

Implementing Local Wisdom Based And Industry Oriented Education To Support Digital Economic Development In Nganjuk Regency

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Abstract. The digital economic transformation calls for an education system capable of bridging technological proficiency, the needs of the workforce, and local economic potential. This study aims to analyze the implementation of education based on local wisdom and industry needs as a strategy to support the digital economy in Nganjuk Regency. The study employs a qualitative descriptive approach using secondary data through documentary analysis and a literature review. Empirical data show that there were 41,015 micro-business owners in 2024 and 6,487 job seekers, with 4,553 people or 70.19% coming from the high school/vocational school group. The analysis indicates that local potential can be utilized as a learning context through economic projects, the digitization of MSMEs, digital entrepreneurship, and industry collaboration. The implementation model includes identifying local potential, contextualizing the curriculum, developing digital competencies, fostering collaboration, and conducting market testing and evaluation.

Keywords: local wisdom, industry needs, digital economy, digital entrepreneurship, Nganjuk

1 Introduction

Digital transformation has changed the structure of production, distribution, marketing, transactions, and consumption. E-commerce, social media, financial technology, artificial intelligence, and technology-based creative industries create new economic opportunities while increasing the demand for human-resource competencies. Education therefore needs to develop not only academic knowledge but also critical thinking, creativity, communication, collaboration, problem solving, digital literacy, and adaptability.

Local-wisdom-based education places the social, cultural, environmental, and economic context of learners as a learning resource. This approach can strengthen contextual learning while maintaining local identity. Local wisdom may be integrated through curriculum content, project activities, local products, community practices, and problem-solving activities [1,2]. In an economic learning context, local products can become authentic objects for analyzing production, costs, prices, markets, promotion, and entrepreneurship.

Nganjuk Regency has local economic potential in agriculture, traditional food, processed products, batik, crafts, services, and micro-enterprises. Regional policy also supports local-product development through Regent Regulation of Nganjuk Number 11 of 2020 concerning the Movement to Love and Buy Nganjuk Products [3]. This policy provides a relevant context for connecting local products with educational activities and digital market development.

The scale of the local economy is reflected in the 2024 Complete Data Collection of Cooperatives and Micro Enterprises, which recorded 41,015 micro-enterprise actors in Nganjuk Regency [4]. This large economic base can function as a real-world laboratory for economic and entrepreneurship learning. Students can study production, distribution, consumption,

pricing, financial management, consumer behavior, and digital marketing through businesses around them.

At the same time, education needs to respond to labor-market conditions. Government data indicate 6,487 job seekers in Nganjuk in 2024, including 4,553 or 70.19% from the senior-secondary group [5]. This composition indicates the importance of strengthening the transition from education to employment and entrepreneurship. The link-and-match approach emphasizes curriculum alignment, workplace practice, competency assessment, and sustained cooperation with business and industry [6,7].

Digitalization provides an opportunity to connect these two conditions. Nganjuk has implemented facilitation for MSME adoption of digital technology and has developed initiatives involving the digital ecosystem. Collaboration between SMK PGRI 3 Nganjuk and Omah Tandang has introduced competencies such as product photography and video, influencer activities, affiliate marketing, and digital literacy [8,9]. These initiatives illustrate that digital-industry needs can be translated into educational experiences.

The research problem is therefore how local wisdom, industry needs, and digital technology can be integrated systematically into education. Local wisdom should not be limited to cultural content, while digital technology should not be limited to the use of devices in teaching. Both need to be directed toward competence development and economic value creation. Digital entrepreneurship learning can become an important bridge because students experience opportunity identification, product development, digital marketing, and market evaluation [10,11].

This study aims to analyze the implementation of local-wisdom-based and industry-oriented education in supporting digital economic development in Nganjuk Regency. The analysis focuses on local economic conditions, labor-market needs, digital competencies, education-industry collaboration, and an implementation model that can be adopted by educational institutions.

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2 Literature Review

2.1 Local-Wisdom-Based Education

Local-wisdom-based education integrates local knowledge, values, culture, traditions, environmental resources, and community practices into learning. The approach makes learning more contextual because students can connect academic concepts with real conditions. It can simultaneously support cultural identity, creativity, and contextual problem solving [1,2].

In economic education, local wisdom can include products, skills, services, and community economic practices. Agriculture, traditional food, batik, crafts, and micro-businesses can be used as project objects. Students can analyze costs, markets, prices, branding, promotion, and innovation, turning local potential into an authentic economic learning context.

2.2 Industry-Oriented Education and Link and Match

Industry-oriented education emphasizes alignment between graduate competencies and labor-market requirements. Link and match can be implemented through curriculum synchronization, competency-based training, workplace practice, certification, industrial projects, and sustained partnerships [6,7].

Technological change also expands the definition of work competence. In addition to technical skills, employers require communication, teamwork, creativity, problem solving,

adaptability, and digital literacy. Therefore, school-industry relationships should include periodic competency updates and practical learning.

2.3 Digital Economy and Digital Entrepreneurship

The digital economy involves economic activities supported by digital technology in production, distribution, marketing, transactions, and consumption. Digital channels allow local businesses to reach consumers beyond their immediate geographic market.

Digital entrepreneurship combines entrepreneurial processes with digital technologies. Learning can cover opportunity recognition, product development, social media, e-commerce, digital payments, data use, and market evaluation. Research on digital entrepreneurship education emphasizes its relevance to digital entrepreneurial intentions and the use of digital platforms as business opportunities [10,11].

3 Research Method

This study uses a descriptive qualitative approach based on secondary data. The approach was selected to describe the empirical conditions and formulate an implementation model connecting local wisdom, industry needs, and the digital economy in Nganjuk Regency.

Data sources include official government documents, local economic and employment data, local-product policy documents, MSME digitalization programs, and information concerning education-digital ecosystem collaboration. Academic literature was used to strengthen the analysis of local-wisdom-based education, link and match, vocational education, and digital entrepreneurship.

Data analysis consisted of data reduction, data display, and conclusion drawing. Information was classified into three dimensions: (1) local economic potential, (2) education and labor-market alignment, and (3) digital competence and entrepreneurship. Source triangulation was conducted by comparing government statistics, policy documents, program information, and academic literature.

Because the study does not use respondents or statistical causal testing, the term supporting digital economic growth refers to strategic contribution and potential ecosystem strengthening rather than proven causal impact. This limitation is considered in interpreting the findings.

4 Results and Discussion

4.1 Empirical Condition of the Local Economy

Secondary data indicate that Nganjuk has a substantial micro-enterprise base. The 2024 data recorded 41,015 micro-enterprise actors [4]. The number provides a large pool of authentic economic contexts that can be incorporated into school projects.

Micro-enterprises can become learning laboratories. Students can investigate production, distribution, consumption, costs, pricing, financial management, consumer behavior, and digital marketing. Such activities shift economic learning from theoretical comprehension toward real-world problem analysis.

Table 1. Empirical Conditions of Economy, Employment, and Digitalization

Indicator	Empirical data	Educational implication
Micro-enterprise actors	41,015	Authentic context for economic and entrepreneurship learning
Job seekers, 2024	6,487	Need to strengthen employment readiness

Senior-secondary job seekers	4,553	Strengthen relevance of secondary education
Share of SMA/SMK	70.19%	Prioritize link and match
MSME digital-adoption facilitation	Available	Context for digital-learning projects
Education–digital industry collaboration	Available	Strengthen industry-relevant digital competencies

Source: compiled from Nganjuk Regency Government [4,5,8].

4.2 Education and Labor-Market Needs

The 6,487 job seekers recorded in 2024 included 4,553 senior-secondary graduates, equivalent to 70.19% [5]. This composition signals the need to strengthen the readiness of secondary-school graduates. Competencies should include digital literacy, communication, creativity, problem solving, financial literacy, digital marketing, and entrepreneurship.

The finding is consistent with the link-and-match perspective. Education needs periodic competency updating so that learning outcomes remain relevant to labor-market changes. Link and match should therefore involve curriculum alignment, industry projects, workplace exposure, competency assessment, and mentoring rather than one-off activities [6,7].

4.3 Local Economic Potential as a Learning Laboratory

A simple comparison between 41,015 micro-enterprises and 6,487 job seekers yields approximately 6.32 micro-enterprises for every job seeker. This figure is not an employment absorption ratio because enterprises have different workforce capacities. Structurally, however, it illustrates the scale of the local business ecosystem that can support learning and entrepreneurship projects.

Students can undertake micro-enterprise assistance projects by selecting local products, identifying consumers, calculating costs, determining prices, creating brands, producing product photographs and videos, preparing digital content, marketing through digital channels, and evaluating market responses. Such projects can integrate economics, mathematics, information technology, language, arts, and entrepreneurship.

4.4 Integration of Local Wisdom and Digital Technology

Local products can gain additional value when connected to digital technology. Agricultural products, traditional food, batik, and crafts can be developed through packaging, branding, photography, video, social media, e-commerce, and digital payment. Technology is positioned as an instrument for market expansion and value creation rather than as an end in itself.

The transformation pathway can be formulated as: Local Potential → Contextual Learning → Product Innovation → Digital Branding → Digital Marketing → Market Expansion → Economic Value. This pathway enables students to learn local identity while building market-oriented digital competence.

4.5 MSME Digitalization as a Learning Context

Nganjuk Regency has provided facilitation for MSME digital-technology adoption. The program is directed toward helping businesses use digital technology to operate, develop, and market their products [8]. This condition creates a practical context for school-community collaboration.

Schools can develop projects with MSMEs involving digital catalogues, product photography, promotional videos, content calendars, packaging design, simple transaction records, and marketing evaluation. Students gain practical experience while MSMEs receive support for digital capability development.

4.6 Education and Digital-Industry Collaboration

The collaboration between SMK PGRI 3 Nganjuk and Omah Tandang illustrates the translation of digital-industry requirements into educational activities. Competencies include product photography and video, influencer activities, affiliate marketing, and digital literacy [9]. This is relevant to link and match because learning activities are connected to actual digital-industry practices.

Similar collaboration can be expanded through competency synchronization, guest instructors, training, certification, projects, workplace practice, mentoring, and evaluation. Industry should not only provide internship locations but also contribute to curriculum development and competency updating.

4.7 Digital Entrepreneurship as a Bridge

Digital entrepreneurship can connect education with local economic development because students are given opportunities to create economic value. Learning may begin with problem identification, business ideas, market validation, product development, branding, digital marketing, transactions, data analysis, and evaluation.

Digital entrepreneurship education can also strengthen opportunity recognition and adaptability. Previous studies indicate that digital entrepreneurship learning is relevant to the development of digital entrepreneurial intentions and the utilization of digital platforms as business opportunities [10,11].

4.8 Proposed Implementation Model

Based on the empirical findings, implementation can be organized into five stages. First, schools identify local potential, including agricultural products, traditional food, batik, crafts, services, and micro-enterprises. Second, curriculum contextualization connects these potentials with learning outcomes.

Third, students develop digital competencies including digital literacy, product photography, video production, graphic design, digital marketing, social-media management, e-commerce, digital payment, and data analysis. Fourth, schools establish collaboration with MSMEs, industry, universities, government, and digital ecosystem actors. Fifth, products or projects are tested in real markets and evaluated using product quality, creativity, digital skills, consumer response, market reach, and sustainability.

Table 2. Proposed Implementation Model

Stage	Main activity	Partners	Expected output
1. Identification	Map local potential and MSMEs	School–community–government	Potential database
2. Contextualization	Integrate local potential into projects	Teachers–students	Contextual projects
3. Digital competence	Content, design, marketing, e-commerce	School–digital ecosystem	Digital portfolio

4. Collaboration	Mentoring, practice, certification, product development	Industry–MSME–university	Industry-relevant competence
5. Market testing	Market launch and consumer-response evaluation	Students–MSMEs	Product and evaluation

4.9 Implications for Digital Economic Development

The empirical evidence indicates three interconnected foundations: local economic capacity, labor-market needs, and digital competency requirements. The local economic base is represented by 41,015 micro-enterprises, while labor-market needs are reflected in 6,487 job seekers and the dominance of the senior-secondary group. Digital competency needs are reflected in MSME digitalization and education–digital ecosystem collaboration.

These conditions suggest that education can function as a bridge between local economic potential and the digital economy. The proposed pathway is: 41,015 MSMEs → local-potential-based learning → digital competence → industry collaboration → digital entrepreneurship → market expansion → local economic strengthening.

Conceptually, stronger connections among education, local potential, and industry needs increase the opportunity for students to acquire competencies for value creation through technology. Nevertheless, this study does not claim a causal effect on economic growth. Future research should test the model using primary data and measurable educational and economic performance indicators.

5 Policy Implications

First, schools should strengthen contextual curricula by using local economic potential as learning resources. Second, teacher development should include digital literacy, project-based learning, entrepreneurship, digital marketing, and product development. Third, school-industry relationships should become sustainable partnerships covering curriculum, projects, mentoring, certification, workplace practice, and competency evaluation.

Fourth, MSME digitalization programs can be integrated with learning through measurable mentoring schemes. Fifth, facilities such as Omah Tandang can be utilized as collaborative spaces for schools, MSMEs, industry, government, and communities. Sixth, educational success should be evaluated not only through academic scores but also through digital competence, project quality, partnerships, products, market capability, and project sustainability.

6 Conclusion

This study shows that Nganjuk Regency has an empirical basis for developing education that integrates local wisdom, industry needs, and the digital economy. The presence of 41,015 micro-enterprise actors provides a substantial local economic ecosystem for learning, while 6,487 job seekers, including 4,553 or 70.19% from the senior-secondary group, indicate the need to strengthen educational relevance.

Local-wisdom-based education can connect learning with local products and community economic activities. Industry-oriented education can be strengthened through link and match, project-based learning, workplace exposure, competency certification, and collaboration. Digital entrepreneurship provides a bridge through which students can transform local potential into marketable products and services using digital technology.

The proposed model consists of local-potential identification, curriculum contextualization, digital competency development, collaboration with industry and MSMEs, and market testing and evaluation. The model can strengthen educational relevance and contribute strategically to the local digital economic ecosystem. Further studies should test the model with primary data, experimental designs, surveys, or mixed methods to measure its effects on student competencies and local economic performance.

References

- [1] Chaer, M. T., Rochmah, E. Y., & Sukatin. (2022). Education based on local wisdom. *JIE (Journal of Islamic Education)*, 6(2).
- [2] Ita, E., & Ngonu, M. R. (2025). Analyzing the implementation of local wisdom-based learning in early childhood education: The case of early childhood education. *Journal of Nonformal Education*, 11(2).
- [3] Pemerintah Kabupaten Nganjuk. (2020). Peraturan Bupati Nganjuk Nomor 11 Tahun 2020 tentang Gerakan Cinta dan Beli Produk Nganjuk.
- [4] Pemerintah Kabupaten Nganjuk. (2026a). Dorong pelaku UMKM naik kelas, Dinkop UM Nganjuk perkuat pemberdayaan usaha mikro. Nganjuk Smart City.
- [5] Pemerintah Kabupaten Nganjuk. (2025). Kabupaten Nganjuk dalam angka 2025. Pemerintah Kabupaten Nganjuk.
- [6] Disas, E. P. (2018). Link and match sebagai kebijakan pendidikan kejuruan. *Jurnal Penelitian Pendidikan*, 18(2), 231–242.
- [7] Maulina, M., & Yoenanto, N. H. (2022). Optimalisasi link and match sebagai upaya relevansi SMK dengan dunia usaha dan dunia industri (DUDI). *Jurnal Akuntabilitas Manajemen Pendidikan*, 10(1), 28–37.
- [8] Pemerintah Kabupaten Nganjuk. (2026b). Jumlah UMKM yang mendapat fasilitasi adopsi teknologi digital UMKM Kominfo Tahun 2025. Portal Satu Data Kabupaten Nganjuk.
- [9] Pemerintah Kabupaten Nganjuk. (2025b). SMK PGRI 3 Nganjuk perkuat kolaborasi pendidikan dan industri digital. Nganjuk Smart City.
- [10] Aysi, S. A. H., Susilaningih, & Sabandi, M. (2024). The implementation of digital entrepreneurship learning in higher education: A systematic literature review. *Pedagogia: Jurnal Pendidikan*, 13(2), 255–273.
- [11] Wibowo, A., Narmaditya, B. S., Saptono, A., Effendi, M. S., Mukhtar, S., & Mohd Shafai, M. H. (2023). Does digital entrepreneurship education matter for students' digital entrepreneurial intentions? The mediating role of entrepreneurial alertness. *Cogent Education*, 10(1), 2221164.
- [12] Saryadi, S., Maksum, I. R., & Juwono, V. (2024). Implementation of link and match policy to enhance employment of graduates: A case study in vocational high schools. *Journal of Infrastructure, Policy and Development*, 8(8), 5601.
- [13] Mudianto, M., Rosadi, I., Yulianingsih, W., Haq, M. S., & Anggraini, N. J. (2026). Implementasi link and match berbasis ekosistem vokasi antara SMK dan dunia usaha, dunia industri, serta dunia kerja. *Journal of Education Research*, 7(1), 283–288.