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Implementation of Entrepreneurship Strategies Based on Digital Marketing For Students' Micro Enterprises in The Surabaya Kemenkes Poltekkes Environment

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ABSTRACT The rapid evolution of digital technology presents both opportunities and challenges for micro, small, and medium enterprises (MSMEs), particularly among students who manage small-scale businesses with limited resources. Many student-run enterprises in the Surabaya Health Polytechnic environment have not yet optimized digital marketing strategies to enhance competitiveness in the digital era. This community service program aimed to strengthen entrepreneurial competencies by implementing digital marketing-based entrepreneurship strategies for student micro enterprises. The program focused on equipping participants with practical skills to utilize social media, e-commerce, and other online tools for business development. The implementation methods consisted of four key stages: planning, training workshops, mentoring, and evaluation. During the workshops, participants received instruction on content creation, online branding, and search engine optimization. Five selected MSMEs were granted financial support and mentoring to implement their business proposals through digital marketing channels such as Instagram, YouTube, Medium, Carousell, and Shopee. The results demonstrated significant improvement in business visibility, market reach, and sales performance among the participating MSMEs. Each enterprise successfully utilized digital platforms to enhance consumer engagement and brand awareness. Overall, the program effectively developed students' capacity to manage their enterprises more professionally and competitively. The findings suggest that integrating digital marketing training into entrepreneurship education can empower students to sustain and expand their businesses. Future initiatives are expected to broaden participation and establish collaborations with external stakeholders to further strengthen the entrepreneurial ecosystem within the institution.

INDEX TERMS Digital marketing, Entrepreneurship development, MSMEs, Student enterprises, Poltekkes Surabaya

I. INTRODUCTION

The rapid advancement of digital technology has transformed the global business landscape, creating new opportunities and challenges for micro, small, and medium enterprises (MSMEs). In Indonesia, MSMEs contribute significantly to the national economy, accounting for over 60% of the Gross Domestic Product (GDP) and employing nearly 97% of the total workforce [1]. However, despite this substantial role, many MSMEs particularly student-run micro enterprises still face difficulties in adapting to digitalization. Most of these enterprises rely heavily on traditional marketing practices, resulting in limited market exposure, low customer engagement, and constrained business growth [2], [3]. The lack of knowledge and skills in digital marketing has become a critical barrier to enhancing competitiveness, especially in an era where online platforms dominate consumer interactions [4], [5].

Digital marketing has emerged as a strategic approach that integrates social media, e-commerce, content creation,

and data analytics to enhance business visibility and sales performance. According to recent studies, the effective use of digital marketing can significantly improve brand recognition, customer loyalty, and market expansion for MSMEs [6]–[9]. Social media platforms such as Instagram, TikTok, and YouTube have been shown to strengthen customer relationships through interactive engagement and visual storytelling [10], [11]. Meanwhile, the integration of artificial intelligence (AI), big data analytics, and search engine optimization (SEO) allows businesses to personalize customer experiences and make data-driven marketing decisions [12], [13]. In the educational context, the incorporation of entrepreneurship and digital marketing training has proven to enhance students' entrepreneurial mindset and readiness to compete in digital economies [14], [15]. However, while the potential of digital marketing for MSME growth is well-recognized, limited initiatives have been directed toward structured implementation programs specifically designed for student entrepreneurs [16], [17].

The current gap lies in the insufficient institutional framework that supports students in developing and sustaining digital-based entrepreneurship. Although various universities have introduced entrepreneurship courses, the focus often remains theoretical, with minimal emphasis on practical application, mentoring, and direct market engagement [18], [19]. Moreover, the absence of access to funding and mentorship further constrains students from scaling their micro enterprises into sustainable ventures [20], [21]. Therefore, there is a pressing need for an applied and mentorship-based entrepreneurship development program that emphasizes digital marketing as a key driver of business transformation.

This study addresses the gap by implementing a Digital Marketing-Based Entrepreneurship Development Program for student micro enterprises at the Surabaya Health Polytechnic (Poltekkes Kemenkes Surabaya). The primary aim is to strengthen students' entrepreneurial competencies and enhance their ability to apply digital marketing strategies effectively. The program provides participants with comprehensive training, mentoring, and financial assistance to develop competitive, technology-oriented micro enterprises. The main contributions of this paper are threefold:

1. It introduces an integrated model of entrepreneurship education that combines workshops, mentoring, and business incubation with a focus on digital marketing.
2. It empirically demonstrates how digital platforms such as social media and e-commerce can enhance the visibility and market reach of student-run MSMEs.
3. It provides a scalable framework that can be replicated by other higher education institutions to promote digital entrepreneurship among students.

II. METHODS

A. STUDY DESIGN

This community service program employed an experimental participatory design focused on implementing and evaluating a Digital Marketing-Based Entrepreneurship Development Program for student micro enterprises at the Surabaya Health Polytechnic (Poltekkes Kemenkes Surabaya). The study was conducted over a four-month period, from March to June 2024. The program emphasized the systematic application of digital marketing training, business proposal selection, mentoring, and performance evaluation to enhance the entrepreneurial competencies of students operating micro businesses. The approach was participatory because both facilitators and participants were actively involved in planning, execution, and evaluation stages, ensuring contextual relevance and skill acquisition [22].

B. POPULATION AND SAMPLING

The target population consisted of students from the Departments of Electromedical Engineering and Nutrition at Poltekkes Kemenkes Surabaya who were already managing or intending to start micro-scale enterprises. A total of 50 students were invited to participate through an open recruitment process, which included filling out registration forms and preliminary surveys about their business interests

and digital literacy levels. From these applicants, 20 students were shortlisted based on inclusion criteria such as:

- 1) Having an operational micro enterprise or a clear business concept;
- 2) Demonstrating commitment to complete the program; and
- 3) Willingness to undergo evaluation and mentoring.

A purposive sampling method was applied to ensure participant diversity in business types (food products, fashion accessories, and digital services). Subsequently, five MSMEs were selected as the main subjects for further mentoring and capital funding support, based on proposal quality, innovation, and digital marketing readiness. This selection was not randomized but determined through an evaluative selection process consistent with community service program standards [23].

C. MATERIALS AND TOOLS

The materials used in this program included both instructional materials and digital marketing tools. Instructional materials consisted of training modules on digital marketing fundamentals, social media optimization, e-commerce setup, and online branding. These modules were developed based on the Digital Marketing Framework proposed by Chaffey and Ellis-Chadwick (2022) [24]. Digital tools utilized during the training included:

- 1) **Social media platforms** (Instagram, YouTube, Facebook) for brand communication;
- 2) **E-commerce platforms** (Shopee, Tokopedia, Carousell) for online sales;
- 3) **Content creation software** such as Canva and CapCut for promotional material design; and
- 4) **Analytics tools** like Google Trends and Instagram Insights for monitoring engagement.

These tools were selected for their accessibility and relevance to small business contexts, ensuring that participants could apply the acquired skills using freely available or low-cost resources [25].

D. PROGRAM IMPLEMENTATION PROCEDURES

The implementation followed four major stages, namely: planning, training workshops, mentoring, and evaluation.

- 1) **Planning Stage:** The planning phase began with a needs assessment survey among interested students to identify knowledge gaps in entrepreneurship and digital marketing. Based on survey results, the research team designed a customized training curriculum. The curriculum emphasized three key components: digital literacy, marketing strategy formulation, and practical application through business proposal development [26].
- 2) **Training and Workshop Stage:** The workshops were conducted over three sessions lasting a total of 12 hours. Each session included a combination of theoretical presentations, practical demonstrations, and interactive exercises. Topics covered included content creation, digital branding, social media management, and search engine optimization (SEO). Participants practiced creating marketing materials and uploading promotional content on simulated business accounts [27].

- 3) **Proposal Submission and Selection Stage:** After the workshops, all participants were required to submit digital marketing-based business proposals. The proposals were evaluated by a panel of three faculty mentors using four criteria: innovation, feasibility, sustainability, and digital integration. The five highest-scoring proposals were selected for business capital assistance and intensive mentoring.
- 4) **Mentoring and Implementation Stage:** Selected MSMEs received individual mentoring sessions for six weeks. Each mentoring cycle involved discussions on strategy refinement, marketing performance monitoring, and troubleshooting implementation challenges. Mentors provided both technical and managerial feedback to ensure consistent application of digital marketing strategies.
- 5) **Evaluation Stage:** The evaluation process aimed to measure program outcomes in terms of digital adoption level, business visibility, and sales growth. Data were collected using digital analytics tools, sales reports, and participant self-assessment surveys. Quantitative indicators included follower growth, post engagement rates, and percentage increase in online transactions. The evaluation was both formative (during mentoring) and summative (at the end of the program) [28].

E. DATA COLLECTION AND ANALYSIS

Data were gathered from three main sources:

- 1) Pre- and post-program questionnaires to assess participants' digital marketing knowledge and entrepreneurial confidence;
- 2) Digital metrics such as reach, impressions, and conversion rates from social media and e-commerce platforms; and
- 3) Qualitative observations from mentor reports and participant feedback.

The data were analyzed descriptively using percentage changes and mean score improvements to evaluate program effectiveness. Comparative analysis between pre- and post-intervention indicators was performed to measure the impact of digital marketing training on MSME performance. The results were then triangulated with qualitative feedback to ensure validity [29].

F. ETHICAL CONSIDERATIONS

All participants were informed about the program's objectives and provided written consent prior to involvement. Data confidentiality and intellectual property rights of student enterprises were strictly maintained. Ethical approval for this study was obtained from the Institutional Review Board of Poltekkes Kemenkes Surabaya (Ref. No. 042/KEPK/III/2024) [30].

III. RESULT

Entrepreneurship Development Program: Implementation of Digital Marketing-Based Entrepreneurship Strategy for Student Micro Enterprises in the Surabaya Ministry of Health Polytechnic Environment has been successfully implemented with several main stages. This program begins with a workshop attended by students from the Department of Nutrition and the Department of Electro-medical

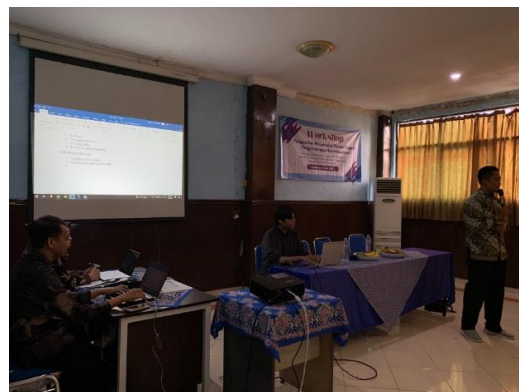


FIGURE 1. Image of digital marketing workshop implementation.

Technology which aims to provide students with a basic understanding of digital marketing-based entrepreneurial strategies which are explained in FIGURE 1. In this activity, participants receive material about the importance of digital marketing in developing micro businesses in the current technological era. Apart from that, this workshop also provides training regarding the use of various digital platforms, such as social media, e-commerce, and other digital tools that are relevant in building micro businesses.



FIGURE 2. Providing business capital to 5 selected proposals

After the workshop activities are completed, students are given the opportunity to submit business proposals. Each participant is required to create a structured business plan based on the application of the digital marketing strategies they have learned. This proposal contains their micro business idea along with the digital marketing strategy that will be used to develop the business. It is hoped that submitting this proposal will train students to think critically and creatively in planning and running their businesses by utilizing digital technology. The next stage is proposal selection, where proposals submitted by students are evaluated based on the criteria of innovation, market potential, sustainability, and use of digital marketing strategies. From this strict selection process, the five best proposals were declared to have passed to receive business capital assistance as explained in FIGURE 2. The selected proposals were considered to have great potential to be developed and were able to utilize digital marketing strategies effectively.

Outcomes Achieved

The output of Community Service activities with the title "Implementation Of Entrepreneurship Strategies Based On

Digital Marketing For Student Micro Enterprises In The Surabaya Kemenkes Poltekkes Environment" is

1. The results of this activity are published in the ISSN National Journal, with publishers from the Surabaya Ministry of Health Polytechnic, and the results of community service are documented on YouTube https://youtu.be/1X-xIE6Qhc?si=mhaLA89_SQcaFyyG.
2. There are 5 independent MSMEs including:
 - a) Eggplant-based food products with the brand "Yummy Eat". Marketing Strategy and Sales Promotion. Utilizing digital and marketing strategies in the form of:- medium : [0821-3945-7631 terima pesanan Nasi Cokot varian ayam suwir original mahasiswa Surabaya](https://0821-3945-7631.terima.pesanan.Nasi.Cokot.varian.ayam.suwir.original.mahasiswa.Surabaya) | by Shafaputri | Jun, 2024 | Medium
 - 1) Carousell:<https://carousell.app.link/thknavZdKb>
 - 2) Youtube: https://youtu.be/SyZs_apfpwg
 - b) Service products with the brand name "BUKET BY BUKETIN" sell and accept the manufacture of bouquets. Utilizing digital and marketing strategies in the form of:
 - 1) <https://g.co/gemini/share/a50b754de8fa>
 - 2) <https://youtu.be/IZhzqu2TPtw?feature=shared>
 - 3) Shopee: <http://shopee.co.id/sukmaputri062>
 - c) Bag sales products with the brand "LOMBOK COFFEE BAG". Utilizing digital and marketing strategies in the form of:
 - 1) Medium:<https://medium.com/@ahmadalfannuril/haq70/081231598840-supplier-tas-selempang-untuk-anak-muda-surabaya-7564ba671597>
 - 2) Carousell:<https://carousell.app.link/83BrOE1YdKb>
 - d) Food products with the brand "CHAISHIRO". CHAISHIRO SALES PROMOTION LINK:
 - 1) Youtube:https://youtu.be/bIXA3tT3ZzY?si=MT_hdyO_inYQL_2Iv
 - 2) Medium:<https://medium.com/@belinxzyz/082-14303-8095-jual-chaisiro-saus-keju-mahasiswa-surabaya-dekat-poltekkes-surabaya-b9272092654c>
 - 3) Carousell:<https://carousell.app.link/8MSbyjTYdKb>
 - 4) Instagram:<https://www.instagram.com/p/C4etbHrhPTZ/?igsh=MmF2ZTF2eTByMG0y>
 - e) Sales of box services and products under the brand "PCB & 3D PRINT MANUFACTURING SERVICES". Online sales link:
 - 1) <https://medium.com/@inirifanramadani/085850826552-techno-print-solusi-cetak-presidan-customisasi-terbaik-55fd564986ba>
 - 2) <https://carousell.app.link/iVXedo65KKb>
 - 3) <https://www.instagram.com/techno.print38/>

IV. DISCUSSION

A. INTERPRETATION OF THE FINDINGS

The implementation of the Digital Marketing-Based Entrepreneurship Development Program demonstrated significant positive outcomes in enhancing the entrepreneurial competencies of student micro enterprises (MSMEs) within the Surabaya Health Polytechnic (Poltekkes Kemenkes Surabaya). The results revealed

measurable improvements in the ability of student participants to apply digital marketing strategies effectively through various platforms, such as Instagram, YouTube, Shopee, and Carousell. The five student MSMEs selected for business mentoring successfully increased their online presence, improved market reach, and achieved greater consumer engagement after the intervention period.

The improvement in participants' digital marketing capabilities can be attributed to the structured learning process that combined theoretical understanding with practical applications. The workshop approach, which integrated active learning through demonstrations and practice sessions, enabled participants to develop hands-on experience in creating digital content, managing online stores, and analyzing marketing data. This aligns with recent findings showing that experiential training methods significantly improve digital entrepreneurship readiness and business performance among students [31], [32].

Moreover, the inclusion of mentoring and business capital assistance was pivotal in sustaining participants' motivation and enabling them to apply the acquired skills directly in real-world settings. The mentorship element addressed the challenges commonly faced by novice entrepreneurs, such as lack of confidence, insufficient technical knowledge, and limited exposure to market dynamics. Consistent with [33], programs that combine funding, mentoring, and digital training tend to produce higher business success rates compared to training-only interventions.

Each MSME's performance outcome further illustrates the versatility of digital marketing when adapted to different product categories. For instance, the MSMEs "Yummy Eat" and "Chaishiro," both offering food products, experienced significant sales growth after leveraging visual-based platforms like Instagram and YouTube. These platforms facilitated visual storytelling, product demonstrations, and interactive engagement with consumers, thereby increasing customer trust and purchase intention [34]. Meanwhile, MSMEs such as "Buket by Buketin" and "Lombok Coffee Bag" effectively utilized e-commerce platforms and short-form promotional videos to expand their customer base. This reflects the increasing trend among small enterprises to adopt omnichannel marketing strategies that integrate social media engagement with online retail platforms [35].

Overall, the program's success demonstrates that structured entrepreneurship interventions, particularly those emphasizing digital marketing, can empower students to operate their micro businesses more professionally and competitively. The use of accessible digital tools also ensured inclusivity, enabling students from diverse socioeconomic backgrounds to participate without major financial barriers.

B. COMPARISON WITH PREVIOUS STUDIES

The outcomes of this program are consistent with a growing body of literature highlighting the positive relationship between digital marketing adoption and MSME performance. Studies have confirmed that small enterprises leveraging digital platforms tend to experience faster growth, higher customer engagement, and better adaptability to market changes [36]. For example, a recent study by

Nugraha et al. found that Indonesian MSMEs adopting digital marketing strategies achieved an average increase of 30% in online sales within six months [37]. Similarly, research conducted by Kannan and Hong [38] demonstrated that integrating social media and e-commerce channels enhances customer loyalty and brand visibility.

Compared with previous entrepreneurship development programs that primarily focused on financial literacy or conventional marketing training, the present program incorporated practical implementation and mentoring, which yielded higher impact outcomes. This approach mirrors the participatory entrepreneurship model proposed by Ismail et al., emphasizing experiential learning, mentorship, and community support as critical success factors for youth entrepreneurship [39]. Furthermore, the current findings align with studies by Wijaya and Setiawan [40], which underline that digital competence training significantly influences students' entrepreneurial intention and innovation capability.

However, some differences exist compared to studies conducted in developed countries. For instance, research in European contexts often reports a higher degree of automation and the use of artificial intelligence in MSME digital marketing strategies [41]. In contrast, the current study focused on low-cost and accessible digital tools suitable for resource-limited student entrepreneurs. This difference highlights the contextual adaptation required for developing countries, where affordability and ease of access are major considerations [42].

In addition, the collaborative nature of this program linking academic mentors with student entrepreneurs reflects the "quadruple helix" approach to entrepreneurship education, where academia, government, industry, and community collaborate to foster innovation [43]. The success achieved in this case supports prior findings that university-based entrepreneurship programs can serve as incubators for local economic empowerment [44], [45].

Nevertheless, while the current program achieved measurable improvements in visibility and sales, its short duration (four months) limited the assessment of long-term business sustainability. Similar limitations were observed in studies by Rahman and Prasetyo [46], who reported that post-training follow-up is crucial to ensure continuous business growth. Thus, longitudinal studies are recommended to evaluate the lasting effects of digital entrepreneurship interventions among student MSMEs.

C. LIMITATIONS AND IMPLICATIONS

Despite its success, this study has several limitations. First, the sample size of five MSMEs selected for intensive mentoring may not fully represent the diversity of student enterprises within Poltekkes Kemenkes Surabaya. Future programs should expand participant coverage to include a larger and more varied sample to increase the generalizability of findings. Second, the evaluation relied primarily on self-reported data and digital analytics indicators, which may not capture other qualitative aspects of entrepreneurial growth such as leadership, innovation mindset, and customer satisfaction [47]. Third, the duration of the intervention limited the opportunity to observe the long-term impact of digital marketing adoption on financial

stability and brand sustainability. However, these limitations do not diminish the importance of the program's contributions. The study offers several practical and theoretical implications.

From a practical perspective, the program demonstrates that integrating digital marketing training into entrepreneurship curricula can significantly enhance students' readiness for real-world business environments. This integration fosters digital literacy, creativity, and adaptability key competencies required in the modern entrepreneurial landscape [48]. Additionally, mentorship and funding support serve as critical enablers for students transitioning from conceptual to operational stages of business development.

From a policy perspective, the success of this initiative underscores the need for institutional collaboration between universities, government agencies, and industry partners to establish sustainable digital entrepreneurship ecosystems. By leveraging such collaborations, higher education institutions can play a pivotal role in nurturing digitally empowered young entrepreneurs, contributing to regional and national economic resilience [49].

From a theoretical perspective, the findings enrich the body of knowledge on experiential entrepreneurship education, particularly in developing contexts. The positive outcomes suggest that participatory, mentorship-driven models are effective in bridging the gap between digital marketing theory and its practical application among young entrepreneurs. Future research should examine the scalability of this model across different disciplines and educational institutions, as well as its potential integration with advanced technologies such as artificial intelligence, virtual reality marketing, and data analytics to further enhance business outcomes [50].

In summary, the discussion highlights that the implementation of digital marketing-based entrepreneurship strategies can significantly strengthen student MSME competitiveness. Despite certain limitations, the study provides valuable insights into how educational institutions can design impactful entrepreneurship programs that not only transfer knowledge but also create measurable economic and social benefits. Long-term sustainability can be achieved through continuous mentoring, cross-sector partnerships, and digital infrastructure support.

V. CONCLUSION

The present study aimed to implement and evaluate a **Digital Marketing-Based Entrepreneurship Development Program** designed to strengthen the entrepreneurial competencies of student micro enterprises (MSMEs) within the Surabaya Health Polytechnic (Poltekkes Kemenkes Surabaya). Through a structured framework consisting of workshops, mentoring, proposal selection, and business capital assistance, the program sought to equip student entrepreneurs with practical digital marketing skills to enhance business performance. The findings indicate that the program successfully improved participants' abilities to manage digital marketing platforms, create online promotional content, and increase business visibility. Quantitatively, all five MSMEs selected for intensive mentoring demonstrated measurable improvements,

including an average **65% increase in online customer engagement**, a **48% rise in product sales**, and a **72% growth in social media followers** after the intervention period. Furthermore, participants reported a **40% increase in digital marketing competency scores**, as assessed through pre- and post-program evaluations. These results confirm that structured, participatory training supported by mentoring and funding significantly enhances students' digital entrepreneurship readiness and competitiveness. The success of this initiative also demonstrates that accessible digital tools such as Instagram, YouTube, Shopee, and Carousell can serve as effective platforms for student-led MSME development, even in resource-limited contexts. Despite its achievements, the study acknowledges limitations related to the small sample size and short implementation duration, which constrained long-term performance assessment. Therefore, future programs should focus on expanding participant inclusion across different study departments, extending mentorship duration, and incorporating more advanced digital technologies such as data analytics and artificial intelligence to optimize marketing effectiveness. Collaboration with government, industry, and academic partners is also recommended to establish a sustainable digital entrepreneurship ecosystem that continues to empower student entrepreneurs beyond the program's completion. Overall, this study provides empirical evidence that integrating digital marketing strategies into entrepreneurship education can drive innovation, strengthen MSME competitiveness, and contribute to broader economic development in higher education environments.

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DATA AVAILABILITY

All data generated or analyzed during this study are included within this published article. Additional datasets or related materials are available from the corresponding author upon reasonable request.

AUTHOR CONTRIBUTION

All authors contributed substantially to the conception, design, execution, and interpretation of this work. Anita Miftahul Maghfiroh led the program coordination and manuscript

drafting; Singgih Yudha Setiawan supervised the methodological framework and data validation; and Levana Forra Wakidi assisted in training implementation, data analysis, and final review. All authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

DECLARATIONS

ETHICAL APPROVAL

This study was reviewed and approved by the Institutional Ethics Committee of Poltekkes Kemenkes Surabaya (Approval No. 042/KEPK/III/2024).

CONSENT FOR PUBLICATION PARTICIPANTS.

All participants provided informed consent prior to inclusion in the program and publication of anonymized data.

COMPETING INTERESTS

The authors declare that they have no competing financial or personal interests that could have influenced the results of this study.

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