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Workforce needs in the fashion industry: Relevance to the vocational fashion design curriculum

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ABSTRACT

The rapid transformation of the fashion industry due to digitalization and globalization has significantly reshaped the competencies required of its workforce. This study aims to reveal the essential skills demanded by fashion industry stakeholders, assess the relevance of the fashion design vocational curriculum to these industry needs, and examine the correlation between educational content and industry expectations. Using a quantitative approach with survey and document analysis, data were collected from 96 respondents, comprising fashion industry practitioners, vocational teachers, and alumni. The findings indicate that the industry prioritizes a hybrid competency set comprising advanced technical skills, digital fluency (e.g., computer-aided design and 3D fashion design software), soft skills, and entrepreneurial acumen. However, the current vocational curriculum remains moderately relevant (mean = 3.88), with significant gaps in the integration of digital and entrepreneurship. Pearson correlation analysis reveals a very strong and statistically significant relationship ($r = 0.952$, $p < 0.01$) between curriculum content and industry expectations. These results underscore the urgency of adopting a demand-driven, digitally oriented, and industry-partnered curriculum reform. The study offers valuable insights for policymakers, educators, and curriculum developers seeking to enhance graduate employability and align vocational education with the evolving dynamics of the fashion sector.

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INTRODUCTION

The fashion industry in Indonesia has become a leading sector within the national creative economy, contributing significantly to economic performance and labor absorption (Badan Ekonomi Kreatif, 2018). According to data from Badan Ekonomi Kreatif, the fashion sector alone accounts for approximately 18.15% of Indonesia's creative economy's total value (Badan Ekonomi Kreatif, 2018). This underlines its role not only in economic output but also in providing widespread employment opportunities. However, in line with rapid changes driven by digital transformation and the Fourth Industrial Revolution, the fashion industry is undergoing a paradigm shift. It no longer merely demands traditional competencies such as sewing, pattern drafting, and basic tailoring, but increasingly requires skills in digital literacy, entrepreneurial capability, and the flexibility to navigate global markets (Bröring et al., 2020; Xu et al., 2023). More recent data from the Indonesian Ministry of Industry indicate that the fashion subsector remains a major contributor to creative economy exports, with a growth rate of 9.51% and employment absorption exceeding 4 million workers nationwide (Badan Ekonomi Kreatif, 2018). At the global level, the state of fashion report highlights Southeast Asia, including Indonesia, as one of the fastest-growing fashion markets, driven by digital commerce and sustainability trends (McKinsey & Company, 2024).

In response to these industrial shifts, the demand for a workforce with holistic and adaptive competencies is escalating. A study by McKinsey & Company (2024) highlights that more than 60% of fashion-related companies in Southeast Asia report a skills mismatch between the graduates produced by vocational institutions and the competencies actually required in the field. Similarly, the World Bank Group (2020) found that only 27% of vocational education graduates in Indonesia work in areas directly aligned with their field of study. This gap illustrates the persistent misalignment between educational outputs and industry expectations, signaling the need for systematic reform in vocational fashion education. Despite curriculum reforms such as the Merdeka Curriculum and the Teaching Factory (TEFA) model, the extent to which these initiatives have successfully bridged this gap remains underexplored empirically. Therefore, the core research gap addressed in this study lies in the lack of quantitative evidence demonstrating the relationship between the competencies required by the fashion industry and the relevance of the existing vocational curriculum in the fashion design program. While many previous studies Rakhmawati and Mustadi (2022) and Wahyuni (2022) have examined curriculum content or graduate employability descriptively, few have established statistical correlations to guide data-driven curriculum reform.

From a theoretical perspective, this study is grounded in two key frameworks: the demand-driven TVET model and the competency-based curriculum approach (Mulder & Winterton, 2017; World Bank Group, 2020). The demand-driven TVET model emphasizes aligning training supply with labor market demand, whereas competency-based curriculum theory emphasizes the importance of clearly defined, measurable skills integrated into instructional design (Mulder & Winterton, 2017). Together, these frameworks provide a foundation for analyzing the extent to which the vocational fashion curriculum aligns with dynamic industry needs (Semenkina et al., 2024). Despite a growing body of research on vocational fashion education in Indonesia, most existing studies remain descriptive, focusing on curriculum content or graduate readiness in isolation (Alwi et al., 2021). However, few have applied robust quantitative correlational methods to empirically test the relationship between industry competency demands and curriculum relevance (Osmani et al., 2019). This study explicitly addresses that gap by employing a correlational design to establish statistical evidence of alignment (or misalignment) between vocational curricula and industry expectations.

Vocational education, particularly in the fashion design and garment construction program at vocational high school, is formally designed to produce graduates who are technically skilled, industry-ready, and globally competitive (UNESCO, 2022). Nevertheless, research has shown that the curricula currently used in these institutions often lack responsiveness to contemporary industry demands (Bünning et al., 2022). It tends to remain conventional in approach, with limited integration of digital tools, innovation, and market-based competencies (Bamsey et al., 2023). Essential skills such as Computer-Aided Design (CAD), proficiency with fashion software (e.g., Adobe Illustrator and CLO3D), and digital marketing remain insufficiently incorporated into instructional modules (Xu et al., 2023).

To address this gap, the Ministry of Education, Culture, Research, and Technology (Kemdikbudristek) introduced the Merdeka Curriculum and promoted the TEFA model (Kemendikbudristek, 2024). TEFA emphasizes learning by doing in real or simulated production environments that reflect actual industrial conditions (Sudira, 2016). The model aims to foster practical skills, work ethic, and creativity through project-based learning aligned with market demands (Imran et al., 2024; Sudira, 2016). Despite its conceptual strength, TEFA implementation has encountered practical limitations, including insufficient equipment, limited teacher capacity, and the absence of competency standards developed collaboratively with the fashion industry (OECD, 2020). Given these challenges, this study aims to empirically examine the degree of alignment between industry-required competencies and the vocational fashion curriculum, providing evidence-based insights for curriculum developers and policymakers. Specifically, the study seeks to answer the problem formulation: “To what extent does the fashion design vocational curriculum align with the competencies required by the fashion industry?” (Bünning et al., 2022).

The pressing need to analyze the competency requirements of the fashion industry and align them with the curricula of vocational fashion programs is evident, given the rapidly changing nature of workforce skill demands (Bünning et al., 2022). Existing research has not yet provided a robust quantitative foundation for assessing the extent to which curricula are relevant to industry needs,

particularly from the perspective of fashion employers (Jackson, 2016). This study responds to that urgency. It proposes a data-driven approach to identify and assess workforce competencies and to analyze the extent to which vocational curricula meet current and future labor demands (OECD, 2020).

The main objectives of this research are to (1) identify the essential competencies required by fashion industry stakeholders, (2) assess the relevance of the fashion design vocational curriculum to those needs, and (3) analyze the correlation between industry expectations and educational content. Accordingly, the following hypothesis is proposed: "There is a significant and positive correlation between industry-required competencies and the relevance of the vocational fashion design curriculum." The expected contributions of this research are threefold. First, at the policy level, the study provides empirical data to inform the revitalization of vocational curricula aligned with labor market needs. Second, for educators and curriculum developers, it offers practical guidance for integrating digital, soft, and entrepreneurial competencies into learning modules. Third, for industry stakeholders, the findings promote more strategic collaboration with vocational institutions through co-designed curricula and joint training programs. The results are expected to provide valuable insights for curriculum developers, policymakers, and educators in designing more adaptive, industry-relevant learning programs.

This research is urgent and necessary not only to improve graduate employability and bridge the skills gap but also to support Indonesia's broader goals of industrial competitiveness and human capital development. By highlighting the research gap, articulating the problem statement, and proposing an evidence-based approach, this study contributes directly to ongoing reforms in vocational education. In doing so, it sets the groundwork for sustainable school-industry collaboration and capacity building within vocational fashion programs across Indonesia.

METHOD

This study employed a quantitative descriptive–correlational approach to examine the relationship between workforce competency needs in the fashion industry and the relevance of the vocational fashion design curriculum. The research design was intended to provide a measurable, generalizable understanding of the alignment between industry expectations and educational content, while also identifying potential gaps that require curriculum reform. The research was conducted in Malang City, East Java, Indonesia, from March to May 2025. Malang was selected as the research site due to its growing number of vocational schools offering fashion design programs and the presence of a dynamic local fashion industry comprising garment producers, boutiques, and small- to medium-sized enterprises. This setting provided a relevant context to explore the relationship between vocational training and industry demand.

The population of this study consisted of stakeholders connected to the vocational fashion sector, namely fashion industry practitioners, vocational school teachers, and alumni of the fashion design program. Using purposive sampling, a total of 96 respondents were selected: 50 industry practitioners, 26 vocational teachers, and 20 alumni. The inclusion criteria required participants to have relevant professional experience, either in managing or supervising staff in the fashion sector, in teaching fashion-related courses, or in working within the industry after graduation.

Data were collected using multiple techniques to enhance validity. The primary instrument was a structured questionnaire divided into two parts: (1) a competency needs assessment containing 25 items covering technical, digital, soft, and entrepreneurial skills, and (2) a curriculum relevance assessment consisting of 20 items measuring how well the vocational fashion design curriculum aligned with industry requirements. Both sets of items used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In addition to the survey, semi-structured interviews were conducted with five selected respondents to gain deeper qualitative insights into the alignment between educational outcomes and industrial expectations. Furthermore, document analysis of the official vocational high school curriculum, TEFA reports, and national competency standards (SKKNI) was undertaken to triangulate the findings.

For data analysis, descriptive statistics, including means and standard deviations, were used to identify trends in industry competency needs and curriculum relevance. To determine the relationship

between the two variables, Pearson's product-moment correlation was applied. A gap analysis was also conducted to identify discrepancies between industry expectations and curriculum content. In addition, qualitative responses from interviews and document reviews were analyzed narratively to contextualize and enrich the quantitative findings. The research adhered to ethical standards, ensuring confidentiality and voluntary participation for all respondents. Reliability testing yielded a Cronbach's alpha of 0.91, indicating high internal consistency of the questionnaire.

To enhance the transparency and clarity of the methodological process, Figure 1 illustrates the study's overall research design and workflow. The schematic diagram summarizes the sequential stages of the research, including (1) problem identification and literature review, (2) instrument development and validation, (3) data collection from three respondent groups (industry practitioners, teachers, and alumni), (4) data analysis using descriptive and correlational statistics, and (5) interpretation and triangulation of results.

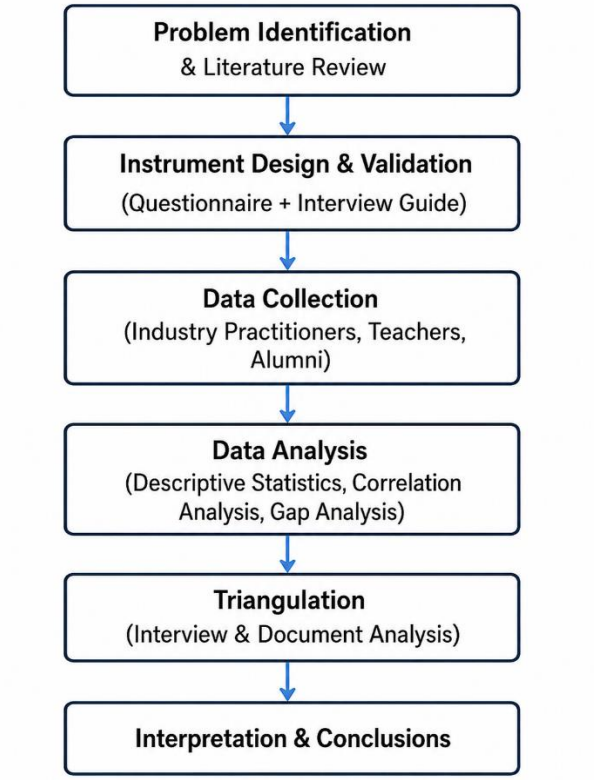

Figure 1. Steps of the Research Method

The inclusion of this schematic diagram helps visualize the logical flow of the research and clarifies the interconnection between quantitative and qualitative components within the correlational framework. It also demonstrates that the research process was conducted systematically, ensuring methodological rigor and transparency.

RESULTS AND DISCUSSION

Results

The results of this study are presented in accordance with the research objectives, followed by a discussion that interprets the findings in relation to relevant theories and previous studies. This section not only reports the statistical outcomes but also offers critical reflections on their implications for vocational education, particularly regarding the relevance of the curriculum to industry needs. This study shows that while the fashion design vocational curriculum provides a solid technical foundation, it falls short in digital and entrepreneurial readiness. The strong correlation between industry demands and curriculum content highlights the urgent need for reform. By filling

the research gap with correlational evidence, this study contributes to the discourse on demand-driven TVET reform in Indonesia. The implications are clear: curriculum updates must prioritize digital integration, entrepreneurial education, and stronger collaboration with industry to prepare graduates for future challenges.

The findings of this study are presented according to the order of the research objectives. The first objective was to identify the essential competencies required by the fashion industry. Analysis of the questionnaire responses from 50 industry professionals revealed that technical skills, particularly those related to sewing, garment construction, and pattern making, received the highest mean score (mean = 4.32). This suggests that while the fashion industry is evolving, foundational skills remain crucial for job performance. Respondents emphasized the need for workers who can operate industrial sewing machines, interpret production-ready patterns, and deliver high-quality garment finishing. In addition to technical skills, digital competencies were rated highly (mean = 4.18), indicating that the ability to use fashion technologies, such as CAD (e.g., CorelDRAW, AutoCAD, and CLO3D), is increasingly important.

Respondents noted that graduates skilled in digital prototyping, virtual fashion sampling, and digital print design have a competitive advantage in contemporary fashion companies. This aligns with global trends in which digital transformation is reshaping design, production, and marketing in fashion (Bröring et al., 2020). Soft skills also emerged as a key competency area (mean = 4.26). The industry values attributes such as time management, communication, teamwork, flexibility, and creativity. These interpersonal and cognitive skills are necessary for thriving in a collaborative, fast-paced production environment.

Entrepreneurial skills scored the lowest among the four domains but still reached a relatively high average (mean = 4.01). Employers expect graduates to possess adaptability, communication, teamwork, and business acumen—skills that are often underdeveloped in traditional curricula (McKinsey & Company, 2024). These results confirm earlier descriptive studies, but this study goes further by quantifying the extent to which such skills are prioritized. Industry practitioners emphasized the importance of foundational business knowledge, including fashion branding, online sales, and customer service, particularly for those working in small- to medium-sized enterprises (SMEs) or intending to launch their own fashion lines.

The second objective was to assess the relevance of the vocational fashion design curriculum to industry needs. While many respondents acknowledged that the current curriculum includes fundamental sewing and pattern making, it lacks components vital to digital transformation and entrepreneurial readiness. Technical competencies in the curriculum were rated at a moderate-to-high level (mean = 3.88). In contrast, digital skills integration was rated lower (mean = 3.35), suggesting a need for curriculum reform to include industry-standard software training and digital literacy development. Soft skills (mean = 3.71) were also considered moderately addressed, though not through structured pedagogical approaches.

Entrepreneurial competencies within the curriculum were rated with a mean score of 3.47, with many industry respondents suggesting that entrepreneurship education is not yet sufficiently embedded into instructional activities. For example, project-based business simulations or e-commerce modules are either lacking or only partially implemented.

Table 1. Mean Scores of Industry Competency Needs and Curriculum Relevance

No.	Competency Area	Mean Score (Industry Needs)	Mean Score (Curriculum Relevance)
1	Technical Skills	4.32	3.88
2	Digital Competencies	4.18	3.35
3	Soft Skills	4.26	3.71
4	Entrepreneurial Skills	4.01	3.47

The third objective examined the relationship between industry competency needs and curriculum relevance. A Pearson product-moment correlation test was conducted using SPSS to determine the strength and significance of the relationship between the two variables. The result showed a correlation coefficient of $r = 0.952$ and a significance value of $p = 0.000$ ($p < 0.01$). This

indicates a strong, statistically significant positive correlation between industry competency needs and curriculum relevance. In simpler terms, as the curriculum becomes more aligned with industry expectations, the perceived readiness and relevance of graduates also increase.

Table 2. Pearson Correlation Output

No.	Variables	r-value	Sig. (2-tailed)
1	Industry Competency Needs × Curriculum Relevance	0.952	0.000

Figure 1 illustrates the scatter plot from the correlation analysis.

Figure 1. Correlation between Industry Competency Needs and Curriculum Relevance

Supplementary qualitative data gathered through semi-structured interviews with five respondents further reinforced the quantitative results. Industry stakeholders expressed concern that, although vocational graduates are technically competent, many lack adaptability, digital competence, and business acumen. One participant stated, "We often have to retrain new hires because they are not familiar with digital design or project management tools." In summary, the findings indicate that although the fashion design vocational curriculum provides a strong technical foundation, it requires further development to meet the multifaceted demands of the modern fashion industry. Enhancing digital integration, promoting entrepreneurial learning, and systematically developing soft skills are key priorities for future curriculum development.

Discussion

Identifying the Essential Competencies Required by Fashion Industry Stakeholders

In today's fashion industry, the expectations placed on vocational graduates have expanded significantly beyond traditional technical abilities. While foundational skills such as sewing, pattern making, and garment construction remain essential, they are no longer sufficient to meet the demands of an industry that is increasingly driven by digital innovation, global market competition, and entrepreneurial activity. The findings of this study indicate that advanced technical competencies remain highly prioritized by industry stakeholders, with a mean score of 4.32. This indicates that employers still value precision in garment construction, industrial machine operation, and advanced finishing techniques. Studies have consistently shown that technical excellence remains the backbone of manufacturing processes in both large-scale production and small- to medium-sized enterprises, particularly within the apparel and garment sector (Huang et al., 2022; Xu et al., 2023). Despite ongoing digital transformation, technical competencies in garment production, quality control, and manufacturing operations continue to be essential for maintaining productivity and product quality (International Labour Organization, 2020). Moreover, regional qualifications, such as the ASEAN Common Competency Standards for Garment Production, further underscore the need for robust, standardized technical competencies in production environments (International Labour Organization, 2020).

However, the demands of the fashion industry have evolved to place significant emphasis on digital competencies. In this study, the digital skill set received a mean score of 4.18, reflecting the industry's growing reliance on design software and virtual product development tools. The ability to operate Adobe Illustrator for Fashion Design, CLO3D for 3D garment visualization, and Computer-Aided Design (CAD) platforms is increasingly regarded as a prerequisite for employment in many design and production roles. This is consistent with research by Bröring et al. (2020) and Cedano and Hernández-Granados (2021), who assert that digital proficiency enhances efficiency, reduces material waste, and allows for greater customization and creativity in the design process. This study contributes beyond previous descriptive research by providing quantitative correlational evidence, thereby strengthening the originality of its findings.

Beyond technical and digital skills, soft skills have emerged as a critical component of employability (Succi & Canovi, 2020). This study recorded a mean score of 4.26 for soft skills, suggesting that employers place high value on communication, collaboration, adaptability, and creative thinking (World Economic Forum, 2025). These attributes are crucial in fast-paced production environments, where teamwork and problem-solving are essential to meeting client

demands and production deadlines (Jackson, 2016). As emphasized by Bünning et al. (2022) and Robles (2012), integrating soft skills into vocational training contributes to a stronger work ethic, enhanced leadership potential, and long-term career success.

Another vital competency domain is entrepreneurship. Particularly in Indonesia's vibrant micro, small, and medium enterprise (MSME) fashion sector, graduates are increasingly expected to initiate and manage their own businesses (OECD, 2020). Entrepreneurial competencies include branding, digital marketing, customer engagement, online selling, and basic financial management (Lackéus, 2020). These skills are not only necessary for those launching startups but are also valuable in intrapreneurial roles within larger fashion houses (Gibb et al., 2006). This aligns with the findings of Bünning et al. (2022) and Xu et al. (2023), who stress the importance of integrating business acumen into vocational curricula to enhance graduate competitiveness in both domestic and global markets.

The synergy of these four domains, technical, digital, soft, and entrepreneurial, represents a hybrid competency model that is now essential for fashion professionals. Employers no longer seek workers with isolated skills, but rather individuals capable of adapting to diverse roles across the fashion value chain. Unfortunately, many vocational programs have yet to restructure their curricula to reflect this reality. Thus, this study provides new empirical insights beyond earlier descriptive analyses, confirming, with statistical evidence, that integrated competencies are crucial in today's industry.

Assessing the Relevance of the Fashion Design Vocational Curriculum to Industry Needs

The results of this study indicate that the fashion design vocational curriculum is perceived as moderately relevant to current industry requirements, with a mean score of 3.88. This suggests that while the curriculum maintains a strong foundation in technical skills, it falls short of addressing emerging competencies essential for success in the digitally transformed, globally competitive fashion industry. Traditionally, the fashion design curriculum has emphasized core competencies such as garment construction, basic pattern making, textile knowledge, and apparel finishing. These competencies remain valuable and form the structural backbone of many curriculum frameworks. However, as the fashion industry increasingly integrates advanced technologies—such as digital prototyping, 3D visualization, and e-commerce—educational content must evolve accordingly.

Studies by Bünning et al. (2022) emphasize that the current curriculum continues to rely on conventional pedagogical models that are often theoretical, fragmented, and insufficiently aligned with industry workflows. This disconnect has resulted in graduates who may excel in manual tasks but lack familiarity with modern production environments, digital platforms, and the creative and economic demands of fashion entrepreneurship. Despite high scores in technical competency, the curriculum still shows weaknesses in digital aspects, likely due to limiting factors such as insufficient teacher expertise in software, inadequate facilities, and rigid regulatory frameworks. This critical finding underscores the structural barriers that hinder digital integration in vocational education.

To address these gaps, the Indonesian Ministry of Education has launched several curriculum revitalization initiatives, most notably the TEFA model. This approach encourages real-world workplace simulations in schools and seeks to embed the experiences of production, branding, and selling within the learning process (Sudira, 2016). However, implementation has been inconsistent and under-optimized, primarily due to insufficient teacher training, limited collaboration with industry actors, and inadequate infrastructure. Many vocational institutions still lack the equipment or industry partnerships necessary to sustain a real-time, production-based learning ecosystem.

Overall, the current vocational curriculum at fashion design does not fully capture the dynamic nature of today's fashion ecosystem. While it addresses the "how-to" of garment production, it often neglects the "why" and "what next" aspects of fashion as a global, creative, and digital economy. This study, therefore, extends prior descriptive evaluations by offering quantitative correlational insights that reveal the urgent need for more agile, industry-aligned curriculum reform.

Analyzing the Correlation between Industry Expectations and Educational Content

The Pearson correlation test conducted in this study revealed a robust and statistically significant relationship between industry expectations and the content of the fashion design

vocational curriculum ($r = 0.952$, $p < 0.01$). This robust correlation suggests that the more closely the curriculum aligns with current industry demands—particularly in areas such as digital literacy, technical agility, and entrepreneurial readiness—the higher the perceived relevance and employability of the curriculum's graduates. This directly addresses the research gap, as most prior studies were descriptive, whereas this study provides robust quantitative correlational evidence, thereby enhancing its originality.

This finding reinforces the theoretical premise underlying the demand-driven TVET model, as advocated by institutions like the World Bank Group (2020). In this model, curriculum development is no longer viewed as a top-down academic exercise but rather as a dynamic, iterative process shaped by real-time input from employers, labor market analysts, and regional industry partners. The strong statistical correlation observed in this study constitutes a critical empirical confirmation of the model in the context of Indonesia's growing fashion sector. Moreover, the data align well with the Triple Helix model proposed by Etzkowitz and Leydesdorff (2000), which posits that sustainable innovation in vocational education systems can emerge only when there is strong synergy among universities, schools, and industry. In this context, vocational institutions such as SMKs that offer the fashion design program must act as mediators and translators of industry knowledge into pedagogical frameworks. The closer the collaboration, the more likely the curriculum is to reflect current business models, production standards, and market trends .

Several recent studies support these claims. McGuinness et al. (2023) found that graduates of misaligned vocational programs are more likely to experience underemployment, skill mismatches, and limited vertical mobility within the industry. Similarly, Osmani et al. (2019) documented a significant gap between the tasks performed in real workplaces and those practiced in the classroom, particularly in areas requiring industry-relevant competencies. In the context of the fashion industry, this gap is especially visible in digital design, digital marketing, and technology-driven workflows (Xu et al., 2023). The dissonance between classroom learning and on-the-job requirements results in longer onboarding periods for graduates and increased costs for employers associated with retraining (Jackson, 2016).

Conversely, institutions that develop and maintain industry-aligned curricula—often through mechanisms like advisory boards, tracer studies, and curriculum co-creation workshops—tend to report higher employability rates and stronger graduate satisfaction (Alwi et al., 2021). This further substantiates the argument that responsiveness to market shifts is no longer a value-added feature, but a core imperative for any vocational education program seeking legitimacy and relevance.

The present study also identified specific areas where alignment is particularly needed: digital fashion production, e-commerce management, sustainable material sourcing, and social media branding. These domains represent emergent skill clusters that are increasingly prioritized by the fashion industry, yet still receive insufficient attention in traditional curricula. The implication is that, without a strategic reorientation of the curriculum toward these areas, vocational institutions risk perpetuating a cycle of irrelevance. Furthermore, the strong correlation revealed in the study provides a solid foundation for developing evidence-based curriculum policies. Policymakers and educational leaders can use such findings to justify investments in digital infrastructure, teacher retraining, and cross-sector curriculum design. For instance, a high correlation between fashion industry expectations and learning outcomes in CAD or CLO3D could motivate policy initiatives to integrate such tools across the national vocational education system.

Nonetheless, the study acknowledges its limitations. The sample size was limited to respondents from Malang City, and the data were self-reported, which may introduce bias. Moreover, while correlations were statistically significant, causality cannot be established. Recognizing these limitations not only demonstrates critical reflection but also guides future research to expand geographic coverage, include longitudinal data, and test experimental curriculum models. In conclusion, the discussion underscores that aligning vocational education with industry dynamics requires continuous evaluation and evidence-based curriculum reform. To further strengthen future research, it is recommended that subsequent studies conduct longitudinal analyses to examine changes in curriculum relevance over time and cross-regional comparative analyses across provinces or ASEAN countries. Such approaches will provide a deeper understanding of contextual variations and the long-term impact of demand-driven TVET models in the fashion education sector.

CONCLUSION

This study highlights that the fashion industry requires graduates with a hybrid set of competencies that combine technical expertise, digital proficiency, soft skills, and entrepreneurial capacity. While vocational education at fashion design has successfully built a strong technical foundation, the curriculum has not yet fully addressed the growing importance of digital and entrepreneurial domains. Theoretically, this research contributes to the discourse on demand-driven vocational education by providing empirical evidence that curriculum alignment with industry needs is a determinant of graduate relevance. It advances previous descriptive studies by offering a more analytical perspective on how vocational programs can remain responsive to labor market transformations. In practice, the findings underscore the urgent need for curriculum reform that integrates digital tools, entrepreneurial learning, and the systematic development of soft skills. Strengthening partnerships between schools and industry—through Teaching Factory models, feedback mechanisms, and co-designed modules—will be key to ensuring that vocational graduates are well prepared to compete in both local and global fashion markets..

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