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Exploring the Income Gap in the Gig Economy versus Traditional Employment

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Abstract

The gig economy has become a significant force in the global market, accounting for as much as 12 percent of the global workforce. In the Philippines, the shift toward flexible, freelance, and project-based work is evident as more Filipinos use digital platforms to access local and international employment opportunities (SDG Target 8.2). This sector may offer opportunities to underrepresented groups, including women and young people, particularly in developing countries where formal employment is limited (Target 8.5). However, its rapid expansion also raises social concerns. The World Bank (2023) highlights gig workers' limited access to social security, job stability, and legal safeguards, leaving them vulnerable to exploitation and economic insecurity. Despite these challenges, demand for online gig work continues to grow, driven by technological advances and the global shift toward remote work. Policymakers, platform providers, and international institutions therefore need to collaborate on inclusive labor frameworks that ensure fair compensation, benefits, and rights (Target 8.3). This paper compares the earnings and income gaps between Filipino gig workers and traditional employees. It examines changes in employment opportunities and assesses whether digital work arrangements can provide a viable and sustainable livelihood under current conditions and regulatory frameworks. Measuring the extent of these disparities is important for determining whether the flexibility of independent work outweighs the financial security and psychological satisfaction traditionally associated with salaried employment. The study is intended to inform understanding of job opportunities and the conditions needed to make gig work more inclusive and sustainable.

Keywords: Philippines, gig economy, income gap, gig workers, traditional workers, job stability

Background of the Study

The Department of Labor and Employment references the gig economy as work done in digital labor platforms, which includes both web-based platforms, where work is outsourced through an open call to a geographically dispersed crowd or crowdwork, and through location-based apps (work on demand via apps), which allocate work to individuals in a specific geographic area. The gig economy is a labor market characterized by temporary, contract, and freelance jobs rather than permanent positions. People earn money from providing on-demand work, services, or goods. The term "gig economy" is rooted in the observation that workers take on particular “gigs” without any guarantee of further employment. Invariably, gig economy workers are classified by companies as independent contractors, and the gig economy has negative connotations due to its association with low-paying precarious work, according to Bayudan-Dacuycuy (2020).

According to Culverhouse, G. (2023), the Philippines is on the brink of the gig economy’s rapid increase. Talented and tech-savvy “Pinoys” are increasingly opting for the freedom of freelancing, serving clients across the world. With an impressive 1.5 million freelancers registered on international platforms, it’s no wonder that the country is widely recognized as the fastest-growing gig market globally.

In addition, the business sector, particularly small and medium-sized enterprises (SMEs), is looking to overcome recruitment challenges and may consider the Philippines’ vast freelance talent pool. While many people praise Filipinos for their creativity, work ethic, and customer service, it’s crucial to understand that freelancer quality varies greatly (8.3). Many companies have faced frustration and financial loss due to unreliable freelancers, delivering subpar work, or the possibility of a “no-show.” Therefore, due diligence is essential when choosing a freelancer. Despite the potential for cost-effective access to skilled professionals, it’s important to acknowledge the risks, including inconsistent quality, communication issues, and unreliable availability. Take some time to select the right freelancer for the business’s sake carefully.

The risk of Filipino freelancing

Culverhouse, G. (2023) keeps reminding us that partnering with a freelancer might seem appealing but be sure to consider the risks compared to working with an established outsourcing company.

Lack of background checks means less data security

Freelancers typically don't have the same safeguards in place as outsourcing providers that perform comprehensive background checks and follow ISO data security standards, which can expose your business to potential risks. Additionally, freelancers may rely on equipment that falls short of the stringent requirements upheld by outsourcing firms, further heightening the likelihood of data breaches.

Outsourcing providers operate with clear policies and frameworks that guide their teams, ensuring consistent quality and performance that can be tracked. They also arrange regular meetings with clients to resolve issues and maintain high standards. In contrast, working with freelancers means depending on personal trust in an individual rather than the proven systems of a professional organization.

The future of the gig economy in the Philippines

The COVID-19 pandemic challenged well-being and health services as it unveiled a range of programs and activities, such as partnerships with other health institutions, outreach efforts, mental health support, and direct healthcare services, according to Viloria, R. (2022). In addition, during these times, approximately 75% of new freelancers entered the gig economy in pursuit of financial security, contributing to a global freelance workforce that now exceeds 1 billion people. In the country, this trend has continued to grow, fueled by widespread internet access and the rise of platforms like Upwork and Fiverr. While many freelancers deliver competent results, companies should be cautious about engaging directly with them instead of working through established outsourcing providers. Removing the professional intermediary layer increases the likelihood of encountering issues such as inconsistent quality, compliance gaps, and data security breaches, problems that often surface only after significant harm has occurred.

Furthermore, the United Nations Sustainable Development Goal 8 is relevant to this research agenda, as it drives greater economic productivity by diversifying industries, embracing technological advancements, and fostering innovation, especially in high-value and labor-intensive sectors (8.3). Encourage policies that nurture development by supporting productive work, entrepreneurship, creativity, and innovation (8.3). In the

context of the gig economy, this agenda also means helping micro, small, and medium-sized enterprises expand and formalize by improving access to financing and digital tools. By the year 2030, the goal is to secure full, productive, and decent employment for everyone, including women, young people, and individuals with disabilities, while ensuring equal pay for work of equal value, whether in traditional employment or flexible gig arrangements (8.5).

Statement of Research Problem

Despite the rapid expansion of the gig economy in the Philippines, researchers still need to further explore its broader macroeconomic impacts. With a focus on the traditional and gig workers' income gaps, this research aims to answer the following questions:

1. What are the levels of income and income gaps among gig workers and salaried income earners?
2. What is the likelihood that traditional workers and gig workers earn differently in a random comparison?
3. What is the effect size of the difference in income gaps between gig workers and salaried income earners?
4. Based on the findings, what policy initiatives would be recommended to address these disparities given the trend of emerging technologies

Objectives of the study:

1. To compare mean levels of job income gaps between online workers and traditional employees using independent-samples t-testing for unequal variance
2. To quantify the magnitude and direction of income gaps and assess effect sizes to inform practical significance.
3. To explore how differences in income and income gaps can inform policy recommendations.

Review of Related Literature

According to Viernes, J., & Pasco, M. (2023), the new normal has introduced changes and challenges for workers that impact their routines both when working from home and in the office, as well as their wellness,

overall well-being, and productivity. According to Esquivias, M. E., et al. (2023), the number of "gig workers" and online-based jobs has increased, driven by the expansion of technology-focused industries and the growing availability of freelance and part-time opportunities. This trend accelerated rapidly during the COVID-19 pandemic, as many individuals who lost full-time positions turned to temporary or freelance work to meet their needs. As the economy adapts to the new normal, including shifts in workplace practices, it has become essential to gather data on the scope and characteristics of gig work, which is marked by short-term contracts and workers engaging with multiple employers daily. Understanding the scale of the gig workforce is vital for shaping labor market policies and regulations.

Gig Industry and the Economy

The Philippines' digital economy is projected to grow to 35 billion US dollars by 2025, with e-commerce making up the largest share, according to the 2024 Google-Temasek-Bain e-economy SEA report. With this growth, the Philippines' GDP will be more competitive and positive for all Southeast Asian nations (8.1). Alongside this rapid expansion comes a collective duty among platforms, policymakers, and industries to make sure that the workers powering these services, particularly those in blue-collar and frontline jobs, possibly receive meaningful and practical support.

A 2019 Payoneer report ranked the Philippines sixth among the top ten countries worldwide for year-over-year revenue growth in the Global Gig Economy Index (GGEI). The figures showed the following growth rates: USA (78%), UK (59%), Brazil (48%), Pakistan (47%), Ukraine (36%), Philippines (35%), India (29%), Bangladesh (27%), Russia (20%), and Serbia (19%). Freelancing in Asia has seen rapid growth, with freelancers more than doubling their earnings since 2018 (8.2).

As to unemployment, gig work has complex and varied effects. While it has created new opportunities for people to earn money and build experience, it has also highlighted issues around job quality, income inconsistency, and access to vital benefits. As the gig economy continues to expand, it is crucial to thoughtfully assess its influence on employment and create policies that support both traditional and alternative work arrangements.

Beyond offering options for people who have difficulty securing traditional jobs, the gig economy has also opened up ways for those with full-time employment to earn additional income. This model has helped many enhance their financial security. Despite the benefits, the gig economy has brought challenges linked to employment. One concern is that gig work can lead to underemployment, with individuals struggling to secure enough consistent work to maintain a stable livelihood. However, the lack of employment benefits such as health insurance, retirement plans, and paid leave can put gig workers in a precarious financial position.

Throughout Southeast Asia, the gig economy has progressed far beyond temporary jobs and the possibility of a decrease in unemployment. It has become an essential part of the region's economic framework. In the Philippines alone, Fairwork reports that over 500,000 people work in logistics, delivery, ride-hailing, and other app-based roles (Fairwork Philippines 2024). For many workers, platform jobs offer flexibility and extra income, helping them navigate a changing economic landscape.

Furthermore, according to Cassion, J. E. (2024), based on the World Bank report, the gig economy makes up as much as 12% of the global market. While developed nations account for most of the demand for gig work, developing countries have seen demand grow much more rapidly (8.2). For example, the largest digital platform in Sub-Saharan Africa experienced a 130% increase in job demand, compared to a 14% growth rate among digital workers in North America.

In the Philippines, the Philippine Statistics Authority's (PSA) October 2021 Labor Force Survey included a question about whether workers used online platforms or mobile apps in their jobs. This addition was a valuable step toward a better understanding of the country's gig economy. The survey revealed that approximately 43.8 million people were employed in the Philippines, with about 19.39% of them using online platforms or apps for work. The highest concentration of these workers was in the National Capital Region (28.74%), followed by CALABARZON (15.63%) and Central Luzon (10.30%). By occupation, most gig workers were employed as service and sales workers (19.45%), clerical support staff (18.42%), and professionals (16.99%). In terms of employer type, the majority worked for private companies (58.90%), followed by government or GOCC (17.11%) and self-employed individuals (16.86%). The demographics of gig workers show that 50.87% are women and 49.13% are men, with most falling in the 26 to 35 age group.

Moreover, according to the TESDA labor market intelligence report (2023), the Philippine Statistics Authority (PSA) has introduced efforts to gather information on gig workers and online-related jobs through the Labor Force Survey (LFS). The PSA outlined plans to cover those involved in online work and those active on digital labor platforms. Data from the May and June 2021 LFS estimates that there were about 9.86 million gig workers, making up to 22% of the total 44.39 million employed individuals. Among them, 83% (around 8.16 million) were not using online platforms or apps, while 17% (about 1.69 million) were engaged through digital platforms. Additional insights show 37% of gig workers using digital platforms had completed college. And lastly, the main industries employing people online: retail trade (28% or 478,000 workers), crop and animal production and related services (14% or 243,000), building construction (11% or 187,000), office and business support services (6% or 107,000), personal service activities (5% or 93,000), public administration and social security (5% or 85,000), education (3% or 56,000), food and beverage services (3% or 52,000), and land transport and pipelines (3% or 45,000).

Health of workers in the gig economy

According to a study on the health of workers in the global gig economy (Bajwa 2018), as gig work proliferates worldwide, the evidence shows that gig workers' rights to health and well-being may be undermined, and vulnerabilities in this sector may be categorized into interrelated domains such as occupational vulnerabilities and precarity.

Occupational vulnerabilities arise from the nature of the work itself, regardless of whether it is mediated by a platform. This includes risks such as traffic accidents for ride-hail drivers or food couriers, repetitive strain injuries associated with typing or delivery tasks, and other potential dangers. These hazards often mirror broader occupational health concerns—sedentary behavior, irregular hours, and fatigue. Precarity refers to the contingent, short-term, and unstable nature of gig work, a characteristic shared with other forms of insecure employment. Workers frequently lack access to health insurance, retirement plans, paid leave, training opportunities, or bargaining rights—features traditionally linked to employment contracts. These deprivations expose gig workers to economic and social insecurity, psychological distress, and barriers to preventive healthcare, raising their risk for chronic disease and mental health issues. Stress related to inconsistent income, multiple platform engagements, and unpredictable schedules has been associated with higher levels of anxiety, depression, sleep disturbance, and fatigue.

In the Philippines, the report under Fairwork Philippines Ratings 2023 examined the working conditions of Filipino platform workers, focusing on platform labor conditions. With an ever-increasing number of Filipino workers and their families relying on gig work, this report stresses that the platform economy should be recognized not as a temporary phenomenon but as a long-term feature of the labor landscape.

In terms of work hours, the report highlighted how workers render long hours of work to cover expenses and barely meet the minimum wage. However, while some workers working in online platforms can meet the minimum wage threshold and gross income level, many still earn less once you subtract the cost of job-specific equipment and other work-related expenses.

The report's analysis also included that the workers' need for financial stability shouldn't force them to assume greater risks to their health, but the gig economy often creates environments that encourage exactly that. Gig workers often work longer hours to secure enough jobs to cover their expenses, especially when faced with fluctuating rates, unclear payment systems, strict rating mechanisms, and rising competition.

According to Hafeez (2022), general research shows that certain work characteristics strongly correlate with psychological stress. For instance, nonstandard working hours can increase stress by disrupting sleep patterns and making it harder to balance domestic responsibilities. Similarly, unpredictability and uncertainty in work can negatively impact workers' health and well-being, making it difficult to maintain a balance between work and personal life.

Given the inherent unpredictability of gig work, combined with nonstandard working hours, gig workers may be particularly vulnerable to experiencing high levels of psychological stress. This is further compounded by factors such as job insecurity, lack of social protections, and limited access to occupational health support, which are prevalent in the gig economy (8.8). Consequently, there have been increasing calls for research and policy interventions to address the physical and mental health challenges faced by gig workers. Short of sufficient rest, recovery, and workplace support, extended work hours can become a direct stressor—independently and via mediation through psychosocial work conditions.

Studies consistently indicate that long working hours significantly contribute to elevated psychological stress, distress, and even depressive

symptoms, particularly in white-collar, healthcare, and high-demand professions. One study investigated the association between working hours and mental health and revealed that as working hours increase, the risk of stress, depression, and suicidal ideation tends to increase. These parameters yield a strong correlation with increasing working hours (Park 2020).

Household consumption

According to the Corporate Finance Institute (CFI) team (2024), the advantages of working in a gig economy include the possibility of reducing costs and expenses, which is often considered a key advantage of participating in the gig economy. By hiring remote workers, companies can greatly lower the need for costly office spaces and large physical workplaces. In addition, employing independent contractors removes significant expenses like providing employee benefits, retirement plans, and paid sick leave altogether. Moreover, a gig economy offers a workforce that allows businesses to connect directly with freelancers, removing the need for intermediaries during the hiring process. This streamlines recruitment and makes it simpler to find suitable workers for specific tasks. In the present, workers increasingly prioritize flexibility compared to previous generations, which helps fuel the growth of this economy. People looking to earn extra income are drawn to roles with unconventional schedules. The flexibility boosts motivation among workers, which positively affects productivity and overall output.

On the other hand, its disadvantage is that freelancers often don't have the same level of commitment to a company as full-time employees do. Additionally, most gig economy businesses are not recognized for providing strong incentives to their workers. This setup can lead to problems with loyalty, lower chances of repeat engagement, and reduced motivation overall. In some cases, gig economy companies have faced criticism over questionable employment practices. Their work arrangements tend to be informal, lack benefits, and often do not offer competitive pay.

According to Cos, W. (2022), more Filipinos are taking on side jobs to cope with the rising cost of living. Irregular, project-based work from online and informal markets has become a vital source of income for many. One example is 22-year-old Paul Babon, who supplements his tech company job by teaching math online. When his main role shifted back to on-site work, he needed extra income to cover commuting and other expenses. Although his regular salary is only about 17% higher than his

online teaching earnings, his side job helps ease financial worries from inflation. Even with the long hours, teaching 10 to 11.5 hours weekly, I still manage to enjoy hobbies like playing the piano, spending time with friends, watching movies, and making memes. He believes juggling two jobs has improved his time management and allowed him to maintain a balance between work and leisure. Furthermore, the gig economy worker demographic in the country, according to Cassion, J. E. (2024), is that nearly half, 49.77%, have completed a college degree. In terms of earnings, the typical daily pay ranges from Php 501 to Php 1500, with the majority making between Php 501 and Php 700 per day.

Income inequality

According to Schor, J. (2020), during the pandemic, healthcare workers were widely celebrated, but gig workers, often immigrants and people of color, were largely overlooked despite providing essential services. As racial awareness increased, criticisms of the gig economy grew. Though not facing the same dangers as police violence, gig workers endured health risks, poor pay, and unsafe conditions.

Platforms are overhiring, making work scarce. For example, Uber drivers in Seattle spent 35% of their time waiting for fares, and the pandemic further reduced ride-hailing demand while oversaturating delivery jobs. On Instacart, bots claimed shifts, leaving many without work. Discrimination persisted: non-white workers earned less and were rated poorly. Platforms also contributed to racial gentrification and reinforced class divides, creating a "servant economy." Workers described indignities like delivering through "poor doors" and facing biased customer ratings. Even former gig workers who became customers admitted to adopting dehumanizing attitudes toward service providers.

According to Payoneer's Philippines Freelance Market Report (2022), freelancers typically charge between US$11-22 per hour, US$27-33 per project, US$17-27 per content piece, and US$626-979 for monthly retainers. In addition, data from the National Wages and Productivity Commission in 2020 showed that 62% of Filipino freelancers were women and 38% were men. The average hourly rate was US$10, with monthly earnings averaging US$780 (Php 39,000). Moreover, the average hourly rates varied by field: own business (US$45), web design (US$15.75), graphic design/animation (US$15), programming (US$14.50), ESL/language (US$12.50), blogging/writing (US$11.72), online

marketing/SEO (US$7), customer service/tech support (US$5.35), and admin/VA/data entry (US$5.30) (8.2).

There are no consistent pay standards across platforms. When more workers compete for the same tasks, rates often drop. An ILO report noted that workers in developing countries earn about 60% less than those in developed nations. Some regions also show gender pay gaps. Because freelancers are globally dispersed, collective bargaining is difficult, and many are unaware of fair rates for their work.

Income Gap

The literature on the gig economy consistently highlights the presence of income gaps and inequality among workers, both within the sector and in comparison, to traditional employment. While gig work expands access to income-generating opportunities, it often results in uneven earnings and financial instability. For instance, studies show that income distribution in digital labor platforms tend to be highly unequal, with a small group of workers earning significantly more than the majority, reflecting a "winner-takes-most" structure (Etgar-Itzhaki, 2025). This pattern contributes to widening income disparities within the gig economy itself. In addition, gig workers frequently experience income volatility, as their earnings depend on demand fluctuations, platform algorithms, and competition among workers (ILO, 2021).

Comparative research further suggests that gig workers generally earn lower and less stable incomes than traditional employees due to the absence of fixed wages, job security, and employment benefits. According to the World Bank (2023), gig workers often receive lower compensation and lack access to non-wage benefits such as health insurance, retirement plans and packages, and paid leave, which are typically available in formal employment. Moreover, the increasing supply of gig workers in global platforms intensifies competition, reducing workers' bargaining power and placing downward pressure on wages (Wang, 2025). As a result, while the gig economy provides flexibility and accessibility, it may reinforce structural income gaps and contribute to broader labor market inequality.

Overall, existing literature indicates that the gig economy presents a paradox: it offers expanded economic participation but simultaneously introduces **persistent income disparities and precarity**. These findings point out the necessity of examining income gaps between gig workers and traditional employees, as well as the need for policy interventions that

promote income stability, fair compensation, and inclusive labor protections (ILO, 2021; World Bank, 2023).

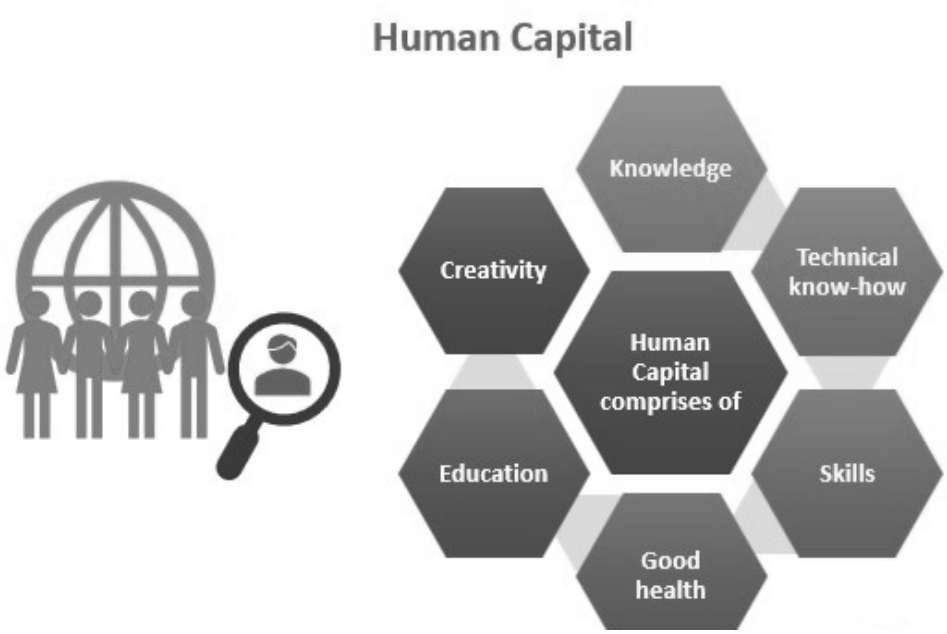
Theoretical Framework/Philosophical Underpinning

Human Capital Theory

Human capital theory is a key perspective in labor economics that highlights how education and training can boost economic outcomes. It suggests that investing in human capital through formal schooling, vocational programs, and work experience raises productivity and earnings, ultimately fueling economic development. To fully grasp this theory, it's important to explore its different aspects and the evidence that supports it.

Figure 3.

Human Capital Theory



Human capital refers to the collection of knowledge, skills, health, and personal attributes that people have, which enable them to work effectively and create economic value. This approach moves beyond traditional labor measures to a more comprehensive understanding of the drivers of economic performance. In addition, the central idea of human

capital theory is that workers are not static resources but individuals who can grow and improve over time.

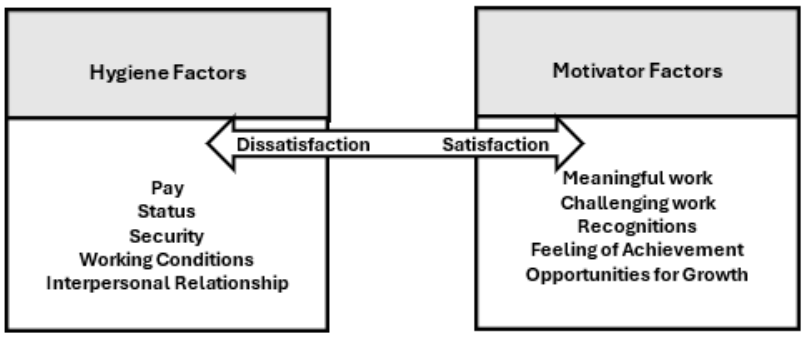
Furthermore, investment in human capital covers a wide range of activities (technical know-how, skills training, good health, education, and creativity). While formal education is the most visible, vocational training is equally important for developing occupation-specific skills needed for the gig economy. Continuing education and on-the-job learning are also crucial because they help workers keep up with technological advances and shifting industry requirements. Individuals or governments make all these investments with the expectation of generating future economic benefits.

Herzberg's Two-Factor Theory

Frederick Herzberg's Two-Factor Theory, also known as the Motivation–Hygiene Theory, offers a refined understanding of employee motivation by separating the factors that create job satisfaction from those that lead to job dissatisfaction. Herzberg concluded that the conditions contributing to satisfaction—for instance, achievement, recognition, or personal growth—are intrinsically different from those causing dissatisfaction, such as poor company policies, inferior supervision, or substandard working conditions. In addition, this study has a limitation in its perspective on income as a hygiene factor. The theory includes hygiene and motivational factors but wasn't directly compared because the research heavily relies on secondary data and primarily focuses on comparing the income of gig workers and traditional employees. That's why the research does not attempt to test Herzberg's theory in its entirety or measure overall satisfaction.

Figure 4.

Herzberg's Two-Factor Theory

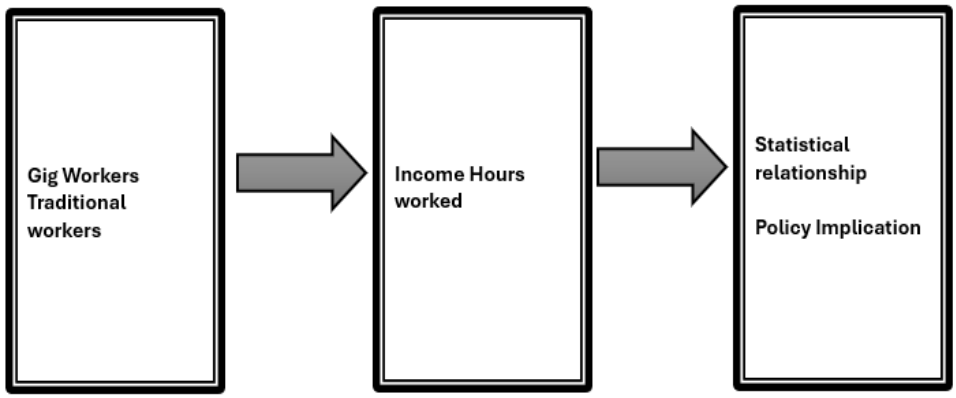


Conceptual/Operational Framework

Investigating stress differences between gig workers and traditional employees could use the t-test to compare average satisfaction with job income. Two samples—one composed of gig workers with distinct characteristics in terms of stress or comfort levels in terms of work hours, and another of traditional employees with more stable conditions—would complete a validated satisfaction scale for job income levels. An independent-samples t-test would determine whether the observed mean difference is statistically significant. If the t-test shows a significant difference, further analysis such as regression can assess whether these factors explain part of the relationship, should proper data sets be available.

Figure 5.

Operational Framework



Methodology and Research Approaches

This study will use descriptive research to examine the characteristics and trends of the means of the variables. Descriptive research is well-suited for identifying and illustrating patterns, making it an appropriate method for analyzing these variables.

By applying summary statistics, including the mean, median, and standard deviation, and using visual tools like bar charts, line graphs, and scatterplots, the researchers will be able to analyze and present the data, emphasizing the similarities and differences in trends across each variable.

Data Analysis/Analytical Tool:

The research will primarily use secondary data to perform an analysis of a t-test to find the statistical significance of the relationship and its extent.

Given the two independent groups matched for income in this study, we will compare their means. Data may be used to help determine the satisfaction levels or explain the difference. A t-test assesses whether the group difference is statistically significant.

To measure the extent of the difference or gap in income satisfaction, Cohen's D will be used.

Sources of Data:

This study would not require primary data, as necessary information for analysis will be secured from government records primarily through the Family Income and Expenditure Survey of 2023 and Labor Force Survey of 2023. The researchers chose this approach to ensure data would be efficiently available for collection and thus enables effective analysis. Official government data can be accessed through their websites and used as secondary sources, as long as the relevant agencies are properly cited in the research. The researchers also affirm that the study complies with ethical research standards.

Additionally, the research will rely solely on secondary data. Since the analysis covers one year, the study will use all data points from that specific year to calculate averages. Data collection is supported by the Freedom of Information (FOI) Act, signed by former President Rodrigo R. Duterte on July 23, 2016, which gives Filipino citizens the right to access public government records.

Potential sources for secondary data include:

- Asian Development Bank (ADB)
- Philippine Institute for Development Studies (PIDS)
- The Philippine Statistics Office (PSA)
- The National Economic Development Authority (NEDA)
- The World Bank (WB)

T-test Analysis

A t-test is an inferential statistical method used to compare the means of two groups (or a group to a known value) to determine if any observed difference is likely due to chance or reflects a true effect. If the variances of the groups are unequal or the sample sizes are different, Welch's t-test may be performed. Otherwise, the independent t-test would suffice. Levene's test can be performed if there is equality in variance. If $p < 0.05$, reject the null hypothesis → Variances are not equal, signifying the use of Welch's test.

Welch's t-test:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where:

- $\bar{X}_1, \bar{X}_2$: means of the two groups
- s_1^2, s_2^2: variances of the two groups
- n_1, n_2: sample sizes

In one quantitative research study analyzing psychological health among take-out riders, the researchers used independent samples t-tests to compare gender differences in perceived social support, psychological capital, and mental health (Sun, 2023). The result confirms that the method can be used to assess satisfaction, based on the comparison of differences conducted in the study. One significant advantage of the t-test is its simplicity and ease of interpretation. This statistical test allows researchers to compare the means of two groups and determine if any observed differences are statistically significant. The results are straightforward to interpret, clearly indicating whether the differences between groups are likely due to chance or represent a true effect. This makes the t-test particularly useful in various fields, including psychology, medicine, and social sciences, where understanding the impact of different conditions or treatments is essential.

Cohen's D

Cohen's *d* is a standardized measure of effect size developed by Jacob Cohen, an American statistician and psychologist. It quantifies the magnitude of difference between two group means in terms of standard deviation units. Cohen introduced this measure to address a limitation of relying solely on statistical significance (p-values). A result can be statistically significant but have a minimal practical impact. Cohen's *d* helps researchers interpret how large or meaningful a difference is. Cohen's d measures the standardized difference between the means of gig workers and traditional workers. Basically, Cohen's d looks at the spread of scores or how varied the scores are and compares the difference to that spread.

$$d = \frac{M_1 - M_2}{SD_{pooled}}$$

To interpret, the following benchmarks are widely used in social sciences: 0.2 = Small effect; 0.5 = Medium effect; 0.8 = Large effect. Cohen's *d* is a widely used standardized measure of effect size in the social and behavioral sciences. It has been reported in areas of study such as psychology, education, and other social-related disciplines to quantify the magnitude of group differences beyond statistical significance.

Probability of superiority (PS)

The PS is defined as the probability that a randomly selected individual from one group will have a higher value than a randomly selected individual from another group. PS is derived from Cohen's d and provides a more intuitive interpretation of group differences. Phi in the formula represents the cumulative probability under the normal distribution.

Interpretation: PS = 0.50 → 50/50 chance (groups are the same); as PS increases, one group is more likely to outperform the other. The closer to 1.00, the stronger the dominance.

$$PS = \Phi\left(\frac{d}{\sqrt{2}}\right)$$

Hypothesis:

It is important to present the research paper with one basic postulate in terms of analyzing the income satisfaction gap between gig workers and traditional workers.

Ho_1: There is no difference or substantial gap in job income satisfaction between gig workers and traditional workers.

Ha: There is a difference or substantial gap in job income satisfaction between gig workers and traditional workers.

Discussion and Interpretation of Results

Primarily, the researchers note that given the lack of exact time-series secondary data, some form of data derivation and transformation and assumptions were made to arrive at an acceptable representation of data to be used.

Gig and permanent employment categories are derived from the 2023 Labor Force Survey (LFS) and the 2023 Family Income and Expenditure Survey, based on the nature of employment and income. Jobs reported as temporary, casual, or contractual are classified as gig work, while those identified as regular or permanent are treated as traditional employment. This distinction reflects differences in employment security, benefits coverage, and contractual stability typically associated with each arrangement.

The classification is conducted at the job level, rather than at the individual level, to accurately capture situations where respondents hold multiple jobs under different contractual arrangements. For instance, an individual may simultaneously hold a permanent primary job and a contractual secondary job. Treating each job as a separate observation allows the analysis to reflect the heterogeneity of employment arrangements and avoids misclassification that could arise from assigning a single employment type to an entire individual.

The dataset is then reorganized into long format so that each record corresponds to a single job and its associated reported basic pay. This structure enables direct comparison of income across employment types while preserving job-level characteristics.

A two-sample *t*-test with unequal variance is subsequently employed to compare the average basic pay between gig and permanent jobs. The test evaluates whether the observed difference in mean income between the two groups is statistically distinguishable from zero under the assumption of independent samples. This approach provides an initial, descriptive assessment of income disparities across employment types without yet controlling for other covariates such as education, industry, hours worked, or geographic location.

a. Descriptive statistics

Following the output generated, x represents the traditional workers, while y represents the gig workers. The results show that for traditional workers, the mean income score was 627.25 (SD = 338.65), with a 95% confidence interval ranging from 623.35 to 631.16. In contrast, gig workers (n = 12,696) reported a lower mean score of 422.77 (SD = 198.55), with a 95% confidence interval from 419.31 to 426.22. When combined, the overall mean across both groups was 564.88 (SD = 317.16). The difference in means between the two groups was 204.49 points, with a 95% confidence interval from 199.28 to 209.70. Welch's t-test confirmed that this difference was highly significant, $t(38{,}362.2) = 76.91$, $p < .001$. These results provide strong evidence that traditional workers report significantly higher income compared to gig workers.

Two-sample t test with unequal variances

	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
x	28,926	627.2528	1.991162	338.6498	623.35	631.1556
y	12,696	422.7653	1.762094	198.5466	419.3113	426.2193
combined	41,622	564.8778	1.554584	317.1579	561.8308	567.9248
diff		204.4875	2.658891		199.276	209.699

diff = mean(x) - mean(y) t = 76.9071
Ho: diff = 0 Satterthwaite's degrees of freedom = 38362.2

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

The results show that the traditional workers scored higher on average than gig workers. Gig workers, who made up 12,696 respondents, had a much lower average score of about 423, and their scores were also less spread out compared with the first group. The

confidence intervals indicate that the true average score for each group is very likely to fall within those ranges. This means that even accounting for statistical uncertainty, gig workers consistently show lower average scores than the traditional workers. The results suggest a clear gap between the two groups, with gig workers performing significantly lower on the measures being studied.

b. Welch's t-test

The difference in means of the traditional and gig workers is 204.49 at a 95% confidence interval of 199.28-209.70. The Welch's t: 76.91, degrees of freedom = 38,362, $p<0.000$

This means that the income difference between traditional and gig workers is highly statistically significant, confirming that traditional workers earn substantially more on average, given the security of traditional work compared to the growing sentiments on gig employment. The income gap is real and not due to chance.

c. Cohen's d

Cohen's d = -0.68 (95% CI: -0.74 to -0.62). The magnitude is a medium-to-large effect size, as traditional workers scored lower in satisfaction compared to telecommuters and gig workers, so the gap is moderately large compared to the spread of incomes. This means the income gap is quite substantial aside from being statistically significant. There is about a 68% chance that a randomly selected traditional worker will earn more than a randomly selected Gig worker.

```
. * Define group statistics
. local n1 = 28926

. local m1 = 627.2528

. local sd1 = 338.6498

. local n2 = 12696

. local m2 = 422.7653

. local sd2 = 198.5466

. * Pooled standard deviation
. local sp = sqrt(((`n1'-1)*(`sd1'^2) + (`n2'-1)*(`sd2'^2)) / (`n1'+`n2'-2))

. * Cohen's d
. local d = (`m1'-`m2')/`sp'

. display "Cohen's d = " %5.3f `d'
Cohen's d = 0.675
```

Traditional workers earn considerably more, and the difference is large enough to matter in real-world contexts. The effect size indicates a substantial practical difference.

d. Summary

Summing up the findings, we note that the results of this study indicate that traditional workers report significantly higher income levels compared to gig workers. Since the Welch test showed a statistically significant difference in income satisfaction between the two groups with $t=76.9$, a p-value $< .001$, the null hypothesis (H_0) is rejected; thus, evidence supports the Ha that job income satisfaction differs between gig workers and traditional workers.

The two-sample t-test captures average differences but does not account for potential confounding factors such as differences in skill levels, tenure, working hours, occupational category, or sectoral composition. These results support ongoing debates about labor market structures, illustrating both the advantages of traditional employment and the nuanced realities of gig work.

The medium-to-large effect size ($d = 0.68$) suggests that the disparity is not only statistically significant but also practically meaningful. Traditional workers generally earn more, and this difference is both noticeable in practice and economically relevant. This means that the income gap is also large enough to have real-world implications, affecting daily lives in terms of having the ability to meet daily subsistence, pay rent comfortably, afford health care, and have financial security. The probability of superiority analysis provides an intuitive interpretation of the results by showing that the difference is not absolute. Specifically, while traditional workers have approximately a 68% chance of earning more than gig workers in a random comparison, there remains about a 32% chance that a gig worker earns more. This means that although traditional workers are more likely to earn higher incomes, a substantial proportion of gig workers still fall within the same income range or even exceed some traditional workers. This underscores the variability within both groups and suggests that although traditional employment generally provides greater income

security, gig work can still yield competitive earnings for a substantial minority.

Conclusion and Recommendations

The results of this study indicate that traditional workers report significantly higher income levels compared to gig workers, with Welch's t-test confirming the robustness of this difference. The medium-to-large effect size (d = 0.67) suggests that the disparity is not only statistically significant but also practically meaningful. However, the probability of superiority analysis, which makes the result intuitive, highlights that the difference is not absolute: while traditional workers have a 68% chance of earning more in a random comparison, there remains a 32% chance that a gig worker earns more. Therefore, while traditional workers are more likely to earn higher incomes, this trend is not universally the case. This underscores the variability within both groups and suggests that although traditional employment generally provides greater income security, gig work can still yield competitive earnings for a substantial minority. Substantively, the magnitude of the gap suggests that permanent employment is associated with materially higher earnings compared to gig work.

While these findings provide preliminary evidence of income disparities linked to employment status, they should be interpreted cautiously. The two-sample t-test captures average differences but does not account for potential confounding factors such as differences in skill levels, tenure, working hours, occupational category, or sectoral composition. These results support ongoing debates about labor market structures, illustrating both the advantages of traditional employment and the nuanced realities of gig work. For a more comprehensive analysis—multivariate regression may be done given the presence of actual data—would be necessary to isolate the effect of employment type on income while controlling for these observable characteristics.

On the other hand, given the findings on income disparities, policy studies may be conducted to improve the income competitiveness of gig work relative to traditional employment by promoting skill upgrading and platform transparency. Investments in digital skills, certifications, and continuous training can enhance gig workers' productivity and earning potential, consistent with human capital development.

With the rapid expansion of gig work amid emerging technologies, there is also a need to establish adaptive and inclusive labor protection frameworks. Extending portable benefits (e.g., health insurance, social security, and retirement contributions) that are not tied to a single employer but follow the worker across platforms may also be studied. Additionally, clear guidelines on worker classification should be developed to balance flexibility with protection, ensuring gig workers are not excluded from basic labor rights.

Policies must also recognize that gig work is not homogeneous but exists along a spectrum of income levels, skills, and job stability. Rather than treating gig work as purely precarious or purely flexible, labor market strategies should adopt a differentiated approach. For instance, high-skilled gig workers may benefit from innovation and entrepreneurship support, while low-skilled workers may require stronger protections and income support mechanisms.

Furthermore, policy studies may be conducted, such as income security for gig workers, by potentially introducing minimum pay standards or a guaranteed pay rate to better accommodate and enhance the participation of gig workers and encourage income security. While some gig workers offer competitive earnings, reducing inequality in terms of satisfaction may be looked into to improve benefits and income stability in order to provide more opportunities for people to find work in this sector. Areas for policy considerations may also include studying the trade-off between high autonomy of gig work compensating for the lack of financial security in terms of overall satisfaction and potentially opening access to benefits through provisions of institutional stabilizers such as health insurance to sustain long-term financial outlooks.

Overall, policy responses should aim not to replace gig work with traditional employment but to make gig work more competitive, protected, and sustainable within an evolving labor market shaped by technological change. Lastly, as the gig economy continues to expand, it becomes important to examine whether meaningful income disparities exist between gig workers and traditional employees. Understanding the extent of these disparities provides empirical evidence that may inform the development of labor market and social protection policies responsive to emerging forms of work.

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