

New forms of employment

Crowd employment, UK

Case study 26: Amazon Mechanical Turk

Crowd employment platform Amazon Mechanical Turk was originally set up by online retail giant Amazon for internal use. Workers were employed to find duplicates among web pages describing Amazon products. The business now has hundreds of thousands of workers, mainly in the US and India.

Introduction

Established in 1995, Amazon.com is a US company that has become the world's largest online retailer and is viewed by many as a success story of the new economy.

In the UK, its popularity is reflected by the company selling nearly one in every four books sold and with more visitors than high-street 'bricks and mortar' retailers such as Next, Argos and Tesco. Amazon's early focus was on the development of a digital platform to facilitate the purchase and supply of products. Its evolution led Amazon to subsequently restructure and build on open services innovation, one element of which is its crowd employment platform, Amazon Mechanical Turk ([AMT](#)).

AMT is perhaps best understood in the context of Amazon's business model which provides an explanation of its position within an environment of wider company developments.

Entering the market as a bookseller, the Amazon platform operated as a virtual store, offering products as a traditional low-cost retailer. During the period of the dot com boom, Amazon was applauded for its success, but in reality was little more than a virtual book shop which cut costs by wholesale bulk buying, a practice that could be mimicked by competitors.

Between 1995 and 2000, Amazon experienced spectacular growth, spending between 20% and 40% of its sales revenue on marketing in order to build a global customer base and extend its brand, yet at the same time failing to turn a profit (Feng et al, 2001). Amazon broadened its core product range, but a significant change in its business model occurred when it offered a commission-based brokerage service to buyers and sellers of second-hand books, becoming a marketplace for used goods.

At this point the business model shifted from direct sales to a sales and service model and Amazon's role as a broker expanded when it licensed its platform to a wide range of third-party companies. It became a gateway for other retailers, accumulating potential competitors within its platform, while charging commission.

Amazon Web Store (AWS) was launched in 2004 which allowed third parties to lease server space and provide customisable e-commerce websites using Amazon infrastructure.

Relentless expansion and diversification continued with a move into the challenging domain of grocery delivery in 2007 and Amazon Studios in 2010, intended to rival Netflix by crowdsourcing content creation. Amazon's seemingly indiscriminate drive for expansion is

perhaps best summed up in the title of a recent biography of Amazon's CEO, *The Everything Store: Jeff Bezos and the Age of Amazon* (Stone, 2013).

Critical to Amazon's successful evolution is the digital platform which serves as a coordinating hub facilitating the sourcing and hosting of products and services while providing a seamless interface for consumers. Amazon's growing market share can largely be attributed to its ability to expand and diversify its digital platform, as well as open up the boundaries to external contributors. The platform initially hosted the online trading of consumer products, before licensing out the branded platform to a range of suppliers. This increased the trading of consumables on a significant scale and enhanced the range of products for consumers, while at the same time top-slicing a licensing fee from suppliers. Amazon's market position boosts its negotiating power with suppliers, which are drawn to the platform given the access to a broad consumer base.

AMT sits within Amazon's digital platform, alongside data storage and processing services. It is a crowdsourcing system which distributes tasks to a large number of anonymous workers, with Amazon mediating and selling work capacity.

Mechanical Turk is well developed, commonly used (Crowston, 2012), and has cornered the market in online tasks (Felstiner, 2011). In this respect, AMT is an emblematic case of a microwork crowd employment platform (Irani, 2013).

The technological development of the World Wide Web, a phenomenon referred to as Web 2.0, led to increasing growth of personal data, stored across databases held by companies such as Apple, Facebook, Google and Twitter. It meant that making sense of and extracting economic value from these cultural data was beyond the capacity of computational algorithms, and hence there was a need to return to the practices of human classification (Irani, 2013).

Magazine editor and writer Jeff Howe, who originally coined the term 'crowdsourcing', feels that here lies one of the contradictions of the internet economy, as the high-tech workplace of creative talent sits alongside the clickwork of media transcriptions, spam farms, and data entry (Howe, 2008). In this context, Mechanical Turk fulfils the role of the 'redistribution of tedium' (Irani, 2013).

In order to gain a better understanding of Mechanical Turk in terms of platform development, operation and evolution, a number of interviews with various stakeholders were carried out. This included three workers, two requesters and two external stakeholders. It is very difficult to secure an interview with anyone from Amazon, as the company is reluctant to disclose publicly the details of its operations. Details of the company and its decision-making processes concerning platform structure and working procedures remain unknown. Published materials available on the AMT website (<https://www.mturk.com/mturk/welcome>), along with related academic articles, have been accessed and analysed to gain an overview of company operations and processes.

General characteristics of Amazon Mechanical Turk

AMT originated as an in-house service to support data processing problems. It outsourced piecemeal tasks to contractors who identified product web pages which a potentially global workforce could check for product duplicates. Workers would receive payment for each item checked. Realising the potential of the service, Amazon expanded its platform by rolling out AMT as a public site in November 2005, describing it on the home page of the AMT website as 'a marketplace for work'.

AMT is based on a cognitive piecework model that breaks down and distributes tasks, many of which are repetitive and low paid (Crowston, 2012; Felstiner, 2011; Ipeirotis, 2010). It is based on a tripartite structure whereby Amazon owns and develops the platform, upon which external parties in the form of requesters broadcast tasks (known as human intelligence tasks – HITs) and workers (or 'Turkers') complete and submit the HITs.

Both workers and requesters have a different view of the infrastructure and a distinct interface. To give an indication of the number of HITs available as advertised on the website at any one time, on 9 March 2014, there were 377,541 HITs which appears a fairly typical level.

There are various types of requester. While some of the early adopters of crowdsourcing were small companies with limited resources, as the platform expanded and became more sophisticated, medium and large companies entered the marketplace (Felstiner, 2011).

Mechanical Turk is a heavily tailed market and there is considerable clustering of top requesters, with 0.1 % of total requesters accounting for 30 % of overall market activity (Ipeirotis, 2010).

An interviewed expert described the requesters as falling within three broad categories. She described one category as 'clueless academics' who are not regular users of AMT, but their belief in the pursuit of knowledge is used to justify employing people for little cost while receiving rapid turnaround on tasks such as completing surveys for their own research. Another category is start-ups and entrepreneurial ventures. These small companies are attracted to AMT because labour is cheap, which allows them to innovate with limited financial outlay. She explained that in the US these entrepreneurs are culturally celebrated and seen to be making sacrifices for their dream of building a business, and so have little concern for AMT workers on low pay. The final category is the large corporations and a number of mediator companies such as [CrowdFlower](#) which liaise between the requirements of large enterprises (for example, online buying and selling company eBay, consumer goods producer Unilever, and business-related social media network LinkedIn) and workers. They do this by streaming task distribution and offering quality assurance services on behalf of their clients. For large corporations, using mediator companies enables them to offload the risk associated with paying people such meagre amounts.

In relation to the workers interviewed for this study, the respondents are university-educated and their motivation for participating and completing tasks varied.

They first became aware of Mechanical Turk largely via word-of-mouth and through informal contacts. One worker said he became involved because he enjoyed trying new things. He had a background in IT and began participating as a hobby, spending time online and checking out interesting web and technical developments in his leisure time.

The money he earned was negligible – less than USD 3 (€2.4 as at 21 November 2014) per hour. He described it as 'not even pocket money' compared with his salary as an IT worker, which saw him earn an average of USD 20 (€15.9) per hour, but he continues to participate.

One worker was looking to supplement his income from writing. He has been working on AMT for several months, spending around four hours a day, five days a week. This activity generates around USD 15 (€11.9) a day for random tasks such as psychological surveys, small writing tasks, games and music appreciation.

One of the interviewed workers is an entrepreneur who has established a business in Delhi with a partner focusing on completing AMT tasks, and using AMT as a full-time income stream. He is the sole respondent to task requests which he then distributes among a team of workers who are paid a monthly wage.

In terms of usage, another interviewed worker dipped into AMT occasionally, supplementing his activities with work on other platforms that had a more technical orientation and generally paid a higher hourly rate. At the time of the interviews, two of the three respondents had not considered alternative crowd employment platforms and there was limited awareness of their existence and operation.

The tasks are grouped according to categories listed on the website. These are data collection, moderation of an image, sentiment, survey, survey link, tagging of an image, transcription from AV, transcription from an image, writing and other. According to survey research (Ipeirotis, 2010), transcription is a common task and this attracts a comparatively higher fee, while classification and categorisation tasks also feature strongly, many of which are lower paid.

In relation to payments, survey research has shown that 25% of the HITs are valued at USD 0.01 (€0.008), 70% offer USD 0.05 (€0.04) or less, and 90% pay less than USD 0.10 (€0.08). This is seen to equate to an hourly rate of around USD 2 (€1.6) (Irani and Silberman, 2013).

For further details of activities, a breakdown of HITs, projects, rewards, workers and requesters see [MTurk Tracker](#). This site was designed by an interviewed expert and uses a web crawler to gather all available information from AMT, on an hourly basis, and computes daily statistics for new projects and completed tasks.

When AMT was launched, cash payments were only made available to workers with a US bank account – all others received Amazon gift cards. This discouraged non-US workers from joining the platform and resulted in a workforce typically representative of US internet users (Ipeirotis, 2010). In 2010, when AMT changed the payment structure, allowing workers to be paid in Indian rupees, the workforce internationalised, notably with increasing numbers of young, highly educated male workers from India (Ross et al, 2010). This contrasts with the US-based work population of the past who were attracted to AMT usually as a vehicle for supplementing their income – for example, women with primary caring responsibilities, college students, the underemployed and unemployed (Ipeirotis, 2010). This shift in workforce demographics also led to an increasing proportion of workers relying on the site as a source of full-time income.

Design and implementation process

AMT is a digital platform operated by Amazon.com and has its headquarters in the US with no specific UK operations. The virtual and digital nature of the platform means that the specificity of its adoption and usage by both workers and requesters in the UK is difficult to pinpoint. This is because crowd employment platforms can operate in one region (such as the UK) while the parent company is registered and geographically located in a different region. There is no central register available and there is an absence of legislation or regulation that specifically relates to crowd employment platforms within the UK.

For requesters, AMT claims on its website to provide a platform where companies can: ‘have access to a global, on-demand, 24/7 workforce’, ‘get thousands of HITs completed in minutes’, and ‘pay only when you’re satisfied with the results’. In order to register as a requester and post HITs, requesters need a valid form of payment and a US address. In the case of interviewed UK requesters, they live and work from inside the UK, but use a US address to be able to register on the platform and access the HIT stream. Any requests for task completion are prepaid using a credit or debit card or Amazon Payments account. Amazon takes a further 10% of the task price paid to workers from the requesters.

When tasks have been completed, requesters can see the workers alphanumeric ID, the amount of time taken from acceptance of task to completion, and the work output itself. Requesters have complete discretion regarding acceptance of the work and whether to release payment to workers, while retaining ownership of the work output. Any payments to workers and the Mechanical Turk fees are deducted from the requesters prepaid Mechanical Turk Balance. Tax reporting is optional if each individual worker earns less than USD 600 (€484) per year.

The requesters that participated in the study had only used the one crowd employment platform (AMT) and this was for professional reasons, launching surveys for research purposes. They were both intermittent rather than regular users.

Working method, processes and procedures

In terms of governance, Amazon sets the terms in the only governing document – the Participation Agreement (Amazon, 2014). This provides the terms and conditions governing the use of the site and the relationship between requesters and providers. To access the platform, both

requesters and providers consent to the Participation Agreement, which requires registration using an Amazon account. No further requirements are necessary to register as a worker.

In relation to the terms and conditions of operation, all of the workers had read through the information carefully, reasoning that this was based on a lack of trust of Amazon's operating practices. Consenting to the Participation Agreement provides Amazon with the necessary personal and tax information and positions them as financial intermediaries, reimbursing workers through their online payment service, as well as taking a 10% service fee from requesters. As with many two-sided markets that bestow favour with one party, the Participation Agreement stipulates that workers perform services as independent contractors and places all juridical rights to the requesters. There is no legal protection which alleviates the regulatory requirements of paying workers minimum wage (Felstiner, 2011).

In order to register for the site, all members have to be aged 18 years or over and must agree to accept the terms and conditions. Users have to provide a name (that they are legally authorised to use), a valid email address, phone number and physical address. There is no registration fee, and by accepting the terms and conditions, users authorise electronic transfer of funds to their bank account. Registration involves using either an existing Amazon account or creating a new one.

When workers sign in to the online system they see a list of tasks that have been posted. Each task consists of a short description, the name the requester uses, the price set for the task and possibly a sample of the task. Amazon's website provides no mechanism for workers to filter employers, beyond the name the requester chooses to use.

Amazon can cancel a provider account at any time for violation of the terms of the Participation Agreement and the provider may be deprived of any remaining earnings. The governance structures are such that Amazon declines all responsibility related to the transactions between requesters and providers in terms of screening or verification, quality, safety, both in terms of virtual and physical, or the ability of requesters to pay. AMT does not get involved in any form of communication between workers and requesters. In terms of intellectual property rights (IPR), while requesters retain IPR, AMT has the right to communicate the content to the public and even identify the author of the content.

Registered workers are expected to be geographically located in the US or India, but workers have found ways around this restriction by using the postal address of friends and family. This is not entirely straightforward as there are various ways in which the location may be detected, via the IP address or social security number. Translating work into rewards is also problematic and entails buying products from the Amazon US website, having the items delivered to a US address and then posted on to the UK. AMT is clearly aware of these practices as the Participation Agreement states that if a person is not a US resident, then all services performed using AMT are performed outside of the US and under the jurisdiction of local laws and regulations, even though they formally require workers to be US based.

When workers register for AMT they do so as independent contractors and not as an employee or agent of a request or AMT as stipulated in the Participation Agreement, and regardless of geographical location (UK based workers operate as independent contractors). The terms and conditions ensure that they agree that any services they perform are deemed 'work made for hire' for the benefit of the requester, and in this respect any ownership or intellectual property rights reside with the requester. For both workers and requesters, it is assumed that they are responsible for whether taxes apply and are liable for collecting, reporting and paying any taxes arising from transactions. Workers are personally responsible for applicable laws and registration requirements, including those relating to maximum working hours. AMT makes clear that workers are not entitled to any of the benefits that a requester or AMT makes available to their

own employees, which includes holiday pay, sick leave, insurance programmes, including group health insurance or retirement benefits, and compensation benefits in the event of injury.

In relation to conflict management, the terms and conditions clearly state that any contracts are exclusively between users. AMT is positioned as a payment processor and is not involved in the actual transaction between requesters and workers; consequently any disputes are outside its responsibility. In reality, the very nature of the large scale, fast moving, digitally mediated workforce means that any conflicts arising between workers and requesters become intractable. According to one of the interviewed workers, a perceived modicum of control was achieved given that workers and requesters had access to each other's email address.

Requesters post tasks, select workers and receive the results from them. Requesters are required to prepay for any tasks by purchasing Mechanical Turk Prepaid HITs. The amount paid must be at least equal to the total amount that will be owed to workers upon completion of the HIT, plus the service charge. If the Prepaid HITs are purchased via a bank account, the HITs will not be made available for up to four days before the funds are released. If a requester chooses not to approve the task and therefore withholds payment to workers, they will be charged a fee for using AMT (10%).

One of the interviewed requesters explained that, when she initially used AMT, she had difficulties in releasing funds to workers as she was unsure how to use the system properly, and while AMT provided a fairly standardised reply to queries outlining basic procedures, the process was frustrating. The funds remained in her Prepaid HIT account (held by Amazon) for some time despite her best intentions to release them to workers.

Requesters may specify parameters relating to the kind of worker they prefer. This includes the percentage of tasks they have completed effectively, geographical location and AMT qualification exams that the worker has passed. AMT maintains an 'acceptance rate' for each worker so that requesters can recruit from workers with higher rates of task acceptance from prior requests. Large-scale requesters are known to maintain their own databases of how workers perform on past tasks, which geographical location their network IP maps to, and any other parameters to filter workers (Irani, 2013).

Amazon is keen to stress that it can provide various 'solutions' to assist requesters with Mechanical Turk projects. These 'solutions' are offered through the Mechanical Turk Partner Program, which is part of the Amazon Web Services Partner Network (APN). The APN is designed specifically for Mechanical Turk applications and involves a number of companies, approved by Amazon, which offer advice on technology and workforce management. These companies operate in addition to the mediator companies such as CrowdFlower. Although both types of company operate independently, the difference is that APN companies are Amazon approved and form part of the Amazon network.

The APN consists of two consulting partners and six technology partners. Some of the features that partners offer include

- automated HIT creation and workflow routing;
- pre-selected workers and qualification testing;
- random quality checks with client's staff logging in as AMT users;
- assistance in helping companies design their own private crowd through a combination of internal employees, outside specialists and crowdsourced workers;
- the provision of a media tagging tool powered by AMT which divides the work of labelling media data into micro tasks that can be completed by workers.

In terms of bidding for tasks, all the workers interviewed filtered the activities according to payment and aimed for higher paid tasks. One of the interviewed workers explained that he regularly witnesses a number of tasks offered at derisory rates of USD 0.002 (€0.0016) or USD 0.005 (€0.004), but when he began working on AMT, he decided he would not consider any task paying less than USD 0.5 (€0.4). There was a sense that the increasing popularity of AMT is resulting in a reduction of the average pay rates and consequently there is less incentive for higher quality workers to participate. They recognised that some tasks may offer a reasonable fee for fairly interesting work, but the activity was too time-consuming (for example, transcription) and therefore not financially worthwhile.

There was limited understanding among workers as to why they were accepted for some tasks and not others, describing the process as highly competitive when bidding for the higher priced, more attractive HITs. Another worker described the approval process as being a mixture of luck and magic, leaving him with a sense of gratitude when selected.

One of the requesters commented on feeling uncomfortable at the desperation of workers, with one worker asking not to be rejected and offering to complete the task for free, while another said that rejecting the HIT would negatively affect their statistics for other HITs which would take time to recover from.

According to one of the interviewed workers, if his work was deemed 'insufficient or incorrect' then his personal score went down which was problematic as his score determined access to better HITs. Scores of 90 or above are desirable. This operates as a filter on two levels. Firstly, some of the HITs expressly state that they are only available to individuals with a particular score. Secondly, there is a feature of the system called 'HITs available to you' which automatically sorts tasks based on personal score, so that if an individual has a score of 50, all of the HITs requiring a 85 or 90 acceptance rate will neither be displayed nor made available.

Once the worker accepts the HIT, it must be completed within a designated timeframe as specified by the requester. When tasks have been completed, the balance of power lies with the requester who can decide whether or not the task has been carried out satisfactorily and whether to release the payment. The timeframe within which requesters make the decision is completely open-ended. The mandatory satisfaction clause gives the requester the authority to reject a HIT without any justification, without payment, and without forfeiting their ownership of the work carried out.

At this stage, the workers described how they felt at the mercy of requesters, regardless of how well they had completed the task, as it is all too easy for requesters to reject the worker and dispatch the same task again. Workers have little detail on the requesters and only limited information about the tasks while companies can easily access the employment history of Turkers. In terms of dispute resolution, workers felt that they had no comeback whatsoever if a requester is refusing to pay.

External support

In terms of the external support offered to Amazon.com and AMT, the difficulties of securing an interview with the company means that this level of information is unavailable.

Outcomes and effects

In terms of the impact of AMT on the labour market and the economy, there appear to be no statistics available on the numbers of workers and requesters.

To give an indication of scale, one study investigating demographics received responses from workers across 66 countries (Ipeirotis, 2010), while another has suggested that between 30,000 and 400,000 tasks are posted per day (Ipeirotis, 2012).

As crowdsourcing becomes normalised for particular industry segments, it increases the likelihood of existing industries such as data entry, audio transcription, technical support and software development becoming subsumed by crowdsourcing platforms such as AMT. Given the success and magnitude of AMT, it may well serve as an exemplar for crowd employment platforms.

From the interviews, the workers recognised that AMT is no substitute for contract employment because working on a digital platform is ‘one dimensional’ (according to an interviewed worker) and merely a route to help pay the bills. In this respect the primary motivation was financial and work on AMT was used as an additional income source. In terms of intrinsic rewards, one worker explained that he enjoyed experimenting with new technologies and participating on interesting websites, but commented that the decreasing pay rates on AMT meant that he was looking elsewhere (such as technical sites requesting usability evaluations which are higher skilled and better paid).

Poor levels of pay aside, workers emphasised the importance of human interaction in the workplace and described this as a process that involves the commute, meeting colleagues, building relationships with people and dealing with external stakeholders. This more holistic side of working life is absent in crowd employment platforms. Workers were well attuned to the discourse that claims technological advances will lead to job losses, but commented that crowd employment work is no substitute for a traditional employer–employee relationship and that too many elements like bidding for work lie outside of the boundaries of the workers’ control. The virtual nature of the platform meant that interactions with requesters were limited and, whenever any difficulties arose (such as querying the quality of the work or withholding payment), the workers felt powerless, citing instances of requesters refusing to reply to their queries or the potential for requesters to have a negative impact on their HIT score if transactions become problematic.

Overall, the experience of workers that we interviewed was negative towards AMT, recognising that the majority of tasks were low skilled, under paid, and trivial in nature. Opportunities for improving skill levels were negligible. However, there was recognition that AMT, as a large online labour market, provided flexibility, allowing workers to supplement their income with additional activities outside more formal structures (such as securing a part-time job) and enabling them to choose when to participate. This was seen as beneficial for the creative worker whose primary source of income was insufficient; AMT enabled them to ‘dip into’ tasks for payment when necessary.

The requesters interviewed operated as individual users of AMT, but other research points to the increasing presence of mediator services which post tasks on AMT on behalf of their clients. Such services are essentially aggregators of tasks and provide quality assurance services, indicating that many requesters who are interested in crowdsourcing prefer to use an intermediary that addresses the concerns about worker quality.

Strengths and weaknesses

Based on the analysis of AMT’s operations and from the interview material, a number of strengths are evident, some of which relate generally to crowd employment platforms and others are specific to AMT. Among these strengths are that:

- the UK has a strong technical infrastructure, which is necessary for digital platforms to be fully operational;
- AMT provides a global labour market that reaches across all time zones;
- users of AMT described the digital platform as simple and easy to use;

- based on Amazon's digital infrastructure, AMT offers a robust platform with a number of features such as user identities, payment processing and online history that are well organised and documented;
- Amazon has global currency technologies, enabling payment with its own website gift certificates – if workers do not wish to be paid in US or Indian currencies, Amazon's vast retail website and delivery capabilities facilitates other means of remuneration of the workforce.

For workers, there are a number of strengths including the following:

- digital platforms provide access to a large online labour market;
- crowd employment platforms can provide flexibility in terms of what you do, who you can access and the pace of work;
- crowd employment platforms can provide opportunities for workers to supplement their income with extra activities outside formal working hours/contracts;
- crowd employment platforms can provide opportunities for creative workers who are between contracts and projects, yet unwilling to enter the formal labour market.

For requesters, there are a number of strengths in that:

- filtering parameters can allow them to select country locations with the presumed cultural compatibilities;
- filtering enables requesters to stipulate that tasks are only available to workers with specific personal scores (which is seen to equate to quality);
- given the appropriate number of workers can be recruited for any given task size, the time to completion remains stable, as compared with more traditional outsourcing with a finite number of people, meaning that scaling operations is far easier via a crowd employment platform when compared with traditional employment forms;
- for large companies, the scalability of AMT means a large, temporary workforce can be quickly organised and quickly disbanded;
- for small companies and start-ups, there are low initial operating costs – requesters only pay for data – even then, approval is entirely at their discretion;
- filtering parameters can allow requesters to easily and efficiently discriminate among workers;
- virtual interactions with workers who are represented by an alphanumeric identifier render the workers invisible, thereby reducing any anxieties concerning fairness and decency;
- there is no costly training and employee infrastructure, with the associated costs of taxation and social protection.

A number of weaknesses have also been identified, including:

- at the policy level, there is a notable absence of regulation, and limited knowledge and understanding of the operation of crowd employment platforms;
- the scale of operation of AMT is significant, involving a global user base of workers and requesters – these operational practices, working processes, future strategy and development, are determined entirely by Amazon as the platform owner;
- for many companies using AMT, a key issue is how to manage a workforce completing microtasks, so that the benefits of low cost and low commitment are not negated with the effort required to set up tasks, communicate with workers, inspect the quality of their output and authorise payment;

- the suggestion by an external expert that online hiring has problems in scaling up because of the complexities of clearly specifying requests, hiring appropriate personnel and then managing projects;
- issues of fairness and decency have been raised in numerous quarters – some responses suggest that workers are choosing to participate, but choice has to be understood within the context of the types of alternative, competing options that are available and personal circumstances;
- payment for work completed is not guaranteed, but at the whim of the requester;
- inequalities in society mean that some people are willing to work well below the minimum wage;
- the level of social protection is deficient and there is a lack of income security;
- the highly competitive environment that results from operating within a wider marketplace, based on digitally based bids for work;
- for those who prefer salaried employment, the modus operandi of flexible work using crowd employment platforms can be challenging;
- the absence of a formal contract means that issues of personal responsibility remain ambiguous, which has potentially serious ramifications;
- a labour market based on a more digital marketplace can be exclusive to particular demographics – while the majority of the under 30s are familiar with all things digital, this level of familiarity cannot be assumed of an ageing population.

Future plans

In terms of development, Amazon's future strategy is a closely guarded secret. This in itself is problematic for both workers and requesters, since they have little control over their prospects which are at the behest of a large corporation.

The ability of AMT to draw in crowd labour on such a significant scale is specific to economic and social circumstances which may shift in the future. Workers recognise that, in times of austerity and economic hardship, people are more accepting of whatever work is available. One of the interviewed workers commented that he would only increase his levels of activity on the platform if the pay was better and the work being offered became more interesting. He was also of the opinion that for the system to become sustainable in the long term, people's time would need to be compensated in a manner that is both dignified and honourable.

Although AMT was developed in response to computational limitations, as technology advances and progresses, these limitations may be reduced in the future. Developments in big and open data, along with machine learning, may result in some aspects of the 'humans-as-a-service' tasks (such as writing summaries rather than user testing) being automated in the future.

Commentary

In the case of Amazon.com and AMT, the digital platform is of central importance to the business model. Amazon has constructed a global ecosystem which has a standardised technical infrastructure that enables activities to be globally distributed and repeated efficiently and with regularity.

The opening up of platforms to large numbers of external participants can stimulate network effects for Amazon, whereby value increases geometrically as additional products and services attract more users, extend the installed base, and further expand the market (Cusumano, 2010).

The global nature of the platform enables Amazon to sell products in numerous geographies, yet AMT has a strong US orientation. Platform evolution has seen Amazon establish the necessary legislative and financial mechanisms that allow it to trade in various localities, yet AMT, which was established in 2005, has not yet been rolled out on a global scale. For this reason, AMT is less well-known and far less significant in the European context, despite attracting European users.

While the geographical reach of AMT is interesting, nevertheless it remains one of the most successful examples of crowd employment platforms. Significantly, AMT is more than a mere facilitator of digital outsourcing services or a passive mediator in a long supply chain; the company's brand and position means that it plays an active and fundamental role in establishing the market conditions for crowd employment.

The construction of the platform enables the exercise of control over the creation and continuance of employment relationships, enabling the bypassing of traditional routes of procuring labour supply while extracting revenue. This facility has spurred the growth of a range of intermediaries who filter work requests from their clients to the Mechanical Turk platform, which manages the registration and payment of the workforce. This creates long supply chains, many of which contain the features of fragmented and globally dispersed production, with tight margins and rapid turnaround, while Amazon orchestrates the entire process. For example, LinkedIn could be outsourcing to CrowdFlower, who put tasks on AMT, which are accepted by a UK-based Indian worker who has a business partner and company in India which then outsources the tasks to the local staff. The digital nature of crowdsourcing platforms further exacerbates the lack of transparency and the footloose nature of labour regulations and standards (Felstiner, 2011). Yet, as crowdsourcing becomes normalised for particular industry segments, it increases the likelihood of existing industries such as data entry, audio transcription, technical support and software development becoming subsumed by crowdsourcing platforms such as AMT.

With AMT, the nature of the employment practices has led to the development of an online system that allows workers to post reviews of requesters and any malpractice. This involves an embedded system, Turkopticon, which is a browser extension that AMT workers can use to evaluate the employment practices of requesters (Irani and Six Silberman, 2013). This is one example of collective resistance which has attracted a growing base of workers to share and record information on requesters. It has been highly successful in drawing attention to ethical questions surrounding crowd employment platforms.

Information sources

Websites

Amazon: <http://www.amazon.com>

CrowdFlower: <http://www.crowdfLOWER.com>

Mechanical Turk: <https://www.mturk.com/mturk/>

MTurk Tracker: <http://mturk-tracker.com/general/>

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