

Job application intention and search behavior of crowd workers

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ABSTRACT

This study aims to explore the job application intentions and search behaviors of crowd workers on online crowdsourcing platforms through the lens of Signaling Theory. The research involved 66 students from the Bachelor of Office System Management program at Universiti Teknologi MARA, Pahang, who participated as part-time crowd workers on various online platforms as part of the study requirements. The findings reveal significant positive relationships between job characteristics, person-job fit (as the signaler), and job-related factors influencing crowd workers' intentions and search behaviors (as the receivers), in alignment with Signaling Theory. These results provide a deeper understanding of crowd worker behavior, offering valuable insights for crowdsourcing platforms and job providers to enhance platform features and improve terms and conditions, ultimately making the platforms more attractive and efficient for both workers and employers.

1. Introduction

The rise of the gig economy has transformed employment practices globally, with online platforms providing new income-generating opportunities. Crowdsourcing platforms, a key component of this digital landscape, have gained traction across various sectors. In the United Kingdom alone, approximately 1.1 million workers participate in crowdsourcing activities, ranging from food delivery to digital services, illustrating the growing relevance of these platforms in modern economies (Woodcock & Graham, 2019). Forecasts suggest that the participation of crowd workers in the gig economy will continue to increase, with expectations of significant growth by 2025. These platforms enable flexible work arrangements, offering

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opportunities for part-time workers, students, and the underemployed to generate supplemental income while enhancing job efficiency (Karachiwalla & Pinkow, 2021).

Organizations are increasingly recognizing the advantages of leveraging crowdsourcing platforms to tap into a diverse pool of global talent at reduced operational costs. By strategically utilizing the internet, businesses can access a wide array of expertise, creativity, and skills. For instance, the CEO of Upwork, a leading freelancing platform, reported that 30 percent of Fortune 500 companies actively utilize the platform to source talent, particularly within technology sectors (Pofeldt, 2019). This trend is further bolstered by the increasing demand for services from developed countries, including the United States, the United Kingdom, and Canada, while supply comes from countries such as India and the Philippines (Graham et al., 2017).

1.1 Malaysian crowdsourcing context

In Malaysia, the development of crowdsourcing platforms has been spearheaded by the Malaysian Digital Economy Corporation (MDEC), which introduced the eRezeki platform. This initiative was aimed at enhancing the income of households in the B40 category, whose income falls below RM4000. The platform matches participants with suitable jobs, offering training and profiling to help users navigate the digital gig economy (MDEC, 2022). Complementing this, the eRezeki Global High-Income (eGHI) program, now known as eRezeki Global Online Workforce (GLOW), focuses on training more skilled freelancers, targeting unemployed graduates and retrenched workers, thus expanding Malaysia's presence in the global freelancing market.

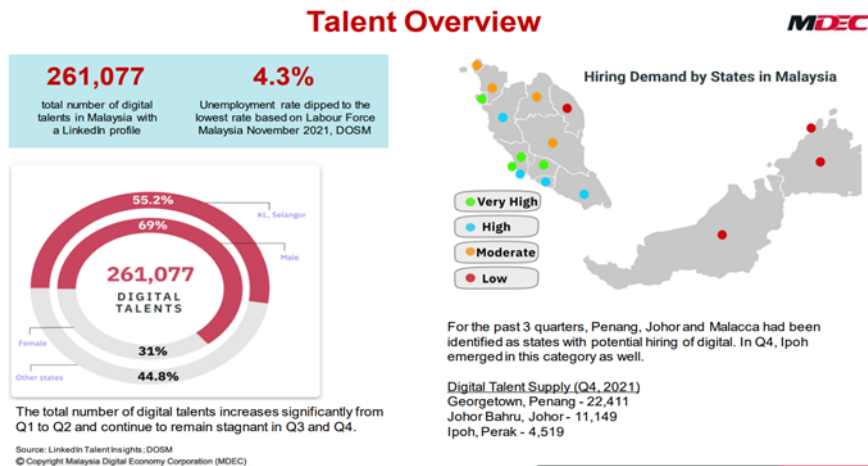
Despite these efforts, the crowdsourcing industry in Malaysia remains in its nascent stages. While programs such as eRezeki have gained traction, challenges persist. Many crowd workers, particularly students, face difficulties in securing jobs and completing tasks on international freelancing platforms. This has raised pertinent questions about the factors influencing the intentions and behaviors of crowd workers when utilizing these platforms. Past studies have highlighted the importance of understanding crowd worker motivations, behavior, and platform participation (Gadiraju et al., 2019; Liu & Liu, 2019). Nevertheless, gaps remain, particularly concerning the socio-economic conditions and self-perceptions of crowd workers, as well as their experiences with online crowdsourcing platforms (Sun et al., 2022).

The present study aims to address these gaps by employing Signaling Theory to explore the job search behaviors and intentions of crowd workers in Malaysia. Signaling Theory, which elucidates the communication of information between parties with asymmetric knowledge, is highly applicable in online recruitment settings (Connelly et al., 2011). In this context, job advertisements serve as signals, while job characteristics and person-job fit act as key influencers of crowd workers' job search behavior (Gao et al., 2021). By examining these factors, this study contributes to a more nuanced understanding of the motivations and behaviors of crowd workers, providing valuable insights for platform designers and job providers. Ultimately, these findings could lead to improvements in platform features and employment conditions, benefiting both employers and crowd workers alike.

1.2 Crowdsourcing hands-on education via the Digital Workforce course

Although Malaysia's crowdsourcing industry is still in its early stages, its presence is gradually expanding through strategic planning and initiatives. Programs such as eRezeki and eGLOW have contributed to the increasing exposure and acceptance of digital freelancing in Malaysia, enabling the growth of successful freelancers on international platforms like LinkedIn, which now boasts over 2.6 million registered digital talents (refer to Figure 1.0).

Fig. 1. Digital talent overview



Source: MDEC (2022)

A key initiative under the eGLOW program is the introduction of crowdsourcing-related subjects in higher education institutions, including Universiti Teknologi MARA (UiTM). One such subject, Digital Workforce (UBM599), is part of the curriculum for students pursuing a Bachelor of Office System and Management degree. As part of their coursework, students are required to register as freelancers on international crowdsourcing platforms. Their performance is assessed based on their ability to secure freelance jobs or win contests, integrating practical digital work experience into their academic learning.

Despite receiving 14 weeks of training from experienced lecturers and attending special sessions led by representatives from the Malaysian Digital Economy Corporation (MDEC), many students struggle to secure jobs or win contests on these platforms. This challenge highlights a broader issue: despite the availability of various freelancing platforms offering numerous job opportunities, there are still difficulties in attracting and retaining crowd workers. As noted by Aloisi (2015), these challenges can lead to instability and inefficiencies within the platforms. Therefore, understanding the intentions and behaviors of crowd workers becomes crucial to addressing these challenges. Several studies have underscored the importance of exploring crowd worker behavior, including Gadiraju et al. (2019), Liu & Liu (2019), Wang & Wang (2019), and Zhao & Zhu (2014).

This research seeks to provide deeper insights into crowd workers' intentions and behaviors, which could help improve platform features and create more favorable conditions for both workers and job providers. As Eickhoff et al. (2013) emphasize, understanding crowd workers is vital for ensuring the reliability and authenticity of tasks on crowdsourcing platforms. Such an understanding could lead to higher engagement levels and promote a more equitable environment for all stakeholders involved.

The remainder of this article is structured as follows: the next section presents a review of the relevant literature, focusing on the independent, dependent, and moderating variables considered in this study. The subsequent section outlines the methodology employed, and the final section discusses the findings and conclusions.

2. Literature Review

2.1 Signalling Theory

Signaling theory, widely recognized in the field of communication, explains the transmission of information between two parties with asymmetrical access to knowledge. It has been extensively utilized in online recruitment studies to analyze the interactions between job seekers and employers (Gao et al., 2021). The theory revolves around four key elements: the signaler, the receiver, the signal itself, and the feedback mechanism. Spence (1973) defines a signaler as an individual, product, or organization possessing private information that is known to insiders (such as executives or managers) but remains unknown to others. In this context, a signal typically conveys either positive or negative attributes, although it is most often used to transmit favorable information intended to elicit positive feedback.

In recruitment contexts, signaling theory is often applied in reverse, illustrating how job applicants interpret organizational signals—such as job advertisements or corporate reputation—when deciding whether an organization is a desirable place to work (Connelly et al., 2011). In this study, signaling theory is applied to the context of online crowdsourcing platforms (Gao et al., 2021). Here, job advertisements serve as the signaler, conveying crucial information about job characteristics. Similarly, person-job fit and job attractiveness act as signals, with crowd workers, in turn, receiving and interpreting these signals, which influence their intentions and behaviors on the platform.

2.2 Job characteristics

Job characteristics theory is a comprehensive framework that explains how job design impacts employee motivation and performance (Deng & Joshi, 2016). The job characteristics model identifies five key elements: skill variety, task identity, task significance, autonomy, and feedback. These elements are typically embedded in job advertisements and have been shown to influence various work-related outcomes.

While these five elements have been widely studied in traditional work environments, their application in the gig economy and crowdsourcing platforms remains limited (McFerran, 2019). Deng and Joshi (2016) identified that, in the context of crowdsourcing, only three of these characteristics—job autonomy, task variety, and task significance—are relevant. Moreover, two additional task characteristics have emerged specifically for crowdsourcing platforms: task clarity and microtask payment.

Task clarity refers to the clear instructions and procedures provided for completing a task. This is particularly important in crowdsourcing environments due to the lack of direct, face-to-face communication between workers and employers. On the other hand, microtask payment is defined as the rate of monetary compensation for smaller tasks, which is critical for crowd workers since many of the tasks offered on these platforms tend to have low payment rates (Deng & Joshi, 2016).

Research on employee performance consistently demonstrates a positive relationship between job characteristics, person-job (PJ) fit, and organizational commitment (Jawad et al., 2013; Hussain et al., 2017; Alla, 2017). These findings were further corroborated by Nurtjahjono et al. (2020), who confirmed that improved job characteristics lead to better PJ fit and organizational commitment. When PJ fit improves, employees are more likely to perform better in their roles.

Based on these results, this study tests the hypothesis that job characteristics in online crowdsourcing platforms positively influence PJ fit from the perspective of crowd workers.

H1: Clear job characteristics in job advertisements on online crowdsourcing platforms positively influence person-job fit.

2.3 Person-job fit

Recruitment theory, particularly within the Attraction-Selection-Attrition (ASA) framework, is centered on the "homogeneity hypothesis." This hypothesis suggests that two key factors drive job seekers to apply for a job: person-job fit (PJ fit) and person-organization fit (PO fit) (Schneider et al., 1995). While this framework has been validated in traditional employment contexts, its applicability has also been demonstrated in online crowdsourcing environments. However, when comparing app-based work (appwork) and crowdwork (refer to Table 1), it is person-job fit, rather than person-organization fit, that aligns with the conditions of crowd work (Schmidt et al., 2023).

Table 1. Comparison between appwork and crowd work

	Appwork	Crowd work
Attraction	Attracts underemployed seeking PO-fit	Attracts underemployed seeking PJ-fit
Selection	Platform selects based on proximal availability and ratings (PJ-fit)	Requestor selects based on KSA's and ratings (PJ-fit)
Organizing	To find worthwhile gigs and PJ-fit; To avoid bad employers/requestors and find PO-fit; For collective action from PE-fit; For identity and PO-fit	
Attrition	Three forms from lack of PJ-fit: Momentary, Temporary, Permanent Organizing mitigates permanent attrition	

In the online crowdsourcing setting, workers typically review only the job advertisement before placing a bid on a task. After completing the task, they submit it to the job provider, who evaluates the work and releases payment through the platform if satisfied (Johari et al., 2023). The bidding process is informed by the crowd worker's knowledge, skills, and abilities, which must align with the requirements of the task (Toft et al., 2020). Given the short-term nature of the relationship between the job provider and the crowd worker, person-organization fit (PO fit) becomes less relevant. Dirks and Ferrin (2001) also highlighted that among various types of fit—such as person-team, person-supervisor, and person-organization—person-job fit (PJ fit) is more significant for temporary or task-based work common in online platforms.

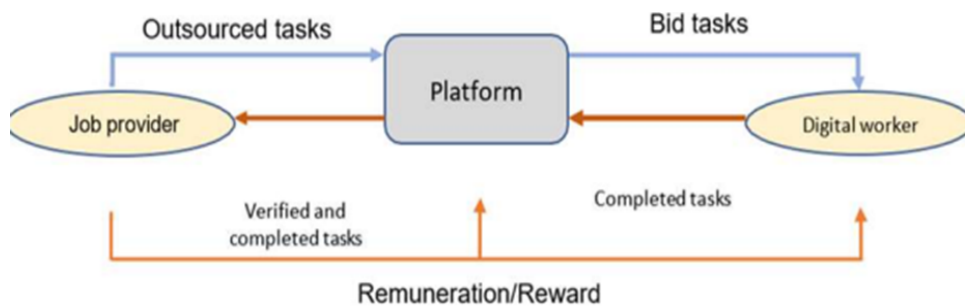


Fig. 1. Crowdsourcing framework (Source: Janom et al., 2020)

A study by Cable and Judge (1996) found that person-job fit does not directly influence job intention or organizational attractiveness compared to person-organization fit. According to their findings, PJ fit is more closely linked to job-related outcomes such as career satisfaction, job satisfaction, and occupational commitment. To challenge these results, Carless (2005) retested the relationship between PJ fit, PO fit, and organizational attractiveness. Using the Theory of Reasoned Action, Carless proposed that positive attitudes

toward an organization (organizational attractiveness) would lead to positive behavioral intentions, such as the intention to accept a job offer, based on the individual's belief system.

Additionally, PJ fit has been shown to not only increase attraction to specific jobs and organizations but also positively influence the intent to hire, job satisfaction, and organizational commitment, while reducing turnover intentions (Chapman et al., 2005; Kristof-Brown et al., 2005). This occurs when job applicants find that the job's characteristics align well with their own skills, knowledge, and abilities (Kroustalis, 2009).

H2: The higher the person-job fit on a crowdsourcing platform, the greater its influence on job attractiveness.

2.4 Job attractiveness

Job seekers' attraction to an organization is influenced by the information provided in job advertisements, as they assess how well the job and organization align with their preferences. Carless (2005) confirmed that both person-job fit (PJ fit) and person-organization fit (PO fit) are closely related to organizational attractiveness. Similarly, Nugroho (2018) found that organizational attractiveness significantly impacts job pursuit intentions. To enhance their appeal to potential candidates, organizations should focus on both instrumental attributes—such as salary, benefits, working hours, and location—and symbolic attributes, which include factors like competence, prestige, sincerity, and ethical reputation (Nguyen Ngoc et al., 2022).

While previous research primarily focuses on organizational attractiveness, this study shifts attention toward job attractiveness within the context of online crowdsourcing platforms. In these environments, job advertisements play a crucial role, and the short-term interactions between job providers and crowd workers can reduce the relevance of organizational attractiveness.

Although the study primarily examines the traditional job application process, the relevance of information as an attraction factor extends to crowdsourcing platforms as well. This is supported by Williams et al. (2021), who found that crowd workers are often drawn to jobs on crowdsourcing platforms due to their clear and detailed descriptions, along with the terms and conditions provided on gig websites. However, crowd workers may be discouraged from participating if tasks involve upfront costs, which may outweigh the potential benefits (Ahn & Lee, 2019). Continued participation on such platforms is often influenced by logistical costs, such as financial expenditures, time investment, and mental effort, all of which impact a worker's willingness to continue (Zhao & Zhu, 2014).

Despite these challenges, negative factors do not fully deter workers from using crowdsourcing platforms. D'Cruz & Noronha (2016) highlighted that, despite issues such as the complexity of bidding tasks, the need for premium account subscriptions, competition driving down bidding prices, and interpersonal issues such as fraud, racism, and communication gaps, the positive aspects of online crowdsourcing outweigh the negatives for many workers.

Previous studies in traditional job markets have shown that the perception of job attractiveness plays a key role in influencing job-related decisions (Carless, 2005; Porter et al., 2004; Saks et al., 1995). However, limited research has been conducted on the mediating role of job attractiveness in the context of online crowdsourcing platforms. Gomes & Neves (2011) explored this topic, finding that organizational attractiveness mediates the relationship between job characteristics and organizational attributes, which subsequently influences an individual's intention to apply for a job.

This study seeks to test a similar hypothesis by examining the mediation role of job attractiveness in the relationship between person-job fit and job application intention in online crowdsourcing platforms. Given the scarcity of research specifically addressing job attractiveness within the crowdsourcing context, this study proposes the following hypothesis:

H3: Job attractiveness mediates the relationship between crowd worker person-job fit and the intention to apply on online crowdsourcing platforms

2.5 Job application intention and job search behavior

When examining job application intention and job search behavior, the Theory of Planned Behavior (TPB) is widely recognized as one of the most significant theoretical frameworks. Previous studies have demonstrated that job search intention is strongly correlated with job search behaviors (Caska, 1998; Song et al., 2006; Zikic & Saks, 2009). Similarly, in the context of online crowdsourcing platforms, TPB provides substantial evidence supporting the idea that behavioral intention leads to actual behavior, driven by both intrinsic and extrinsic motivations (Bakici, 2020). However, in the realm of online crowdsourcing, most research has focused on participation behavior (Bakici, 2020; Behl et al., 2021; Shi et al., 2022) and motivational behavior (Amrollahi & Ahmadi, 2019; Amorim & Vieira, 2023).

In addition to job search behavior, job pursuit intentions vary across different countries, with distinct preferences emerging based on cultural and economic factors. For example, Americans prioritize compensation, career advancement opportunities, and thrift, while Belgians emphasize trustworthiness, advancement opportunities, and a blend of thrift and style (Renaud et al., 2016). Generational differences also play a role, with Gen Z displaying unique preferences compared to previous generations in terms of job pursuit intentions (Nguyen Ngoc et al., 2022).

Given the limited number of studies that explore job application intention in the context of online crowdsourcing platforms, this study aims to highlight the relationship between job application intention and job search behavior within this specific environment. Understanding these dynamics is crucial for improving both platform functionality and user experience, as well as for informing job providers and platform designers about how to better cater to the needs of crowd workers.

Thus, the study proposes the following hypothesis:

H4: Job application intention positively affects job search behavior in online crowdsourcing platforms

The framework of this research is illustrated in Figure 2.

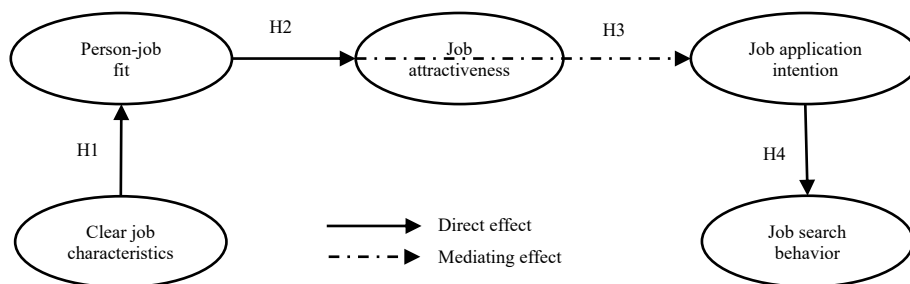


Fig. 2. Research framework

3. Methodology

This study employs a quantitative research design, specifically a cross-sectional study. A quantitative research is characterized by its structured and systematic nature, with clearly defined variables and hypotheses established prior to data collection (Bhandari, 2020). To address the research questions, an online questionnaire was administered to fourth-year students enrolled in the Bachelor of Office Management System (BA232) program at Universiti Teknologi MARA, Pahang Branch Campus Jengka. The use of a survey-based approach is supported by Christensen et al. (2015), who asserted that surveys are one of the most effective methods for exploring individuals' attitudes, behaviors, opinions, and beliefs.

The questionnaire was organized into six main sections. The first section gathered information on job characteristics, followed by a second section focused on person-job fit. The subsequent sections addressed job attractiveness, while the middle section collected demographic information. The final section of the questionnaire explored job application intention and job search behavior. Details of the questionnaire's structure and the specific items used are outlined below.

Table 2. Constructs and items

Constructs	Number of items	Author
Job Characteristics	5 items	Muruganatham et al. (2020)
Person Job Fit	4 items	Muruganatham et al. (2020)
Job Attractiveness	5 items	Lucero-Romero & Arias-Bolzmann (2020)
Job Application Intention	4 items	Parikh et al., (2021)
Job Search Behavior	7 items	Stevenor & Zickar (2022)

In terms of sampling techniques, this study utilizes non-probability sampling. Unlike probability sampling, which randomly selects respondents to represent the entire population, non-probability sampling focuses on specific groups and may not fully capture the diversity of the entire population (Awang, 2012). Specifically, judgment sampling was applied in this study, targeting students enrolled in the Digital Workforce (UBM599) course. As part of their coursework, these students are required to register as part-time freelancers on international online crowdsourcing platforms. Given their active involvement as freelancers, they possess the necessary knowledge and experience relevant to this study.

4. Findings

4.1 Reliability analysis

The reliability of the independent variables was assessed using Cronbach's Alpha, with all domains reporting values below 0.8, which are considered acceptable according to Sekaran (1992). Despite these values, the researchers opted to retain the instrument, as it is a well-established set of questionnaires that has been widely used in studies based on the Theory of Planned Behavior. Moreover, the instrument has been proven to be reliable in the Malaysian context, where all Cronbach's Alpha values were above 0.7, indicating sufficient internal consistency. For the dependent variable, only one domain was analyzed, and its Cronbach's Alpha was 0.8 or higher. Given that the instrument is widely recognized and commonly used in similar studies, the researchers decided to continue using it for the purposes of this research.

4.2 Demographics of respondents

Table 3. Demographics profile

Respondents' Profile	n	%	Respondents' Profile	n	%
<i>Gender</i>			<i>Plan after graduation</i>		
Male	4	6.1	Set up my own business	10	15.2
Female	62	93.9	Securing a job	49	74.2
<i>Number of project/contests won within semester</i>			Further studies	7	1.6
No Project/Contest	53	80.3	<i>Consideration for a freelancing career after graduation</i>		
1 Project/Contest	4	6.1	Full-time freelancer	10	15.2
2 Project/Contest	2	3.0	Part-time freelancer	40	60.6
3 Project/Contest	3	4.5	Not interested in freelancing	16	24.2
4 Project/Contest	4	6.1	<i>Number of star rating received within the semester</i>		
<i>Number of star rating received within the semester</i>			No Project/Contest	5	7.6
No Project/Contest	5	7.6	1 Project/Contest	5	7.6
1 Project/Contest	4	6.1	2 Project/Contest	9	13.6
2 Project/Contest	9	13.6	3 Project/Contest	43	65.2
3 Project/Contest	43	65.2	4 Project/Contest		
4 Project/Contest					

The survey statistics indicate a total of 66 respondents, with only 4 males and the majority—62 respondents—being female. In terms of project participation or contests joined, 80.3% of respondents reported no involvement. This significant proportion suggests that either most respondents lacked interest or access to projects and contests, or that the academic environment did not strongly emphasize these extracurricular activities. For the remaining respondents, participation ranged from 1 to 4 projects or contests. This limited participation might be linked to course requirements, where completing one project is sufficient if the payment exceeds RM80. However, if students earned less than RM80, they were likely encouraged to bid for additional projects or win contests on their registered online crowdsourcing platforms.

To achieve a four-star rating from job providers, digital workers must successfully complete the tasks or contests assigned to them. The rating is based on the job provider's satisfaction with the quality and timeliness of the work delivered. If the work does not meet the specified criteria or standards, a lower rating is given. According to the data, 65.3% of digital workers received a four-star rating. While this percentage appears inconsistent with the number of projects won, it may be explained by digital workers who participated in contests, received ratings from job providers, but did not necessarily win the contests.

The data provides insights into the post-graduation plans of 66 students, shedding light on their career and academic aspirations. A majority of 49 students (74.2%) fall into the 'Others' category, which includes a range of options such as entering the workforce, taking a gap year, or pursuing unspecified paths. The 'Set up my own business' category, comprising 10 students (15.2%), reflects a notable entrepreneurial inclination. For these students, courses focusing on business planning and marketing could further support and develop their entrepreneurial ambitions. Additionally, 7 students (10.6%) expressed interest in the 'Further Study' category, signaling their intent to pursue higher academic qualifications. Universities and educational institutions could leverage this data to guide these students toward appropriate postgraduate programs or offer relevant resources to support their academic goals.

The survey also explored respondents' intentions regarding freelancing after graduation. A small minority of 9 students (13.6%) explicitly indicated that they do not intend to pursue freelancing, likely due to having established career paths or academic goals that do not align with freelance work. Similarly, 7 students (10.6%) had not considered freelancing, potentially due to a lack of information, interest, or pre-existing plans. A slightly larger group of 10 students (15.2%) expressed openness to both part-time and full-time freelancing, demonstrating flexibility and a potential interest in entrepreneurial activities.

Notably, 40 students (60.6%) expressed an interest in part-time freelancing, highlighting a substantial inclination toward freelance work as a supplementary source of income alongside other employment or educational commitments.

4.3 Regression analysis

4.3.1 Results of H1: Clear job characteristics in job advertisements on online crowdsourcing platforms positively influence person-job fit.

Table 4. Multiple regression analysis (H1).

Independent variables	β	t-value	p-value
Job Characteristics	.795**	10.484	.000
R Square		.636	
F		109.913	
Sig. F Value		.000	
Durbin Watson		1.915	

The findings from the regression analysis between job characteristics and person-job fit are presented in Table 4. The analysis revealed a positive and significant relationship between job characteristics and person-job fit ($\beta = 0.795$, $p < 0.001$). Additionally, the R^2 value was 0.636, indicating that 63.6% of the variance in person-job fit could be explained by the independent variables related to job characteristics. The F value was statistically significant ($p = 0.001$), confirming the strength of the model. Furthermore, the Durbin-Watson statistic was 1.915, suggesting an acceptable level of independence in the residuals.

Based on these results, hypothesis H1 is supported, indicating that job characteristics significantly contribute to predicting person-job fit among students at UiTM. Therefore, it can be concluded that job characteristics play a crucial role in influencing person-job fit in this context.

4.3.2 Results of H2: Person job fit has a positive influence on job attractiveness

Table 5. Multiple regression analysis (H2).

Independent variables	β	t-value	p-value
Person-Job Fit	.828	11.838	.000
R Square		.686	
F		140.013	
Sig. F Value		.000	
Durbin Watson		2.136	

The results of the regression analysis between person-job fit and job attractiveness are presented in Table 5. The analysis shows a positive and significant relationship between person-job fit and job attractiveness ($\beta = 0.828$, $p < 0.000$). Additionally, the R^2 value was 0.686, indicating that 68.6% of the variance in job attractiveness could be explained by the independent variables related to person-job fit. The F value was

also statistically significant ($p = 0.000$), reinforcing the robustness of the model. Moreover, the Durbin-Watson statistic was 2.136, suggesting an acceptable level of independence in the residuals.

Based on these findings, hypothesis H2 is supported, confirming that person-job fit significantly contributes to predicting job attractiveness among students at UiTM. Therefore, it can be concluded that person-job fit plays a crucial role in influencing job attractiveness in this context.

4.3.3 Results of H3: Job attractiveness will mediate the relationship between person job fit and job application intention.

Table 6. Hierarchical regression analysis (H3).

Variables	Model 1	Model 2	Remark
Person Job Fit	.132	.442*	Had mediation effect
<i>Mediator</i>			
Job Attractiveness		.065	Mediator is not significant
R ²	.017	.061	
Adjusted R ²	.002	.032	
R ² Change	.017	.044	
F Change	1.131	2.959	
Significance F Change	.292	.090	
Durbin-Watson		1.908	

Notes: **significance at the $p < .01$ level; * significance at the $p < .05$ level

The study examined the mediating role of job attractiveness in the relationship between person-job fit and job application intention, using hierarchical regression analysis. As shown in Table 6, two models were tested: Model 1, which assessed the independent and dependent variables without the mediator, and Model 2, which included job attractiveness as the mediating variable. Model 1 accounted for 0.03% of the variance, while Model 2 explained 0.32% of the variance, reflecting a 0.29% increase in the total variance explained. The Durbin-Watson statistic of 1.908 indicated an acceptable level of independence in the residuals. Both models were statistically significant, with F values of $p = 0.001$.

The results show that person-job fit significantly influenced job application intention. However, job attractiveness, as a mediating variable, did not have a significant effect ($\beta = 0.061$, $p > 0.05$). Hence, H3 was not empirically supported.

4.3.4 Results of H4: Job application intention positively affects job search behavior in online crowdsourcing platforms.

Table 7. Multiple regression analysis (H4).

Independent variables	β	t-value	p-value
Job Application	.715**	8.186	.000
R Square		.512	
F		67.018	
Sig. F Value		.000	
Durbin Watson		1.532	

The findings from the regression analysis between job application intention and job search behavior are presented in Table 7. The analysis revealed a positive and significant relationship between job application intention and job search behavior ($\beta = 0.715$, $p < 0.000$). Additionally, the R^2 value was 0.512, indicating that 51.2% of the variance in job search behavior could be explained by the independent variables related to job application intention. The F value was statistically significant ($p = 0.000$), further supporting the model. Moreover, the Durbin-Watson statistic was 1.532, indicating an acceptable level of independence in the residuals.

Based on these results, hypothesis H4 is supported. It can be concluded that job application intention significantly contributes to predicting and correlating with job search behavior among students UiTM.

5. Discussions

This study sought to explore crowd worker job search behavior on online crowdsourcing platforms through the lens of Signaling Theory. Signaling Theory, initially proposed by Spence (1973), suggests that individuals or organizations send signals to reduce information asymmetry, allowing recipients to make informed decisions. In the context of this study, job providers act as signalers by transmitting information through job advertisements, while crowd workers, as receivers, interpret these signals to assess job suitability. This theoretical framework is especially relevant in the gig economy, where platform-mediated work lacks direct interpersonal communication and relies heavily on the clarity and quality of job signals.

Prior studies have examined different aspects of crowd worker intentions and participation on these platforms, but a gap remains in understanding the specific factors that drive job search behavior. This research contributes to that gap by analyzing data from 66 part-time crowd workers. The analysis confirmed that three hypotheses—H1 (job characteristics influence person-job fit), H2 (person-job fit influences job attractiveness), and H4 (job application intention influences job search behavior)—were supported by positive and significant results. These findings underscore the importance of job characteristics and person-job fit as pivotal factors influencing crowd worker behavior on online platforms.

The role of job characteristics and person-job fit

One of the key insights from this study is that job characteristics and person-job fit are critical determinants in attracting crowd workers. This aligns with the findings of Deng and Joshi (2016), who identified job autonomy, task variety, task significance, task clarity, and microtask payment as crucial job attributes that influence crowd workers' decisions on whether to bid for a task. On online crowdsourcing

platforms, clear communication of these job characteristics plays a vital role in reducing uncertainty and enabling workers to assess their alignment with the task.

From a Human Capital Theory perspective (Becker, 1962), individuals seek jobs that allow them to optimize their skills, knowledge, and abilities, thereby maximizing their returns on invested human capital. Crowd workers are no different; they are attracted to tasks that match their self-assessed competencies and offer a meaningful return on their time and effort. Person-job fit, therefore, becomes a key factor, as it aligns with the crowd worker's ability to self-evaluate and determine their suitability for the task (Schmidt et al., 2023). This study found that when job postings provide comprehensive details about task requirements, crowd workers are better positioned to assess their fit with the job, thereby increasing the likelihood of task completion.

The non-significant role of job attractiveness

Contrary to expectations, hypothesis H3—which posited that job attractiveness mediates the relationship between person-job fit and positive job application—did not yield significant results. This finding could be explained by the unique nature of online crowdsourcing platforms. Unlike traditional job markets where organizational attractiveness plays a significant role in job-seeking behavior, crowd workers on these platforms may prioritize financial compensation over other factors, such as job prestige or long-term career growth (Kuek et al., 2015).

The study's results suggest that many crowd workers engage in crowdsourcing primarily to supplement their income, which diminishes the importance of job attractiveness. Huws et al. (2016) similarly found that crowd workers tend to participate in multiple platforms and accept various job offers with the primary goal of generating income. As a result, job attractiveness—traditionally associated with factors like organizational reputation, work-life balance, or symbolic attributes (Nguyen Ngoc et al., 2022)—may have a limited impact on application intentions within this context.

This behavior can be further understood through the lens of Expectancy Theory (Vroom, 1964), which posits that individuals are motivated to choose behaviors based on the expected outcome. For crowd workers, the expected outcome is primarily monetary compensation, and as long as the task promises payment upon completion, other job-related attributes may become secondary considerations. This might explain why job attractiveness did not emerge as a significant mediator in the relationship between person-job fit and job application intention.

Implications for crowdsourcing platforms and job providers

The findings of this study have important implications for online crowdsourcing platforms and job providers. To attract and retain crowd workers, platforms need to ensure that job postings are transparent and detailed, emphasizing the required skills and expected outcomes. This aligns with Signaling Theory, as clear and positive signals about the job can reduce uncertainty and increase the likelihood of worker participation.

Furthermore, the results suggest that while job attractiveness may not be a major factor for crowd workers seeking short-term or supplementary income, it is still crucial for platforms to provide fair compensation and transparent job descriptions. As Behl et al. (2021) pointed out, crowd workers are more likely to engage in tasks when they feel the platform provides a clear, trustworthy environment for work. In the absence of face-to-face communication, the burden of creating an attractive and reliable job posting falls on the clarity and completeness of the information provided.

6. Conclusion

This study highlights the importance of Signaling Theory in understanding crowd worker job search intentions and behaviors on online crowdsourcing platforms. Specifically, two key factors—job characteristics and person-job fit—emerged as critical signals influencing job attractiveness for crowd workers. These factors play a pivotal role in determining whether crowd workers find job postings appealing.

However, the study reveals that job attractiveness does not significantly impact job application intentions in the context of crowdsourcing, likely due to the unique motivations of crowd workers, who often join platforms primarily to earn supplementary income (Li et al., 2020). Future research should explore this model in different contexts and with varied elements to further enhance our understanding of crowd worker behavior.

While prior research has explored Signaling Theory in online crowdsourcing, this study contributes a more comprehensive perspective by examining the dynamic roles of the signal, signaler, and receiver. Here, job characteristics act as the signal, reflecting the alignment between the worker's skills and the job requirements. The crowd worker, as the receiver, evaluates this information to decide whether to apply for the job. The findings reaffirm the significance of job characteristics and person-job fit as essential factors attracting crowd workers to specific tasks. Since communication between job providers and workers occurs entirely online (Schmidt et al., 2023), clear and detailed job advertisements are critical for helping workers assess their fit with the role.

This research extends the traditional notion of organizational attractiveness by adapting it to job attractiveness within the crowdsourcing environment. It provides valuable insights into the role of attractiveness from the perspective of online crowd workers, an area that has been underexplored in previous studies.

Two key insights emerged from this study. First, for part-time crowd workers seeking additional income, task attractiveness appears to have a diminished role. Second, due to specific requirements—such as achieving star ratings or earning income for academic assessment purposes—workers may apply for any available job or participate in contests, reducing the importance of job attractiveness in their decision-making process. This suggests that job characteristics and person-job fit are more influential than traditional notions of job attractiveness in the context of online crowdsourcing.

7. Limitations

This study acknowledges several limitations, which present opportunities for future research. First, the study is focused on part-time crowd workers, specifically students enrolled in the Digital Workforce subject, who are required to register as freelancers on online crowdsourcing platforms. This focus limits the generalizability of the findings, particularly regarding job attractiveness. Future studies should consider expanding the model to include full-time crowd workers, such as those on platforms like Amazon Mechanical Turk, which operates with a different worker selection process.

Second, while this research highlights the importance of job characteristics as key factors for crowd workers, future studies could explore additional variables to deepen the understanding of crowd worker behavior. In particular, incorporating task clarity and microtask payment as signals within the proposed Signaling Theory framework could offer a more comprehensive insight into the dynamics that influence crowd workers' decisions and behaviors.

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Conflict of interest statement

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

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Zuria Akmal Saad conducted literature review, participated in data collection and analysis, and drafting the original manuscript. Muhammad Ashraf Fauzi supervised the first author through discussions, contributed revisions, and finalizing the manuscript. Azim Azuan Osman offered his expertise in the methodology and findings sections of the paper. Mohd Safwan Ramli led the analysis of the results.



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