IS CROWDSOURCING A SOURCE OF WORKER EMPOWERMENT OR EXPLOITATION?
UNDERSTANDING CROWD WORKERS’ PERCEPTIONS OF CROWDSOURCING CAREER

Research-in-Progress

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Abstract

Crowdsourcing offers new forms of work arrangements enabled and facilitated by the advancements in Internet technologies and growing popularity of social media. However, do these new forms of work empower workers to craft their own careers or do they create a sweatshop where workers complete fragmented tasks to earn minimal pay? We posit that career theories and job crafting approaches collectively provide valuable theoretical perspectives for examining this question. By assessing the degree to which these platforms afford or constrain the workers to exert their personal agencies (i.e., affords career and job crafting preferences), we argue, will partially determine whether these new forms of work are a harbinger of worker empowerment or exploitation. Preliminary findings of this exploratory research-in-progress, conducted using two types of workers on Amazon-Mechanical-Turk, reveal that these new forms of work arrangements have a potential for both empowerment and exploitation of workers.

Keywords: Career, crowdsourcing, social media, job crafting, mixed methods
Introduction

Crowdsourcing is a new form of work arrangements enabled and facilitated by Internet technologies (IT) and social media. According to Wikipedia, crowdsourcing is “the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers” (Wikipedia 2013). Crowdsourcing encompasses several common categories, i.e., micro work, creative crowdsourcing, and inducement prize contests (Howe 2008). One common type of crowdsourcing is micro work where micro jobs are completed by individuals for small monetary remuneration. Individuals register with a crowdsourcing platform such as Amazon Mechanical Turk (MTurk), choose micro jobs posted by requesters, and deliver their completed work online for micro payments. Referred to as “crowd workers,” they enjoy the flexibility to choose those micro tasks that fit their interest, schedule, and skill. In some ways, doing crowdsourcing jobs is like playing a Rubik’s Cube when a player can turn the small cubes and arrange them by different dimensions to meet goals at different levels of difficulty.

Anecdotal evidences show that crowdsourcing is changing people’s perspectives on managing work-life balance and reinvigorating the communities we live in. During the recent years, crowdsourcing has appeared in news headlines, including the New York Times’ article by a Pulitzer Prize Winner on how individuals are able to participate in social change through crowdsourcing (Rosenberg 2011), and the announcement by Ladies’ Home Journal, a major magazine with 4 million paid circulations, to crowdsource its publishing contents to readers rather than solely relying on writing professionals (Sivek 2012). While business and individual employers rush to tap into the crowdsourcing labor force, criticizing concerns on the unethical low pay and lack of quality control and work evaluation standards are rising. According to a survey of 400,000 registered workers on MTurk, the average U.S. user of Mechanical Turk earned $2.30 per hour for micro tasks in 2009, barely making the minimum hourly wage in the U.S. (Ross et al. 2010). Researchers have started to express their worries about crowd workers being exploited and dehumanized. As Kittur and colleagues pointed out, “given the short time commitment between crowd worker and requester, it is easy to imagine heightened exploitation and dehumanization” (Kittur et al. 2013; p. 10).

Does crowdsourcing provide a platform that empowers a worker to craft their own career or does it create a sweatshop where workers are completing fragmented tasks which require minimal skills and thus offered minimal pay? A few studies have been conducted to understand the demographics and usage behaviors of crowd workers (e.g., Kaufmann et al. 2011), yet, our understanding of crowd workers’ experience and perception remains limited. The widespread use of crowdsourcing coupled with the rising criticism and concerns motivated us to explore this IT-enabled work phenomenon from crowd workers’ perspectives.

The concepts of a career and a job are closely related. Job experiences are major building blocks of a career. As Hall (1976) defined, “The career is the individually perceived sequence of attitudes and behaviors associated with work-related experiences and activities over span of the person’s life” (p. 4). People’s decisions on their careers are affected by the characteristics of jobs. When people make career decisions, their decisions are related to specific jobs, and the attributes of the specific jobs can exert strong influences on the decisions. As organizational scholars have suggested, one major difference between job and career is the time frame; Job refers to immediate experience while career represents cumulative work experiences over the entire life span (Hall and Las Heras 2010). However, crowdsourcing is one such new form of organizing work; it does not conform to the traditional characterization of work in organizational boundaries. With the changing landscape of work, we believe that it is a premier time for academia to pay close attention to this new form of work and to examine if our theories developed from traditional organizational forms of work still hold true in this new context.

Motivated by this important IT-enabled work phenomenon, we conducted an exploratory study to understand the career perceptions of crowd workers, using Amazon Mechanical Turk as our research context. Our study is guided by theoretical foundations of career theory and job crafting, which we will review below.
Theoretical Background of Career Theories

Career and job are closely related concepts. An individual’s work-related experience influences his/her perception of career (Hall 1976). Moreover, individuals’ career decisions could be influenced by characteristics of jobs. According to the Job Characteristics Theory (JCT) (Hackman and Oldham 1975; 1976), a job has five core characteristics --- skill variety, task identity, task significance, task autonomy, and job-based feedback --- that influence jobholders’ motivations and work outcomes. JCT posits that the relationships between those core job characteristics and work outcomes are mediated by three psychological states, including experience of meaningful work, personal responsibility, and having knowledge of one’s work outcome. In the long run, an individual’s experiences with those job characteristics could lead to one’s re-evaluation of their previous career choices and consideration of career change.

Recent studies on career decisions have gone beyond on-the-job experiences to consider the influence of people’s experiences outside of their jobs. For example, Las Heras (2009) examined personal experiences both within and outside of their jobs, and concluded that people have a set of goals, referred to as “the Preferred Success Set” (PSS), which affect their career decision making. The set of goals include: (a) the work itself (doing), (b) the rewards they expect to obtain from it (receiving), (c) the relationships that it facilitates (connecting), (d) the impact that it has on others and in the results of the enterprise (contributing); and (e) its interplay of individual’s work with other life spheres (facilitating). The five dimensions of PSS reveal a psychological experience of the workers who set the goals that lead them to enjoy the process of daily work, such as reaching the expected rewards, or having an impact outside themselves—on people, on the company, or on the environment. Moreover, the elements of one's goals tend to change during the life and career span of the person, depending on the person’s experiences both within and outside the job domain, such as a project failure or a family member's well-being. Those experiences (job-related or not) may trigger one’s revaluation of the preferred success set and associated level of satisfaction, leading to re-setting one’s goals, considering a job change, or continuing with one's previous work and goals.

From a different perspective, Wrzesniewski and Dutton (2001) proposed the idea of job crafting, which highlights the active role individual employees play in job crafting, a process during which employees change elements of their jobs and relationships with others to revise the meaning of the work and the social environment at work. Hence, the actor responsible for designing and enriching jobs shifts from organizations to individual employees. In their study, Wrzesniewski and Dutton (2001; p. 180) consider employees as “job crafters” who actively engage in a job-changing process physically (by changing a job's task boundaries), cognitively (by changing the way they think about the relationships among job tasks), and relationally (by changing the interactions and relationships they have with others at work). In adapting their jobs, job crafters created different jobs for themselves within the context of defined jobs, and such job crafting led to improvement in job effectiveness. Subsequent studies evidenced employees' preferences for more flexible work design, including reduced work weeks, and unpaid vacations and leaves of absence (i.e., Richtel 2008).

Career theories and job crafting approaches collectively provide valuable sensitizing framework for examining crowd workers’ career pathways. On one hand, career theories allow us to uncover the critical work and personal factors that drive the individuals to become a crowd worker (i.e., choose crowdsourcing as a career option). On the other hand, job crafting perspective further allows us to evaluate crowd workers’ preferences in crafting their portfolio of micro tasks outside of organizational boundaries to meet their professional and personal goals. Furthermore, the degree to which the crowdsourcing platforms afford or constrain the workers to exert their personal agencies (i.e., affords career and job crafting preferences) will determine in part whether these new forms of work are a harbinger of worker empowerment or exploitation.

Research Method

This study adopted mix methods of qualitative and quantitative analyses to answer our research question. Using the mixed methods allows us to provide a richer exploration of linkages across variables more systematically (Mingers 2001). For example, Newell and Edelman (2008) used both quantitative (survey)
and qualitative (interview) methods to investigate the effective mechanisms in cross-project learning. By combining quantitative analysis and qualitative insights in this study, we hope to develop an in-depth understanding of career perceptions of the crowd workers. We first conduct ANOVA analyses to explore the relationships between a set of variables (i.e., experience with crowdsourcing and expertise level) and a worker’s preference for a crowdsourcing career. Then in the subsequent qualitative analysis, we seek to identify those key factors that could be associated with different perceptions.

**Data Collection on Amazon Mechanical Turk**

We conducted our study by using the crowd workers on Amazon Mechanical Turk (MTurk). As MTurk is a well-established crowdsourcing marketplace with a large pool of job seekers and job requesters, and a variety of job types, it makes a suitable context for us to investigate crowd workers’ perceptions of crowdsourcing career. The micro jobs transacted on MTurk, referred to as “High Intelligence Tasks” (HITs), can be classified under seven main categories, including data processing, categorization, sentiment, tagging, content, business feedback, and academic research. Examples of data processing HIT include verifying data entry, collecting data, and cleaning duplicate/incorrect data files. A categorization HIT can be categorizing products and checking data accuracy in catalogs, while a sentiment HIT could be rating the sentiments in tweets, press coverage, and customer comments. A tagging HIT includes generating key words for images, advertisements, or websites so that those images, advertisements and websites can be easily indexed and searched. Content HITs range from reviewing and editing content to writing abstracts/articles on specific subjects. A business feedback HIT may be rating the accuracy of search results, and providing feedback on website design or new products. Finally, HITs related to academic research and studies involve completing surveys or participating in scientific studies. The registered crowd workers can choose and take the types of HITs that they prefer. Depending on their work quality and accumulated experience, a crowd worker on MTurk can be awarded a “Master” worker qualification. Amazon Mechanical Turk defines their Master workers as “the elite groups of workers who have demonstrated accuracy on specific types of HITs on the Mechanical Turk marketplace. Workers achieve a Masters distinction by consistently completing HITs of a certain type with a high degree of accuracy across a variety of Requesters.” On Amazon Mechanical Turk, a crowd worker can achieve the “Master” qualification when (1) the number of HITs approved is greater than or equal to 1,000, and (2) the approval rate of HITs is greater than or equal of 95%.

We collected 60 survey responses in April 2013 on MTurk from its two groups of workers (Master vs. Regular) located in the United States. Our survey included both structured and semi-structured questions on the crowd workers’ experience in becoming involved in crowdsourcing work and in completing their favorite types of HITs. In particular, the survey also included a career choice question, asking the respondents “would you consider doing crowdsourcing work as your full-time job? Why or Why not?” Answers to those questions provided us qualitative data. Meanwhile, this survey included questions about their household income, their crowdsourcing tenure (how long in months have they been working in crowdsourcing), their effort (hours spent and HITs completed on a weekly basis), etc. Responses to those questions provided us with quantitative data for our ANOVA analysis.

In the sample of 60 crowd worker, 50% are males and 50% are females. The average age of the participants is 39.4 (SD 13.2). The workers’ education levels include: high school graduate (11.7%), some college but no degree (33.3%), associate degree (11.7%), bachelor degree (30%), graduate degree (13.3%). The employment status is distributed as follows, full-time employed (48.3%), part-time employed (30%), un-employed (16.7%), and other (5%). Of the 60 respondents, 40% of them had a household income of $25,000-49,000, followed by 25% of them with $50,000-74,000. The distribution of the remaining categories is: less than $25,000 (15%), $75,000-99,999 (6.7%), and $100,000 or more (13.3%).

We compared the responses by the two types of workers (Master vs. Regular) and the answers to crowdsourcing career question. The descriptive statistics (mean and standard deviation) is provided in the table below.
**Table 1. Descriptive Statistics: Career Preference by Crowd Worker Status**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>YES, Would Consider it as Career</th>
<th>NO, Won’t Consider it as Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master (n=16)</td>
<td>38.3 (12.8)</td>
<td>37 (11.1)</td>
</tr>
<tr>
<td>Regular (n=7)</td>
<td>39.1 (12.1)</td>
<td>41.6 (15.2)</td>
</tr>
<tr>
<td>All (n=23)</td>
<td>38.6 (12.3)</td>
<td>41.6 (15.2)</td>
</tr>
<tr>
<td>Master (n=14)</td>
<td>37 (11.1)</td>
<td>39.8 (13.8)</td>
</tr>
<tr>
<td>Regular (n=23)</td>
<td>41.6 (15.2)</td>
<td>39.4 (13.2)</td>
</tr>
<tr>
<td>All (n=37)</td>
<td>39.8 (13.8)</td>
<td>39.8 (13.8)</td>
</tr>
</tbody>
</table>

**Quantitative Data Analysis and Results**

In this exploratory study, we performed ANOVA analysis to understand the associations between the key variables of crowdsourcing, including status (Master vs. Regular), involvement in crowdsourcing (weekly hours and weekly HITs), and likelihood of crowdsourcing career (considering crowdsourcing work for full-time job or not). In summary, the ANOVA analysis reveals that a crowd worker’s choice of crowdsourcing career is significantly associated with the worker’s master status, which is positively related to a worker’s involvement in crowdsourcing and tenure with MTurk. The details about the analyses and finding are provided below.

First, a crowd worker’s favorable consideration of crowdsourcing career is significantly associated with his/her Master qualification. Compared to a regular crowd worker, a master worker is more likely to choose crowdsourcing as his/her full-time job. This is confirmed by the Chi-Square test result (test statistics 5.711, p-value 0.017). Among all the 30 responding master workers, 53% of them indicated that they would consider doing crowdsourcing work full-time, or have started to do so. By contrast, only 23% of the regular workers expressed their willingness to consider crowdsourcing as a career choice. However, none of the three important demographic variables ---- education level, employment status, and household income ---were found to be significantly related to the career choice of crowdsourcing. In particular, a crowd worker’s prior education achievement is not related to his/her favorable consideration of crowdsourcing career (chi-square statistics at 5.67, p-value at 0.225), neither is a worker’s current employment status (chi-square statistics at 4.424, p-value at 0.219). Similarly, the proportion of crowd workers responding favorably to the crowdsourcing career does not differ significantly across the five levels of household income (chi-square statistics at 3.36, p-value at 0.499).

Second, the master qualification is positively related to one’s degree of involvement in crowdsourcing work. Our initial ANOVA analysis of the 60 responses suggests that the two groups of crowd workers differ significantly in their involvement in crowdsourcing work in terms of total hours spent on doing crowdsourcing work (p-value=0.0002). On average, master workers spend more hours (33.1 hours) in a week than regular workers (17.6 hours), at the 0.01 level of significance. Similarly, significant difference exists between the two groups of workers in their weekly HITs (p-value=0.0000). On average, a master worker in our sample completed 2,172 HITs a week, compared to the weekly HITs of 124 by an average regular worker. However, master workers’ efficiency is more varied than that of regular workers. When taking into account the total weekly hours spent, we found that a master on average (median) completes 46 HITs in an hour, or completes a HIT in 1.3 minutes. By contrast, a regular worker completes 5 HITs in an hour, or completes a HIT in 12 minutes. The data is highly skewed so we used median (instead of mean value) for the average efficiency.

Third, the master qualification is positively related to one’s tenure on MTurk. Generally, a crowd worker will be expected to accumulate sufficient experience with crowdsourcing work in order to be qualified as a master worker. In our data sample, a master, on average, has more crowdsourcing experience (1 year 7
monts) than a regular worker (8 months). ANOVA analysis shows that this difference is significant (p-value 0.0048). This finding echoes the criteria of master qualification used by Amazon Mechanical Turk, i.e., minimum 1,000 HITs completed and at least 95% approval rate of HITs. Our subsequent analysis of those three demographic factors and master qualification did not show significant relationship, according to the chi-square tests (p-value at 0.393 for education, 0.478 for employment status, and 0.519 for household income). These results suggest that a crowd worker’s expertise (master qualification) is not related to education background, employment, or household income.

Qualitative Data Analysis and Preliminary Findings

We conducted this field study to investigate how individuals participate in the IT-enabled crowdsourcing platform and whether or not they would consider this new form of work as their career. Consistent with the interpretive approaches to IS research outlined by Orlikowski and Barouli (1991), our research objectives were to investigate how human actors made sense of new work forms and acted to address them in this context, rather than to hypothesize or test cause-and-effect relationships. Using a semi-structured protocol we asked our survey respondents open-ended questions on their involvement in crowdsourcing, and asked them to recall their favorable types of tasks (HITs) they recently performed. In addition, we asked them specifically if and why they would consider crowdsourcing as their full-time job. The informants provided us with their written responses. Our qualitative data analysis methods were based on well-accepted qualitative research methods articulated by Miles and Huberman (1994). We coded and analyzed data iteratively, initially using open coding as well as codes suggested by the literature, then revised codes as we refined and clarified our theoretical interpretation. For example, we recorded the motivational job characteristics suggested by JCT theory (i.e., job flexibility, job autonomy, task significance), and identified new categories such as technical features and personal enjoyment. We identified several themes with regard to respondents’ perceptions of a crowdsourcing career.

First, our data analysis suggests that two work context characteristics offered by crowdsourcing -- job flexibility and job autonomy-- appear to be the major factors associated with the favorable consideration of crowdsourcing career. While job flexibility refers the flexibility in choosing one’s work schedule and location, job autonomy represents the level of control an individual has in deciding how to perform a task. For example, one 31-year-old female worker emphasized the job flexibility, as she responded, “Sure, if it paid decent I would definitely do it. I could work from home and make some income for my family and watch my son at the same time.” Another crowd worker highlighted the aspect of job autonomy she explained, “I would consider it if it paid enough. I like that fact that I can do it from my own home and you don’t have a boss hovering over your shoulder and you get to pick and choose which jobs/what types of jobs you can do.”

Our data analysis reveals that financial considerations emerge as a significant driver for choosing or not choosing this career. Majority of the respondents shared the concerns about the low level of income earned from doing crowdsourcing jobs. One common remark is, “It’s okay for some extra spending money, but not where near enough to make a living.” Even though the suggested pricing standard by MTurk is $0.1 for a minute’s work, which equals to $6 per hour (barely making the minimum hourly wage), not all the HITs offered that payment rate. One worker responded to our crowdsourcing career question,

“No I would not (consider it as a full-time job). (It is) very hard to even make minimum wage doing this. Average is about 3 dollars an hour if your [you are] lucking [lucky] or you know how to type really well and know English well so you can transcribe [transcribe] audio.” (Male, age 45, high school graduate)

Increasing the earning potential in crowdsourcing could make the crowdsourcing career more attractive. However, another barrier to the crowdsourcing career lies in its lack of job security. One worker responded to us,

“No, I would not (consider crowdsourcing as full-time job). The work is too unpredictable - you never know what sort of project you will get or when or how long it will last. I set a daily goal for money but I often don’t make that due to work that pays well not being available. I also need health insurance and benefits, and crowdsourcing is a sweatshop - they don’t give you nothing except the pittance for the task you complete.” (Female, age 40, Bachelor Degree)
For those crowd workers who were determined to embark on the crowdsourcing career and to overcome the low income hurdle, they have attempted some strategies. Our data analysis reveals a couple of strategies adopted by that group of crowd workers. One strategy is to find alternative ways (i.e., holding a part-time job elsewhere) to make up the shortfall in income from doing crowdsourcing jobs. As one 48-year-old female worker explained, “I am already doing it as my full-time job. I work part-time, few hours a week so to make up for it. I work full-time doing crowdsourcing because I have the time, I enjoy it and I get paid for it at the same time.”

Another strategy is for crowd workers to select and do HITs in a batch to maximize their earning. A 37-year-old male worker liked to work on sentiment HITs and explained, “I recently did about 150 HITs (on sentiments of customer reviews). I picked these HITs both because I’ve done them before and because I knew I could do a lot of them in a fairly short time so as to maximize my profits.” Doing this would enable them to accumulate experience with MTurk and to earn the master qualification. For some workers, this strategy has proven to be effective. As 28-year-old female worker became a master on MTurk, and worked on average 5,000 HITs on a weekly basis. She explained, “I do it as a full time job, so yes. I make more money doing this than at my old job, make my hours, and choose my clients to work for.”

Discussion

The purpose of this study was to conduct an initial exploration of crowd workers’ perceptions of crowdsourcing as a career choice. The results of our initial data analysis are revealing. Our initial data analysis suggests that master workers and regular workers differ significantly in the degree of their involvement in crowdsourcing work (i.e., weekly hours, weekly HITs). As a result, their work performance (efficiency) differs dramatically, with a master completing 46 HITs in an hour, compared to 5 HITs by a regular worker. Moreover, the master qualification did not seem to be related to one’s prior educational achievement, current employment status, or household income level. Rather, it is found to be positively associated with a crowd worker’s tenure (number of months working on MTurk). Moreover, a master worker is more likely to consider crowdsourcing as a career, consistent with the view that job experience and career are closely related (Hall 1976).

Crowd workers in our study appear to adopt some strategies to increase their earning potential from doing crowdsourcing work, such as becoming qualified as a Master on MTurk. However, the degree in the perception of crowdsourcing seems to vary. While a 27-year-old male worker with high school diploma made himself a master and was working full-time on MTurk, a 40-year-old female with a bachelor degree and full-time employment did not view crowdsourcing work as a potential career because this work environment did not fulfill her career goals (i.e., steady income, health insurance and benefits). These varying degrees of perceptions regarding crowd work as a potential career suggest that individuals involved in crowdsourcing work formulate different sets of career goals (Las Heras 2009), and thus arrive at different career decisions with regard to crowdsourcing. On one hand, this IT-enabled platform lowers the barriers to entry by not imposing an a priori ceiling on one’s earning based on educational status, but on the other hand, it allows greater affordances (such as in forms of financial outcomes) only by recognizing the prior experiences gained through this platform. The capability to carry the skills and credentials earned from one platform (i.e., MTurk) to another would be desired by the crowd workers who are interested in adding more crowdsourcing platforms (or marketplaces) into their crowdsourcing job portfolio and in making their crowdsourcing career sustainable. To extend this work, we plan to first uncover the nature and magnitude of these kinds of affordances, and second evaluate its impact on crowd workers’ career pathways.

As our quantitative (ANOVA) analysis suggests, a crowd worker’s choice of crowdsourcing career is not significantly related to his/her family income level. In other words, the crowdsourcing may become an attractive career option for people from all walks of life. However, our initial qualitative analysis shows that the concern about low payment rate and unpredictable income flow prevented some crowd workers from considering the crowdsourcing as a career. The seemingly contradictory finding is partly due to the two different income measures: current household income vs. earning potential from the crowdsourcing. It is also possible that crowdsourcing work is a supplement to one’s existing source of income; an individual may hold a traditional full-time job and simultaneously work as a crowd worker. This...
conjecture suggests the possibility that, rather than conceptualizing career as a dichotomy (i.e., having a career or not), there may exist multiple levels in the perception of a career within the crowdsourcing context.

Two valuable insights emerge from our preliminary analysis of crowdsourcing work which could be used to extend the literature on job design and job crafting. First, we see an interesting coupling of classical work design perspective based on the principles of scientific management by Frederick W. Taylor (1911) and work enrichment perspective by Hackman & Oldham (1975; 1976). On one hand, the job requester in the crowdsourcing marketplace is following Taylorism to slice and dice jobs into micro tasks. On the other hand, the crowd workers are configuring these micro-tasks to craft their jobs based on the HITs' properties that best enriches their work, a perspective congruent with the job enrichment perspective. This coupling needs to be further unpacked and investigated to fully understand the dynamics of this duality in the technology-enabled open work environment of crowdsourcing.

Moreover, the relationship between the work context characteristics (job flexibility and job autonomy) and career choice of crowdsourcing might be moderated by a crowd worker's qualification or family situations. Hackman and Oldham (1975) found that employees with different levels of growth desire are affected by job design dimensions to different degree such that individuals with more desire for growth will perform better in performing a job with the same level of motivational scale. The results of our exploratory study further suggest that multiple levels of perceptions of crowdsourcing career may exist, which could be affected by personal and situational factors (i.e., household income, employment status, gender, age).

Conclusion and Directions for Future Research

Four decades ago, organizational scholars suggested that, for companies to improve their organizational effectiveness, their employees should have more involvement in designing their own jobs with more accountability in order to be more productive and efficient (Hall and Mansfield 1971). Today, crowdsourcing platform provides individuals with autonomy and flexibility to craft their micro jobs (Wrzesniewski and Dutton 2001). The increased empowerment in job design afforded by crowdsourcing platforms and by advancements in the Internet technologies is gradually shaping people’s perceptions of crowdsourcing career. We argue that information technologies are transforming the organization of work and enriching one's career pathway such that it is important to re-visit and re-evaluate current work and career theories within the context of crowdsourcing. By providing an initial analysis of career perceptions of crowd workers, this exploratory study takes a small but critical step in that direction. Our preliminary results show that individuals’ crowdsourcing career perception is more closely associated with some factors (i.e. master qualification) than with others (i.e., education level, or employment status). Moreover, individuals use different criteria (i.e., employee benefits, family needs) while considering crowdsourcing as a career.

The findings of the study revealed an initial picture portraying how Internet technologies are transforming the landscape of our work and life, such as providing the flexibility of working anywhere and anytime with Internet access. The common complaints of low payment rates by the crowd workers suggest a possible workforce marginalization in this new work environment. More research is needed to enhance our understanding of this dynamic and complex work phenomenon. Below we suggest three directions for future research.

Future Research (1): Career in Crowdsourcing and Education Requirement. How will crowdsourcing transform the current credentialized societies? Will formal education be desired to engage in crowdsourcing career? For a high-end crowdsourcing marketplace such as Kaggle.com, they provide valuable certification/qualification (in addition to a college diploma) to those 85,000 data-mining scientists (Goetz 2013). However, for a low-end crowdsourcing platform such as MTurk where jobs range from cleaning data, categorizing product items, to providing feedbacks to video games, is higher education still required? Our data shows that a high school graduate can reach Master level at the same speed as a graduate degree holder, and gain the access rights to the same pool of micro jobs on MTurk.

Future Research (2): Career in Crowdsourcing and Professional Development. Relational factors in a work context such as mentoring, peer coaching, and developmental networks have been found to affect
career development (i.e., Higgins and Kram 2001; Parker et al. 2008). In crowdsourcing, these factors are missing or insufficient, how would the missing or inadequate relationship factors play out in one’s career pathways in crowdsourcing? Could some of these relationship aspects be possibly facilitated by IT, such as setting up specific forums to share tips and resources, such as those forums on MTurk?

**Future Research (3): Career in Crowdsourcing and Work-Life Balance.** There is growing interest in work that links career experiences with work-life balance issues around various work conditions, such as work schedules, number of hours worked, and job control. For example, a recent research (Sarker et al. 2012) on mobile workforce --employees that use mobile technology as an integral part of accomplishing their work in companies--suggests that the use of mobile technologies for work is blurring the boundary between professional work and personal life, causing the conflicts in the work-life balance of employees and increasing their stress level. In the crowdsourcing context, crowd workers intentionally bring work to their homes, but how that boundary crossing will affect a worker’s crowdsourcing jobs and family life remains to be investigated.

To return to the story of Rubik’s Cube mentioned at the Introduction. Rubik’s Cube was first manufactured in the U.S. in 1980; now it has become one of the top 10 best-selling products of all times (Sauter et al. 2012). Will crowdsourcing ever become a best-selling career as Rubik’s Cube such that individuals can pick and arrange micro jobs to fit their interests, needs, and schedules? Or will it lead to exploitation of workers where the very nature of crowdsourcing which affords job enriching characteristics such as autonomy and flexibility become so seductive that it can be used as a mechanism for exploitation? A scholarly critical discourse regarding the aforementioned questions is necessary in order to ensure that these new forms of work are designed to empower the worker, enrich the work environments, and prevent the marginalization and disfranchisement of crowd workers.

** References**


