

Bridging Gap: Developing Competence and Financial Literacy as Critical Pillars for Realizing the Ideal of Gig Worker Protection in Indonesia

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Abstract

The structural shift in Indonesia's labor market shows a significant increase in the informal sector, particularly among gig workers who play a vital role in the growth of the national digital economy. However, the flexibility offered by gig work often comes with income instability and limited access to social protection. This study aims to identify and analyze the importance of competence development, English language proficiency, and financial literacy as key pillars for achieving sustainable protection and career growth among gig workers in Indonesia. Using a literature review approach, data were obtained from academic journals, government reports, and international publications related to the digital economy and flexible labor systems. The findings indicate that strengthening technical competencies and English proficiency enhances gig workers' global competitiveness, while financial literacy plays a crucial role in maintaining income stability and long-term welfare. Furthermore, the integration of Knowledge Management Systems (KMS) and Learning Management Systems (LMS) serves as an effective platform to support continuous learning for gig workers and introduce digital work concepts to university students before entering the labor market. In addition, the mandatory participation of gig workers in BPJS Ketenagakerjaan and BPJS Kesehatan provides equitable social protection within Indonesia's digital labor ecosystem. This study emphasizes the need for collaboration between government, educational institutions, and the private sector to build an inclusive, adaptive, and sustainable digital work environment that supports both active gig workers and future graduates.

Keywords: gig worker, competence, financial literacy, english proficiency, social protection.

1. Introduction

Indonesia is currently undergoing a complex transformation in terms of employment and the availability of job opportunities. According to data from *Satudata Kemnaker* (Ministry of Manpower, 2025), as of February 2025, the labor force reached 154.05 million people, consisting of 145.77 million employed individuals and 7.28 million unemployed individuals. Projections presented in the *National Manpower Plan* estimate that the labor force will increase to 162.53 million people by 2029, as shown in Table 1.

Table 1. Estimated Number of Labor Force in Indonesia

2025	2026	2027	2028	2029
153.05	154.94	157.43	159.96	162.53

Source: Rencana Tenaga Kerja Nasional 2025-2029, Ministry of Man Power (2024)

Alongside the increase in Indonesia's labor force, this growth must be accompanied by the expansion of new employment opportunities to prevent a rise in unemployment. Based on data from Statistics Indonesia (*Badan Pusat Statistik*), over the past five years (2021–2025), the labor market has continued to be dominated by informal employment, which in 2025 accounted for 86.58 million workers, representing 59.40% of the total workforce, as shown in Table 2.

Table 2. Formal and Informal Employment Status in Indonesia

Tahun	2021	2022	2023	2024	2025
Formal Workers (Million People)	52.92	54.28	55.29	58.05	59.19
Informal Workers (Million People)	78.14	81.33	83.34	84.13	86.58
Total Workers (Million People)	131.06	135.61	138.63	142.18	145.77
Formal Workers (Percentage)	40.38	40.03	39.88	40.83	40.60
Informal Workers (Percentage)	59.62	59.97	60.12	59.17	59.40

Source: Keadaan Ketenagakerjaan Indonesia Februari 2025, BPS (2025)

Based on Table 2, it can be observed that over the past five years, the total number of workers has increased annually, with the majority being informal workers. Moreover, as indicated in Table 1, the labor force is projected to continue growing until 2029. According to the *World Employment and Social Outlook Report* (ILO, 2024), there has been a global trend of declining formal job creation across many countries, including Indonesia, driven by digitalization, automation, and shifting business models following the COVID-19 pandemic. In this context, a significant portion of Indonesia's workforce has transitioned to the informal sector and the gig economy as a means of sustaining their income. Gig workers are individuals who perform short-term or occasional tasks obtained through digital platforms that connect them with clients or employers. They generally operate as self-employed individuals and are not formally employed by the platforms. The primary advantage of gig work lies in its flexibility-allowing workers to choose their own schedules and tasks. However, this flexibility comes with a major drawback: income instability due to fluctuating task availability (ILO, 2025).

The phenomenon of gig workers is not exclusive to Indonesia but represents a global trend in the ongoing transformation of the labor market. The advancement of digital technologies, increased internet penetration, and shifting work patterns following the COVID-19 pandemic have accelerated the rise of the platform economy in many countries. According to the ILO (2025), the gig economy has become one of the major sources of new job creation, particularly for young individuals and those who have historically faced difficulties accessing formal employment.

At the global level, the OECD (Cyrille et al., 2019) reports that the proportion of workers engaged in platform-based employment continues to grow, estimated to range between 3% and 12% of the total labor force across OECD member countries. In Indonesia, the *World Bank* (2021) highlights that the gig economy sector plays a significant role in absorbing informal and semi-formal workers, particularly in online transportation, food delivery, and digital freelance services such as design and web development. This condition demonstrates that gig workers hold substantial potential as an inclusive and adaptive form of employment in response to technological change. However, it also raises critical challenges concerning social protection, income security, and the enhancement of digital competencies among workers.

The significant growth in the number of gig workers in Indonesia, along with their future potential, necessitates comprehensive support to foster the sustainable development of this sector. Such support should encompass technical competencies, English language proficiency, financial literacy, and market opportunity identification skills to ensure the long-term employability of both active and prospective gig workers. Furthermore, sustaining their career pathways requires an integrated protection system, including health insurance, occupational safety, and pension schemes. These strategic measures constitute fundamental prerequisites for realizing a vision in which Indonesian gig workers excel not only in skills and competence but also in global competitiveness.

The following section presents previous research that highlights the urgency of developing competencies, English language proficiency, financial literacy, and knowledge about BPJS insurance among gig workers.

Table 3. Some relevant literature results that have the same suggestions as the author

Topic	Author	Suggestions/Solutions
The urgency of improving the competency of gig workers in Indonesia	Simatupang, 2025	It was found that although work flexibility is highly valued, income instability is strongly associated with a lack of skills and limited negotiation capacity. The study recommends implementing competency training and establishing minimum wage or standard labor regulations to enhance gig workers' bargaining power.
	Setiawan, 2025	This journal proposes a hybrid regulatory model that includes incentives for platforms to facilitate training and competency certification, ensure algorithmic transparency, and integrate social protection with training as part of stakeholders shared responsibility.
	Judijanto, <i>et al.</i> , 2025	It highlights the presence of a “skills disruption,” emphasizing that gig workers must possess digital skills and adaptability to remain sustainable in the workforce. One of the proposed solutions is continuous training and digital competency enhancement programs.

Topic	Author	Suggestions/Solutions
English skills for gig workers	Perdana, <i>et al.</i> , 2025	There is a need for orientation and training programs provided by universities to enhance the abilities and digital skills of fresh graduates, thereby preparing them to enter the workforce as gig workers.
	Afifah, <i>et al.</i> , 2025	English language competence is closely related to self-confidence and the effectiveness of professional communication; therefore, proficiency in English serves as a key advantage for gig workers.
	Meylina, 2025	There is a need to conduct professional English training programs that are contextually aligned with the digital work environment through a hybrid format (online and in-person). Additionally, the government and training institutions are expected to play an active role in expanding access to such training opportunities.
Financial literacy for gig worker	Eugene and Pertiwi, 2023	Strong financial literacy encourages individuals to maintain sound financial management practices such as budgeting, debt management, and saving thereby enabling digital workers to achieve better financial stability.
	Faqih, <i>et al.</i> , 2024	Enhancing financial literacy as part of entrepreneurial literacy enables gig workers to manage their income and expenses more effectively.
BPJS acts as social protection system for gig workers	Alfarizi, <i>et al.</i> , 2025	The BPJS insurance scheme is not mandatory for gig workers, resulting in the absence of guaranteed basic protection particularly in relation to Decent Work and Economic Growth.
	Siti, <i>et al.</i> , 2024	The absence of BPJS insurance makes gig workers, particularly online motorcycle drivers, economically vulnerable due to the lack of social protection schemes. Such a scheme needs to be established given the high occupational risks they face and the necessity of providing pension security once they are no longer able to work.
	Siti, <i>et al.</i> , 2023	The Ministry of Manpower should establish comprehensive regulations governing gig economy workers, one of which should include provisions for social protection through the BPJS scheme.

2. Research Method

This study is literature-based research utilizing data obtained from pre-existing sources. These sources include various academic works, scientific journals, government reports, and relevant documents discussing the influence of competency development, English language proficiency,

financial literacy, and BPJS insurance as a form of social protection for gig workers in Indonesia. The researcher employed a literature study as the primary method for data collection to construct the theoretical framework and research context. Data gathered from multiple literature sources were then carefully selected, with the most relevant works synthesized into recommendations or solutions aimed at addressing the challenges faced by gig workers in Indonesia.

3. Results and Discussion

3.1. Contribution of the Gig Economy to Employment Absorption and Economic Growth in Indonesia

Based on Table 1, the number of Indonesia's labor force is projected to continue increasing until 2029, while the data presented in Table 2 indicate that the number of informal workers has consistently risen over the past five years. According to data from Kantar (2025), it is estimated that in 2024, out of 84.2 million informal workers, approximately 41.6 million individuals (49.4%) are gig workers. This data suggests that nearly 50% of Indonesia's informal workforce is dominated by gig workers, making them a significant and rapidly expanding segment of the labor market. The following are several common types of gig work found in Indonesia:

Table 4. Common Types of Gig Work in Indonesia

Sector	Sub-sector	Job Type	Platform
Transportation & Logistics	Online Transportation Driver	Motorcycle taxi, online car driver	Gojek, Grab, Maxim
	Delivery Courier	Delivering packages, food, or documents	GoSend, GrabExpress, Shopee Xpress, Anteraja
	E-commerce Courier	Delivering online products from sellers to buyers	J&T, JNE, Ninja Xpress, SiCepat
Trade & E- Commerce	Online Seller	Selling physical products (clothing, food, cosmetics, etc.)	Shopee, Tokopedia, TikTok Shop
	Dropshipper / Reseller	Selling supplier products without own stock	Shopee, Tokopedia, Instagram
	Affiliate Marketer	Promoting products and earning sales commissions	Shopee Affiliate, TikTok Affiliate
	Content Seller / Live Seller	Selling products through live streaming	TikTok Live, Shopee Live

Sector	Sub-sector	Job Type	Platform
Creative & Digital Sector	Graphic Designer / Illustrator	Logos, posters, social media design	Fiverr, Upwork, Sribu, Freelancer
	Writer / Copywriter / Editor	Articles, captions, blog content	Projects.co.id, Fastwork
	Translator / Proofreader	Translating documents or content	Upwork, Freelancer
	Videographer / Video Editor	Promotional or social media content	Fiverr, Fastwork, local platforms
	Freelance Photographer	Event or product photography	Freelance / social media
	Animator / Motion Graphic Artist	Visual animation content	Upwork, Behance
	Voice Over Artist / Dubber	Narration for ads or educational videos	Fastwork, Fiverr
	Web Developer / Front-End Developer	Building and maintaining websites	Upwork, Fiverr, Sribu, Projects.co.id
Technology, Data, and System Development	App Developer / Mobile Developer	Developing Android or iOS applications	Freelancer, Upwork, Toptal
	Software Engineer (Freelance)	Creating custom software systems or business applications	GitHub, Toptal, local startups
	Data Analyst / Data Scientist (Freelance)	Performing business data analysis, visualization, and machine learning	Kaggle, Upwork, Fiverr
	AI Developer / Machine Learning Engineer	Building AI models, NLP tools, or automation systems	Toptal, Freelancer, Upwork
	UI/UX Designer	Designing user interfaces and user experiences	Behance, Dribbble, Fiverr

Sector	Sub-sector	Job Type	Platform
	Cybersecurity Consultant	Conducting cybersecurity audits and penetration testing	Upwork, LinkedIn, tech communities
	Tech Support / IT Troubleshooter	Providing remote software or hardware support	Fiverr, Freelancer, local IT groups

The increasing number of gig workers has had a positive impact on the growth of Indonesia's digital economy. Rapid economic growth plays a crucial role in strengthening the structure of the national economy. According to a report by *Metrotvnews* (2024), the market value of Indonesia's digital economy has reached IDR 1,860 trillion, with an average growth rate of 8.6 percent during the 2019–2024 period, contributing 8.4 percent to the national GDP. These figures illustrate a significant increase in the value of the digital economy and demonstrate that Indonesia has become one of the largest digital economy markets in Southeast Asia. The positive economic impact of digital economic growth has also heightened the government's focus on advancing this sector.

The statement by the Deputy Minister of Communication and Digital Affairs (Wamenkomdigi), Nezar Patria (2025), emphasizes that mastery of artificial intelligence (AI) technology among the younger generation, particularly university students, is a critical factor in accelerating national digital economic growth. He noted that Indonesia's digital economy has the potential to reach IDR 5,000 trillion by 2030, with an expected contribution of up to 40 percent to the Gross Domestic Product (GDP). AI technology itself is estimated to increase productivity by as much as 3.5 percent. Nezar also highlighted the active role of universities and educational institutions in preparing skilled human resources not merely as technology users but as pioneers of innovation. With internet penetration in Indonesia reaching approximately 80% of the total population, he asserted that students must urgently learn and master AI to adapt effectively to the increasingly expansive digital transformation.

3.2. Development of Gig Workers' Competencies as a Key Driver for Strengthening Indonesia's Digital Economy

The rapid development of the digital economy, coupled with the growing economic demands and the increasing number of gig workers, necessitates strong support to ensure the sustainability and competitiveness of this sector. Gig workers, who serve as the backbone of digital platform-based service ecosystems, require enhanced capabilities to adapt to technological advancements and the dynamic needs of the market. Therefore, competency development emerges as a key factor in strengthening the capacity of gig workers-particularly in the areas of technical skills, financial literacy, and English language proficiency. Such development not only improves productivity but also reinforces the competitiveness of the digital economy at both the national and international levels.

3.2.1. Enhancement of Gig Workers' Technical Competencies to Support Digital Economic Competitiveness

The rapid and dynamic development of digital technology compels gig workers to continuously enhance their skills and capabilities. Therefore, improving technical competencies has become a crucial aspect for gig workers to maintain their competitiveness and productivity amid the evolving digital labor market, enabling them to remain competitive both nationally and globally.

The *Global Skills Report 2025* by Coursera presents a comparative analysis of digital skills across 109 countries, including Indonesia. According to the report, Indonesia ranks 47th globally in the digital skills index. Within the Asia-Pacific region, Indonesia holds the 12th position, indicating that while the country is not among the lowest performers, it still lags behind several neighboring nations.

Key findings reveal that Indonesia demonstrates relatively strong performance in foundational and intermediate skills, particularly in areas such as data literacy, the use of productivity software, and basic information technology competencies. However, the report also highlights a considerable deficit in advanced skills such as AI development, complex data analytics, machine learning, high level programming, and other emerging technologies when compared to other countries. The following are several digital skills that are widely required at both national and global levels:

Table 5. Commonly Used Digital Skills

Skill Category	Specific Skills Needed	Tools/Platforms	Relevance for Gig Worker
Data & Artificial Intelligence (AI)	Data analysis, machine learning, data visualization, AI model building	Python, R, TensorFlow, Power BI, Tableau	Analyzing design trends, automating repetitive creative tasks
Software Development & Engineering	Coding, web/app development, API integration, cloud computing	GitHub, Visual Studio Code, AWS, Google Cloud, Docker	Developing interactive websites, web apps, or design tools
Cybersecurity & Data Privacy	Network security, encryption, ethical hacking, data protection	Wireshark, Kali Linux, Cisco Packet Tracer, Cloudflare	Protecting client assets, securing online portfolios and creative content
Digital Productivity & Collaboration	Office tools, project management, remote work platforms	Microsoft 365, Google Workspace, Slack, Trello	Remote project coordination, collaboration with clients and teams
Digital Marketing & E-Commerce	SEO, SEM, social media analytics, online branding, e-commerce operation	Google Analytics, Meta Ads, TikTok Ads, Shopify	Promoting portfolios, selling artwork, building online brand presence

Skill Category	Specific Skills Needed	Tools/Platforms	Relevance for Gig Worker
Creative & Content Production	Graphic design, video editing, UX/UI design, animation, copywriting	Adobe Creative Suite, Canva, Figma, DaVinci Resolve, Blender, After Effects	Content creation, freelance designer, animator, video editor
Cloud & DevOps Skills	Cloud infrastructure, automation, CI/CD, system scalability	AWS, Azure, Jenkins, Kubernetes	Hosting and managing cloud-based design tools or portfolios
Soft Skills & Adaptability	Critical thinking, communication, problem-solving, collaboration	Online learning platforms, collaborative tools	Adaptation to client needs, collaborative creative projects
Cyber-Physical & Emerging Tech	Internet of Things (IoT), robotics, blockchain	Arduino, Raspberry Pi, Solidity, IBM Blockchain	Interactive installations, 3D animation integration, NFT/art tech projects

The rapid growth of the gig economy has created opportunities for gig workers across various sectors, including Data and Artificial Intelligence, Digital Marketing and E-Commerce, Creative and Content Production, and others. Each of these sectors requires the use of distinct tools and skill sets, demanding that gig workers remain flexible and adaptive to ongoing changes. The dynamic nature of technological advancements and the shifting demands of industry compel gig workers to continuously update their skills and align themselves with emerging trends to remain competitive in the digital labor market.

3.2.2. Enhancement of English Language Competence as a Strategy to Strengthen the Competitiveness of Gig Workers and Fresh Graduates

English language proficiency has become an essential skill for gig workers in navigating the globally oriented digital labor market. The language is not only used for communicating with international clients but also for understanding work instructions, operating various digital platforms, and acquiring new skills. Strong English proficiency enhances professionalism, broadens access to project opportunities, and strengthens the competitiveness of gig workers in the rapidly expanding global job market. The following graph illustrates the average level of English proficiency among Indonesians compared to several Southeast Asian countries:

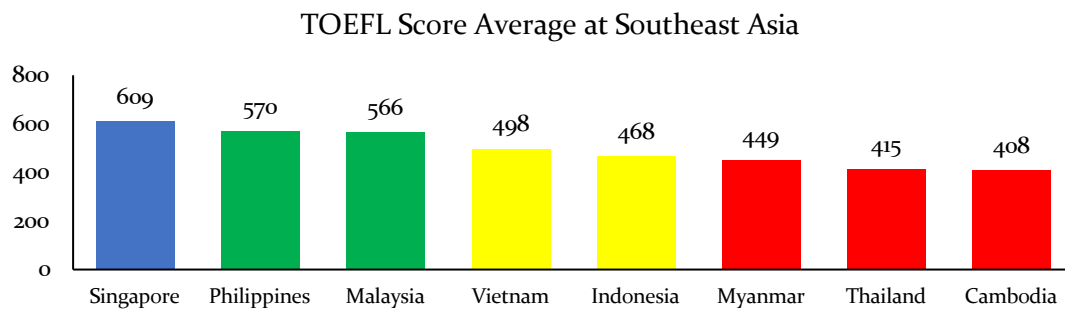


Figure 1. Graphics TOEFL Score Average at Southeast Asia

Source: EF English Proficiency Index 2024, EF Education First (2024)

According to the *EF English Proficiency Index (EF EPI) 2024*, Indonesia ranks 80th out of 116 countries in terms of English language proficiency, with a score of 468, placing it in the *Low Proficiency* category. At the Southeast Asian level, Indonesia's position is also relatively low compared to neighboring countries such as Singapore, the Philippines, and Malaysia, which achieve considerably higher scores and rankings. This condition indicates that although English has been formally taught since elementary school, the practical use and exposure to English in both professional and social contexts remain insufficient-resulting in a significant proficiency gap when compared with international standards.

Therefore, the development of English language proficiency is crucial, particularly for gig workers and fresh graduates entering the digital labor market. In a flexible and cross-border work ecosystem, English proficiency is not merely a communication tool but also a key asset for understanding work instructions, building professional networks, and accessing global project opportunities. For fresh graduates, strong English proficiency enhances their readiness to compete in international job markets and expands their career options across various digital-based sectors. Meanwhile, for active gig workers, improving English language competence enables them to advance in global competition, secure higher-value projects, and engage more professionally with clients from diverse countries.

3.2.3. Strengthening Financial Literacy for Income Stability of Gig Workers in the Digital Economy Era

The growth of the digital economy has driven a significant increase in the number of gig workers in Indonesia. This project-based flexible work model offers freedom and diverse income opportunities. However, behind this growth lies a serious challenge-income instability-caused by fluctuating demand and dependence on digital platforms. Such uncertainty affects gig workers' ability to manage their finances and achieve economic stability. Therefore, improving financial literacy is a crucial step to help gig workers manage their dynamic income wisely and sustainably (Faqih et al., 2024).

Coordinating Minister for Economic Affairs Airlangga Hartarto stated that Indonesia's financial literacy rate remains relatively low at 66.64%, despite a financial inclusion rate of 92.74%. This 26.1-point gap indicates that while many citizens have access to financial services, they often lack the knowledge and skills to manage them effectively. The government has been promoting financial literacy through several initiatives, such as the *National Council for Financial Inclusion (DNKI)*, the

Regional Financial Access Acceleration Teams (TPAKD), and the *One Student One Account (KEJAR)* program, all aimed at enhancing public financial understanding and self-reliance (Simanjuntak, 2025).

According to the *United Nations Capital Development Fund (UNCDF, 2020)*, gig workers identify income uncertainty as their primary concern in the digital platform-based economy. Because their earnings depend on the availability of gigs and market conditions, they face difficulties in predicting and planning long-term finances. Nevertheless, UNCDF's research shows that consistent saving habits serve as a strong predictor of financial well-being among gig workers. Those who regularly set aside a portion of their income, manage expenses prudently, and plan their finances effectively tend to exhibit greater financial resilience and are better equipped to withstand economic shocks. Thus, amid concerns over unpredictable earnings, adequate financial literacy-particularly in areas such as saving, cash flow management, and forward planning-becomes essential for gig workers to achieve financial stability and mitigate the risk of economic vulnerability.

Table 6. Financial Instruments and Investment Types Relevant to Gig Workers

<i>Financial Instrument Category</i>	<i>Examples/Platforms</i>	<i>Type of Investment/ Management</i>	<i>Risk Level</i>	<i>Main Purpose/Benefit</i>
<i>Savings & Emergency Funds</i>	Digital savings accounts, e-wallets (GoPay, OVO, etc)	Liquid (short-term)	Low	To manage daily operations and emergency expenses
<i>Insurance</i>	BPJS Health, BPJS Employment, microinsurance, digital life insurance	Protection	Low–Medium	Reduces financial risks from illness, accidents, or income loss
<i>Mutual Funds</i>	Money market, fixed income, balanced, or equity mutual funds	Medium–Long term investment	Low–High (depending on type)	Diversifies investments with small capital and professional management
<i>Digital Gold/ Precious Metals</i>	Pegadaian Digital, Tokopedia Emas, Lakuemas	Value-preserving asset	Low–Medium	Protects wealth from inflation and economic uncertainty
<i>Stocks</i>	Indonesia Stock Exchange, online platforms (Ajaib, Bibit, Stockbit)	Long-term investment	High	Potentially high returns through capital gains and dividends

<i>Bonds/ Government Securities</i>	Retail bonds (SBR, ORI, Sukuk Ritel)	Medium–Long term investment	Low–Medium	Provides fixed income with low risk, guaranteed by the government
<i>P2P Lending/ SME Financing</i>	Modalku, Amarth, Investree	Alternative investment	Medium–High	Generates interest by funding individuals or small businesses
<i>Digital Assets/ Cryptocurrency</i>	Bitcoin, Ethereum, other crypto assets	Speculative / short-term	Very High	Offers high potential returns but carries significant volatility and risk
<i>Retirement/ Pension Funds</i>	DPLK (Financial Institution Pension Funds), digital retirement savings	Long-term investment	Low–Medium	Ensures financial stability after retirement or reduced work activity

3.2.4. Integration of Knowledge Management System (KMS) and Learning Management System (LMS) as a Means to Enhance Gig Workers' Competencies through the SIAP KERJA Platform

To support effective learning methods for both gig workers and fresh graduates, it is essential to develop an integrated platform connected to the “*SIAP KERJA*” website that is easily accessible and free of charge. The integration of this platform with the *SIAP KERJA* account represents a strategic initiative to strengthen the competencies of active gig workers while simultaneously introducing freelance work ecosystems to university students. The platform combines the functions of a *Knowledge Management System (KMS)* facilitating knowledge sharing, experience exchange, and best practices among freelancers and a *Learning Management System (LMS)* that provides structured learning modules tailored to the needs of the digital industry.

Furthermore, each training program completed by participants will be accompanied by a nationally recognized digital competency certificate, allowing measurable and verifiable evidence of professional skill enhancement. Through this integration, gig workers can continuously deepen their technical and non-technical skills, while students gain early exposure to the characteristics and demands of flexible work environments. In addition to online self-learning, face-to-face bootcamps will be organized as a means to strengthen practical competencies through intensive training sessions led by professional practitioners in their respective fields. Therefore, this platform will serve both as a digital and physical learning space, as well as a capacity-building hub that adapts to technological advancements and the dynamics of the modern labor market.

The learning content within this integrated platform is comprehensively designed to address the core needs of gig workers and students as they prepare to navigate the digital labor market. Training materials encompass three main aspects: technical skills, English language proficiency, and financial

literacy. Technical skills focus on mastering digital tools and applications relevant to various freelance sectors, such as design, digital marketing, writing, and data analysis. English language training aims to enhance professional communication, comprehension of global work instructions, and the ability to write proposals and portfolios within an international context. Meanwhile, financial literacy modules are developed to equip gig workers with the ability to manage irregular income, plan personal finances, understand investment instruments, and gain awareness of taxation and social protection systems.

The combination of these three aspects is expected to produce gig workers who are not only technically proficient but also communicative, financially independent, and globally competitive in the evolving digital economy.



Figure 2. Existing platforms that can be utilized: (a) Skillhub; (b) KCLC; and (c) Proglat

3.3. Strategy for Enhancing Fresh Graduates' Competence Toward a Digital Economy Ecosystem

New graduates need to be adequately prepared before entering the gig work environment, as they will serve as the main actors and pillars of the future digital economy. Without a strong foundation in financial literacy, technical competence, and English proficiency, they risk falling behind in the highly flexible labor market. Ideally, this preparation should begin while they are still in university, ensuring that upon graduation, they already possess essential foundational skills. Therefore, early capacity building is a strategic step to ensure that the younger generation can participate productively, remain competitive, and contribute to national economic growth through the continuously evolving gig work ecosystem. The following are several development strategies explained as follows:

Table 7. Strategic Programs to Equip Students with the Skills to Become Gig Workers

Competency Development	Proposed Program	Expectations of Positive Outcomes from the Proposed Program
Technical Competencies according to Major	Learning platform integrated with SIAP KERJA account and get certificate	Strengthened synergy between educational institutions and government systems, improved access to verified learning pathways, and recognition of competencies through nationally acknowledged certificates that support career readiness in the digital economy.

Competency Development	Proposed Program	Expectations of Positive Outcomes from the Proposed Program
Financial literacy for financial management	Implementation free bootcamp program for selected graduates to enhance their technical competencies	Enhanced practical and technical competencies through intensive, industry-based training, increasing graduates' employability and competitiveness as professional gig workers.
	Curriculum enhancement and integration to commonly tools applied in the digital economy.	Better alignment between academic curriculum and evolving digital industry needs, ensuring graduates acquire relevant, up-to-date, and applicable technical skills for the gig economy.
	Learning platform integrated with SIAP KERJA account and get certificate	Strengthened synergy between educational institutions and government systems, improved access to verified learning pathways, and recognition of competencies through nationally acknowledged certificates that support career readiness in the digital economy.
	Compulsory pre-graduation training program on financial literacy applicable to all academic disciplines.	Increased student awareness and capability in managing personal finances, ensuring graduates enter the workforce with responsible financial behavior and readiness to face the gig economy's financial challenges.
English language skills	The university collaborates with financial platforms to organize webinars aimed at enhancing students	Mutual benefits for both universities and financial platforms through collaborative branding and outreach opportunities, while providing students with direct insights and sharing sessions from financial professionals to strengthen practical understanding and career awareness.
	Learning platform integrated with SIAP KERJA account and get certificate	Strengthened synergy between educational institutions and government systems, improved access to verified learning pathways, and recognition of competencies through nationally acknowledged certificates that support career readiness in the digital economy.

Competency Development	Proposed Program	Expectations of Positive Outcomes from the Proposed Program
	An international class in which all teaching and learning processes are conducted entirely in English.	Improved global communication abilities, enhanced academic competitiveness, and readiness to engage in international collaboration within the gig economy.
	A minimum TOEFL score of 450 is to ensure the English proficiency standard for fresh graduates.	Ensured standardization of English proficiency across disciplines, increasing employability and global competitiveness of graduates.
	Several subjects have been converted to be fully conducted in English throughout the entire learning process.	Strengthened practical language immersion, improved comprehension of technical terminology, and better preparation for real-world professional environments that use English as a working language.

3.4. Strengthening Social Protection through BPJS Insurance for Gig Workers

The dynamic nature of gig work, characterized by flexible employment arrangements and income instability, presents unique challenges in ensuring long-term welfare and financial security. Unlike traditional employees, gig workers often operate without formal contracts or employer-provided benefits, leaving them vulnerable to occupational risks, income interruptions, and health emergencies. This condition highlights the urgent need for a structured social protection system to safeguard their well-being (Siti, *et al.*, 2024). BPJS Ketenagakerjaan and BPJS Kesehatan play a crucial role in addressing these vulnerabilities. BPJS Ketenagakerjaan provides essential coverage through programs such as Work Accident Insurance (JKK), Death Benefit (JKM) and Old Age Savings (JHT), ensuring protection against occupational risks and providing income continuity during unemployment or retirement. Meanwhile, BPJS Kesehatan guarantees access to comprehensive healthcare services and financial protection from costly medical expenses.

Integrating gig workers into these social insurance schemes is therefore a strategic policy step to strengthen the national social protection framework. It not only enhances their resilience against economic and health-related shocks but also promotes inclusivity by extending state protection to all forms of labor in the evolving digital economy. Furthermore, all gig workers are required to participate in BPJS Ketenagakerjaan and BPJS Kesehatan as part of their mandatory social protection coverage. The contribution amounts are determined based on their average monthly income, following the regulations and calculation schemes established by both BPJS Ketenagakerjaan and BPJS Kesehatan as stated on their official websites. This policy ensures fairness, sustainability, and equitable access to essential protection for all independent workers within Indonesia's digital labor ecosystem.

4. Conclusion and Recommendations

The rapid growth of the gig economy in Indonesia presents significant opportunities for job creation and the expansion of the digital economy. However, it also introduces new challenges related to competencies, economic stability, and social protection. Gig workers require support in developing technical competencies, English proficiency, and financial literacy to effectively adapt to the dynamic and flexible global labor market. The integration of learning through digital platforms such as Knowledge Management Systems (KMS) and Learning Management Systems (LMS) serves as an effective strategy to strengthen the capacity of gig workers while also preparing university students to enter the workforce. Furthermore, mandatory participation in BPJS Health and BPJS Employment for all gig workers is a crucial instrument to ensure equitable and sustainable social protection. Therefore, strong synergy among government policies, educational institutions, and industry sectors is essential to build a digital work ecosystem centered on competence, financial independence, and long-term well-being for all gig workers in Indonesia.

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