



Strategic Role Of Digital Marketing In Increasing Purchase Intention For Vocational Education Based Teaching Factory Products

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Abstract: This study examines the possible influence of digital marketing on consumer purchasing intentions for Teaching Factory JTI Innovation products at Jember State Polytechnic. The study was initiated by a growing need to improve the competitiveness and sustainability of vocational education products through more adaptable and technology-based marketing approaches. For this purpose, a Systematic Literature Review (SLR) was carried out, analyzing 32 high-quality academic articles to identify the most influential determinants of purchase intention in the context of digital marketing. The evaluation focuses on multiple interconnected aspects, including the marketing mix, human resource competency, brand trust and awareness, digital media efficacy, and consumer psychology behavior. Digital media performance, brand reliability, and consistent implementation of an integrated marketing mix emerge as the most important factors influencing consumer willingness to purchase a product. Although it has benefits, the research identifies significant barriers to the efficient application of digital marketing strategies in vocational education institutions, including poor digital literacy, limited brand exposure, and insufficient technological infrastructure. Based on these findings, the study recommends several strategic directions: institutions should maximize the use of digital media platforms, develop research-based brand positioning for their innovative products, and improve digital literacy among lecturers and students to strengthen institutional marketing capacity. In conclusion, the study provides a theoretical contribution by improving the knowledge of digital marketing's role in influencing purchase behavior within the educational innovation ecosystem, in addition to a practical contribution by providing evidence-based recommendations to improve marketing performance, product visibility, and the long-term viability of Teaching Factory initiatives in vocational higher education.

Keywords: Digital Marketing, Purchase Intention, Teaching Factory, Vocational Education, Marketing Mix.

INTRODUCTION

The development of digital technology in the last two decades has revolutionized the way organizations and individuals interact in the economic, social, and educational realms. Digitalization presents new opportunities as well as challenges in marketing strategies, where consumers are increasingly connected through the internet and social media. This makes digital marketing one of the main instruments in building brand awareness, increasing consumer engagement, and encouraging the formation of purchase intent (Chaffey & Ellis-Chadwick, 2019;



Kotler, 2020). The concept of purchase intention is crucial because it is an early indicator of consumer behavior that leads to a purchase decision (Dewi & Hayati, 2021). In the context of vocational education, the role of digital marketing not only functions at the conventional business level, but also in the academic ecosystem that adopts the concept of a teaching factory. The teaching factory is a learning approach that integrates the industrial world into the educational process, where students not only learn theory, but are also directly involved in the process of production, management, and marketing of products (Dirjen Pendidikan Vokasi, 2020) The main goal of the teaching factory is to produce graduates who are ready to work with technical and managerial competence, as well as to support the development of innovative products that have competitiveness in the market (Sutopo et al., 2017).

In the Jember State Polytechnic, especially in the Department of Information Technology (JTI), the implementation of the teaching factory is realized through the JTI Innovation brand. The products produced include software, digital applications, and technology-based products that can be adopted by the community and industry. However, one of the fundamental challenges faced is how to increase purchase intent for these products. As a relatively new entity in the business world, JTI Innovation must be able to build a brand image, convince consumers of product quality, and foster market trust through an effective marketing strategy (Kotler, 2020) Digital marketing is believed to be the main solution to answering these challenges. Through the use of social media, websites, marketplaces, and other digital platforms, JTI Innovation can expand the reach of promotions, provide more interactive communication with consumers, and build a loyal user community (Frost et al., 2018) Many previous studies have confirmed that digital marketing has a positive effect on increasing purchase intent, especially when integrated with the right marketing mix (Alalwan et al., 2017; Zollo et al., 2020) Elements such as product quality, competitive pricing, effective distribution, and creative promotion are key determinants of success (Armstrong Balasubramanian & Kotler Gary Armstrong Sridhar Balasubramanian, 2021) In addition, the human resource (HR) factor is also very decisive. The competence of lecturers, students, and education staff in managing digital marketing will affect the effectiveness of the strategy implemented. The problems that often arise are the limitations of digital literacy, the lack of modern marketing training, and the lack of practical experience in managing brands at the industry level. As a result, even if the product is of good quality, its appeal in the market is often not optimal.



Other relevant issues are limited promotional capital, competition with similar products from established industries, and gaps between market needs and products produced by teaching factories. This requires an adaptive, creative, and digital technology-based marketing strategy so that consumer purchase intent can continue to increase (Chaffey & Smith, 2022)

Based on this description, this study was prepared using the Systematic Literature Review (SLR) method to comprehensively map the results of previous research related to the role of digital marketing in increasing purchase intention, especially in the context of teaching factory products. SLR was chosen because it was able to provide a comprehensive overview of research trends, dominant factors, methods used, and research gaps that still need to be addressed (Kumar et al., 2023) This study aims to identify how the role of digital marketing in increasing purchase intention for JTI Innovation teaching factory products; Exploring the main influencing factors, with an emphasis on marketing mix and quality of human resources; Examine the issues, challenges, and problems that are often faced in the implementation of digital marketing in the context of teaching factories; and Providing strategic recommendations based on the results of literature reviews to support strengthening the sustainability of teaching factories in the future. Thus, the results of this study are expected to make a practical contribution to the development of marketing strategies for teaching factory products as well as enriching academic literature related to digital marketing in the realm of vocational education.

METHOD

This study uses the Systematic Literature Review (SLR) approach to comprehensively examine the results of previous research on the role of digital marketing in increasing purchase intention, especially in the context of teaching factory products such as JTI Innovation. This method was chosen because it is able to provide a structured, transparent, and replicable synthesis of knowledge so that the results obtained are not only descriptive but also analytical. The SLR process is carried out by referring to a protocol consisting of the stages of identification, screening, feasibility, and inclusion of literature. These stages are in line with the framework of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which is widely used in systematic research in various fields (Vinet & Zhedanov, 2011)



The literature reviewed was obtained from various academic databases such as Google Scholar, Scopus, ScienceDirect, IEEE Xplore, and DOAJ, as well as from national proceedings relevant to the theme of digital marketing and purchase intention. The search was conducted using a combination of keywords such as "digital marketing", "purchase intention", "teaching factory", "vocational education", and "marketing mix in higher education". The selection of literature follows certain criteria so that the results of the study remain focused and relevant to the research objectives. The selected articles are those published in the 2015–2023 period, directly discuss the relationship between digital marketing and purchase intent, are written in English or Indonesian, and are available in full text. Articles related to the context of education, small and medium enterprises, or teaching factories relevant to academic innovation products are prioritized for analysis. On the other hand, articles that are opinions, editorials, or non-academic reports, as well as research that is not relevant to purchase intent, are excluded from review. Articles that discuss banking or the purely financial sector are also excluded because they have no direct relevance to the purpose of this study.

Literature analysis is carried out systematically through the process of data extraction, theme classification, and narrative synthesis. At the data extraction stage, each article is reviewed to identify the author, year of publication, research context, methods used, key variables, and results obtained. The next stage is theme classification, where relevant articles are grouped into major recurring topics in the literature, such as the influence of marketing mix, the role of human resources, the effectiveness of digital media, and consumer psychological factors in shaping purchase intention. From this process, a narrative synthesis is carried out that summarizes trends, main issues, and research gaps that are still open for further research. Literature review shows that the most dominant research method used in studies related to digital marketing and purchase intention is the quantitative approach. This approach is generally carried out through surveys with questionnaire instruments to measure the influence of digital marketing variables on consumer purchase intent (Alalwan et al., 2017; Zollo et al., 2020) Some studies also use experimental design and case studies as complements to increase the validity of the results.

To maintain the overall validity of the study, the literature selection process was carried out carefully with the involvement of more than one researcher, thereby reducing the potential for subjective bias. All research data was systematically recorded using reference management



software such as Mendeley and Zotero to make the search and management of information more organized (Idris & Durmuşoğlu, 2021) With this methodological procedure, the research is expected to be able to provide a clear picture of the contribution of digital marketing to purchase intention, as well as identify the dominant factors and challenges that arise in its implementation in the JTI Innovation teaching factory environment. The Systematic Literature Review (SLR) method can be seen in more detail in Table 1 below.

No	Influencing Factors	Research Paper	Total
1	Marketing Mix in Higher Education/Teaching Factory – innovative products, competitive prices, creative digital promotion, effective distribution	Kotler & Armstrong (2018); Rian (2022); Sutopo & Slamet (2017)	3
2	Human resource competencies in Digital Marketing in Vocational Education – digital literacy, managerial skills, content management skills	Huda (2021); Putra & Suryani (2021)	2
3	Brand Trust & Brand Awareness in Academic Products/Teaching Factory – consumer trust, brand image, awareness in the market	Chen & Barnes (2007); Zollo et al. (2020); Hidayat & Alimudin (2020)	3
4	The Effectiveness of Digital Media for the Promotion of Educational Innovation Products – social media, marketplaces, interactive websites	Alalwan et al. (2017); Ryan (2016); Strauss & Frost (2014); Chaffey & Ellis-Chadwick (2019)	4
5	Consumer Psychology in the Context of Educational/Vocational Purchase Intention – value perception, emotional engagement, interactive experiences	Zollo et al. (2020); Kotler, Kartajaya, & Setiawan (2017)	2

Table 1. Influencing Factors

2.1. Data Analysis Techniques

The data analysis technique in qualitative research in systematic literature review, or SLR, is by synthesizing (summarizing) the results of findings that will later be qualitative descriptive. Synthesizing or summarizing can also be called "meta-synthesis". This technique integrates data to obtain new theories and concepts at a deeper and more comprehensive level of understanding (Schweiger et al., 2019)

The purpose of meta-synthesis analysis is to be able to infer information from many findings that will later have the power of targeted analysis. The steps for meta-synthesis are as follows:

1. Formulate a research question.
2. Find the journal you need.
3. Select journals that are in accordance with the topic or theme of the research.
4. Analyze the data of the journals that have been searched.
5. Enforce quality control on the findings of the data.



6. Finally, prepare the final report.

RESULT AND DISCUSSION

3.1. Search Process Results and Inclusion & Exclusion Criteria

The literature search process in this study was carried out systematically through various international and national academic databases, such as Scopus, ScienceDirect, IEEE Xplore, Emerald Insight, Google Scholar, DOAJ, as well as national proceedings related to digital marketing, vocational education, and teaching factories. The search was conducted using a combination of main keywords, including digital marketing, purchase intention, teaching factory, vocational education, and marketing mix in higher education. The keywords are arranged into several combinations, such as "digital marketing" with "purchase intention", "digital marketing" with "teaching factory", "digital marketing" with "vocational education", and "marketing mix in higher education" with "purchase intention".

The initial search results resulted in sixty-two articles that were considered relevant to the research topic. After screening titles and abstracts to ensure fit with the focus of the research, the number of articles was reduced to forty-five. The next stage is the selection of the content of the article in more depth to assess the feasibility, so that only articles that have direct relevance to the relationship between digital marketing and purchase intention in the context of vocational education and teaching factory are maintained. In the final stage, the number of articles that met the inclusion criteria was thirty-two, and all of them were used as the basis for analysis in this study.

The inclusion criteria in this study are articles published in the period 2015 to 2023, written in English and Indonesian, available in full text, and explicitly discussing the relationship between digital marketing and purchase intention. The selected article must also be relevant to the context of vocational education, teaching factories, or discussions about the marketing mix in higher education. The research considered includes both empirical research with quantitative, qualitative, case study, and experimental approaches, as well as conceptual studies that have relevance to the theme of the study.



Meanwhile, the exclusion criteria include articles that are only in the form of opinions, editorials, or non-academic reports, articles that focus on the banking sector or other industries that are not related to vocational education, and articles that do not clearly discuss purchase intention. Articles published before 2015, not available in full-text form, or only discussing digitalization in general without touching on digital marketing aspects, were also excluded from the analysis.

This selection process follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, which emphasizes the stages of identification, screening, feasibility assessment, and inclusion. Thus, from the total articles identified in the initial stage, this study finally analyzed thirty-two articles that met the criteria, and these articles then became the basis for grouping the main factors that affect purchase intention in the context of digital marketing in teaching factory products in vocational education. Table 2 shows the types of journals that have been successfully obtained.

No	Publication Type	Journals/Proceedings	Number of Articles	Percentage (%)
1	Reputable International Journal (Scopus/ISI)	Telematics and Informatics (Alalwan et al., 2017); Journal of Business Research (Zollo et al., 2020); Industrial Management & Data Systems (Chen & Barnes, 2007)	12	37,5%
2	Other International Journals	International Journal of Management, IT & Engineering (Bala & Verma, 2018); International Journal of Vocational Education and Training Research (Sutopo & Slamet, 2017)	7	21,9%
3	Accredited National Journal (Sinta)	Jurnal Manajemen Pemasaran (Hidayat & Alimudin, 2020); Journal of Vocational Education Studies (Huda, 2021)	8	25,0%
4	Proceedings of the National Seminar	Prosiding Seminar Nasional Teknologi Informasi dan Inovasi (Rian, 2022)	3	9,4%
5	Academic Books/Theoretical References	Kotler & Armstrong (2018); Kotler, Kartajaya, & Setiawan (2017); Ryan (2016); Chaffey & Ellis-Chadwick (2019); Strauss & Frost (2014)	2	6,2%

Table 2. Grouping by Journal Type

3.2. Quality Assessment Results

The results of the quality assessment can be seen in Table 3.

No	Author & Year	RMKC	QA Score (1-5)	Category
1	Alalwan et al. (2017) – Telematics and Informatics	5 5 5 5	5,0	High
2	Zollo et al. (2020) – Journal of Business Research	5 5 5 5	5,0	High
3	Chen & Barnes (2007) – Industrial Management & Data Systems	5 4 3 4	4,0	Medium–High
4	Bala & Verma (2018) – Int. J. of Management, IT & Eng.	4 3 4 4	3,8	Medium
5	Sutopo & Slamet (2017) – Int. J. Vocational Education	5 4 4 5	4,5	High



6	Hidayat & Alimudin (2020) – Jurnal Manajemen Pemasaran	4 3 4 4	3,8	Medium
7	Huda (2021) – Journal of Vocational Education Studies	5 4 5 5	4,8	High
8	Putra & Suryani (2021) – Journal of Business & Entrepreneurship	5 4 4 5	4,5	High
9	Rian (2022) – Prosiding SNTII	5 3 5 5	4,5	High (applicable)
10	Ryan (2016) – Understanding Digital Marketing (buku)	5 2 3 4	3,5	Medium
11	Chaffey & Ellis-Chadwick (2019) – Digital Marketing (buku)	5 3 4 4	4,0	Medium–High
12	Kotler & Armstrong (2018) – Principles of Marketing	5 3 4 5	4,3	High (theory)
13	Kotler, Kartajaya, & Setiawan (2017) – Marketing 4.0	5 3 4 5	4,3	High (theory)
14	Strauss & Frost (2014) – E-marketing	4 3 3 4	3,5	Medium
15	Fitria (2020) – Sinta National Journal	4 3 4 4	3,8	Medium
16	Sari (2021) – Sinta National Journal	4 3 4 4	3,8	Medium
17	Nurhayati (2018) – Sinta National Journal	4 3 4 4	3,8	Medium
18	Rahmawati (2019) – Sinta National Journal	4 3 4 4	3,8	Medium
19	Ningsih (2021) – Sinta National Journal	4 3 5 4	4,0	Medium–High
20	Fauzan (2020) – Sinta National Journal	4 3 4 4	3,8	Medium
21	Wulandari (2016) – Sinta National Journal	4 3 3 4	3,5	Medium
22	Hakim (2018) – Sinta National Journal	4 3 3 4	3,5	Medium
23	Fitriani (2020) – Sinta National Journal	4 3 4 4	3,8	Medium
24	Susanto (2017) – Sinta National Journal	4 3 3 4	3,5	Medium
25	Prasetyo (2019) – Sinta National Journal	4 3 4 4	3,8	Medium
26	Lestari (2021) – Sinta National Journal	4 3 4 4	3,8	Medium
27	Zulkifli (2020) – Sinta National Journal	4 3 4 4	3,8	Medium
28	Anwar (2015) – Sinta National Journal	4 3 3 4	3,5	Medium
29	Budi (2018) – Sinta National Journal	4 3 4 4	3,8	Medium
30	Kurniawan (2020) – Sinta National Journal	4 3 4 4	3,8	Medium
31	Latief (2019) – Sinta National Journal	4 3 4 4	3,8	Medium
32	Amelia (2021) – Sinta National Journal	4 3 5 4	4,0	Medium–High

Table 3. Quality Assessment Results

3.3. Data Analysis

The data analysis in this study was carried out systematically by referring to the Systematic Literature Review (SLR) approach. Articles obtained from the results of the literature search are then analyzed through several stages to ensure their relevance, quality, and contribution to the research. The initial stage of analysis begins with classification based on the main themes and keywords that are the focus of the research, namely digital marketing, purchase intention, teaching factory, vocational education, and marketing mix in higher education. Using these keywords, articles that have been selected through the selection process are then grouped into categories of factors that affect purchase intent in the context of educational innovation products, especially teaching factories.



The next step is to group articles by publication type to see the distribution of the literature being analyzed. Of the thirty-two articles that met the inclusion criteria, most came from reputable international journals that made strong methodological and theoretical contributions. Others were obtained from other international journals, accredited national journals, national seminar proceedings, and reference books that served as conceptual frameworks. The distribution of this type of publication shows that the sources of literature are not only concentrated on one type of publication but are spread across various levels of academic credibility, thus providing a more comprehensive perspective.

After grouping, the next stage is a quality assessment to assess the quality of each article. This assessment uses four main criteria, namely relevance to the research topic, clarity of the methodology used, novelty of the research, and its contribution to theory and practice. Scores are given on a scale of one to five, where five indicates very high quality. From the results of the assessment, articles sourced from reputable international journals received the highest scores because they have clear methodologies, strong data, and significant contributions to the development of digital marketing and purchase intention studies. Articles from accredited national journals also have high relevance, although variations in the quality of the methodology lead some to fall into the medium category. Meanwhile, national proceedings are considered to have an applicative contribution, although the presentation of the methodology is relatively more concise. Theoretical reference books are placed in the category of medium quality because they are not based on empirical research, but they are still important to sustain a conceptual framework.

Overall, the results of the analysis showed that the majority of the articles used were in the high-quality and medium-high-quality categories, with a distribution of 44% of the total literature analyzed. This confirms that the secondary data used in this study has a strong academic foundation. This analysis then becomes the basis for identifying the dominant factors that influence purchase intention in the context of digital marketing, especially in the vocational education environment and the development of teaching factories. These factors include the application of the marketing mix in higher education, the competence of human resources in digital marketing, brand trust and brand awareness, the effectiveness of digital media, and aspects of consumer psychology. These findings further serve as the basis for further discussion on how digital



marketing strategies can be optimized to increase consumer purchase intent for innovative products produced through teaching factories.

3.3.1. RQ1 Results: Influencing Factors

The results of the analysis of RQ1 show that there are five main factors that affect purchase intention in the context of the application of digital marketing in teaching factory products in vocational education. The first factor is the implementation of the marketing mix in higher education, which includes aspects of products, prices, promotions, and distribution that are relevant to market needs and the image of educational institutions. The second factor is the competence of human resources, which includes digital literacy, managerial skills, and skills in managing creative content so that marketing strategies can run effectively. The third factor is brand trust and brand awareness, where trust and brand awareness have been proven to strengthen consumers' emotional attachment to educational innovation products. The fourth factor is the effectiveness of digital media, including the use of social media, marketplaces, and interactive websites that facilitate two-way communication with consumers. The fifth factor is the psychological aspect of the consumer, specifically the perception of value, emotional engagement, and interactive experiences that contribute to shaping purchase intent. All of these factors show that the purchase intention for teaching factory products is not only determined by promotional strategies, but also by synergy between marketing elements, internal competence, and consumer interaction in the digital realm.

3.3.2. RQ2 Results: Significant Factors

The results of the analysis of RQ2 show that of the five main factors that affect purchase intention, there are three factors that contribute most significantly in the context of digital marketing in teaching factory products. The first factor is the effectiveness of digital media, especially social media and marketplaces, which have proven to be the dominant channel in increasing consumer engagement, expanding market reach, and encouraging more intensive interactions with potential buyers. The second factor is brand trust and brand awareness, because the level of trust in educational institutions as innovators and strong brand awareness has been proven to increase consumer confidence to make purchases. The third factor is the implementation of the marketing mix, where the right combination of product strategy, pricing, promotion, and



distribution directly contributes to the increased perception of the value and attractiveness of the product in the market. While the competency factor of human resources and consumer psychology aspects still has an influence, the contribution is relatively more moderate than the three dominant factors. These findings indicate that digital marketing strategies for teaching factory products need to focus on strengthening digital channels, building a trusted brand image, and optimizing marketing mix elements to ensure that consumer purchase intent can be achieved more effectively.

3.3.3. RQ3 Results: Methods Used

The results of the analysis of RQ3 show that the methods used in previous studies related to digital marketing and purchase intention in the context of vocational education and teaching factories are very diverse, but most of them are still dominated by quantitative approaches. The survey method with questionnaires is the most widely used to measure the influence of digital marketing variables, brand trust, brand awareness, and marketing mix on purchase intention. In addition, there are also studies with inferential statistical analysis methods, such as Structural Equation Modeling (SEM) and multiple regression, which are used to map the relationships between variables more comprehensively. On the other hand, some studies also adopt qualitative methods, such as in-depth interviews and case studies, especially in the context of vocational education and teaching factories, in order to explore the experiences and perceptions of consumers and marketing practitioners in more detail. There are also many studies that combine quantitative and qualitative approaches or use mixed methods to obtain more holistic results. This variation of methods shows that the study of digital marketing and purchase intention in the field of vocational education not only emphasizes testing theoretical models, but also provides an in-depth empirical understanding, so that it can provide a strong foundation for the development of marketing strategies for educational innovation products.

3.3.4. RQ4 Results: Research Problems or Issues

The results of the analysis of RQ4 reveal a number of problems and research issues that still arise in the study of digital marketing related to purchase intention in the context of teaching factories and vocational education. The first problem is related to the limitations of digital literacy among education business actors, both lecturers and students involved in teaching factories, so that the implementation of digital marketing strategies is often not optimal. Second, issues related to



consumer trust are still a challenge, especially because teaching factory products are perceived as academic products that do not yet have a strong brand image as commercial products in the wider market. This has an impact on low brand awareness and consumer hesitation to make purchases consistently. Third, uneven technological infrastructure and limited access to digital media, especially in the vocational education area in the regions, cause gaps in the implementation of digital marketing strategies. Fourth, methodological issues are also seen in previous research, where most of the research is still focused on survey-based quantitative approaches, while in-depth exploration through qualitative methods and longitudinal approaches is still rarely carried out. Fifth, there are also practical issues related to the sustainability of digital marketing strategies, where teaching factory products is generally managed on a small scale, so that they often face resource constraints and the sustainability of marketing programs. These problems show that although digital marketing has been proven to have a significant effect on purchase intention, there are still various challenges that need to be overcome, both from an academic, methodological, and practical perspective, so that digital marketing strategies in the vocational education environment can run more effectively and sustainably.

The results of Research Question 4, or RQ4, regarding the research problems or issues found in the research are presented in Table 4.

No	Research Problems/Issues	Research Paper	Information
1	Limitations of digital literacy among teaching factory actors and vocational education	Huda (2021); Putra & Suryani (2021)	Human resources are not optimal in mastering digital marketing strategies
2	Low brand trust and brand awareness of teaching factory products	Chen & Barnes (2007) (Chen & Barnes, 2007); Zollo et al. (2020) (Zollo et al., 2020); Hidayat & Alimudin (2020) (Fitrawan Putro et al., 2022)	Academic products are considered less competitive than commercial products
3	Limited technology infrastructure and digital media access	Sutopo & Slamet (2017) (Sutopo et al., 2017)	The digital divide in vocational education hinders the optimization of marketing strategies
4	Dominance of quantitative methods in research, lack of a qualitative/longitudinal approach	Bala & Verma (2018) (Bala & Verma, 2018); Alalwan et al. (2017) (Alalwan et al., 2017)	Research is more survey-based, and in-depth exploration is still rare
5	The issue of the sustainability of digital marketing strategies on a small scale	Kotler, Kartajaya, & Setiawan (2017) (Galdolage, 2020)	Teaching factories find it difficult to maintain the consistency of marketing strategies due to limited resources

Table 4. *Research Problems or Issues*



3.3.5. RQ5 Results: Research Results

The results of Research Question 5, or RQ5, regarding the results of the research on competitive advantage factors are presented in Table 5.

No	Competitive Advantage Factor	Research Paper	Information
1	Teaching Factory Product Innovation	Sutopo & Slamet (2017) (Sutopo et al., 2017)	The products produced by the teaching factory have a unique value because they are based on research and vocational practice
2	Proper Marketing Mix Implementation	Kotler & Armstrong (2018) (Armstrong Balasubramanian & Kotler Gary Armstrong Sridhar Balasubramanian, 2021); Kotler, Kartajaya, & Setiawan (2017) (Galdolage, 2020)	Product strategy, pricing, promotion, and distribution are tailored to the needs of the higher education market
3	Utilization of Digital Media and Technology	Alalwan et al. (2017) (Alalwan et al., 2017); Chaffey & Ellis-Chadwick (2019) (Chaffey & Ellis-Chadwick, 2019)	Social media, marketplaces, and interactive websites increase consumer reach and engagement
4	Brand Trust and Brand Awareness	Chen & Barnes (2007) (Chen & Barnes, 2007); Zollo et al. (2020) (Zollo et al., 2020); Hidayat & Alimudin (2020) (Fitrawan Putro et al., 2022)	Trust and brand awareness distinguish vocational products from commercial competitors
5	Human Resources Competencies in Digital Literacy	Putra & Suryani (2021) (Andreev et al., 2021)	Digital marketing skills of vocational students/lecturers strengthen the competitiveness of innovative products
6	Consumer Orientation and Interactive Experiences	Zollo et al. (2020) (Zollo et al., 2020); Kotler, Kartajaya, & Setiawan (2017) (Galdolage, 2020)	Positive user experience and emotional value increase purchase intent

Table 5. Research Results

3.3.6. RQ6 Results: Research on Digital Marketing in Teaching Factory

The results of the analysis of RQ6 show that research on digital marketing in teaching factories is still relatively limited, but it has a tendency to continue to grow along with the increasing need for vocational education to connect the academic world with the real market. Existing studies highlight how digital marketing strategies, especially through social media, marketplaces, and interactive websites, can be an effective means to introduce teaching factory products to a wider range of consumers. The application of a digital-based marketing mix can increase the visibility and attractiveness of innovative products from students. Meanwhile, Sutopo and Slamet (2017) associate teaching factories with market-oriented vocational education business models, where digital marketing acts as a bridge to build institutional image and consumer trust (Sutopo et al., 2017) Other literature also emphasizes that the success of digital marketing in teaching factories is highly dependent on the competence of human resources in managing creative



content and digital literacy, so that the aspect of strengthening the capacity of students and lecturers is an important factor. Thus, although research in this field is still developing, the existing results have shown great potential for digital marketing in increasing purchase intention while strengthening the competitiveness of teaching factory products in the educational and commercial markets.

3.4. Summary of Data Analysis Results

The summary of the results of the data analysis shows that research on digital marketing in the context of teaching factories in vocational education produces six main findings that complement each other. First, five main factors affect purchase intention, namely marketing mix, human resource competence, brand trust and brand awareness, the effectiveness of digital media, and consumer psychology aspects. Second, of these factors, three of them have proven to be significant, namely the effectiveness of digital media, brand trust and awareness, and the implementation of the marketing mix. Third, previous research used a variety of methods, although the majority were based on quantitative surveys with regression and SEM analysis, while qualitative and mixed methods approaches were still relatively limited. Fourth, issues that are still emerging include the limitations of digital literacy, low trust in teaching factory products, limited technology infrastructure, and challenges in the sustainability of digital marketing strategies. Fifth, the competitive advantage factors that have been successfully identified include teaching factory product innovation, the use of digital media, strengthening brand trust, and increasing the digital literacy of vocational human resources. Finally, special research on digital marketing in teaching factories is still developing, but it has shown great potential in expanding the market, building a positive image of institutions, and increasing consumer purchase intent for educational innovation products. Overall, these findings confirm that digital marketing can be a strategic instrument to strengthen the competitiveness of teaching factories while connecting vocational education with real market needs.

No	Publication Type	Journals/Proceedings	Number of Articles	Percentage (%)
1	RQ1: Influencing Factors	Marketing Mix	10	Dominating because it is often used as an analytical framework in higher education and teaching factories



2	RQ2: Significant Factors	Effectiveness of Digital Media	12	Social media, marketplaces, and interactive websites are the most researched and proven to significantly increase purchase intent
3	RQ3: Methods Used	Quantitative Survey (Regression & SEM)	15	The most dominant method in measuring the relationship between digital marketing and purchase intention
4	RQ4: Research Problems / Issues	Limitations of Digital Literacy	9	The main issue among teaching factory actors that hinders the effectiveness of digital marketing strategies is
5	RQ5: Competitive Advantage Factor	Teaching Factory Product Innovation	8	The main distinguishing factor of vocational products is that they are based on real research and learning practices
6	RQ6: Digital Marketing Research on Teaching Factory	Social media as the Main Channel	7	Almost all teaching factory research places social media as the main means of promotion and marketing

Table 6. RQ Most Frequency Categories

CONCLUSION

Digital marketing has a very significant role in increasing purchase intention for teaching factory products in vocational education. The results of the study through the Systematic Literature Review approach confirm that five main factors affect consumer purchase intention, namely the implementation of the marketing mix, human resource competence, brand trust and brand awareness, the effectiveness of digital media, and consumer psychology aspects. Of these factors, the effectiveness of digital media, brand strength, and marketing mix proved to be the most dominant in shaping the competitive advantage of teaching factory products. The analysis also revealed that previous research was still dominated by survey-based quantitative methods, while qualitative and mixed methods approaches were still limited, thus opening up wider exploration space in the future. Problems that often arise include limited digital literacy, low brand awareness, limited infrastructure, and challenges in the sustainability of digital marketing strategies on a small scale. However, existing research has shown that digital marketing is able to be a strategic instrument to expand the market, improve the image of institutions, and strengthen the competitiveness of educational innovation products, so its existence is very important in supporting the transformation of the teaching factory as a superior model of market-oriented vocational education.

Suggestions and Strategic Recommendations



The strategy that can be carried out by teaching factory managers is to strengthen the use of digital media as the main channel for marketing innovative products. Social media, marketplaces, and interactive websites have proven to be effective in increasing consumer reach while building more intensive interactions. Therefore, it is necessary to plan creative content that is consistent, interesting, and in accordance with the needs of the target market. In addition, teaching factory managers are advised to develop a branding strategy that emphasizes the unique value of products based on research and vocational practices, so as to be able to increase brand trust and brand awareness in the eyes of consumers.

From the academic side, vocational education institutions need to integrate digital marketing literacy into the curriculum and training programs for students and lecturers. This is important because the competence of human resources is one of the key factors that affect the effectiveness of digital marketing strategies. By equipping students with digital marketing skills, they are not only able to manage the promotion of teaching factory products more professionally, but are also ready to face the needs of the industry that is increasingly demanding of digital marketing skills. In addition, vocational universities can also make teaching factories as business laboratories that support research and development of data-based marketing strategies.

At the policy and collaboration level, there is a need for support from the government and partner industries in the form of strengthening digital infrastructure, providing incentives, and technical assistance so that the digital marketing strategy in the teaching factory can run sustainably. This support will not only help overcome limited resources and infrastructure but can also accelerate the transformation of teaching factories into competitive innovation centers. With the synergy between practical strategies at the management level, capacity building at the academic level, and policy support from outside, digital marketing has the potential to become a strategic instrument to expand the market, improve the image of vocational institutions, and strengthen the competitive advantage of teaching factory products at the national and global levels.

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