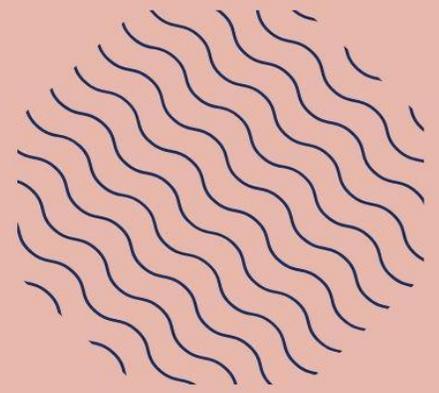




TESDA

TECHNICAL EDUCATION AND
SKILLS DEVELOPMENT AUTHORITY



LABOR MARKET INTELLIGENCE REPORT

Issue no. 2 | Series of 2023

Navigating the Future of Work

**STEERING THE GIG ECONOMY
THROUGH SKILLS DEVELOPMENT**



I. Background

a. Definition

The gig economy can be considered as one of the emerging industries of recent years. It operates in a free market which involves the hiring or contracting of workers for temporary or short-term commitments, facilitated by online technology platforms and applications. Zheng and Yang (2020) characterized the gig economy where jobs are decomposed, skillization of workers are prevalent, internal and external human capital are integrated, and corporate management is decentralized.

i. Decomposition of jobs into work

In traditional labor contracts, a worker performs his/her job, “defined as a set of tasks and duties meant to be, or actually being performed by one person for a single economic unit in relation to activities defined as employment” (ILO, 2018). In the gig economy, this job is divided into several pieces such as work, projects or tasks. The earnings of a gig worker is also determined by how the worker takes on and completes independent work or tasks within limited time periods (Zheng and Yang 2020). In this situation, gig economy workers have more control and flexibility on the performance of their work, not needing to work at a fixed workplace and a fixed time period (Zheng and Yang 2020). With less control over the working process, employers or contractors pay more attention to the quality of output or the performance of the work (Zheng and Yang 2020).

ii. Skillization of workers

In the gig economy, workers are selected based on the specific skills needed by the employers and contractors. Those workers who possess the skills based on customers’ needs will be highly demanded in this economy. Employers and contractors will not be spending on training costs once they find the workers that they need in the platforms. The workers, however, need to spend on skills development so that they can adapt to changing market needs, and to gain more or better work opportunities.

iii. Integration of internal and external human capital

The gig economy relies on the “integration of internal and external human resources to maximize profits” (Zheng and Yang 2020). Employers and contractors have a diversified workforce because they are able to hire workers not only from internal job markets but also in external job markets (Zheng and Yang 2020).

iv. Decentralization of corporate management

In the gig economy, management of workers is decentralized because workers are considered as self-employed. Workers as self-employed are responsible for the management of their work. Employers and contractors save on these costs while also able to “improve operational and production efficiency” (Zheng and Yang 2020).

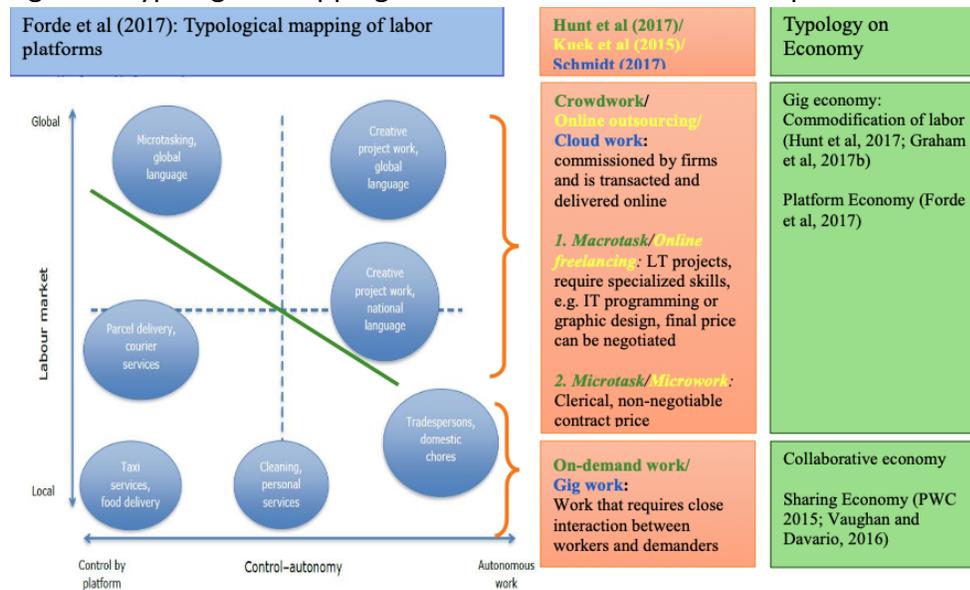
v. Workers motivations in the gig economy

The ILO report in 2021 said that among the reasons why workers engage in online web-based platforms are the “need to work from home or for job flexibility”. This reason is particularly important for women. This finding is supported by the statement of Ms. MK Bertulfo, Founder of Filipina Homebased Moms (FHMoms). She said that those who would like to do online jobs want to spend more time with their families, or would like to go back to the Philippines rather than working overseas (M.K. Bertulfo, Personal Communication, June 1, 2023).

Some online workers want to supplement their income sources, or see online work as an opportunity to improve their skills and careers.

Bayudan-Dacuycuy et al (2021) provides this illustration of the mapping of economic activities in labor platforms according to control autonomy and labour market in Figure 1.

Figure 1. Typological mapping of economic activities in labor platforms



Source: Bayudan-Dacuycuy et al (2021)

The mapping of the types of work or tasks by Bayudan-Dacuycuy et al is determined by the extent of control-autonomy (control by platform to autonomous work), and the type of labor market (local or global). The on-demand service work such as taxi service and food delivery have the least control-autonomy, and serves the local market. The microtasks are demanded by the local market, and are also platform controlled. Creative works are fairly autonomous, and the demands for these are both local and global.

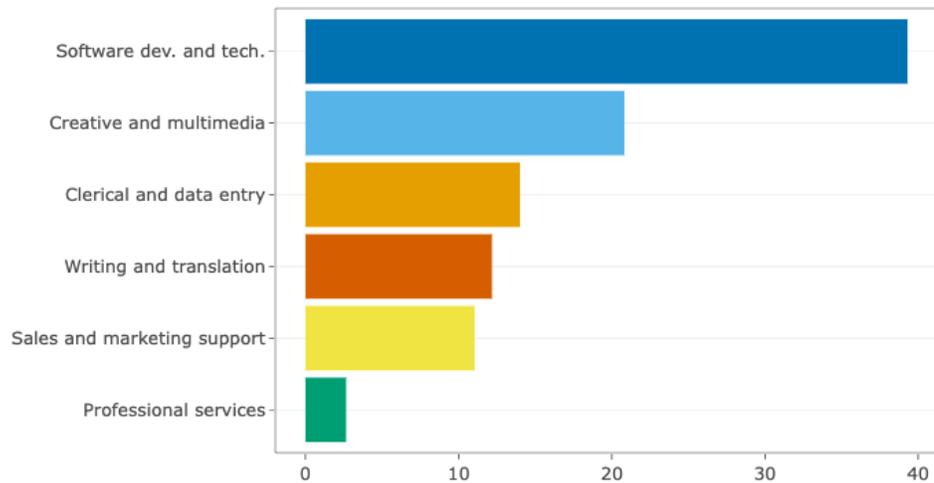
b. Current Situation

i. Measuring online labour

The Online Labour Index 2020, developed by Stephani, Kässi and Lehdonvirta as part of the Online Labour Observatory – a collaboration between the International Labour Organisation and the Oxford Internet Institute at the University of Oxford, is an attempt to “measure the supply and demand of online labor by tracking all the projects/tasks posted on the five largest online labour platforms and six non-English Language (three in Spanish and three in Russian).”

1. Online Labour Demand

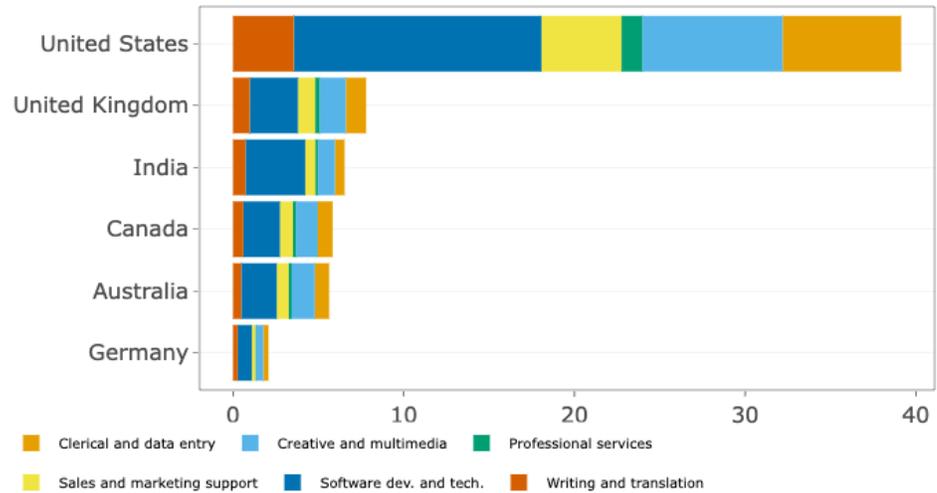
Figure 2. Online labour demand by occupation, 2020



Source: OLI 2020 | onlinelabourobservatory.org

Among the occupations, software development and technology has the highest share of online labour demand at 39.3%, followed by creative and multimedia which cover a little over half of the demand for software dev and tech at 20.8%. These are followed by the demand for clerical and data entry (14%), writing and translation (12.2%), sales and marketing support (11%) and professional services (2.6%) (Stephani, Kässi and Lehdonvirta, 2021).

Figure 3. Global market share of online labour demand by country and occupation, 2020

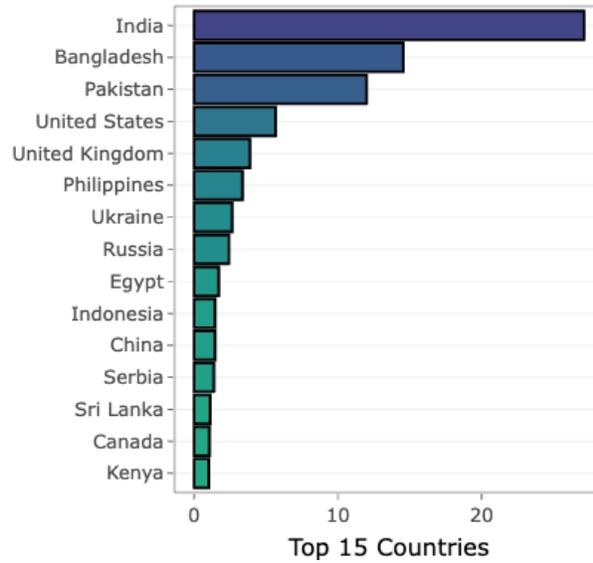


Source: OLI 2020 | onlinelabourobservatory.org

The United States has the largest share of online labour demand at 41.6%. Of this total demand, the top 3 occupations are software dev and tech, creative and multimedia, and clerical and data entry. There are also demand for online labour from countries such as the United Kingdom, with 8.1% of total online labour demand, followed closely by India (6.4%), Canada (6.2%), Australia (6%) and Germany (2.1%) (Stephani, Kässi and Lehdonvirta, 2021). The color codes in the graph above represent the share of occupations per country.

2. Online Labour Supply

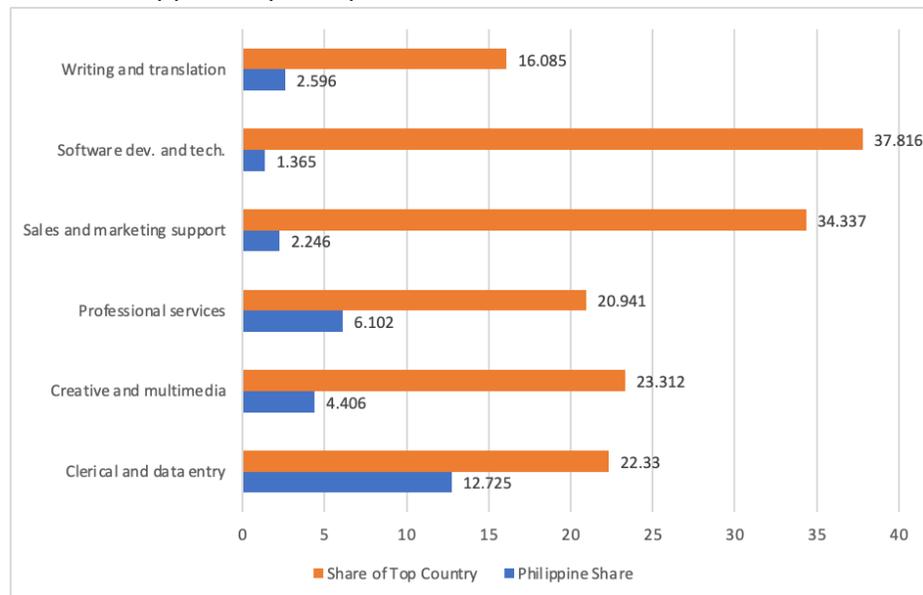
Figure 4. Online labour supply by country, 2020



Source: OLI 2020 | onlinelabourobservatory.org

Among the countries, India has the highest share of online freelance workers at 27.1%. Joining the top 5 in the share of online workers are Bangladesh (14.6%), Pakistan (12%), United States (5.7%) and United Kingdom (3.9%). The Philippines has a 3.4% share of online freelance workers.

Figure 5. Share of online labour supply of top country and Philippines by occupation, 2020



Source: OLI 2020 | onlinelabourobservatory.org

Figure 5 shows the share of online labour supply of the Philippines against the country with the highest share of online labour supply per occupation. Of the occupations, India has the highest share for clerical and data entry, professional services, sales and marketing, and software development and technology. Bangladesh has the highest share for creative and multimedia, while Pakistan has the highest share in writing and translation.

In addition, the Online Labour Observatory says that during the COVID-19 outbreak, there was an increase in the labour supply in the platforms, originating mostly from developing countries. The demand for work, however, has decreased and has shifted to tasks primarily related to software development and technology.

According to a Deloitte survey (2023), many of the younger generation, specifically the GenZs and millennials, participate in the gig economy by making use of technology and social media platforms so that they can take on side jobs. They either sell products or services online, engage in food delivery or ride sharing apps, pursue artistic ambitions, or become social media influencers. In the same survey, the GenZs and millennials prefer hybrid and remote work, including having flexible work arrangements, saying that the benefits outweigh the concerns (Deloitte 2023).

- ii. The gig economy in the Philippines
 1. In the 2019 Global Freelancing Index report released by Payoneer, a global digital commerce platform, it states that the Philippines is the 6th fastest growing gig economies in the world.
 2. The Philippine Statistics Authority (PSA) has proposed initiatives to collect data on gig workers and online-related occupations in the Philippines through the Labor Force Survey (LFS). The PSA proposed the scope and coverage of gig workers, those who are engaged in online-related occupation, and gig workers who are engaged in digital labor platforms. Based on the May and June 2021 LFS, there are an estimated 9,857,959 gig workers, comprising 22% of the estimated number of employed persons at 44,385,971. Of the total number of gig workers, 83% or 8,163,223 gig workers are not engaged in an online platform or mobile application, while 17% or 1,694,736 gig workers are engaged in an online platform or mobile application.
 - a. 37% of gig workers in digital labor platforms have a college education

- b. The top industries who were engaged in online platforms or mobile applications were:
 - i. Retail Trade, Except Motor Vehicles and Motorcycles, 28% (478,000 employed persons)
 - ii. Crop and Animal Production, Hunting and Related Service Activities, 14% (243,000 employed)
 - iii. Construction of Buildings, 11% (187,000 employed persons)
 - iv. Office Administrative, Office Support and Other Business Support Activities, 6% (107,000 employed persons)
 - v. Other Personal Service Activities, 5% (93,000 employed persons)
 - vi. Public administration and defense; compulsory social security 5% (85,000 employed persons)
 - vii. Education, 3% (56,000 employed persons)
 - viii. Food and Beverage Service Activities, 3% (52,000 employed persons)
 - ix. Land Transport and Transport Via Pipelines, 3% (45,000 employed persons)

3. In the Philippines Freelance Market 2022 Report of Payoneer, the average hourly rate for freelancers range from US\$ 11 to US\$ 22, the average rate per project is from US\$ 27 to US\$ 33, the average rate per content is from US\$ 17 to US\$ 27, and the average monthly retainer rate is from US\$ 626 to US\$ 979.

- 4. In the 2020 data from the National Wages and Productivity Commission,
 - a. As to the data on Filipino freelancers by sex, 62% are female, and 38% are male.
 - b. The average hourly rate of Filipino freelancers is US\$10, while the average monthly earnings is at US\$780 or Php39,000.00.
 - c. Average hourly rate by sub-industry:

Own business	US\$ 45
Web design	15.75
Graphic design/animation	15
Programming	14.50

ESL/Language	12.50
Blogging/Writing	11.72
Online Marketing/SEO/Social Ads	7
Customer Service/Tech Support	5.35
Admin/VA/Data Entry	5.3

c. Issues

Various literature points to the following issues related to the gig economy:

- i. Work in the gig economy is inherently precarious because of the seasonality of the tasks.
- ii. There are no clear pay standards across platforms (Soriano 2021). In instances where there are more workers in the platform that are competing for work or tasks, the prices of tasks tend to lower. In one of the ILO reports, the pay of workers from developing countries is 60% lower than their counterparts from developed countries. Gender pay gaps among workers were also seen in some countries. It is difficult for workers to bargain collectively because workers are widely dispersed across the world. Many of the workers have no idea on the acceptable rates for the types of work being undertaken (Soriano 2021).
- iii. Working conditions are primarily determined through the agreements or contracts between the clients and the workers. Contracts stipulate that there are no employer-employee relationships, thus clients are not obliged to provide social protection and other related benefits that are provided to formally employed workers.
- iv. Some workers have difficulty achieving work life balance, as some of them work long hours, work in graveyard shifts, and have feelings of being isolated or lacking in socialization.
- v. The skills mismatch is prevalent in digital labour platforms, where highly skilled workers are performing microtasks that require few or no specific skills (ILO 2021). And also mentioned in the earlier part of this report that gig workers tend to spend for their own training so that they can keep up with the changes in the demand.

Despite these issues and challenges, some people view online jobs as the best choice given the conditions and options available to them. However, there are calls from various sectors to uphold decent work standards for the workers in the gig economy. In the Philippines, several measures are being proposed for the protection of workers engaged in the gig economy and in new forms of work arrangements.

d. Relevant laws and policies

The laws and policies discussed in this section mainly covers the provisions relevant to education, training and skilling of workers in the gig economy:

Law/Policy	Description
<p>Republic Act (RA) No. 11927: Philippine Digital Workforce Competitiveness Act</p>	<p>As the State recognizes the “transformation in the world of work”, the State “shall enhance the skills and competitiveness of the Philippine workforce in human, and digital technology and innovations.”</p> <p>Section 4 on the development of the digital workforce aims to improve the digital competence of working age Filipinos by equipping them with digital skills, digital entrepreneurship, remote work, 21st century skills. It also includes a provision on ensuring digital inclusion in order for people with special needs such as persons with disabilities, indigenous peoples, senior citizens, and persons residing in geographically isolated and disadvantaged areas.</p> <p>The law includes a provision on the set up, powers and functions of the Inter-Agency Council for Development and Competitiveness of Philippine Digital Workforce. Among the responsibilities of the Inter-Agency Council is the “formulation of the digital technology and digital skills roadmap for evolving jobs and skills, identification of job growth in specific professional areas, including but not limited to care, engineering and cloud computing, sales marketing and content, data and artificial intelligence, green jobs, people and culture, and specialized project managers. Section 10 of the law states that the Inter-Agency Council is “authorized to enter into public-private partnerships in the formulation and implementation of training, skills development, and certification programs, covering areas, including but not limited to:</p>

	<ol style="list-style-type: none"> 1. Web development and designing; 2. Online teaching and tutoring; 3. Animation 4. Content creation (writing and copywriting and others); 5. Digital marketing (e-commerce, sales and marketing); 6. Creative design, graphic designing, 3D modelling and CAD, game development, logo design and illustration, and audio and video production; 7. Mobile application development; 8. Search engine optimization; 9. Virtual assistance (administrative support or assistance); 10. Branding and public relations, social media coordinator and community management; 11. Web research, business intelligence and data analytics; 12. Transcription and data entry jobs article and blog writing; 13. Customer service and technical support; 14. Human resource management and systems; 15. Architecture services and other professional services through the internet; 16. Management of teams of remote workers, and other competencies needed by companies and individuals pursuant to the full implementation of Republic Act No. 11165, otherwise known as the "Telecommuting Act"; and 17. Such other skills requirements as may evolve or be identified by the partners.
<p>RA No. 11904: Philippine Creative Industries Development Act</p>	<p>The State declares as a policy “to promote and support the development of Philippine creative industries by protecting and strengthening the rights and capacities of creative firms, artists, artisans, creators, workers, indigenous cultural communities, content providers and</p>

	<p>stakeholders in the creative industries.” The law defines creative industries as “trades involving persons, whether natural or juridical, that produce cultural, artistic, and innovative goods and services originating in human creativity, skill, and talent and having a potential to create wealth and livelihood through the generation and utilization of intellectual property. It also includes those directly or indirectly involved in the creation, production and manufacturing, performance, broadcasting, communication and exhibition, or distribution and sale of works and other subject matter, in accordance with existing laws, rules and regulations on intellectual property rights protection.”</p> <p>The provision in the law on capacity building mentions the “provision of training and support to stakeholders in the Philippine creative industries in areas such as business development, financial literacy, ethics, digital skills, taxation, design thinking, contracts, negotiations, and entrepreneurship, in partnership with the private sector.”</p> <p>Section 17 of the law is on Creative Instruction and Education, which mandates national government agencies, including TESDA, to establish a Creative Educational Plan and other policies, programs, and strategies geared towards human resource development, audience capacity-building, and consumer empowerment in the country's creative industries, in partnership with the private sector and the academe”. Specific to TESDA, it “shall provide talent, skills, and technical-vocational training through scholarship programs in courses related to creative industries for entrepreneurs, workers, trainees, and stakeholders in the creative industries, as well as provide continuous education, talent and skills training, and capacity-building for other stakeholders in the creative industries”.</p>
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Senate Bill No. 625: National Digital Transformation Act

The law states the “formulation of a national digital transformation policy that shall ensure every Filipino citizen has the adequate skills, competencies, and know-how to meaningfully utilize digital technologies”. This policy specifies the inclusion of “concrete plans and strategies to ensure that the Filipino workforce is equipped with the relevant and necessary 21st century skills, including the enhancement of science, technology, engineering, and math (STEM) skills and numeracy”.

Section 5 indicates the formulation of a “national digital skills development strategy that will identify the digital skills development goals at the various levels of education (primary, secondary, tertiary), including work-related digital skills training programs for out-of-school youth, freelancers, part-time workers, adults requiring re-skilling, skills for life in the digital economy for all citizens, and training programs for life and work for under-represented populations”. The strategy should also include a “digital entrepreneurship skills strategy”.

Section 6 discusses the “creation of a digital competence framework for citizens, where essential knowledge, skills and attitudes comprising digital competence are classified:

1. Information and Data Literacy
2. Communication and collaboration
3. Digital Content Creation
4. Safety
5. Problem Solving”

Section 12 is about the “provision of jobs which are in line with freelancing, virtual work, home-based digital activities”, which is the responsibility of the Department of Information and Communications Technology (DICT) in coordination with the Department of Labor and Employment (DOLE).

II. Main Discussion
a. Economic Contributions

Kaiser and Mastercard (2019) estimated that the Global Gig Economy generated annual gross volume (GV) of US\$ 204 billion in 2018. The GV is the “total value of transactions by customers in gig services” (Kaiser and Mastercard 2019). Of this GV, about US\$ 136 billion were paid to the millions of freelance workers around the world. The estimated growth rate of the GV is at 17.4%, thus the gig economy is projected to grow by as much as US\$ 455.2 billion.

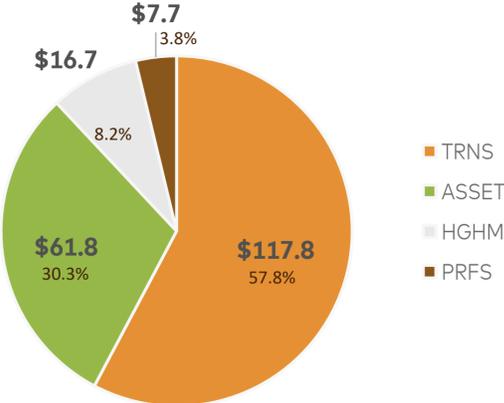
Figure 6. Projected Gross Volume of the Gig Economy in Billion US\$



Source: Kaiser and Mastercard (2019)

Kaiser and Mastercard (2019) also estimated the breakdown of the GV into four sectors: Asset-Sharing Services (ASSET), Transportation-Based Services (TRNS), Professional Services (PRFS) and Handmade Goods, Household & Miscellaneous Services (HGHM). The TRNS has the largest share and amount of GV at 57.8% and US\$ 117.8 billion, respectively. This is followed by ASSET at 30.3% and US\$ 61.8. The HGHM has a GV of US\$ 16.7 billion, equivalent to 8.2%, while PRFS has a GV of US\$ 7.7 billion, comprising 3.8% of the total GV.

Figure 7. Gig Economy Gross Volume by Sector, 2018, in Billion US\$



Source: Kaiser and Mastercard (2019)

Kaiser and Mastercard also estimate the growth of the GVs of the sectors by 2023. The share of the sectors is estimated to be similar as in 2018, with the TRNS having the largest share in GV.

Figure 8. Projected Gig Economy Gross Volume by Sector in Billion US\$



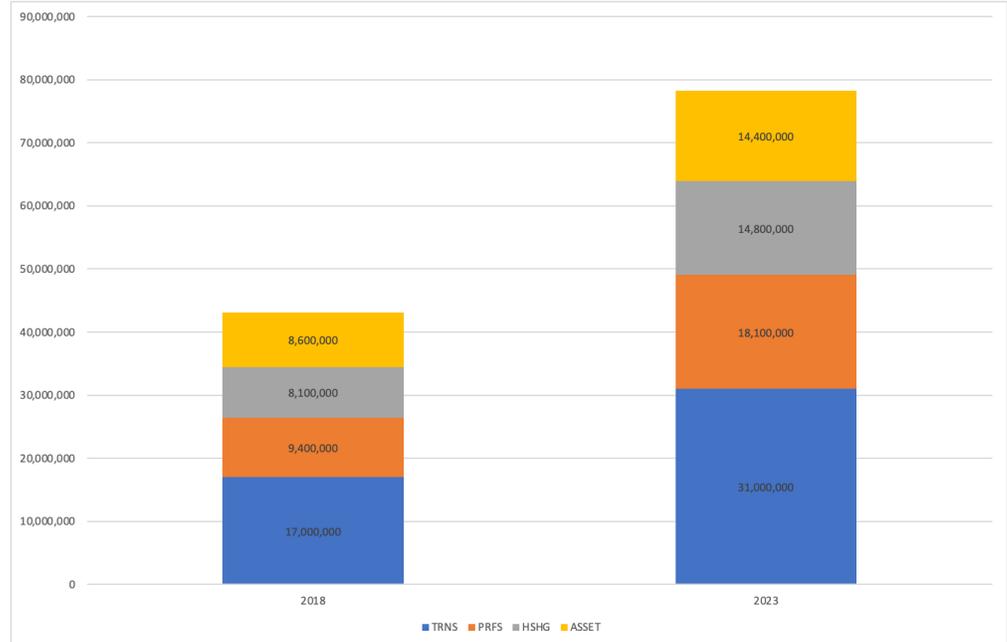
Source: Kaiser and Mastercard (2019)

Kaiser and Mastercard also estimates that the gig economy growth will vary by region. But the growth of the economy will depend on how the industry overcomes its challenges (Kaiser and Mastercard 2019).

b. Employment Information

- i. In the 2020 Mastercard report on the gig economy, it estimated the growth in employment for Global Gig Workers:

Figure 9. Global Gig Workers Growth by sector, 2018 and 2023



Source: Mastercard (2020)

- ii. Applying the compound average growth rate of global gig workers to the data on gig workers by industry from the PSA, the estimates on the number of workers by 2026 is provided in the table below:

Table 1. Projected Gig Economy Workers in the Philippines

Industry	2021	2026
Retail Trade, Except Motor Vehicles and Motorcycles	478,000	868,385
Crop and Animal Production, Hunting and Related Service Activities	243,000	441,459
Construction of Buildings	187,000	339,724
Office Administrative, Office Support and Other Business Support Activities	107,000	194,387
Other Personal Service Activities	93,000	168,954
Public administration and defense; compulsory social security	85,000	154,420

Education	56,000	101,735
Food and Beverage Service Activities	2,000	94,469
Land Transport and Transport Via Pipelines	45,000	81,752

iii. According to Payoneer and GCash’s Philippines Freelance Report, the top types of freelance work are

Table 2. Top Types of Freelance Work

Sales and Marketing	32%
Customer Service	21%
Data entry/internet research	20%
Virtual assistant and admin	14%
Online tutoring/Teaching	9%
Design/Creative/Media Graphic Design	7%
Market research	3%
Consultant	3%
Project Management	3%
Events Management	3%
Design/Creative/Media Photography	3%
Videography	2%
Accounting	2%
Programming	2%
Translation	2%
Legal	1%

Source: Payoneer (2022)

III. Skills Needs

- a. Table 3 provides a mapping of the job requirements in the gig economy and the TESDA Training Regulations that can address those requirements:

Skill	TESDA Training Regulation
Online teaching and tutoring	Facilitating eLearning Sessions
Digital marketing (e-commerce, sales and marketing)	No equivalent Training Regulation
Creative design, graphic designing	Visual Graphic Design NC III
video production	Film and Video Postproduction NC III
Virtual assistance (administrative support or assistance)	No equivalent Training Regulation
Web research	No equivalent Training Regulation
Data entry	No equivalent Training Regulation
Customer service	Customer Services NC II Contact Center Services NC II
Web development and designing	Web Development NC III
Animation	Animation NC II 2D Animation NC III 3D Animation NC III
Content creation (writing and copywriting and others)	No equivalent Training Regulation
3D modelling and CAD	Technical Drafting NC II
game development	Game Programming NC III
Logo design and illustration	Illustration NC II
Audio production	No equivalent Training Regulation
Mobile application development	No equivalent Training Regulation
Search engine optimization	No equivalent Training Regulation
Branding and public relations, social media coordinator and community management	No equivalent Training Regulation

Business intelligence	No equivalent Training Regulation
Data analytics	No equivalent Training Regulation
Transcription	No equivalent Training Regulation
Article and blog writing	No equivalent Training Regulation
Technical support	Computer Systems Servicing NC II
Management of teams of remote workers	No equivalent Training Regulation
Project management	No equivalent Training Regulation
Events management	Events Management NC III
Design/Creative/Media Photography	Photography NC II
Accounting	Bookkeeping NC III
Programming	Programming (.Net Technology) NC III Programming (Oracle Database) NC III Programming (Java) NC III
Translation	No equivalent Training Regulation
Legal Transcription	No equivalent Training Regulation

Based on this mapping, 19 out of the 32 skills requirements do not have a corresponding TESDA Program, specifically the top types of freelance work such as Sales and Marketing, internet/web research, and virtual assistance.

b. Other knowledge and skills requirements:

i. Essential skills (Bayudan-Dacuycuy and Baje 2021)

1. Numeracy
2. Literacy
3. Writing
4. Internet Literacy
5. Basic IT skills
6. Soft skills
 - a. time management
 - b. interpersonal skills
 - c. communication skills

- ii. Labor education is also essential so that workers are knowledgeable and aware about their rights and responsibilities related to labor, including negotiation, interpersonal relations, and the grievance process (Seráfica)

and Oren 2022). Republic Act No. 11551 or the Labor Education Act requires the integration of labor education in higher education and TVET.

- iii. Bertulfo (2023) said that the FHMoms community provides orientation on how to start working from home, which covers topics such as introduction to freelancing, what tools are needed, what skills are required, how to prepare cover letter and portfolio.

IV. TVET Capacity

a. Enrollment, Graduates, Assessed and Certified (FY 2020-FY2022)

TESDA Training Regulation	FY 2020-2022			
	Enrolled	Graduates	Assessed	Certified
2D Animation NC III	133	119	637	577
3D Animation NC III	99	94	48	47
Animation NC II	687	747	1,624	1,346
Bookkeeping NC III	29,558	25,266	42,722	23,918
Computer Systems Servicing NC II	35,619	35,590	91,872	80,160
Contact Center Services NC II	50,639	50,509	0	0
Customer Services NC II	477	526	1,625	1,506
Events Management NC III	24,316	21,963	25,064	22,701
Film and Video Postproduction NC III	0	0	0	0
Game Programming NC III	232	103	25	11
Illustration NC II	0	0	0	0
Photography NC II	369	285	625	584
Programming (.Net Technology) NC III	0	0	0	0
Programming (Java) NC III	2,085	2,112	0	0
Programming (Oracle Database) NC III	0	0	0	0
Technical Drafting NC II	4,556	4,486	8,184	7,101
Visual Graphic Design NC III	3,452	3,257	5,634	4,025
Web Development NC III	76	60	251	169

Source: TESDA ICTO and Certification Office

The most number of graduates among the TVET programs that can respond to the requirements of online work are Contact Center Services NC II, Computer Systems Servicing NC II and Bookkeeping NC III. As to the TVET programs with the most number of National Certificate holders, the Computer Systems Servicing NC II has the most number. The Bookkeeping NC III and Events Management NC III come second and third, respectively, but their output is a little over a quarter of the output of the program with the most number of certified.

b. TVET Infrastructure

TESDA Training Regulation	as of March 2023			
	No. of Assessment Center	No. of Competency Assessor	No. of Registered Program	No. of NTTC Holder
2D Animation NC III	11	8	9	32
3D Animation NC III	6	3	1	10
Animation NC II	20	15	7	29
Bookkeeping NC III	297	302	520	876
Computer Systems Servicing NC II	268	478	599	1915
Contact Center Services NC II	0	0	211	0
Customer Services NC II	8	21	13	69
Events Management NC III	153	194	319	781
Film and Video Postproduction NC III	0	0	0	0
Game Programming NC III	3	2	4	4
Illustration NC II	1	3	1	9
Photography NC II	6	9	5	20
Programming (.Net Technology) NC III	0	0	0	0
Programming (Java) NC III	0	0	21	22
Programming (Oracle Database) NC III	0	0	0	0
Technical Drafting NC II	46	72	65	216
Visual Graphic Design NC III	66	44	86	172
Web Development NC III	17	12	7	27

Source: TESDA Certification Office

The Computer Systems Servicing NC II program has the most number of National TVET Trainers Certificate (NTTC) holders, registered programs and competency assessors. For the number of assessment centers, the Computer Systems Servicing NC II came in second, with Bookkeeping NC III having the most number of assessment centers. Bookkeeping NC III is second highest in the number of NTTC holders, registered programs and competency assessors. The enrollment, graduates, assessed and certified for these two programs are highest because the TVET infrastructure for training, and assessment and certification are also high.

V. Demand-Supply Analysis

As mentioned above, based on the mapping of 32 skills requirements in online jobs, 19 of those do not have a corresponding TESDA program, thus TESDA has not been able to provide TVET programs for those requirements. Of those with a corresponding TESDA program, only 12 of these requirements have an available

supply of graduates and/or certified persons. In the case of software development and technology, though TESDA offers programming courses, the Philippine TVET system may not have been able to supply the number of skilled workers needed, nor is it able to offer all courses that correspond to the skills requirements.

VI. Way Forward

The gig economy came about due to the way technology has transformed the ways of working. It is also being recognized even by the government that it is an important economic driver, especially in the way it is able to provide employment or income for people. The gig economy is foreseen to grow in both revenue and employment globally. Education and training are necessary for workers in this economy in order to capitalize on, and in order to keep on working in this industry.

Here are some recommendations as to how TESDA can help improve the TVET system to support the gig economy:

- a. Engage with the relevant industry, government and sector stakeholders on the establishment of TVET programs and infrastructure that are required by the labor market, specifically for those where there are no TESDA programs yet, such as:
 - i. Online teaching and tutoring
 - ii. Digital marketing (e-commerce, sales and marketing)
 - iii. Virtual assistance (administrative support or assistance)
 - iv. Web research
 - v. Data entry
 - vi. Content creation (writing and copywriting and others)
 - vii. audio production
 - viii. Mobile application development
 - ix. Search engine optimization
 - x. Branding and public relations, social media coordinator and community management
 - xi. business intelligence
 - xii. data analytics
 - xiii. Transcription
 - xiv. article and blog writing
 - xv. Human resource management and systems
 - xvi. Management of teams of remote workers
 - xvii. Project management
 - xviii. Translation
 - xix. Legal

There is a need to develop competency standards, assessment standards, and curriculum for these training programs. The standards and the curriculum should also incorporate the essential and soft skills required for workers in this economy.

Apart from the development of actual programs, there is also a need to develop assessors and trainers, as well as establish centers that will provide training and assessment.

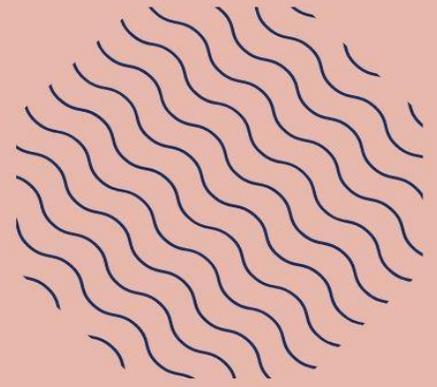
- b. There is also a need to improve the TVET infrastructure to increase the number of graduates and/or certified in TVET programs that respond to the needs of the industry, such as:
 - i. Visual Graphic Design NC III
 - ii. Film and Video Postproduction NC III
 - iii. Customer Services NC II
 - iv. Contact Center Services NC II
 - v. Web Development NC III
 - vi. Animation NC II
 - vii. 2D Animation NC III
 - viii. 3D Animation NC III
 - ix. Technical Drafting NC II
 - x. Game Programming NC III
 - xi. Illustration NC II
 - xii. Computer Systems Servicing NC II
 - xiii. Events Management NC III
 - xiv. Photography NC II
 - xv. Bookkeeping NC III
 - xvi. Programming (.Net Technology) NC III
 - xvii. Programming (Oracle Database) NC III
 - xviii. Programming (Java) NC III
- c. Facilitate better access of TVET programs to gig economy workers, especially those who will be needing upskilling and reskilling through the provision of scholarship programs. Further, and making the training requirements available in the TESDA Online Program.
- d. Laws

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