services were conducted online via WhatsApp as the primary medium. Information was delivered through shared pamphlets or online brochures in group chats, as well as YouTube videos with accessible links for students. Information was also delivered through classical guidance sessions conducted via online meetings using platforms such as Google Meet or Zoom. Meanwhile, Jaya and Badru (2025) state that in the context of secondary education, guidance and counseling teachers act as key facilitators who assist students in recognizing their personal potential, understanding the world of work, and making appropriate and realistic career decisions (Putri & Sulaiman, 2022). During adolescence, students are in a career exploration phase that requires systematic support to recognize available options, set goals, and develop well-directed career plans (Wahyuni & Hamid, 2023). In recent years, approaches to career guidance have undergone significant transformation, particularly through the integration of digital technology and more contextual approaches. A study by Setiawan and Indrawati (2021) shows that the use of digital platforms, such as career exploration applications, interactive modules, and virtual work simulations, has been proven to increase student engagement and encourage independent exploration. Meanwhile, reflective approaches such as self-reflection training (Kim & Park, 2022) and value-based counseling (Simanjuntak & Lumbantoruan, 2020) have demonstrated positive effects in strengthening students' self-awareness regarding the goals and meaning of the careers they choose.

## 2.2. Development of Digital Media for Career Planning

Various innovations in digital media have been developed to support more interactive and adaptive career guidance services. Aliya Sabrini et al. (2025) demonstrate that multimedia-assisted classical guidance can significantly improve students' self-understanding, particularly in determining their study and career choices. This finding indicates that interactive media play an important role in strengthening students' self-reflection and self-confidence. Ni Putu Ayu Pertami Damayanti et al. (2023) developed a digital comic medium that was found to be valid and effective in improving high school students' career planning. The presence of this digital comic medium is beneficial in assisting teachers in implementing guidance and counseling services in schools. The digital comic media product consists of several sections: (1) the opening section, which includes a greeting, the logo of Universitas Pendidikan Ganesha, the media title, learning objectives, and character introductions; (2) the main content section, which includes several components such as the introduction of the storyline, the initial dialogue where comic characters engage in conversation as an opening scene, the core dialogue depicting students and teachers discussing career planning during counseling sessions, the closing dialogue showing a student character conversing with a friend to conclude the story, and the story ending (epilogue); and (3) the closing section, which includes a closing greeting and acknowledgments (credits). After the digital comic product was completed, an acceptability test was

conducted with four experts or practitioners, comprising two guidance and counseling lecturers and two media experts.

Linda Dewi Sholikhah et al. (2020) also developed an Interactive Puzzle-Based Digital Literacy for Career Decision-Making among junior high school students. Based on expert and practitioner evaluations, several interactive puzzle game models focused on digital literacy were developed to support career decision-making among junior high school students. The application can be accessed through the Play Store under the title "Karirku." This application includes career puzzle games, identification of students' career directions based on John Holland's theory, information on tasks and career levels, and additional features that support career guidance media. Through this application, students can play the game at home, effectively combining learning and play. The puzzle content introduces career direction choices based on John Holland's career selection theory. Students select options based on their personality, interests, and talents, which then yield indications of their career tendencies. The puzzle application helps students strengthen their career choices by enabling them to learn about the roles and levels of various professions through an interactive learning experience. Hita and Rukiyati (2024) state that technology in guidance and counseling practices functions as a support system for service implementation and contributes to improving the quality of guidance and counseling services. Based on a review of 17 articles, technology has been proven to produce positive outcomes in guidance and counseling services. Technological innovation also provides opportunities for guidance and counseling teachers to deliver services that are more interactive, adaptive, effective, and efficient. In addition, technology offers significant benefits for both counselors and students. For example, applications such as Pause and Relax, developed to reduce students' academic stress, demonstrate that technology can be an efficient tool for helping students manage learning-related stress. Meanwhile, Dya et al. (2024) found that digital guidance and counseling services can support students' planning for further studies as part of their career planning. Their study emphasizes the importance of digital-based guidance and counseling services within the educational system for supporting students' career planning. By utilizing digital platforms, such services provide easier access, save time, and offer broader information regarding career selection, higher education pathways, and the world of work. These advantages greatly help students make more informed and appropriate career decisions in the context of rapidly evolving information technology.

### 2.3. Theoretical Foundations of the Utilization of Digital Media in Career Guidance

Strong theoretical foundations support the utilization of digital media in career guidance. Social Cognitive Career Theory (SCCT) emphasizes the importance of self-efficacy, interests, and outcome expectations in career decision-making. Tuti Alawiyah et al. (2025) demonstrate that career exploration through digital platforms mediates the relationship between self-efficacy and career choice (Pham et al., 2024), while educational support and perceptions of entrepreneurial opportunities strengthen self-efficacy and outcome expectations within the context of entrepreneurship (Duong et al., 2024). Furthermore, vocational self-efficacy and outcome expectations also mediate the relationship between career calling and learning engagement among prospective teachers, indicating that interactive features and personalization within digital platforms can enhance students' motivation and engagement (Shang et al., 2022). Several contemporary international scholars also reinforce the Cognitive Information Processing (CIP) theory in career guidance. Osborn et al. (2023) state that this theory provides a highly useful operational framework for developing career guidance interventions based on the CASVE cycle (Communication, Analysis, Synthesis, Valuing, and Execution). When applied to digital services, this framework can help students systematically manage and process career information. In addition, Wang and Liu (2022) found that group counseling based on the CIP approach significantly improves students' career adaptability, particularly in the career concern domain, and enables more effective career information processing compared to traditional methods. Furthermore, Qamaria and Astuti (2021) demonstrate that adopting the CIP approach in career guidance programs can enhance students' career maturity by strengthening knowledge domains (self-knowledge and career options) and improving more reflective, structured decision-making skills. Indah et al. (2022) explain

that a career is an occupation pursued by individuals to advance their lives, which involves various requirements, such as educational level, responsibilities, and other qualifications (Sersiana, 2013). Brown notes that Roe developed a classification of occupations based on fields of interest and occupational levels, identifying various job types and the competencies required for each (Hermawan & Tyas, 2018). Meanwhile, Donald E. Super argues that a career reflects an individual's success in completing developmental tasks specific to each stage of career development. Career development also reflects individuals' affective and cognitive readiness to cope with developmental tasks, influenced by biological, social, and societal expectations associated with each developmental stage. Affective readiness includes career planning and career exploration, while cognitive readiness includes decision-making ability and knowledge about the world of work. Super also identifies characteristics of individuals with high levels of career understanding, including relatively consistent and realistic career choices, independence in career decision-making, and positive attitudes toward career selection (Yulianti, Fitri, & Herdi, 2015). Conversely, individuals with low levels of career understanding tend to have inconsistent and unrealistic career thoughts, lack independence in career decision-making, and experience uncertainty when making career-related choices.

#### 2.4. Research Gap

Dyah et al. (2024) discuss digital-based guidance services for students' career planning. Their findings are relevant because the development of information and communication technology has brought significant impacts across various aspects of life, including education. Digital-based guidance and counseling services are increasingly considered important for students' career planning, particularly amid learning challenges in the current digital era. This article examines digital guidance and counseling services as a means of supporting students in planning their further studies. In supporting career planning, the study emphasizes the importance of integrating digital guidance and counseling services into the educational system, as these services offer effective solutions to help students plan and develop their careers amid rapid advances in information technology. By utilizing digital platforms, such services offer easier access, save time, and provide broader information regarding career choices, further education, and the world of work, thereby supporting students in making more appropriate career decisions. Astri et al. (2025) examine the use of YouTube as an information medium for career planning among Grade X senior high school students. Their study aims to develop a career information media product based on the YouTube platform to assist students in designing their career paths after completing high school. Several strategies can be considered before selecting a career path, including interests, talents, beliefs, and values. Self-understanding and knowledge about desired occupations are important factors in enabling individuals to make decisions aligned with their life goals. The purpose of developing this media is to provide information about further education by explaining job fields, related career paths, required skills, necessary educational qualifications, and relevant subjects associated with each field. Guidance and counseling teachers play an important role in providing accurate information to improve students' developmental outcomes. To enhance the quality of information services, several approaches can be implemented, including the use of media that stimulate students' enthusiasm and curiosity in schools.

Ainun et al. (2025) discuss guidance and counseling teachers' strategies in supporting senior high school students' career planning. Their findings highlight the importance of helping students determine their career paths. The concept of career guidance focuses on helping students plan their careers confidently after graduation. The support provided by guidance teachers includes career planning, decision-making assistance, and the development of compatibility skills. Several studies on strategies implemented by guidance teachers in schools indicate that their primary focus is helping students develop their careers, increasing students' understanding of their personal potential, assisting them in designing realistic career goals, and guiding them in choosing careers aligned with their interests and competencies. Effective career guidance and counseling strategies can therefore help students better prepare themselves for entering the workforce.

Rafael & Tiur (2021) developed internet-based career guidance materials for information services among Grade XI senior high school students. Their findings suggest that these materials enable students to learn independently while fulfilling their need for career-related information. The development of internet technology provides convenience and flexibility in acquiring knowledge. Through the internet, students can access a wide range of literature and references, thereby maximizing their learning process without relying entirely on others. The integration of computer technology with telecommunications via the internet also offers an accessible, cost-effective solution for information dissemination. Moreover, students can access comprehensive information presented in creative formats, which increases their interest in learning. Therefore, counselors or guidance teachers are expected to design creative and innovative career guidance materials. Internet-based guidance materials generally include content on self-understanding and the world of work, while also motivating counselors to develop new media for delivering career guidance services.

Sovatunisa et al (2023) examine the role of media and technology in guidance and counseling services in senior high schools. Their study highlights the importance of using technology and media to deliver effective guidance and counseling services. Guidance and counseling are essential components of education, supporting students through a range of services within schools. In the digital era, technological advances have enabled faster communication and information exchange, free from the limitations of time and space. This development supports the creation of technology-based knowledge systems in education. Consequently, both educators and students play collaborative roles in developing and using learning technologies and media. Technology and media also enable broader access to educational resources, including online platforms, instructional videos, and interactive educational applications. In guidance and counseling services, technology enables counselors to provide assistance and advice via online channels such as chat or video calls, thereby enabling more effective communication.

Hidayat and Cecep Kustandi (2021) discuss how guidance and counseling teachers can be supported to improve digital literacy for career assessment and guidance services during the COVID-19 pandemic. Their findings indicate that during the pandemic, the use of information technology in learning increased significantly, particularly in assessment and career guidance services. As a result, improving digital literacy among guidance and counseling teachers became essential to ensure that guidance services could continue despite the shift toward remote learning. Internet-based guidance services can help address students' career-related issues and provide relevant career information. Digital literacy is therefore highly important in education, especially in the context of the Industrial Revolution 4.0 and during the pandemic, when school activities were conducted from home. However, many guidance teachers initially faced limitations in transitioning from offline to online services due to inadequate technological support. These challenges highlight the importance of introducing information technology tools for online assessments and developing data-based programs using digital media. Such initiatives have demonstrated that guidance and counseling services can still be implemented effectively and efficiently through digital technologies, enabling teachers to remain productive even during challenging circumstances such as the pandemic.

Widyasari, Farida Aryani, and Abdullah Siring (2023) developed an e-module for career guidance to improve career planning among senior high school students. This development is particularly relevant because many students still experience confusion in determining appropriate career choices and lack the readiness to make career decisions for their future. As a result, students may select further education paths randomly or choose occupations that do not align with their interests and talents, potentially leading to career dissatisfaction or failure. The electronic module (e-module) presents information in a digital book format that can be accessed through devices such as hard disks, CDs, flash drives, smartphones, computers, or laptops. The use of e-modules allows students to learn independently, study anywhere, and express themselves by adapting learning strategies to their interests and abilities. In addition, e-modules can reduce the cost of printed materials while enriching learning media. Therefore, electronic modules are designed systematically and attractively to enhance learning engagement.

Nur et al. (2020) developed Career SMART Card Digital, a career guidance medium designed to enhance senior high school students' career self-awareness. This media consists of interactive digital cards

containing components such as self-introduction, career exploration, decision-making tips, and future planning. Consequently, the Career SMART Card Digital serves not only as a learning aid but also as a strategic medium within guidance and counseling services to foster mature self-understanding as part of responsible and independent career decision-making. Through this media, students are encouraged to recognize their personal potential, understand their interests and talents, and realize the importance of planning for their future careers. The use of the Career SMART Card Digital also encourages students to develop critical thinking skills. Desriyanti et al. (2025) developed a career guidance medium based on a digital snakes-and-ladders game for career information services in senior high schools. This development focuses on identifying students' needs related to career media. The results show that changing the media used for career guidance can effectively improve students' understanding of careers. Through innovation in career guidance and information services, the developed media emphasize attractiveness, creativity, and practicality, particularly by integrating technologies familiar to contemporary students. The digital snakes-and-ladders media includes structured content such as quiz titles corresponding to specific themes and relevant visual illustrations. Practicality tests have demonstrated that this media can improve students' career decision-making abilities. The development of such digital media represents an effort to strengthen students' career planning and help them make better future decisions.

Efie & Nora (2023) developed Career Puzzle Board Games as an innovative medium for career guidance to improve senior high school students' career decision-making skills. Career decision-making is a critical process for optimizing students' potential, as every student has the right to determine and choose their future career path. Career guidance services play an important role in helping students understand themselves and recognize their potential. Students with low levels of career planning often experience uncertainty and difficulty in making career decisions. Therefore, guidance teachers are encouraged to increase students' interest in participating in career guidance services by designing attractive, creative, and innovative media such as career puzzle board games. This media facilitates the delivery of career guidance services by helping students access career-related information and design their future career plans more effectively. According to Idriani (2021), puzzles also offer several advantages, including colorful designs that can increase motivation and interest in learning. Additionally, puzzles can provide insights into career planning and help students anticipate future challenges. All these elements are integrated into an engaging career puzzle game.

Based on the various studies discussed above, it can be concluded that digital media have the potential to enhance students' participation, motivation, and understanding of career-related information. However, most existing studies remain descriptive or focus primarily on product development, without providing a comprehensive conceptual synthesis of their effectiveness in improving students' career readiness. In addition, a few studies still systematically integrate empirical findings with theoretical frameworks such as Social Cognitive Career Theory (SCCT) and Cognitive Information Processing (CIP) to explain the mechanisms by which digital media influence students' career readiness. Therefore, this study aims to conduct a more systematic literature review to analyze the effectiveness of utilizing digital media in career guidance services and to relate these findings to relevant career development theoretical frameworks.

### III. Research Method

This study employs a qualitative method based on a Systematic Literature Review (SLR). This approach was chosen to analyze in depth various research findings on the use of digital media in career guidance services, and to identify existing patterns, trends, and research gaps. The literature sources used in this study were obtained from national and international scientific journals relevant to the research topic. The literature search was conducted through Google Scholar using the following keywords: "Media digital dalam bimbingan karir," "Digital career guidance," "Teknologi dalam bimbingan dan konseling," "Career counseling digital," and "Technology-based career planning." The inclusion criteria in this study are as follows: Articles published between 2020 and 2025. Articles that directly discuss the utilization of digital media in career

guidance or career counseling services. Articles containing empirical research findings or media development studies. Meanwhile, the exclusion criteria include:

- a. Articles that are not relevant to the theme of career guidance.
- b. Opinion articles without an empirical research basis.
- c. Articles that are not available in full-text form.

Based on this selection process, several articles that met the criteria were obtained for in-depth analysis. The analysis process was conducted through three main stages:

### 3.1. Literature Organization

At this stage, the researcher examined the abstract, introduction, methods, results, and discussion sections of each article to identify the research objectives, methods used, and key findings. The literature was then grouped into thematic categories, namely:

- a. The effectiveness of digital media in increasing student participation,
- b. Development of digital media products,
- c. The impact on career maturity and readiness,
- d. Integration of career development theories within digital media.

### 3.2. Synthesis

At this stage, the organized literature findings were combined to identify consistent patterns and differences among studies. The synthesis process involved comparing research methods, research subjects, and results to produce more comprehensive conceptual conclusions.

### 3.3. Identification of Key Findings and Research Gaps

The final stage involved identifying the main contributions of each study and the remaining research gaps. This analysis aimed to answer research questions about the effectiveness of digital media in career guidance services. This study is grounded in Social Cognitive Career Theory (SCCT) and Cognitive Information Processing (CIP). SCCT emphasizes the role of self-efficacy, interests, and outcome expectations in career decision-making, while CIP explains the systematic stages of career information processing through the CASVE model. These theoretical frameworks are used to interpret the findings from the literature and to explain how digital media influence students' career readiness. To ensure the validity and reliability of the study, the researcher applied a systematic, transparent literature selection procedure guided by predefined inclusion and exclusion criteria. In addition, the categorization process was conducted consistently by referring to the main themes relevant to the research objectives. Source triangulation was also used by comparing findings across studies to ensure consistent results. The results of this study will be presented in a thematic synthesis that illustrates general trends, effectiveness, and the contributions of digital media to career guidance services. However, this study has several limitations, including its restriction to articles available in the Google Scholar database and to a specific publication time range. Furthermore, variations in the methodologies used in the reviewed studies may affect the generalizability of the findings.

## IV. Result and Discussion



#### 4.1. Analysis Result

In this study, digital media are defined as various information technology–based platforms and tools used to deliver career guidance services in an interactive, flexible, and internet-based manner, such as social media, e-modules, instructional videos, game-based applications, and online learning platforms. Based on an analysis of 29 articles that met the inclusion criteria, the results indicate that the use of digital media in career guidance services generally improves students' understanding of careers, career planning, career maturity, and decision-making abilities. These findings suggest a consistent pattern: integrating technology into career guidance services has broader impacts than conventional approaches. The study by Reza et al. (2024) shows that the use of social media, Google Classroom, and Canva falls into the effective category in supporting career guidance services in the Society 5.0 era. The aspects of knowledge about the world of work and decision-making ability obtained high scores. This finding is consistent with the study by Ahmad Zaki Ilham Nasution et al. (2024), which demonstrates that the implementation of information technology has a positive impact on the career maturity of senior high school students. Both studies reinforce the conclusion that digital media not only improve access to information but also influence cognitive and affective aspects of students' career readiness.

Furthermore, Dewi (2023) found that the use of interactive visual media such as PowerPoint and instructional videos can enhance students' attention and understanding of career-related materials. Widyasari and Mukayati (2021) and Sabrini et al. (2025) indicate that the use of multimedia in classical guidance services increases students' confidence, active participation, and certainty in selecting academic majors and activities aligned with their interests. This suggests that digital media function as motivational stimuli that strengthen students' engagement in the career exploration process. Studies focusing on media development, such as digital comics (Damayanti et al., 2023), interactive puzzles (Sholikhah et al., 2020), career e-modules (Widyasari et al., 2023), and digital board games (Zahra & Setyaputri, 2023), also demonstrate high levels of validity and effectiveness in improving students' career understanding and career planning. However, most of these studies emphasize product feasibility testing and short-term improvements, and therefore have not fully evaluated the long-term impact on the stability of students' career decisions. From a theoretical perspective, these findings can be explained through Social Cognitive Career Theory (SCCT), which emphasizes that self-efficacy and outcome expectations influence career choices. Digital media with interactive, personalized features allow students to explore their interests and receive direct feedback, thereby increasing their confidence in decision-making. In addition, within the framework of Cognitive Information Processing (CIP), the use of digital media facilitates the stages of communication, analysis, synthesis, valuing, and execution (CASVE) in a more systematic manner. Thus, digital media function not only as technical tools but also as instruments that support cognitive processes in career decision-making. Although most studies show the effectiveness of digital media, there are variations in the level of impact. Several studies note that the effectiveness of digital media depends heavily on the digital literacy of guidance and counseling teachers, the readiness of school infrastructure, and students' ability to use technology productively. This indicates that the success of digital media implementation is not solely determined by the technology itself but also by the quality of its pedagogical integration. Overall, this review indicates that digital media play a role in:

- a. Improving access to and the completeness of career information.
- b. Increasing student engagement and motivation.
- c. Strengthening self-understanding and interest exploration.
- d. Supporting more structured career decision-making processes.

Beyond cognitive and affective aspects, the use of digital media in career guidance services also influences students' behavioral dimensions. Several studies in this review show that students exposed to digital media–based services tend to actively seek additional information independently outside formal

service hours. This indicates that digital media encourage sustained exploratory behavior, an important indicator of career readiness. In the context of student engagement, digital media offer broader participation opportunities than conventional methods. Features such as interactive polling, online discussion forums, application-based quizzes, and career simulations allow students to interact directly with learning materials. This two-way interaction strengthens the internalization of career information, enabling students not only to receive information passively but also to process it reflectively.

Another finding emerging from the literature synthesis is that digital media can bridge the information gap between schools and the labor market. Digital platforms enable real-time updates regarding job trends, skill requirements, and further education opportunities. As a result, career guidance services become more contextual and adaptive to the dynamic changes in the labor market. From a pedagogical perspective, the integration of digital media also transforms the role of guidance and counseling teachers from mere information providers into **career learning facilitators**. Teachers no longer deliver lectures but guide students in exploring digital resources, evaluating the credibility of information, and reflecting on their career choices. This transformation demonstrates that the effectiveness of digital media is strongly influenced by the learning approach employed.

Several studies also highlight that game-based learning media produce positive emotional impacts on students. Visual elements, challenges, and instant feedback systems increase students' intrinsic motivation to participate in career guidance services. This increase in motivation contributes to more consistent participation in each service session. However, the effectiveness of digital media is also influenced by social and economic factors. Schools with limited internet access or inadequate technological devices face obstacles in implementing digital services optimally. Therefore, the digital divide becomes an important factor to consider in developing technology-based career guidance policies. In addition, students' digital literacy is another key factor determining the success of digital services. Students with higher digital literacy tend to utilize interactive features more effectively, whereas those with lower literacy require more intensive assistance. This suggests that integrating digital media should be accompanied by systematic digital literacy development programs. From an evaluative perspective, most studies reviewed use quasi-experimental designs or product development approaches with short-term measurements. This indicates the need for longitudinal studies capable of measuring the sustainability of digital media impacts on the stability of students' career decisions after they enter higher education or the workforce.

Furthermore, integrating digital media into career guidance services can support differentiated learning approaches. Through digital platforms, students can access materials according to their interests, ability levels, and individual needs. This personalization aligns with career development principles, emphasizing the importance of individual exploration. Overall, the synthesis of the 29 articles indicates that digital media are not merely technical tools but strategic components in the transformation of career guidance services. Their effectiveness lies in their ability to improve access, participation, self-reflection, and career decision readiness. However, sustainability and long-term impacts still require systemic support, strengthened competencies among guidance and counseling teachers, and educational policies that are adaptive to technological developments. The synthesis results also indicate that the effectiveness of digital media tends to be higher when used as an integrated component of structured career guidance programs rather than merely as one-way information delivery tools. Studies combining interactive media with self-reflection activities, group discussions, and interest assessments show greater improvements in students' career readiness than passive use of digital media. This suggests that digital media function optimally when integrated with appropriate pedagogical strategies. Compared with studies reporting limited effectiveness, differences in findings generally relate to implementation factors. In school contexts where teachers' digital literacy is low or infrastructure is limited, the impact of digital media on career planning tends to be less optimal. In other words, technology alone is not the sole determinant of success; rather, the quality-of-service design and user readiness are crucial. These findings indicate that digital transformation in career guidance services requires a systemic approach rather than merely adopting technological tools.

From the perspective of student development, the use of digital media also provides broader and more personalized exploration opportunities. Interactive features, virtual work simulations, and real-time information access allow students to explore careers independently and repeatedly. In Donald Super's career development theory, such conditions support developmental tasks at the exploration stage, including testing choices, clarifying interests, and building initial commitments to certain career options. Furthermore, within the framework of Social Cognitive Career Theory (SCCT), digital media can enhance self-efficacy through mastery experiences and vicarious learning, both of which are widely available on digital platforms. When students observe career pathways, professional testimonials, or career simulations through digital media, they gain concrete insights that strengthen their confidence in their abilities. This process ultimately influences outcome expectations and career decisions. However, several potential challenges must also be considered. Excessive exposure to information without adequate guidance may lead to confusion or the overchoice effect among students. Therefore, the role of guidance and counseling teachers remains crucial as facilitators who help filter, clarify, and direct information according to students' characteristics and needs. Digital media should therefore be positioned as supporting tools rather than substitutes for professional counselors. The practical implication of these findings is the need to strengthen the digital competencies of guidance and counseling teachers through continuous professional development and school policies that support the integration of technology in career guidance services. Future research could also develop longitudinal study designs to measure the long-term impact of digital media use on the stability of students' career choices, including career adaptability after entering higher education or the workforce. Thus, the results of this study confirm that the utilization of digital media in career guidance services represents a relevant and adaptive strategy in the digital era. However, its implementation must be accompanied by improved competencies among guidance and counseling teachers and adequate support from the educational system to ensure its benefits are optimized and sustained.

## V. Conclusion

Based on the analysis of 29 reviewed articles, it can be concluded that the utilization of digital media in career guidance services plays a significant role in supporting students' career development. The use of digital media by guidance and counseling teachers has been shown to help students improve their understanding of the world of work, recognize their personal potential and interests, and make career decisions in a more directed and rational manner. Digital media provide access to broader, more up-to-date, and relevant career information that aligns with current developments, enabling students to rely not only on conventional information sources. Career guidance services that utilize online communication platforms, social media, interactive multimedia, and online learning platforms can create service processes that are more engaging, flexible, and participatory. These conditions positively influence students' motivation, engagement, and career readiness. In addition to increasing participation, the use of digital media also contributes to students' career maturity by strengthening both cognitive and affective aspects of career exploration and decision-making. Thus, integrating digital media into career guidance services can enhance their quality and relevance to today's digital generation. However, the effectiveness of digital media is strongly influenced by the readiness of school infrastructure, the digital literacy of guidance and counseling teachers, and the implementation strategies employed. Therefore, the use of digital media should be structured and integrated with systematic career guidance approaches. Future research is recommended to examine more specifically which types of digital media are most effective across different educational levels and contexts, and to explore how the integration of digital media can be optimally combined with conventional career guidance practices. Longitudinal studies are also needed to assess the long-term impact of digital media use on the consistency and adaptability of students' career choices.

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