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Analysis of the Current Status on Entrepreneurial Intentions among CrowdWorks Freelancers in Japan

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ABSTRACT

Entrepreneurship is vital for economic growth in Japan. However, the Global Entrepreneurship Monitor (GEM) report for 2022 reveals that Japan still lags behind in entrepreneurial intentions and attitudes. The purpose of this paper is to establish statistically the structural aspects of entrepreneurial intentions among Japanese social media freelancers by applying a social psychological approach, the Theory of Planned Behaviour. Furthermore, it aims to outline the framework and link it to future research activities. A total of 476 respondents were surveyed. While no significant differences in the variances of entrepreneurial intentions were found between platforms, three other factors showed significant distinctions when analysed for each variable. The mean score for perceived behavioural control stood at 2.213, aligning with the 2022 GEM report's low rating. However, attitudes towards entrepreneurship (mean score 4.423) and entrepreneurial intentions (mean score 3.844) were moderate. Correlation analysis highlighted a strong positive and significant relationship between attitude and entrepreneurial intention, as well as positive and significant relationships between perceived behavioural control and entrepreneurial intention, and between subjective norm and entrepreneurial intention. Furthermore, path analysis using SPSS Amos indicated that perceived behavioural control may influence attitudes and subjective norms. Subsequent research should explore new variables in a broader sample, customised to participants' cultural backgrounds.

1. Introduction

Entrepreneurship is vital for economic development, encompassing various definitions, from launching businesses to fostering innovative, risk-taking mindsets (Illés et al., 2015). It

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addresses multiple policy concerns, including technology, sustainability, and employment (Acs, 2008). This skill is increasingly essential in modern society, irrespective of one's career choice (Lackéus, 2015). However, in Japan, it has been noted that there are few entrepreneurs desiring to start up (Uchida & Kwak, 2019). In 2017, the Global Entrepreneurship Monitor (GEM) reported a low Total Early-stage Entrepreneurial Activity (TEA) rate for Japan, ranking it fifth from the bottom among 54 countries (Uchida & Kwak, 2019; GEM, 2018). In the 2022 GEM report, Japan improved to 31st out of 49 countries, although in the Attitudes and perceptions, it ranked last in three categories; 48th out of 49 countries in entrepreneurial intentions (GEM, 2023). This highlights the entrepreneurship challenges facing in Japan. In spite of these challenges, there is limited prior research on entrepreneurship in Japan, and the overall landscape remains somewhat unclear. Therefore, the purpose of this paper is to analyse and clarify the challenges of entrepreneurship in Japan using the Theory of Planned Behaviour (TPB; Ajzen, 1991), a social psychological model, and to explore strategies for enhancement. This paper represents an initial step towards the future development of entrepreneurship in Japan, as it identifies Entrepreneurial Intention (EI), Attitude (ATT) towards entrepreneurship (Apasieva et al, 2020), Subjective Norm (SN), and Perceived Behavioural Control (PBC) from the perspective of TPB.

2. Literature Review

2.1. Theory of Planned Behaviour

According to the TPB, human behaviour is based on three beliefs: behavioural beliefs, normative beliefs and control beliefs. It then proposes that the intention to perform behaviours is the result of ATT, SN and PBC (Ajzen, 2019). TPB predicts various behaviours, including those related to health; however, criticisms regarding its reliance on correlational outcomes have arisen (Montano & Kasprzyk, 2015; Weinstein, 2007). Weinstein raised concerns about potential biases in correlational data and the theory's overestimation, as well as its lack of discussion on suitability and integrity. Nevertheless, numerous research interventions have utilised TPB, and evidence from numerous investigations has been summarised (Montano & Kasprzyk, 2015). With respect to TPB, it has also been applied in public health and political science, where it is employed for structural modelling across various fields (Bosnjak et al., 2020).

2.2. Application to Entrepreneurship Research Using TPB

Liñán and Chen (2009) used the TPB to identify EI. They developed an entrepreneurial intention questionnaire (EIQ), and surveyed 519 samples in Taiwan and Spain. They tested the factors in detail with the Structural Equation Modelling (SEM). The results showed that the characteristics of the EIQ strongly supported the model, leading to successful applied research. Subsequently, many researchers have conducted empirical investigations in, for example, North Macedonia (Apasieva et al, 2020) and Turkey (Sabah, 2016) and so on, where it was widely evaluated that the TPB is adaptable in explaining EI to link to entrepreneurial behaviours.

This research is also based on the TPB and the EIQ. The following hypotheses are therefore set out to identify EI and other factors (ATT, SN and PBC) in Japan.

H01: ATT does not have a positive impact on EI.
H02: SN does not have a positive impact on EI.
H03: PBC does not have a positive impact on EI.

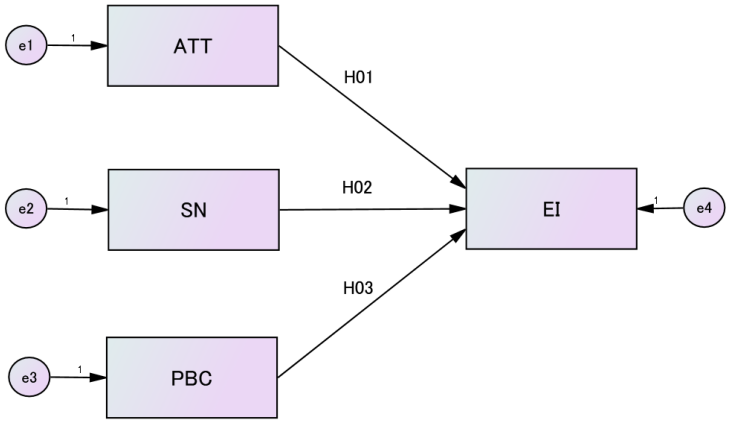

Figure 1. The model and the hypotheses
Source: Ajzen (1991), Apasieva et al. (2020), Liñán and Chen (2009)

2.3. Crowdsourcing Service and Social Media

This research collected data from diverse sources, including a crowdsourcing platform and social networking sites (SNS) like facebook in social media. Crowdsourcing involves outsourcing business tasks and activities to individual workers and operates within the realm of social media. Then, social media encompass internet-based applications that enable the creation and exchange of virtual content (Paniagua & Korzynski, 2020). In addition, crowdsourcing as an innovative business model involves the collective completion of tasks, often by a group referred to as the "crowd," and finds extensive application across various domains (Hosseini et al., 2014). Notably, researchers in fields like machine learning and data mining frequently employ crowdsourcing services to address complex challenges (Mo et al., 2013). Additionally, Japanese ministries and large corporations have utilised crowdsourcing services to gather a diverse range of perspectives (Tsukamoto, 2014). It's essential to recognise that crowdsourcing services are a subset of social media, both facilitating collaboration and contributions from a dispersed and diverse group of individuals. In this paper, therefore, the author forms a hypothesis by considering crowdsourcing as an integral part of the broader domain of social media.

H04: There is no difference in participants' EI between platforms.

3. Research Method

3.1. Overview

In this research, a quantitative research approach was employed to analyse the collected questionnaire data. The analysis encompassed various statistical methods facilitated by software tools. Descriptive statistics, multivariate analysis of variance (MANOVA) and

correlation analysis were performed using SPSS version 29.0.1.0, while confirmatory factor analysis (CFA) and path analysis were conducted with Amos 26.

3.2. Data Collection and Sample

The research used a questionnaire with a seven-point Likert scale method. The target population was selected for social media users. The reasons are to collect data on a wide age group and diverse employment status in Japan, in addition, to obtain a high collection rate with convenience. Sample size required for a 95% confidence interval was 384. The questionnaire was collected through "CrowdWorks" and SNS. CrowdWorks is one of the largest crowdsourcing service providers in Japan, with 5,757,000 registered workers (freelancers) at the end of June 2023 (CrowdWorks, 2023). The questionnaire form used was Google Form. A total of 476 respondents were obtained. In this way, it is possible to analyse EI and the three factors among CrowdWorks freelancers and SNS users.

3.3. Ethical Considerations

An anonymous method was applied in this research. The setting was also made so that emails are not collected when responding via Google Form. In this way, the respondents' anonymity was ensured. Furthermore, all questions in the questionnaire were set to be optional so that respondents could skip questions they did not want to answer. By this, it was designed to reduce the psychological burdens on the respondents. Ethical considerations were indicated in posted messages and at the beginning of the Google Form questionnaire to attract voluntary participants.

3.4. Data Analysis

Quantitative analysis was conducted on the collected questionnaire data using SPSS version 29.0.1.0 and Amos 26. Descriptive statistics were employed to identify respondent attributes, and data normality was confirmed through histograms and Q-Q Plots, as illustrated in the figures in the Appendix. For example, the variable ATT1 exhibited a normal curve, and a straight line was confirmed in the Q-Q plot. Additionally, in cases such as variable SN3, where the frequency of 1 to 5 was higher than that of 6 and 7, the Q-Q plot also confirmed a straight line, indicating normality. The reliability of TPB factor data was assessed using the Cronbach's alpha test (see Section 4.2).

Subsequently, CFA was conducted to test whether the questionnaire data fit the model. CFA is a statistical technique used to identify and investigate hypothesised constructs represented by potential errors in measuring a set of items (Hoyle, 2000). This method, widely applied in psychology and educational research, focuses on modelling the relationships between observed indicators and underlying factors (Gallagher, 2013). A correlation analysis and path analysis were then carried out to test the hypotheses.

4. Results and Discussion

4.1. Descriptive Statistics: Respondent Demographics

The data collected was cross-tabulated separately for the total and platforms. The total number of respondents was 476. Regarding gender, 451 respondents were from CrowdWorks (Male: 215; Female: 231; 5 selected "No answer"), 22 from SNS (Male: 10; Female: 10; 2 did not select), and 3 did not select any platform. And then, the 36-45 age group was the most common age group for both platforms (CrowdWorks: 157; SNS: 8); 125 CrowdWorks users answered 26-35 age group next; 110 users answered 46-55 age group.

Next, this research considered employment status. The overwhelming majority of respondents on both platforms are "full-time employees" (CrowdWorks: 167; SNS: 11), followed by "self-employed, entrepreneur and freelancer" (CrowdWorks: 104; SNS: 5). The results showed that respondents with a full-time employment status also work in CrowdWorks.

4.2. Analysis of TPB Factors

Cronbach's alpha test was conducted to test the reliability of the questionnaire using the scale. According to Tavakol and Dennick (2011), there are various reports on acceptable values for alpha in the range of .70-.95, although too low alpha values are unreliable and too high values are redundant. This research was calculated by excluding missing values on a list-by-list basis and the overall values were .940-.945. It was therefore within the above reliable tolerances. Furthermore, CFA was conducted to verify that the data and the model were fit. According to previous research comparing various indicators to support decision-making for researchers in the social sciences and other fields, the comparative fit index (CFI) is the most commonly used indicator; it was recommended that CFI and ΔCFI need to be reported (Cheung & Rensvold, 2002). Also, more than .90 would be psychometrically compatible with the data (Kim et al., 2015). Additionally, the incremental fit index (IFI) was calculated and found to be .908. IFI in SEM gauges the improvement in fit by assessing how well the target model fits the data compared to a simple model that assumes no correlation between observed variables. It evaluates the added explanatory power in the target model (Hu & Bentler, 1999). Moreover, if the IFI value is .90 or higher, it could be considered acceptable (Hu & Bentler, 1999; Statistische Daten Analyse, 2023). In Table 1 below, the CFA results indicated CFI values of .926 (N = 476) and .907 (Valid N = 459), along with IFI values of .908 (N = 476, Valid N = 459), confirming both data and model fit.

Table 1.
Confirmatory Factor Analysis Results

Items	**Estimates**	
	***N* = 476**	**Valid *N* = 459**
Attitude towards entrepreneurship		
ATT1: An entrepreneurial attitude brings higher benefits in comparison to drawbacks for me.	.663***	.645***
ATT2: An entrepreneur-oriented career is highly attractive to me.	.819***	.804***
ATT3: If I receive resources and opportunities, I will initiate my own business.	.863***	.865***
ATT4: Pursuing entrepreneurship would give me great satisfaction.	.895***	.885***
ATT5: Among different career alternates, I would prefer entrepreneurship.	.918	.914
Perceived behavioural control		
PBC1: Starting my own firm would be convenient and easy for me.	.782***	.781***
PBC2: I think I'm ready to start a viable business.	.871***	.871***
PBC3: I can manage and control the new firm creation procedure.	.834***	.833***
PBC4: I possess sufficient practical knowledge for running a business.	.857***	.856***
PBC5: If I started my own business, I would have a high probability of success.	.814	.815
Subjective norms		
SN1: My family would be supportive of my entrepreneurial decision.	.789***	.784***
SN2: My colleagues and friends are assistive in my career path oriented to entrepreneur.	.840***	.835***
SN3: My social network is helpful for me to explore market trends and demands for assisting my entrepreneurial career.	.689	.691
Entrepreneurial intentions		
EI1: My career objective is to be a successful entrepreneur.	.870	.848
EI2: I am eager to initiate my own business.	.911***	.862***
EI3: I will make sincere efforts for starting and operating my own business.	.893***	.841***

Note. CFA fit indices: CFI = .926 (*N* = 476); CFI = .907 (Valid *N* = 459); IFI = .908 (*N* = 476; Valid *N* = 459); TLI = .888.
*** $p < .001$.
Source: Table prepared by author with reference to Apasieva et al (2020)

4.3. Comparison of Users between Platforms

Comparisons of variables on TPB factors between platforms were analysed using MANOVA. The results indicated that there were no significant differences in the values of EI between groups. Therefore, in the following sections, the analysis proceeded with the total number of items without missing values. Nonetheless, the other three factors revealed interesting results: one out of five items for ATT, all three items for SN, and four out of five items for PBC showed significant differences. The results of the MANOVA were presented in Table 2 below. The two groups were compared with CrowdWorks and SNS platforms.

Table 2.
Results of analysis by MANOVA between the platforms of the respondents (DF=2)

Dependent variable	Type III *SS*		*MS*	*F*	*p*
	Value	Adj. R^2			
ATT1	18.838	.020	9.419	5.793	.003**
ATT2	10.562	.005	5.281	2.234	.108
ATT3	2.348	-.003	1.174	.381	.683
ATT4	3.603	-.001	1.801	.672	.511
ATT5	4.218	-.001	2.109	.770	.463
PBC1	13.763	.015	6.881	4.466	.012*
PBC2	5.845	.002	2.922	1.574	.208
PBC3	22.590	.020	11.295	5.629	.004**
PBC4	45.949	.044	22.975	11.521	.000***
PBC5	26.352	.024	13.176	6.553	.002**
SN1	17.132	.010	8.566	3.401	.034*
SN2	35.841	.029	17.920	7.812	.000***
SN3	49.203	.039	24.602	10.373	.000***
EI1	7.066	.001	3.533	1.160	.314
EI2	0.342	-.004	0.171	.052	.950
EI3	4.349	-.001	2.174	.658	.519

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.
Source: Author's research

As mentioned at the beginning of this section, when examining the significance probability of respondents' EI values across platforms, all *p*-values were greater than .05, indicating no significant differences. Additionally, both the *F*-value and Adj. R^2 were quite small, revealing that there is little difference in EI between the two groups. Therefore, null hypothesis H04 was accepted. In regard to other variables, items related to attitudes toward entrepreneurship, specifically ATT1, showed significance with an *F*-value of 5.793. Besides, for items related to perceived behavioural control, PBC1, 3, 4, and 5 respectively exhibited *F*-values of 4.466, 5.629, 11.521, and 6.553, with their *p*-values indicating statistical significance. PBC2 showed no significant difference across platforms. Furthermore, items related to subjective norms (SN1, SN2, and SN3) demonstrated *F*-values of 3.401, 7.812, and 10.373, with all *p*-values being statistically significant for these variables.

The observed differences stem from variations in motivations and values associated with the use of each platform in social media, resulting in both similarities and dissimilarities (Alhabash & Ma, 2017). The results in Table 2 indicated points of convergence and divergence between registered workers on CrowdWorks and users on SNS. This research compared TPB factors of respondents across the CrowdWorks and SNS platforms in Japan using MANOVA, providing new insights. Moreover, Bakici (2020) compared two different types of crowdsourcing platforms at the individual level, revealing differences in factors influencing behaviour based on platform host types, domain characteristics, varied motivations, and supporting mechanisms for social factors. However, motivation for participation behaviour between crowdsourcing platforms and SNS platforms remains insufficiently explored (Zolkepli et al., 2015). Future research on EI in Japan need to be analysed in greater structural detail.

4.4. Descriptive Statistics for TPB Factors and Correlation Analysis

Descriptive statistics were conducted in SPSS to summarise each factor with the calculation of variables. The results showed that the social media users in Japan had a relatively positive attitude towards entrepreneurship (ATT mean: 4.423). In addition, subjective norms were moderate (SN mean: 3.585) and entrepreneurial intentions were moderate (EI mean: 3.844). However, a low description of perceived behavioural control was identified (PBC mean: 2.237). As previously mentioned, the analysis excluded missing values, ensuring a safe and reliable approach (Allison, 2009) since the valid sample size (N = 459) exceeded the required sample size of 384.

Table 3.
Descriptive statistics of the observed variables of TPB

	M	***SD***	**Valid *N* (listwise)**
ATT	4.423	1.3762	459
PBC	2.237	1.1799	459
SN	3.585	1.3202	459
EI	3.844	1.6571	459

Source: Author's research

From the results above, it can be stated that in the GEM (2023) global report for 2022, Japan obtained the lowest ranking (49th out of 49 countries) in the category "Personally have the skills and knowledge," which aligns with the low values observed in the PBC variable within this paper. Specifically, the question corresponds to PBC 4 (as indicated in Table 1, Section 4.2), with an individual observation mean of 2.213. In contrast, ATT and EI demonstrated moderate values, suggesting the need for further investigation. Uchida and Kwak (2019) also noted that a small number of entrepreneurs may not necessarily be a problem, and it is not obligatory for individuals to start their own businesses if they have stable employment. The questionnaire results of this research indicated that a large number of respondents were full-time employees. There is, therefore, a need for a more in-depth investigation into their ATT and EI, taking into consideration their respective backgrounds.

Moreover, correlation analysis of the factors was conducted. Table 3 below presented the results of the correlation analysis, which showed a strong positive and significant relationship between ATT and EI (.812). In addition, it was shown that there is a positive and significant relationship between PBC and EI (.623), and also between SN and EI (.604). The results supported the TPB and previous researches.

Table 4.
Correlation analysis (Pearson correlation)

	ATT	**PBC**	**SN**	**EI**
ATT	1	.509***	.521***	.812***
PBC	.509***	1	.634***	.623***
SN	.521***	.634***	1	.604***
EI	.812***	.623***	.604***	1

Note. *** $p < 0.001$.

4.5. Path Analysis and Hypothesis Testing

Finally, path analysis was conducted in Amos to assess the causal relationships between the factors. In addition, hypothesis testing was carried out for H01 to H03. Paths were drawn between each variable to measure the impact of ATT on EI; SN on EI; and PBC on EI. Moreover, additional research was conducted to gain insights into the extent of PBC's influence on ATT and SN.

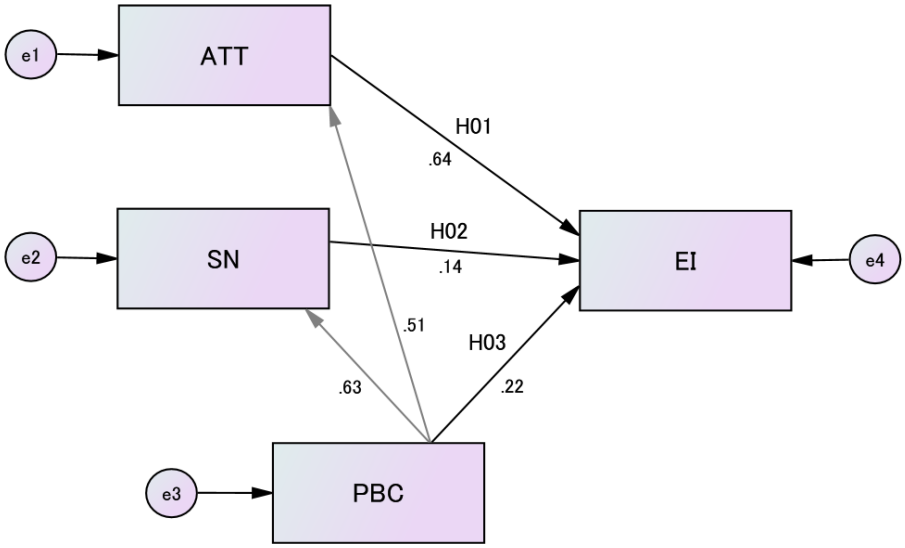

Figure 2. Path analysis
Source: Generated by the author using SPSS Amos.

In the revised model, the fit indices improved, with CFI at .959 and IFI also at .959, indicating a good fit between the data and the model (Hu & Bentler, 1999; Kim et al., 2015; Statistische Daten Analyse, 2023). The TLI value slightly decreased, yielding .754. The results showed an estimate of .64 for ATT to EI, .22 for PBC to EI, and .14 for SN to EI. Since ATT and SN can also be affected by PBC (Ajzen, 2019), path analysis was also performed for them. Their estimates showed .51 for PBC to ATT and .63 for PBC to SN. In the case of CrowdWorks freelancers in Japan, it was found that ATT, SN, and PBC had positive impacts on EI. All p-values were significant at the .001 level. Hence, the null hypotheses H01 to H03 were rejected. The results of path analysis and the fit indices for the revised model are presented in Table 5 below. Additionally, the hypothesis testing results, including the MANOVA findings, are summarised.

Table 5.
Summary of hypothesis testing

Path analysis	**Null hypothesis**	**Path**	**Std. β**	***p***	**Decision**
	H01	ATT -> EI	.642	.000***	Rejected
	H02	SN -> EI	.143	.000***	Rejected
	H03	PBC -> EI	.217	.000***	Rejected
	Note. Model fit summary: CFI = .959; IFI = .959; TLI = .754.				
	*** $p < .001$.				
MANOVA	**Null hypothesis**	**Variable**	***F***	***p***	**Decision**
	H04	EI1	1.160	.314	Accepted
		EI2	.052	.950	
		EI3	.658	.519	

Source: Constructed by authors from research data

These findings supported a portion of the results from Apasieva et al. (2020), who conducted a study on EI in North Macedonia. Their study revealed that ATT and PBC had a positive impact on EI. While their research did not confirm a positive influence of SN on EI, our research diverged in this aspect by identifying a positive impact of SN on EI. Moreover, our findings are in line with Sabah's (2016) research in Turkey. In their study, they confirmed that ATT, SN, and Self-Efficacy (equivalent to PBC in their research) all had positive impacts. This research added to the understanding of EI in Japan by revealing that TPB analysis can be useful. In the future, more intervention researches should be conducted continuously in university classes, public or private courses etc. in Japan to analyse causal relationships and explore changes in the figures before and after the intervention. Entrepreneurship education programs are crucial in Japan; however, research on specific educational outcomes is still in the early stages of development (Matsunaga et al., 2020). More research reports are needed to show a full picture for Japanese entrepreneurship.

4.6. Implications

This research contributes a novel perspective to entrepreneurial research in Japan. The TPB theory by Ajzen, extensively utilised across diverse fields in many countries, has proven applicable to the study of EI in Japan. Furthermore, the enhanced model depicted in Figure 2 demonstrated a superior fit with the data. This alignment supported the TPB's previous research, indicating that the impact of ATT and SN on EI is influenced by PBC (Ajzen, 2019). Entrepreneurship is important for developed countries, so entrepreneurial actions need to be supported (Acs, 2006). The findings should be useful for future research and policy makers. While positive correlations among factors and causal relationships identified through path analysis were confirmed in the analysis results, the PBC value, as shown in Table 3, was notably low at 2.237. PBC represents beliefs in one's ability to perform specific actions, influenced by both self-efficacy and external factors. Higher PBC correlates with individuals taking actions necessary to achieve goals, whereas lower PBC, in contrast, leads individuals to perceive obstacles or constraints, making them more prone to giving up on their actions (Wood & Bandura, 1989).

As highlighted in the GEM report (2023), Japan exhibits a notably low ranking, the lowest among 49 countries, in terms of a negative attitude towards skills and knowledge related to entrepreneurship. This aspect pertains to the PBC domain, suggesting that even with high EI and positive ATT, there are factors hindering actual entrepreneurial actions. For the future, it is crucial to delve deeper into the finer factors of PBC and conduct more extensive research.

4.7. Limitations

In this research, data were collected using multiple platforms, including CrowdWorks and some SNS platforms, to obtain responses to the survey. Unexpectedly, a sufficient sample size was achieved from CrowdWorks alone, surpassing the anticipated number of responses. This high participation rate may include individuals who are more inclined to respond to surveys, introducing a potential responder bias. According to Davis and Love (2019), data obtained from social media platforms may not be readily generalisable beyond their populations due to issues such as uneven platform adoption rates and sample demographic biases. Instead, it is advisable to approach the generalisation cautiously. Utilising formal theory to test theoretical hypotheses

may offer a more suitable method (Davis & Love, 2019). Leveraging the competitive and social dynamics inherent in crowdsourcing platforms (Bakici, 2020), it is recommended to continue hypothesis testing regarding entrepreneurial intentions.

Besides, in this research, while meaningful insights were gained by analysing respondents' EI and other factors during data collection, and static effects were clarified, dynamic effects could not be captured. For a more thorough understanding and improvement of PBC values and EI in Japan, it would be beneficial to conduct intervention studies. For example, collaborating with universities or private courses to observe how participants' EI evolve before and after entrepreneurship education would be valuable. This approach would allow for the examination of which educational plans and curricula were effective in fostering changes.

5. Conclusion

Based on the TPB, this research analysed EI and the factors of CrowdWorks freelancers and SNS users in Japan. Data from respondents with a wide range of attributes were analysed and a first piece of research could be presented. First, there was no difference between participants' EI when comparing across platforms. However, when looking at each factor towards EI, some items showed significant differences, so it will be worth continuing the research in a structural approach. Secondly, the results of the correlation analysis all showed positive correlations; particularly a strong correlation between ATT and EI, and they had the highest causal relationship in the path analysis. For SN, a positive correlation was shown, though the estimate from SN to EI by path analysis was low. It has been mentioned that PBC could prevent progress towards behaviour (Ajzen, 2002). In the future, it is necessary to further research expanding the sample characteristics and adding observational variables.

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Declaration of No Conflict of Interest

I declare that there are no conflicts of interest associated with this research.

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Appendix

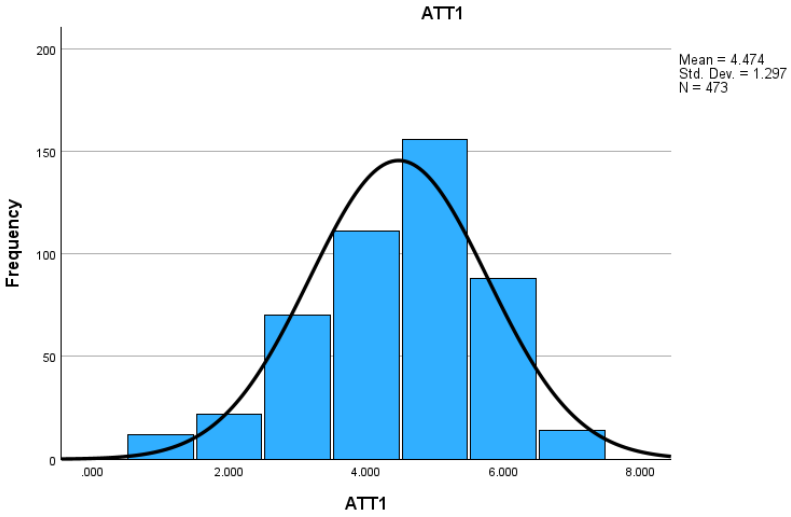

Figure 3. Histogram of the variable ATT1

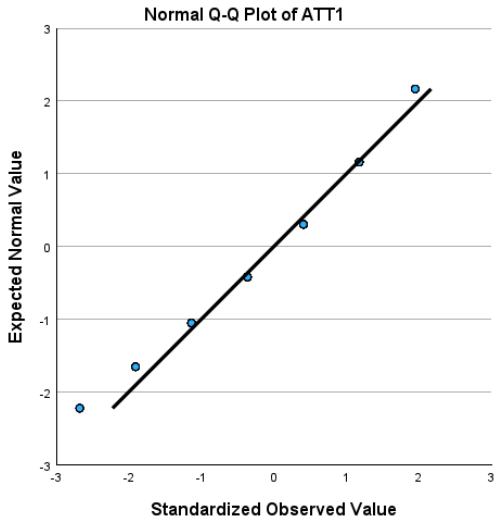

Figure 4. Q-Q Plot of ATT1

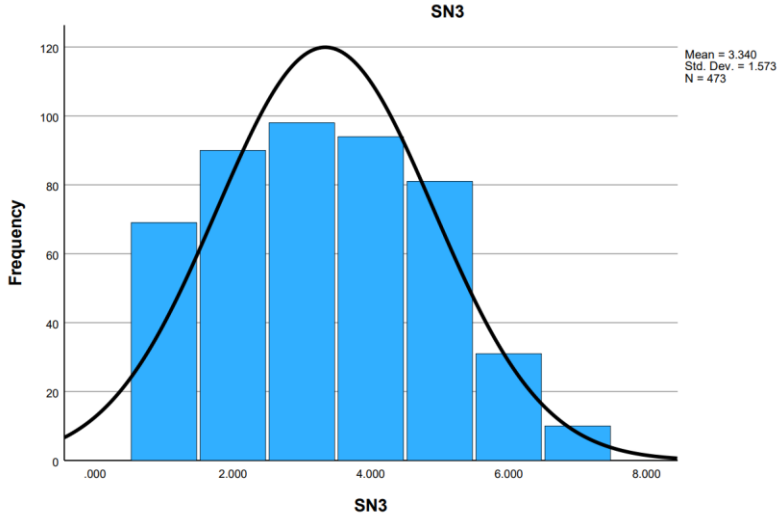

Figure 5. Histogram of the variable SN3

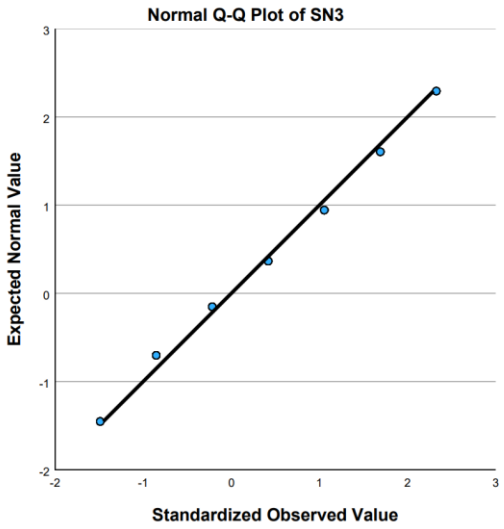

Figure 6. Q-Q Plot of SN3