

GEMS Gig Economy Marketplace Service

North America and Oceania Representation
The University of Melbourne, Australia

Addressing Technology and
Demographic Challenges to
the Future of Work

Pilot Project: Surabaya and Medan (Indonesia)



Abstract

As the growing global population causes imbalances in the workforce, an increase in the number of informal workers is inevitable. However, these workers often face difficulties in finding job opportunities, having access to a safe workplace, and achieving inclusivity. Although platform-mediated gig work in middle-income countries has expanded on location-based services, these platforms mainly accommodate ride-hailing and delivery services. While technology and AI present both threats and opportunities for the labour market, applying these tools appropriately can help expand employment opportunities beyond ride-hailing and delivery services. GEMS (Gig Economy Marketplace Service) is a systematic mobile platform that connects location-based gig workers with customers across four sectors: beauty and care, support workers, household repairs, and cleaning services. It is accessible to both workers (GEMS Partners) and customers (GEMS App), featuring a two-way rating and safety system for protecting both workers and customers. To ensure fairness, the platform also includes transparent pricing and competency systems that help determine fair market rates based on skills. Security features are integrated into matchmaking and payment processes, where customers pay upfront, and cancellation fees apply. GEMS collaborates with policymakers, government bodies, community organisations, gig workers, and customers. Indonesia is selected as the pilot region as it is a middle-income country experiencing a demographic bonus, in which the working-age population outnumbers the dependent population. The pilot will be launched in Surabaya and Medan—two cities representing Indonesia’s populous economic hubs. By integrating the vision of inclusive access and safety for gig workers through GEMS, this AI-powered technology solution addresses universal development challenges. The project aims to support Sustainable Development Goals (SDGs): poverty reduction (SDG 1), gender equality (SDG 5), decent work and economic growth (SDG 8), and reducing inequalities (SDG 10).

KEYWORDS: Accessibility, GEMS Mobile Application, Gig Worker, Inclusivity, Safety





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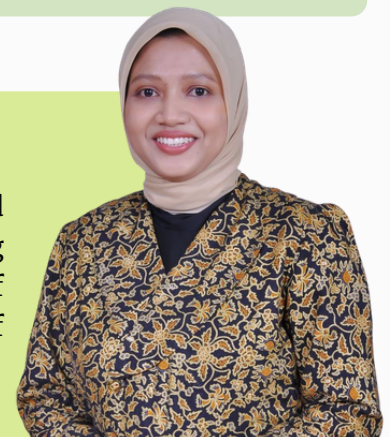
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INTRODUCTION AND PROBLEM OF STATEMENT

1.1 The Global Challenges of Future Employment

The current global population is expected to continue growing for the next 50–60 years, with an 80 percent likelihood of reaching its peak within this century (United Nations, 2024). This demographic shift causes workforce imbalances, as employment rates are heavily influenced by the labour market and population growth (International Labour Organization [ILO], 2023). The situation is further worsened by advances in Artificial Intelligence (AI) and technology, which disrupt the market by prioritising cost-effectiveness over paying human workers (Guliyev, 2023). This competitive pressure is heightened by globalisation, leading to job displacement, particularly in low- and lower-middle-income countries, where population growth is anticipated to be higher.

There are two different types of employment worldwide: formal and informal workers. Formal workers have more stable payments with a fixed-term contract. While the informal workers, including gig workers, tend to earn unstable income with no contract and no work insurance (Organisation for Economic Co-operation and Development [OECD], 2024). This gap between the two employment types can deepen inequality. Informal workers are more vulnerable to technology disruption and economic shocks (Grimshaw, 2021). As informal workers dominate lower-middle-income countries and represent the majority of the global workplace, this issue can be classified as a global challenge, especially when it comes to future employment.

The International Labour Organisation (ILO) has issued conventions and recommendations in addressing decent work and labour protection to support rights at work (ILO, 2026). Despite the implementation of government policies on labour market reforms, reskilling initiatives, and social protection frameworks for formal and informal workers, challenges continue to persist. The disruption experienced by informal workers remains significant, driven by inadequate regional coordination, social and cultural determinants affecting implementation, and limited funding resources (Reljic et al., 2022).





These challenges require support from multi-stakeholder collaboration among the actors to ensure the empowerment of employees, particularly informal workers, as a vulnerable group. Besides the external factors, digitalisation as an internal factor to enhance the quality of work can also be utilised. Instead of positioning AI and technological advancement as a threat, embracing them as an opportunity and a solution for human workforce is beneficial. A coordinated approach by maximising the latest digital advancement trends in the labour market is essential for the inclusion and sustainability of future employment.

1.2. Gig Economy: Opportunities and Challenges

Gig economy refers to a labour market characterised by independent contracting facilitated through digital platforms, offering workers autonomy and flexibility (Woodcock & Graham, 2020). People who work in this labour market are called gig workers. Taylor et al. (2017) define gig workers as people who use digital platforms to offer their labour. According to Huws et al. (2016), the gig economy encompasses two categories: location based-gigs which requires workers to be physically present at a location to perform the task (e.g., food delivery, manual labour, and ride-hailing) as well as online gigs which can be carried out remotely from anywhere in the world (e.g., software engineering, freelancing, and design).

While gig economy platforms in low- and middle-income countries are growing rapidly over decades and potentially beneficial to create more employment opportunities, there are concerns regarding location-based gigs, including lack of workers' safety, sexual harassment, inclusive working conditions, unfair wages, high charges from platform companies, and a formal process to solve working problems (United Nations Development Programme [UNDP], 2025b). Thus, a gig platform addressing these issues is needed to provide safe, inclusive, and fair employment opportunities for gig workers. This gig platform is particularly crucial for Indonesia, the fourth most populous country in the world with 287,198,383 people—after India, China, and the United States (BPS-Statistics Indonesia, 2026)—which is currently experiencing rapid growth of gig economy (Putri et al., 2023).





Besides, Indonesia has been experiencing a demographic bonus since 2012, in which the working-age population outnumbers the dependent population, with the window projected to close around 2036–2040 (BPS–Statistics Indonesia, 2022). While this can provide opportunities for economic growth, it may also lead to higher unemployment if the formal labour market fails to absorb the growing workforce. The gig economy, therefore, can potentially absorb this surplus workforce by offering a large number of job opportunities in Indonesia. However, existing platforms in Indonesia, such as Gojek, ShopeeFood, and Lalamove, focus primarily on delivery and ride-hailing services. Other informal workers in location-based gigs, such as domestic cleaners, plumbers, nail artists, and support workers, remain underrepresented on the existing platforms. Empowering these workers through a systematic digital platform could increase their income by connecting them with more customers and promoting their work more effectively.

1.3. Digital Transformation for Gig Economy in Surabaya and Medan

Digital transformation has led to major changes in the way informal work is carried out in major cities. Jobs that previously depended on personal connections, physical locations, or direct recommendations are now more connected to potential customers through digital apps. In big cities in Indonesia like Surabaya and Medan, this shift is visible through ride-hailing and delivery platforms that have existed to accommodate gig workers. However, the existence of various digital platforms does not necessarily mean that gig workers are protected, empowered, or have opportunities to move into more secure positions. Fairwork Indonesia (2023) highlights that platform workers in Indonesia are still facing issues such as unstable income, long working hours, limited access to health and insurance, and a lack of recognition of worker representation. Many platforms still focus on connecting workers with consumers, rather than building systems to protect workers, and these conditions show that flexibility actually strengthens the uncertainty itself.

The International Labor Organization (ILO, 2021) notes that digital work platforms have opened up new job and income opportunities. However, workers





often use various gig platforms to promote different types of skills, their employment histories, evaluations, and reputation scores are kept into separate platforms, which limits the workers' multiple skills to be recognisable (Tran Nhat et al., 2024). This issue is particularly relevant because gig work is strongly linked to location-based services in urban areas. Another issue remains that many gig workers are still vulnerable due to limited employment protection (Meidina & Putri, 2024). In the context of this project, which focuses on Surabaya and Medan, this highlights the need for a more integrated digital approach that not only connects workers with job opportunities but also supports worker recognisability and protection.

1.4. Problem Statement

Indonesia faces overlapping challenges in gig economy development due to an underdeveloped platform that provides safety, inclusivity, and fairness for workers and customers. Despite 59% of the total 144 million Indonesians being informal workers (UNDP, 2025), the exclusion of non-transportation and delivery services from the existing platforms leads to the underrepresentation of other types of location-based gigs. Hence, it is crucial to develop a digital platform that provides inclusive, safe, and fair employment opportunities for gig workers while giving transparent and reliable options for customers to find services that match their needs with fair competency information and a range of fees.





UNDERSTANDING CHALLENGES AND BUILDING SOLUTIONS

2.1. Understanding Challenges

The World Economic Forum (WEF)'s Global Risk Report (2026) indicates that the highest risk for Indonesia now is a lack of economic opportunity or unemployment. The main reasons are the adoption of AI in industry that has outpaced human resource readiness, fierce market competition, and increased layoffs of 43,000 cases by June 2026 (Yuantisya, 2026). By 2030, advanced technology and demographic shifts are also part of the main drivers expected to transform and shape the global labour market, particularly in South-Eastern Asia (WEF, 2025). In 2030–2040, Indonesia is predicted to reach a peak of demographic bonus (National Research and Innovation Agency, 2022; Nugraha, 2025). The window of opportunity to achieve a high-quality population toward Golden Indonesia 2045—a national development plan of the Indonesian government to become the top-five global economy by 2045. Achieving this goal depends on the nation's ability to understand and manage the demographic bonus before it turns into a disaster of unemployment of young population and Indonesia loses momentum to optimise this demographic bonus.

Indonesia's informal sector accounts for 36% of GDP and 59% of the total 144 million workers, with most activities concentrated in retail, transportation, repair, and hospitality (UNDP, 2025a). The informal or gig work phenomenon is driven by demographic shifts and sweeping digital transitions, where AI is rapidly shaping informal work, making online-based informal work or gig work expected to expand rapidly in the Asia-Pacific region (UNDP, 2026). In Indonesia, the location-based gig sectors have grown significantly since ride-hailing applications were established, following with the big impact on employability for about 2.3 million Indonesians and contributing US\$ 7 billion to GDP (Efendi, 2024). However, the digitalisation of gig work platforms mainly focuses on ride-hailing and delivery services. Other location-based gigs remain largely unstructured, excluded from digital platforms, and commonly rely on word-of-mouth marketing.





The current challenge faced by the Indonesian gig economy is not merely the absence of a digital platform accommodating other location-based gig workers but also the presence of barriers across various intertwined dimensions, such as worker-level challenges, the perspective of workers and customers, the role of technology, and community inclusivity (Fig.1).

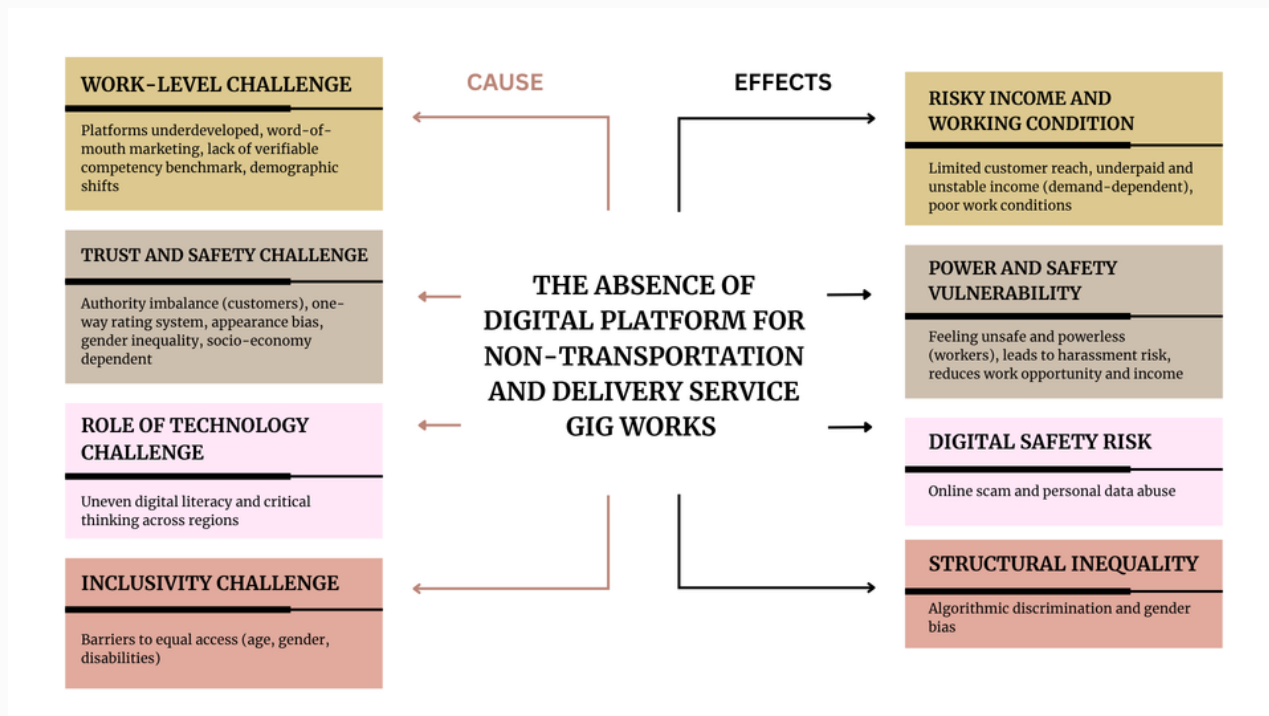


Figure 1. Tree of Problems of Gig Workers

Note. The data provided in the diagram is the authors' own analysis and elaboration.

1) Worker-Level Challenges: Underrepresentation and Untransparent Competency Information

Despite a growing demand for personal and domestic services, the platform connecting workers and customers remains underdeveloped. Workers usually rely on loyal customers and word-of-mouth marketing; therefore, opportunities to reach new customers remain limited. This condition can lead to low and unstable income, which depends on consumer demand (Kanimozhi et al., 2025). The existing platform has proven that workers gain more income after being employed as gig workers. For example, drivers make approximately





three times more per month once they work in a ride-hailing platform (IDinsight, 2025). Thus, it indicates that service access in digital platforms can increase the chance of being recognised and widen the scope of the worker's customers.

In addition, compared to ride-hailing workers, other location-based gigs lack a standardised and accessible platform to showcase their competency level clearly and based on a clear benchmark, as the workers' experience and skills only exist in their past and current customers, making it hard to validate their competency level. However, according to WEF (2025, 2026), scalable reskilling and upskilling are essential actions to address the lack of economic opportunity and mitigate the challenges of demographic shifts. Therefore, these circumstances make workers believe they deserve lower expectations for working rights, allowing them to accept poor treatment and conditions, and many workers are being underpaid because of limited and/or no evidence and trusted reviews of their competencies and years of experience (Alauddin et al., 2024).

2) Trust and Safety Challenge

Gig workers tend to experience feelings of unsafety and powerlessness due to an imbalance of authority with customers and platforms. This is particularly true for platforms enforcing one-way rating systems where only customers can give ratings to workers; consequently, it gives a burden to workers with the responsibility of proving trustworthiness, while customers face little accountability (Wiesböck et al., 2023). From the customers' point of view, the highest ratings and reviews will influence them in choosing workers, as current digital platforms for gig work mostly give customers so much power that they can unfairly rate and place workers into an inferior position (Alauddin et al., 2024). Furthermore, female workers are more vulnerable to sexual harassment and are often selected for jobs based on the attractiveness of their profile pictures (Wiesböck et al., 2023). Besides, gender inequalities which intersect with socio-economic class and dependency on income, leaving female workers at greater risk of facing sexual harassment (ILO, 2021). Given these circumstances, many gig workers tend to be more selective about when and where they will work, leading to a decrease in opportunities and income (Yoon & Ma, 2022).





3) Role of Technology Challenge

The Ministry of Communication and Digital Affairs (KOMDIGI) (2025) reported that the Indeks Masyarakat Digital Indonesia (IMDI), or Indonesia Digital Society Index, has integrated four main pillars: infrastructure and ecosystem, digital literacy, empowerment, and employment, where the index score rose to 44.53, up 1.19 points from the previous year. However, the big question is whether this quantitative achievement reflects the real condition of national digital quality, as Universitas Negeri Surabaya (UNESA) (2025) insisted that the index growth often does not reflect the public's critical understanding and even distribution of digital literacy across regions, supported by a large number of online scams and personal data abuse. Personal data abuse is also one of the challenges in the implementation of the gig economy because of invasive data collection in the process of gig work digitalisation (Alauddin et al., 2024). Moreover, non-transportation digitalised informal work holds immense potential as 81.72% of the total population of Indonesia, or 235.26 million people, have internet access (Riyanto, 2026). This means there is big potential to reach more people by digitalising gig work in cleaning services, support workers, household repairs, and beauty care.

4) Inclusivity Challenge

Another challenge is about inclusivity. Even though ILO (2025) insists that the gig economy has the potential to provide economic opportunity to underserved groups, such as low-skilled workers, women and young people, and people with disabilities, questions remain on how older adults and people with disabilities can access gig work services with ease, and how women and people with disabilities can secure job opportunities as equally as other people while ensuring their safety and freedom from discrimination. The digitalisation of gig work must not revive a new face of colonialism called AI. For example, a case of a ride-hailing platform, where the algorithm punished the single mom who had to take a few days off to care for her sick child by giving her fewer job offers (Yuana, 2026).





Hence, the gender gap in Indonesia's labour market is a critical issue that demands a viable solution, particularly with the gender pay gap accounting for around 20%, compared to less than 15% across OECD countries (OECD/ADB, 2020). Therefore, it is crucial to create a platform that accommodates diverse roles and ensures ease of use, feasibility, and inclusivity in the system for both workers and customers.

2.2. Pilot Context: Surabaya and Medan

Surabaya and Medan are chosen as pilot cities because they represent the big cities in Indonesia from two different islands, namely Java and Sumatra. In 2026, the total population in Surabaya is 3.008 million people, with 1.64 million young people aged 15 and over included as the labour force, with unemployment reached 79,432 people (BPS-Statistics Indonesia Surabaya Municipality, 2026), and Medan reached 2.498 million people, with a population aged 15 years and over was 1.9 million people, with total unemployment was 101,389 people (BPS-Statistics Indonesia Medan Municipality, 2026). These two cities are chosen as the pilot locations due to their domination in Indonesia's economic spatial distribution, accounting for 56.93% and 22.22%, with growth of 5.30% and 4.81% in Java and Sumatra, respectively, in 2025 (BPS-Statistics Indonesia, 2026).

2.3. Looking Back and Moving Forward

The urgency is echoed at the national level, where the growth in the working-age population is paradoxically met with a high unemployment rate. The condition worsens with rapid change in technological advancement in industry, which will transform the global labour market by 2025-2030 (WEF, 2025). Given this circumstance, many Indonesians choose to work in the informal sector to survive. The problems arise as informal workers, despite those who have already entered the gig economy system, commonly face issues related to accessibility, safety, and inclusivity.





The World Economic Forum's Future of Jobs Report 2025 identifies that digitalisation has become the most important driver of labour market transformation in Indonesia, with 83% of businesses in the country expecting this trend to reshape their organisations—compared to a global average of 60% (WEF, 2025). The trend of broadening digital access must balance with human resource readiness to prevent a deepening societal polarisation. Without it, both higher productivity and higher unemployment could transpire simultaneously (WEF, 2026).

Looking back, Indonesia's workers and customers of the gig economy face layered and intertwined barriers where untransparent competency information of workers can lead to low trust between workers and customers and challenge the safety for both parties. This gap is worsened by the condition where digital literacy is low and cannot keep up with technological advancement. Furthermore, the underrepresented groups like people with disabilities and women tend to be more vulnerable to the impacts of all these intertwined barriers. The current gig platforms in Indonesia merely accommodate ride-hailing and delivery services; meanwhile, other sectors such as support workers, household repairs, and beauty care remain underrepresented in the current labour market.

Moving forward, there is a need to establish a platform that can accommodate and address the challenges to not only create satisfaction for customers but also create happiness and retention for partners by providing one ecosystem that is an inclusive, safety-first and trusted-verified platform. By empowering gig workers as important players in the gig economy in Indonesia while increasing their contribution to the nation, and at the same time also opening more economic opportunities in optimising the demographic bonus and can co-create interventions for addressing the needs of marginalised groups such as people with disabilities and female workers.





The GEMS Project

3.1. Description of the Project

The GEMS project, which stands for the gig economy marketplace service, is designed to provide employment opportunities for informal workers working in four sectors: **cleaning services, beauty and care, household repairs, and support workers**. The project will build a digital platform to facilitate gig workers across diverse socio-economic, age, gender, disability, and educational backgrounds to perform location-based gigs, offering them opportunities to promote their labour, connect with more customers, increase their income, and eventually contribute to poverty reduction within this community.

GEMS will ensure accessibility, safety, and inclusivity for both gig workers and customers. In terms of accessibility, it incorporates several AI-powered features to ensure the platform is navigable for users across diverse backgrounds and ability levels. AI-powered search and filter systems allow users to refine results by work type and gender-specific preferences, while a voice search feature accommodates those with special needs. The platform's UI is also designed with a colour-blind friendly palette, ensuring visual accessibility for users with colour vision deficiencies. Worker and customer identity is verified manually through facial recognition during registration to maintain security by ensuring that users match with their registered personal identity in the GEMS app.



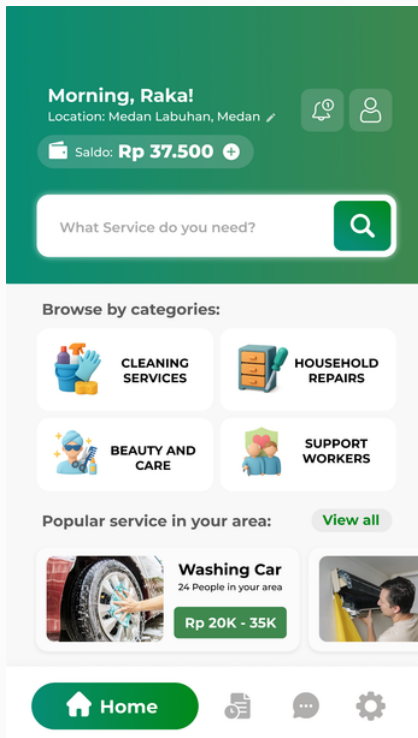


Figure 2. Main page of GEMS Application

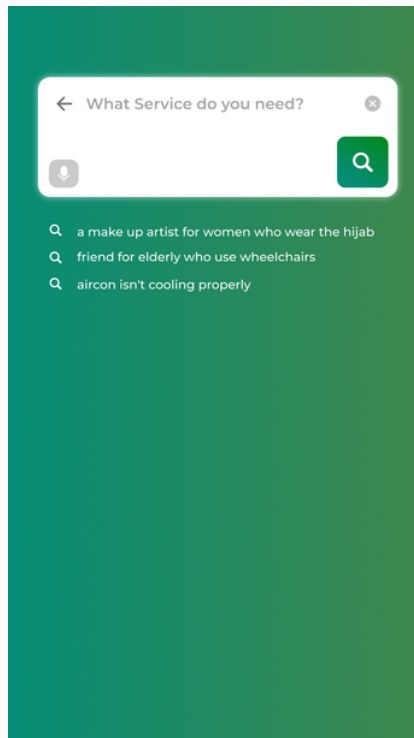


Figure 3. Search Bar with an AI-Assisted Companion

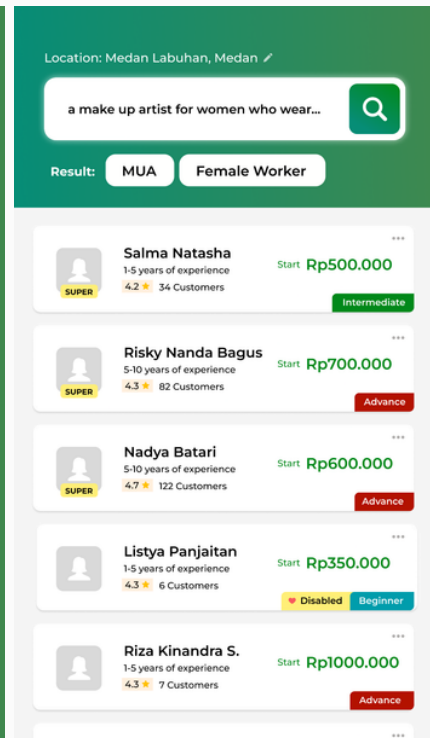


Figure 4. AI-Assisted Search Results

For **safety** during work, an AI-supported live audio recording function operates throughout each job. If an incident occurs, the platform's AI automatically detects issues in the workplace and reports them to the real human platform administrators, accelerating the process of reporting. An AI-assisted chatbot is also available to assist users with platform navigation, solve workplace problems, handle complaints, and connect them to support services when needed. Additionally, workers' profile pictures are not shown to customers until they pay for their orders to avoid issues of lookism, objectification, and sexual harassment, particularly for female workers. Research has shown that female workers are at greater risk of being selected by male customers because their profile pictures look attractive, which frequently makes them targets of objectification and may lead to sexual harassment (Wiesböck et al., 2023).



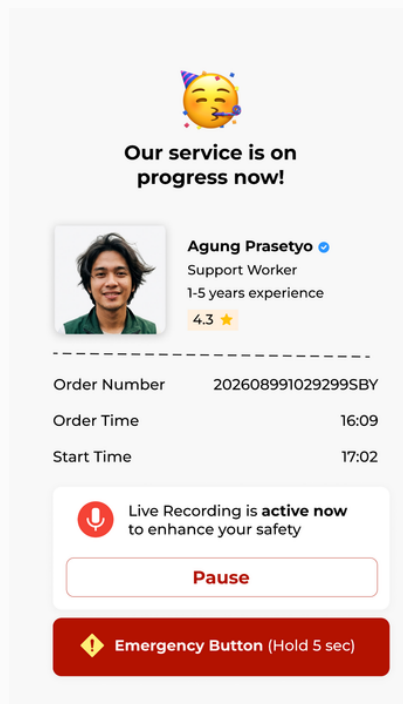


Figure 5. Live Recording and Emergency Button are Available on The Service Progress

3.2. Implementation Plan (Prototype)

In practice, **two apps connect gig workers with those who need their services.** We refer to gig workers as “partners” and those seeking their services as “customers.” We refer to both partners and customers collectively as “users.” Partners are connected through the GEMS Partner App, where users can register what they can offer, list their relevant competencies and skills, and provide supporting personal information. The data collected will serve as the primary factor in determining which gig workers are displayed to customers. This includes factors such as specific relevant skills or any restrictions set by the worker to prevent them from being matched with a particular customer. For instance, customers may look for a female barber because they are not comfortable engaging with the opposite gender. Next is the application from the customer’s side, the GEMS App, where users can register and search for workers based on the criteria entered in the search box. This search box uses AI's help to find the best matches between the customer’s needs and available workers. Customers can also select services based on the available filter criteria if they wish to filter results manually. As for the implementation, several systems will be integrated into the app:



First, the **rating system**. In practice, both customers and workers can provide ratings, which can serve as a factor in selecting or accepting workers or customers. This two-way rating system allows customers and workers to rate each other to show their accountability. It also functions as an automatic filter and triggers alerts if partners' or customers' actions are threatening safety.

The figure displays two identical rating service forms side-by-side. The left form is for a worker named Agung Prasetyo, titled 'How was your order?'. The right form is for a customer named Nauris Firdaus, titled 'How was your customer?'. Both forms include a star rating system (5 stars), a text box for a review, a thumbs up/down question, and a 'Report' button.

Left Form (Worker Rating):

- Thank you for ordering our service
- How was your order?**
- Agung Prasetyo (Support Worker: Help for Elderly)
- Star rating: 5 stars
- Write your review here... (with a green arrow button)
- Did you feel safe during this service? (with thumbs up/down buttons)
- Has an unpleasant experience? (with a 'Report this worker' button)

Right Form (Customer Rating):

- Thank you for your service
- How was your customer?**
- Nauris Firdaus (Order Support Worker: Help for Elderly)
- Star rating: 5 stars
- Write your review here... (with a green arrow button)
- Did you feel safe during this service? (with thumbs up/down buttons)
- Has an unpleasant experience? (with a 'Report this customer' button)

Figure 6. Rating Services are Available for Both Partners and Customers

Second, the **safety system**. Within this system, every partner or customer who wants to make a booking or receive a request must verify their identity via facial recognition. This verification will be processed automatically in less than 5 seconds using AI assistance to confirm that the app is really being used by the relevant partner or customer. While the job is being performed, the app will also record live audio in real time, serving as a security system for both parties. Also, regarding this security aspect, the app provider will cooperate with law enforcement in taking action on cases if necessary.





Users must also be at least 17 years old or of the legal age to hold an Indonesian ID card in order to meet the requirements of applicable laws regarding the legality of working in Indonesia. On the customer's side, if the service is to be used for a friend, younger sibling, relative, or child under the age of 17, multi-layered verification is required.

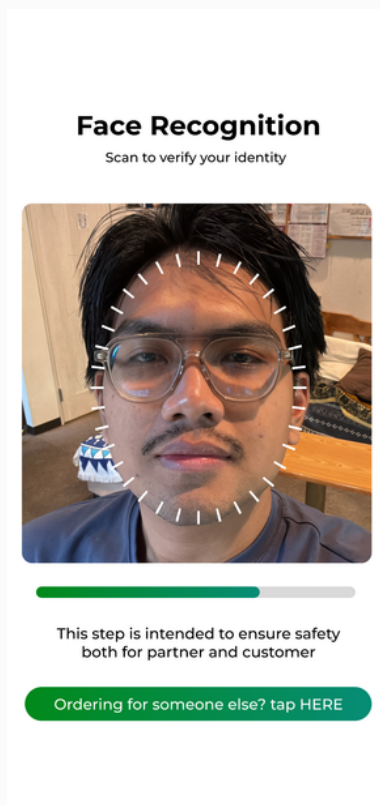


Figure 7. Face Recognition for Verification Progress

Third, the **pricing system**. This system allows partners to set their own rates. However, the app will provide pricing suggestions based on other partners with similar skills, service areas, and average market rates. This is designed to help partners attract customers while ensuring their pricing remains in line with market conditions.

Fourth, the **competency system**. After users provide details of their skills in the registration, the app provider will verify each one individually to ensure that the listed competencies are truly valid or not a scam.



Moreover, when completing registration, users are required to provide information regarding any specific conditions that need to be disclosed, such as a disability or any other conditions that require attention.

Figure 8. Personal Information Related to Police Background Check and Information Regarding Disabilities during Registration

Figure 9. Selecting Types of Jobs to be Offered and Uploading Supporting Data Related to Competencies

Fifth, the **matchmaking and payment system**. Under this system, if a customer and a partner have already been matched and a cancellation occurs, a cancellation fee will be charged unless a valid reason is provided by either the partner or the customer. Payment must also be made in order for the service to proceed, and it can be made using several types of payment, such as virtual bank accounts, e-wallets, or QRIS (QR Payment Code developed by Bank Indonesia).

3.3. Stakeholder Mapping

Stakeholders for GEMS are classified by the upstream, midstream, and downstream levels of engagement.





Stakeholder Mapping

Stakeholder Engagement	Upstream	Midstream	Downstream
	Kementerian Ketenagakerjaan RI Indonesian Ministry of Labor-Power	Local Authorities: Regional Manpower Offices (Surabaya and Medan)	Local Customers
	Kementerian Komunikasi dan Digital Indonesian Ministry of Communication and Digital Affairs	Karang Taruna Medan and Surabaya Community Organisation	Local Gig Workers
	The Indonesian Professional Social Workers Association (IPSPI)	RT/RW Neighborhood and Community Union	
	Digital Platform Developer	KOL (Key Opinion Leader)/ Influencer	
	Curriculum Developer for Training Module		

Figure 10. Stakeholder Mapping for GEMS Project Implementation

3.4. Smart Indicators for Measuring Specific Objectives

Objective No. 1: Create and develop a gig worker platform to ensure accessibility in the job market for both partners and customers.

Outcomes	Evidence
90% of the registered gig workers report improved access to their job opportunities within this GEMS platform	Survey for platform users at registration and after three months of use, as well as regular short feedback interviews with users
90% of registered customers report the ease and improvement in finding gig workers using GEMS platform	





Action towards objective No. 1:

Actions	Indicators	Evidence
Design and develop a mobile platform with partner profiles, job postings, AI-powered search functionality, and safety features	1. Platform designed and launched within 1 year 2. After the first 3 months of launching, 1000 partners and 500 customers, each from Medan and Surabaya are registered	1. Platform-launching record 2. Database of user registration (partners and customers)
Conduct training/onboarding sessions to support the partners and provide tutorials on application use to new customers	Two onboarding sessions were conducted over six months, reaching 350 partners, and all tutorials were given to new customers	1. Participant and attendance list 2. Onboarding materials and application tutorials

Objective No. 2: Ensure the safety and satisfaction of the transaction from the perspectives of workers and customers.

Outcomes	Evidence
90% (both partners and customers) report feeling safe during platform transactions	Safety and satisfaction rate after each completed transaction, as well as regular short feedback interviews with partners and customers
90% (both partners and customers) report being satisfied with completed transactions	





Actions towards objective No.2:

Actions	Indicators	Evidence
Implement an identity verification and background-check (police check/SKCK) system for workers prior to user activation	1.100% of registered workers verified before activation. 2.20% random verification audits were conducted over six months.	1.Worker verification records 2.Audit reports
Implement a two-way rating and review system and establish a dedicated customer support	1.80% of completed transactions receive ratings 2.80% of complaints are resolved within 24 hours of submission	1.80% of completed transactions receive ratings 2.80% of complaints are resolved within 24 hours of submission

3.5. Project Phases

The GEMS project will be implemented in five phases comprising preparation, pilot implementation, scaling up, cross-city integration and policy engagement, as well as sustainability:

3.5.1. Phase 0: Preparation

This phase focuses on preparations for application development and supporting matters related to its development. We will process permits at the regional and national levels to ensure that the project's implementation does not conflict with existing regulations. A survey will be conducted among gig workers in the two pilot cities to understand their digitalisation needs. After analysing the survey results, we will proceed with UI design, application coding, and evaluation in stages for both the partner and customer applications. The future stakeholders who will support this project will be listed, and guidelines for collaboration will be drafted.





3.5.2. Phase 1: Pilot Implementation

In the two pilot cities where this project will be implemented, we will start with a mixed online and offline approach. Digital methods will be used to promote both partner sign-ups and customer sign-ups. For our initial digital promotion, we will collaborate with relevant KOLs who can help raise awareness among viewers. We will use offline methods such as billboards, moving advertisements in public transportation, and brochure distribution in areas with high pedestrian traffic to attract new users. During this phase, we will also conduct onboarding for partners joining our project. Evaluation will be conducted throughout the implementation, as this is the earliest trial-and-error phase.

3.5.3. Phase 2: Scaling Up

In this phase, the project will deepen its impacts on gig workers through several programs. GEMS will introduce a tiered system that rewards workers based on performance and loyalty. The workers who show excellent performance, proven by competency and at least one-year of working experience, are labelled as “Super Partner”. This label can enhance their customers' trust and their profile is easily found in job searches. The “Super Partner” also receives annual training that not only strengthens their capacity, but also sustains their motivation. These programs are designed to build gig workers' capacity, improve quality services, and provide opportunities for career growth.

3.5.4. Phase 3: Cross-City Integration and Policy Engagement

During this phase, evaluation is conducted for cross-city integration and policy engagement covering Surabaya and Medan. The evaluation examines multi-stakeholder perspectives focusing on the GEMS implementation in the two cities. This involves local authorities and community organisations, local gig workers, and local customers of GEMS. For the purpose of the evaluation, we will facilitate focus-group discussions to allow stakeholders to share their perspectives and experiences across cities as well as to discuss challenges and successes on the GEMS implementation. Results from this discussion will be consolidated into a summary report and policy brief, which will form the basis for policy engagement with relevant Indonesian government stakeholders (e.g., Ministry of Labour-power, Ministry of Communication and Digital Affairs).





3.5.5. Phase 4: Sustainability

Building on the report and policy brief developed in Phase 3, this phase focuses on ensuring the long-term impact and sustainability of the GEMS project. Thus, we will expand our collaboration with upstream stakeholders (Ministry of Labour-power, Ministry of Communication and Digital Affairs, and the Indonesian Professional Social Workers Association) and midstream stakeholders (local authorities in Surabaya and Medan, KOLs, and community organisations). By collaborating with the upstream and midstream stakeholders, we aim to advocate for policy recommendations that promote long-term regulatory support for platform-based gig worker protections. These efforts aim to contribute to broader development goals, including SDG 1 (poverty reduction) by empowering gig workers across diverse socio-economic backgrounds through accessible platform-based labour promotion, SDG 5 (Gender Equality) by ensuring safe working conditions, particularly for female workers and customers, SDG 8 (Decent Work and Economic Growth) by supporting job creation and growing enterprises, and SDG 10 (Reduced Inequalities) by advocating for more inclusive employment policies.





3.6. Timeline

The project timeline for GEMS implementation across two cities (Surabaya and Medan) is illustrated in the following chart. The phases include preparation, pilot implementation, scaling up, cross-city integration and policy engagement, as well as sustainability.

PROJECT TIMELINE

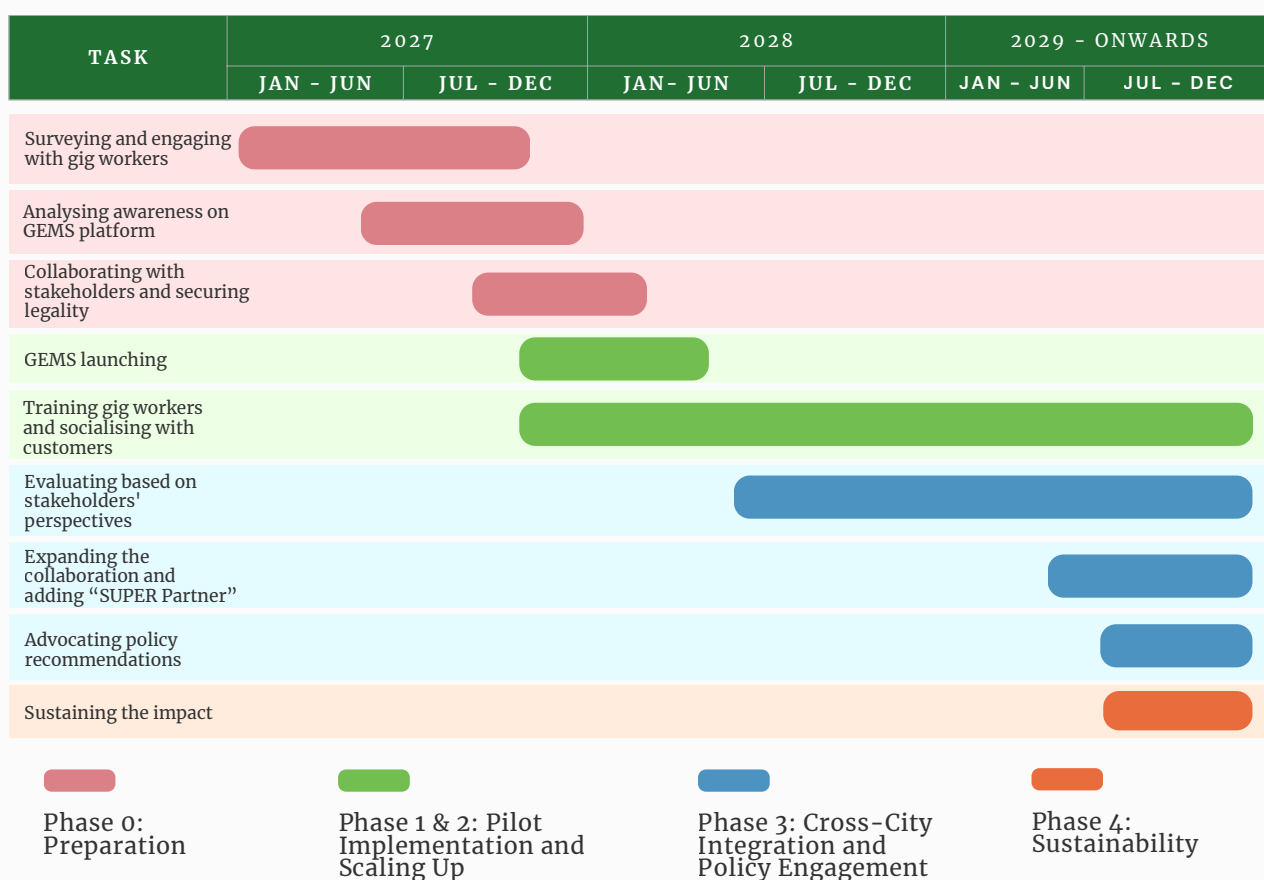


Figure 11. Timeline of GEMS Project Implementation

3.7. Budget Overview

The budget has been estimated based on conventional prices in Surabaya and Medan, with a total estimated cost of the project for a three-year duration, from phase 0 to phase 4, is \$283,020 USD.



PROJECT	ITEM		COST (USD)	Qty	UNIT	TOTAL
Phase 0 (year 0-1)	Advanced Digital Platform Development with shared back end	GEMS Partner App	125,000	1	MVP App Package	250,000
		GEMS App	125,000	1		
	Training modules preparation: for each type of service (4)		500	4	Service module	2,000
	Server & Cloud Hosting		80	12	month	960
	Brochures and modules design & Print		1,000	1	design + initial print package	1,000
Phase 1	Offline Marketing:	Billboard and Posters (for both cities)	1,500	2	City campaign	3,000
		Flyer attached to public transportation	800	2	City campaign	1,600
		Brochures (A5)	0.09	4,000	Pcs	360
	Online Marketing	Meta, Google, and TikTok Advertisement	400	6	city-month	2,400
		Hardware Tools Package (Phone, Laptop, and Mic)	1,100	2	Kit package	2,200
		Key Opinion Leader Collaboration	150	8	Package	1,200
	Uniform Vest for every partner:		9	500	pcs	4,500
	Pin or badge for information about disability conditions.		1	100	pcs	100
	Logistics support (training module print, renting space, and other printings)		600	4	Training session	2,400
	Token of Appreciation to the committees		40	20	person	800





Phase 2	Velcro badge for Super Partner		3	100	pcs	300
	Curriculum Developer for Online Module (text, picture, video, graphics included)		750	4	Online module	3,000
	Training and Workshop (There would be collaboration with brands or experts in holding this agenda)	Cleaning Services	500	2	City workshop	1,000
		Beauty and Care Services	500	2	City workshop	1,000
		Household Repairs	500	2	City workshop	1,000
		Support Worker	500	2	City workshop	1,000
Phase 3	Multi-Stakeholder Focus Group Discussion (FGD)		600	2	FGD	1,200
Phase 4	Advocacy Materials and Campaign (policy brief, social media pack, final report design, campaign assets, and stakeholder dissemination)		2,000	1	package	2,000
Grand Total Estimated Budget (USD)						283,020

3.8. Goals, Outcomes, Theory of Change, and Monitoring

3.8.1. Goals

The goal of the GEMS project is to provide a platform for gig workers by ensuring that they are equipped with the opportunity to develop and promote their skills to fulfill customers' needs through this platform. This application enables informal workers to access a wider range of employment opportunities and enhance their economic resilience within their communities. By integrating equality principles for gender and disability, this digital platform aims to provide people with opportunities to be hired, reduce barriers to workforce inclusivity among gig workers, and strengthen their sustainability by enhancing capabilities.





3.8.2. Outcomes

3.8.2.2 Short-Term (within 1 year):

- Surveying and engaging with gig workers' representatives from the two pilot cities.
- Analyzing the need for a digitalised platform to accommodate gig worker workforces.
- Collaborating with multisectoral stakeholders and securing government legality procedures.

3.8.2.3. Medium-Term (1-2 years):

- Developing and launching the GEMS mobile platform.
- Training gig workers in familiarising the platform and socialising with the community to attract customers.
- Evaluating stakeholders' perspectives from two cities on the project implementation for cross-city integration.

3.8.2.4. Long-Term (3+ years):

- Expanding the collaboration and scaling up by using a tiered system of partners based on their competence and loyalty.
- Advocating policy recommendations to support equal rights for gig workers' employability.

3.8.3. Theory of Change

This project aims to **facilitate the gig workers' community and advocate for their rights**, thereby increasing job opportunities and making it easier for customers to find gig workers. The GEMS platform empowers gig workers by enhancing their economic status through recognition by potential customers and enabling them to compete effectively in the job market. GEMS transforms limited work options into numerous opportunities, ensuring gender equality and accessibility for individuals with disabilities. Ultimately, demographic advantages and AI, often seen as threats, can be turned into allies. This system promotes economic opportunities for gig workers who have traditionally been marginalised.





3.8.4. Monitoring

1. Monitoring of the GEMS project will occur throughout all project phases, using both qualitative and quantitative methods. The key tools include:
2. Initial survey and research baseline.
3. Project pre-launch evaluation.
4. Platform engagement data analytics.
5. Written and oral feedback from both the partners and customers.
6. Capability evaluation for scale-up readiness

3.9. SWOT Analysis

The table below describes the strengths, weaknesses, opportunities, and threats to the GEMS project.

Strengths Core

- Digital platform enables gig workers to set up their data and wages
- Inclusive access, safety, and flexibility
- Special features that accommodate women and people with disabilities
- Simple UI design and colorblind-friendly with an AI-based search bar, allowing customers to easily find their needs without knowing specific terms of the “work”

Opportunity Paths

- Has strong potential for multisectoral engagement and partnership with stakeholders
- Potentially integrate with existing employability programs from the government
- Bonus demography and mass immigration effects can be an opportunity instead of a threat with the availability of this platform

SWOT Analysis

Weakness Gaps

- Competitive job market as customers prefer the lowest service fee; needs to recommend a range of fees
- Platform maintenance and bugs in the system
- Varying levels of digital literacy and fee standards across different city contexts

Threat Risks

- Cybersecurity issue on the platform, as it uses data from both the workers and the customers for verification
- Any potential political shift that may hinder implementation
- The lack of job security and user protection





3.10. Contribution to The Sustainable Development Goals (SDGs)

The GEMS project contributes to the development of Sustainable Development Goals (SDGs), including the relevant goals in poverty reduction (SDG 1), gender equality (SDG 5), decent work and economic growth (SDG 8), and reduced inequalities (SDG 10).



Figure 13. SDGs 1 No Poverty

SDG 1 “Poverty Reduction”

This SDG aims to achieve the establishment of social protection systems, equal rights to necessities and economic resources, resilience-building, gender-sensitive policy development, and pro-poor implementation.

GEMS target in this goal focuses on Target 1.1 to eradicate extreme poverty—people earn less than \$1.25 USD per day. GEMS plays a role in reaching people across diverse income levels and social backgrounds, empowering them with access and promotion through our application, particularly to empower gig workers. This effort helps improve gig workers’ income and eventually helps reduce poverty for this community.



Figure 14. SDGs 5 Gender Equality

SDG 5 “Gender Equality”

The purpose of gender equality is to ensure women's empowerment by ending all forms of violence, discrimination, and harmful practices against girls and women. Full participation, equal leadership opportunities, and gender equality promotion.

GEMS believes in gender equality for gig workers and customers. It has a specific feature for customers who require a certain gender to work with them (for personal and safety reasons) and vice versa. These goals focus on Target 5.8 in promoting the empowerment of women through technology.





GEMS promotes gender equality by supporting women's economic participation by enhancing access to skill development and employment opportunities through technology.

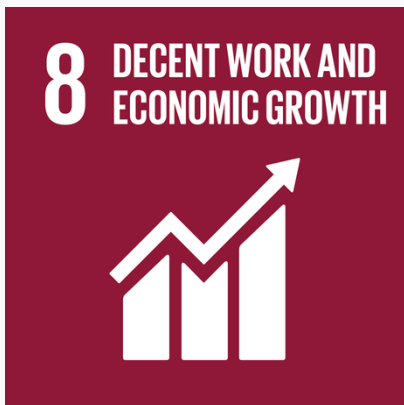


Figure 15. SDGs 8 Decent Work and Economic Growth

SDG 8 “Decent Work and Economic Growth”

This target helps to sustain economic growth, ensure diversification, innovate and upgrade for economic productivity, promote policies to support job creation and growing enterprises, and promote youth employment, education, and training while ensuring working protection.

This target is the most relatable to GEMS, where one of their strategies in supporting job creation and growing enterprises is part of GEMS vision. Empowering informal workers to get their customers from home, it can sustain economic growth and improve decent work. GEMS specifically focuses on Target 8.8 on protecting labour rights, particularly on promoting safe working environments. Thus, it aims to create a safe working space through our AI-supported live audio recording and face recognition for the protection features.



Figure 16. SDGs 10 Reduced Inequalities

SDG 10 “Reduced Inequalities”

This SDG aims to improve the regulation of global financial markets, inclusivity in political and economic decision-making, and the enhancement of fiscal implementation and decision-making representation.

Informal workers are often excluded from social security schemes, contributing to social and economic inequalities.



GEMS specifically focuses on Target 10.2 by promoting social and economic inclusion for all. Thus, GEMS contributes to increasing the gig workers' economic opportunities and advocating for more inclusive employment policies. It also aims to give benefits for customers through improved accessible service, quality services, and a reliable platform.

CONCLUSION AND FUTURE VISION

The GEMS project is designed to provide employment opportunities for informal workers across diverse socio-economic, age, gender, disability, and educational backgrounds. It aims to empower location-based gig workers performing cleaning services, beauty and care, household repairs, and support work by providing an AI-powered technology-mediated gig platform. Through this platform, GEMS enables gig workers to promote their labour, connect with more customers, increase their income, and ultimately contribute to poverty reduction within their communities. By integrating the vision of inclusive access and safety for informal workers through GEMS, this AI-powered technology solution addresses universal development challenges. GEMS offers accessibility and flexibility for both workers and customers, where the mobile application can be used anytime and anywhere. This digital platform offers special features that accommodate women and people with disabilities, both as workers and customers. It is also designed with a colourblind-friendly and simple UI with an AI-based search bar, enabling customers to personalise their keywords and easily find the work they need. By integrating and collaborating with multiple stakeholders, both demographic bonus and AI, which used to be a threat, can become opportunities instead. Looking ahead, partnership and engagement with policymakers and GEMS has the potential to serve as a model for future initiatives addressing similar challenges in other communities, scaling up the project beyond the region. By empowering gig workers through the GEMS mobile platform, we can positively impact their overall future of work, thus contributing to the UN's 2030 Agenda, particularly on achieving SDG 8 "Decent Work and Economic Growth".





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