Users' Motivation to Participate in Crowdsourcing: A South African Case Study

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By

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Abstract

Growth in online communities has generated a new labour pool. Organisations are using Web 2.0 tools to tap into this online labour pool, with one approach being 'crowdsourcing'. People from different geographical destinations can now work for organisations that are thousands of kilometres from them. Organisations face a huge task of attracting a large crowd of workers that can actively contribute answers to their business problems. Knowing what motivates users and how to keep them actively participating over a long period of time is therefore crucial.

This study explores how organisational, individual, technical and social factors affect users' motivation to participate in crowdsourcing projects. A single case study using a crowdsourcing company based in South Africa was used. The crowdsourcing company uses crowdsourcing for monitoring online activities on behalf of other companies for online conversations on social platforms such as Twitter, Facebook, news articles, blog posts and listings on directory sources such as Gumtree or property listings. A qualitative study on thirteen participants was conducted through semi-structured Skype interviews.

A conceptual model is presented based on the research findings. Besides re-establishing a number of factors which affect motivation to participate in crowdsourcing, the study established new emergent factors which had not been common in previous studies. The factors include authenticity of the whole crowdsourcing project, mentorship of new users by seasoned users, flexibility of technological tools in meeting users' expectations and feedback. Practical lessons drawn from the study could help crowdsourcing practitioners understand users' motivation to participate in crowdsourcing and how to ensure a conducive environment for crowd participation and hence quality output. Additionally the study could inform key considerations when implementing a crowdsourcing project in an organisation.

List of Prior Publications

Parts of this dissertation have been reproduced in the following publications in which the researcher is the principal author:

Machine, D., & Ophoff, J. (2014). Understanding What Motivates Participation on Crowdsourcing Platforms. Proceedings of the e-skills for Knowledge Production and Innovation Conference 2014. (pp. 191-200). Cape Town, South Africa: Informing Science Institute.

However, since this dissertation is considered to be the source, neither of these publications are referenced in this dissertation.

Acknowledgments

I dedicate this dissertation to the Almighty for providing me with the gift of life and strength during my writing of this dissertation. Further to this l also dedicate this dissertation to the following people:

To my dear wife who has been my constant source of strength, inspiration and overwhelming support.

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Chapter 1 – Introduction

Organisations are continuously working towards improving their services and products so that they meet the ever changing needs of their clients and remain ahead of their competitors (Bayus, 2013). In order to stay competitive, some organisations which traditionally relied on internal employees are going beyond their organisational borders when seeking to tap into the growing pool of volunteer workers found in online networks. The need to engage external people who are not part of the organisation has created the emergence of a phenomenon that can be likened to outsourcing, called 'crowdsourcing'. The term 'crowdsourcing' was first coined by Howe (2006) as the act of a company or organisation taking a function once performed by its employees and outsourcing it to an undefined network of people in the form of an open call.

Crowdsourcing is an emerging field and it is still not well understood by organisations, with South African organisations being no exception. There is little mention of crowdsourcing initiatives and studies that have been conducted on platforms with a significant crowd workforce, and project work representative, in the South African context. Crowdsourcing is hinged on the fact that everyone has the potential to contribute valuable information and, as a result, organisations are engaging large online crowds to harness ideas. This is made possible by the fact that compound jobs can be split into smaller jobs that can be solved by individuals around the world. While not all tasks can be decomposed into smaller tasks, parts of almost any job can be performed by the crowd (Horton & Chilton, 2010). With many organisations turning to crowdsourcing for tasks that require quick responses, there is now a great need for crowd workers who can respond moments after a task has been posted; such respondents are referred to collectively as flash crowds (Kittur et al., 2013). Any tasks requiring quick responses are likely to be affected by the latency of the crowd. In addition, as the number of such tasks grows so does the need to have a large network of motivated crowd workers (Bernstein et al., 2010).

1.1 Background

New technological accessibility and advances have seen growth in Internet communities. These new technologies do not exist in social or technological isolation (Lamb, Sawyer & Kling, 2000). They are socio-technically situated and socially shaped (Orlikowski & Iacono, 2001).

This has subsequently seen the coming together of people from different geographical locations and varying skills through advanced technologies. The use of crowdsourcing activities has exploded in use in parallel to these developments of the Internet and web tools (Rouse, 2010).

The crowd possesses a wide range of skills, ranging from unskilled to exceptional; organisations using crowdsourcing seek to benefit from this mix. A number of tasks on crowdsourcing platforms have been found to be dull and monotonous for some participants within the crowd, given their different skills set and cultural backgrounds, amongst other things. As a result, motivating participants in such circumstances becomes challenging and can lead to reduced participation and engagement. This can have a detrimental effect on the quality of results or contributions obtained from a crowd (Kittur et al., 2013). An understanding of the motivations for such tasks would be vital for the sustenance of the continuity and longevity of the crowdsourcing platform.

Intelligent systems have been built to perform tasks like image classification, translation or protein folding. One very popular system which uses complex machine learning algorithms to perform some of the tasks is Amazon Mechanical Turk (Ipeirotis & Paritosh, 2011). As advanced as technology has become, machine learning algorithms have their limitations in making predictions. Humans are now being engaged to perform such tasks to address areas involving emotions, feelings, different cultures or sarcasm where artificial intelligence fails to train machine learning models (von Ahn & Dabbish, 2004). However, since some of these tasks may not be exciting, motivating workers to perform such tasks can be challenging. There is need for a deeper understanding of what can motivate crowd workers to perform such tasks. Understanding what initially attracts participants and, most importantly, what motivates them to continue to participate for extended periods of time is an issue that needs further exploration (Rotman et al., 2014).

Attracting and retaining a large group of people to actively contribute ideas that will provide answers to an organisation they are not employees of, forms the basis of successful crowdsourcing and hence its importance (Doan, Ramakrishnan, & Halevy, 2011). Even after getting participants in a crowdsourcing initiative, there is still a lot of work to be done in order to get them to actively participate. Several studies have been conducted and revealed that,

in most online communities, about 90 percent of users are just viewers in the background (referred to as lurkers) who will never contribute, while nine percent contribute a little and only one percent is responsible for the majority of the contributions (Hirth, Hoßfeld, & Tran-Gia, 2011; Nielsen, 2013). It is against this background that this study is grounded.

1.2 Research Motivation

Knowing what will keep crowd workers motivated, satisfied and engaged is a challenge for those seeking to adopt a crowdsourcing approach (Kittur et al., 2013). Using an inappropriate form of motivation can result in an expensive, time-consuming crowdsourcing initiative that may eventually yield poor results (Smith, Manesh, & Alshaikh, 2013). Crowdsourcing projects can take a great deal of time and involve some tasks that may be laborious or repetitive. It is salient to note that levels of motivation can vary at different times throughout the process because the crowd workers work on different tasks. This means that the motivation of participants in crowdsourcing projects changes over time (Rotman et al., 2014). Keeping participants motivated and engaged at all times during crowdsourcing projects becomes a challenge as this involves individuals from diverse backgrounds.

Crowdsourcing is an emerging phenomenon with diverse applications already in practice within non-profit and profit making organisations. However, it is yet to receive intense attention from scholars, as argued by Zhao and Zhu (2012b). Other researchers have noted that, although crowdsourcing is still emerging, it has already drawn a lot of attention resulting in many organisations realising its latent business value, especially in the corporate domain (Rouse, 2010; Whitla, 2009). It is not only the corporate domain, but also non-profit organisations which have adopted crowdsourcing and are starting to benefit from this new phenomenon (Brabham, 2008).

In addition to gaining attention from business and non-profit industries, crowdsourcing has gained some attention from the academic community (Lee & Seo, 2013; Wang et al., 2013) which has been examining the different aspects in and around crowdsourcing. It is, thus from the viewpoint of an academic perspective that this study seeks to explore the factors that motivate individual participation in crowdsourcing projects.

Keeping participants motivated and engaged at all times during crowdsourcing projects becomes a challenge as this involves individuals from diverse backgrounds. This forms the basis of this research as the problem being addressed.

1.3 Research Question

In traditional workplaces, workers can be closely monitored to check their performance, and to reward or punish them accordingly, yet it is very difficult to employ such measures in respect of crowd work. Crowd work involves large networks of distributed individuals and the interaction and control of the employer on the worker is very limited. The challenge lies in keeping the crowd workers satisfied, coordinating their tasks and keeping them motivated in order to sustain their participation. The interaction between the seeking organisation, the participants and technology plays a crucial role in the success of any crowdsourcing initiative (Pedersen et al., 2013; Zhao & Zhu, 2012b). Different factors are at play at the same time in the process.

It becomes evident that technology shapes, and at the same time can be shaped by, the social context within which it is being used (Orlikowski & Iacono, 2001). This forms a key component of this investigation, which looks at how the interaction between an organisation, an individual, technical and social factors affects the motivation to participate in crowdsourcing. This shows that crowdsourcing is a complex phenomenon interconnected in evolving shared practices. It is in the light of this background that this study seeks to answer the question:

> ***How do organisational, individual, technical and social factors motivate participation in crowdsourcing?***

In order to answer the main research question the following sub-questions are posed:

- *What motivates individual participation in crowdsourcing?*
- *How does social influence affect participation in crowdsourcing?*
- *What role does technology play in crowdsourcing?*
- *What role does the organisation play in crowdsourcing?*

This study seeks to extend an understanding of the role that is played by these factors in motivating crowd participants through an in-depth in-situ study within an organisational

context. This understanding will help when planning to outsource work to a crowdsourcing platform. An interpretive approach using a single case study is adopted.

1.4 Research Scope

This research focuses on a single case that mainly dealt with analysing social media data, about various companies sourced via the Internet, through crowd workers from different countries and different backgrounds. It is within this scope and context that the findings of the study are limited. Some of the findings of this study may not be applicable to different forms of crowdsourcing.

1.5 Dissertation Structure

The remainder of this dissertation is structured as follows. Chapter 2 reviews background literature on crowdsourcing and motivation to participate. The chapter also discusses related concepts and the theoretical underpinnings of the study.

Chapter 3 describes the methods used to conduct the research investigation for the single case study. The questions directed to the research participants were formulated from the main research question and its sub questions; there is an examination of data collection methods that were used, ethical considerations, an explanation of how analysis was done and how an evaluation of the analysis and findings was conducted.

Chapter 4 presents a full account of how data was collected for the study, as well as the data analysis. This chapter contains a detailed account of data analysis techniques and how themes are coded. An interpretation of emerging themes is discussed in terms of the relationships that they have with the relevant theories.

Chapter 5 concludes the study by discussing the research findings in relation to the research questions posed at the commencement of the study. It discusses the contributions made to crowdsourcing theory and the practical implications of these. Finally, the chapter discusses the limitations of the study and outlines areas for future research.

Chapter 2 – Literature Review

New technological accessibility and advances have seen growth in Internet communities as Internet usage has increased (Cummings et al., 2009). A good example is Facebook that has now become an integral vehicle for businesses and organisations, with over 1.5 billion active users (Wilson et al., 2012). Organisations are now targeting these online communities in order to outsource their work previously done by internal employees. Both Web 2.0 based tools and online collaborative technology provides a platform for the interaction that occurs in these online communities. This makes technology a key player in motivating participation in crowdsourcing. Technical systems enable collaboration and interaction between the crowd participants and the organisation seeking a solution. Additionally, these technologies do not exist in social or technological isolation but are rather socio-technical, suggesting that the social aspect has a significant role in motivating participation in crowdsourcing (Lamb et al., 2000).

The main focus of this chapter is to review the background literature, which aims to direct the focus of this study. Furthermore, the theoretical underpinnings of the study are discussed. The first part of the chapter defines crowdsourcing and discusses some concepts closely related to crowdsourcing while outlining their similarities and differences. This is followed by an analysis of studies focusing on the role played by motivation, drawing parallels between the related concepts. Different uses of crowdsourcing are discussed, elaborating on issues relating to the involvement of organisations, individuals, technology and society in motivating people to participate in crowdsourcing.

2.1 Crowdsourcing Defined

The term crowdsourcing is believed to have first been mentioned in an academic paper in 2008 (Brabham, 2008), but open call contests are not new. In the 18th century, an open call to the troubling longitudinal problem was extended to external experts by the British Navy. It was one of the most challenging scientific problems that saw prize money of £20, 000 being offered to anyone providing a reliable solution. Despite Sir Isaac Newton stating that an astronomical solution was the only feasible method, the ultimate solution came from an unknown carpenter and clockmaker who did not rely on astronomy (Spencer, 2012). This shows that crowdsourcing has been in existence long before the existence of the internet.

Although a new topic in research, crowdsourcing systems are being used in practice in different domains and contexts. As such, many definitions of crowdsourcing have been presented. Different researchers have come up with different definitions of what crowdsourcing is based on different practices and contexts. The first definition by Howe (2006) defined crowdsourcing as a way of taking a task that was previously done by an organisation's employees to a large unknown network of potential laborers in the form of an open call. The key aspect is that an open call connects a large network of potential laborers. Subsequently, Howe (2008) extended this definition to include the fact that it will only be crowdsourcing once the organisation fabricates it, mass produces it in high quantity, and sells it.

From Howe's definition three fundamentals can be drawn. Firstly, the crowdsourcing task must be resolvable by a large group. Access to a huge network of crowd workers that can work individually or collaboratively towards a solution is another key requirement for the requesting agent. The final requirement is that the requester must have the means to attract this huge network of crowd workers and engage them through an open call. This is usually accomplished through use of social software applications and Web 2.0 technologies (Saxton, Oh, & Kishore, 2013).

However, because of the different practices and contexts in which crowdsourcing has been applied, the following definition summarises all the different definitions that have been presented by different researchers (Estelles-Arolas & Gonzalez-Ladron-de-Guevara, 2012, p.197):

> *"Crowdsourcing is a type of participative online activity in which an individual, an institution, non-profit organisation, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage what the user has brought to the venture, whose form will depend on the type of activity undertaken."*

Although this definition is long, it differentiates crowdsourcing from other closely related concepts like outsourcing, open innovation, open source, collective intelligence and wisdom of crowds. Within this research context, the word 'user' also refers to crowd workers.

2.2 Components of a Crowdsourcing System

Crowdsourcing has generated a great deal of interest and has seen research in the different areas such as management (Schenk & Guittard, 2009), computer science (Doan et al., 2011) try to employ the potential within crowdsourcing. Research questions have been centred on specific use cases and individual aspects of crowdsourcing (Geiger et al., 2012). Such fragmentation of the research landscape makes establishing a comprehensive knowledge base and providing for the design of crowdsourcing solutions a challenge. It is against this backdrop that the systems theory was adopted in this study in an attempt to devise an integrated, socio-technical perspective that would identify crowdsourcing system components to be used to determine how the interaction between an organisation, an individual, technology and society affects their means of motivation to participate in crowdsourcing.

A system is a set of interrelated components working together to achieve an overall goal. Systems have a clearly defined boundary and exist as components or subsystems of other systems, also called the environment of the system. Systems that interact with their surroundings through an interface are open systems. A system can be of different forms ranging from technical to social or biological (Ackoff, 1971; Von Bertalanffy, 1972). Information Systems (IS) are subsystems of an organisational system that provide an organisation with information services needed for operations and management (Davis, 2000; Falkenberg et al., 1998; Heinrich et al., 2011). IS can be viewed in different ways; some researchers view IS as a purely technical system whereas other researchers view IS as socio-technical systems integrating both human and machine components. (Davis, 2000; Heinrich et al., 2011; Land, 1985) This latter group of researchers forms the majority.

As one particular socio-technical approach, the work system approach defines an IS as "a system in which human participants and or machines perform work (processes and activities) using information, technology and other resources to produce informational products and or services for internal or external customers" (Alter, 2008). The work system framework identifies four basic components among others that are involved in performing the work. The components are processes and activities, participants (humans), information and

technologies. From the systems theory and work system framework, crowdsourcing systems can also be viewed as socio-technical systems that provide informational products and services for internal or external customers by harnessing the diverse potential of large groups of people usually through the internet. The system can take various forms of a generic crowdsourcing process that relies primarily on contributions from human participants to transform existing or produce new information. Information technology is at the centre of this system enabling the process and, where possible, supporting the activities performed in the system. Figure 1 summarises the nature of the main elements in a crowdsourcing system.

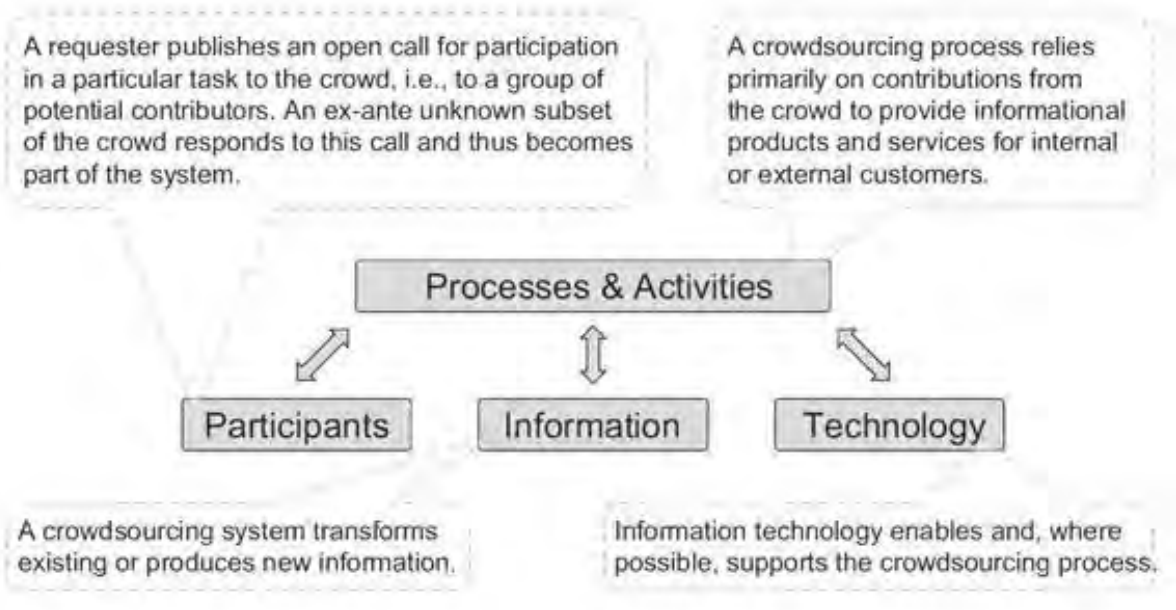

Figure 1 - Components of a Crowdsourcing System (Adapted from Geiger and Schader (2014))

There are two ways to perform crowdsourcing work. One way is having an intermediary organisation manage the crowd and processes on behalf of other organisations seeking solution; this is referred to as mediated crowdsourcing. The other way involves having the intermediary organisation as the organisation that will use the results from the crowd; this is called crowdsourcing without mediation, as shown in Figure 2. According to Zhao & Zhu (2012b), crowdsourcing consists of three main components:

1) The organisation that is seeking a solution (solution seeker) which is usually the one that initiates the process of crowdsourcing,
2) A large network of individual workers (the crowd or participants) which serves to provide solutions in response to a task, and

3) The intermediation platform (crowdsourcing platform) that acts as the link between solution seeker and the crowd.

Furthermore, Kittur et al. (2013) also argued that a crowdsourcing platform is vital in managing the large network of crowd workers, tasks and solution seekers. In this first instance, the core business of the organisation that is acting as the intermediary is to provide a link between the crowd and other organisations seeking solutions from the crowd. The core business of the intermediary company, in this case, is managing the crowd and organisations seeking external crowd participation and functioning as a market place. Crowdsourcing intermediaries act as platforms that network organisations and help them overcome skills shortage and a lack of resources through linking them with suitable counterparts while, at the same time, providing essential facilities for crowdsourcing activities (Zogaj et al., 2014). This study focuses on this setup of an intermediary organisation handling all the crowdsourcing management issues on behalf of the seeking organisation.

However, some organisations whose core business is not crowdsourcing can manage their own crowdsourcing work (internal crowdsourcing platform). An example of such a setup is Dell's IdeaStorm community which is used to harness ideas from its online users (Saxton et al., 2013). In this scenario, there are only two actors: the organisation seeking solutions and the crowd.

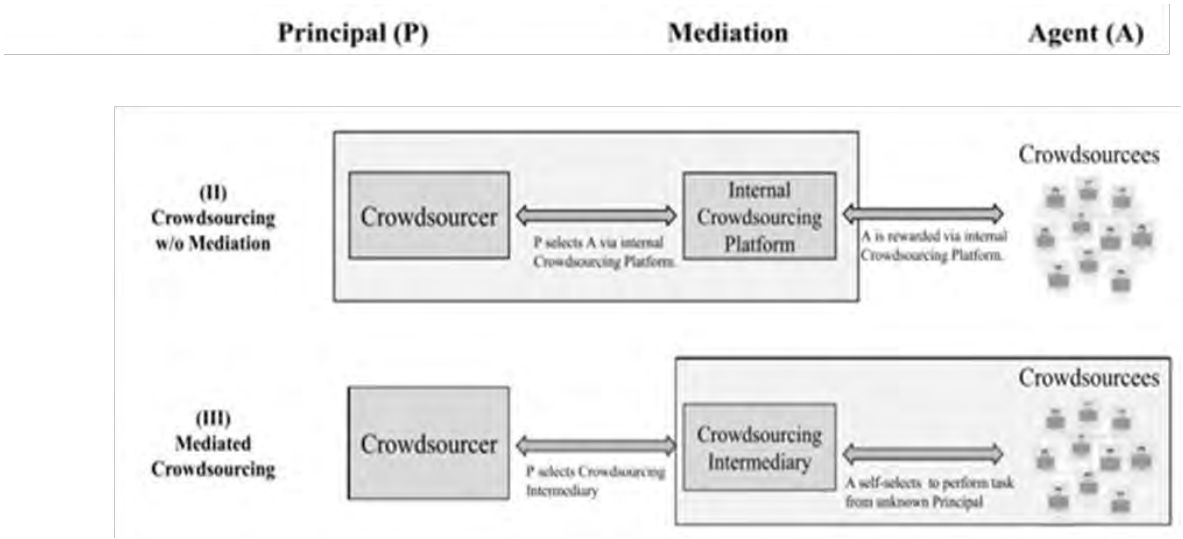

Figure 2 - Roles and Mediation in Crowdsourcing Initiatives (Zogaj et al., 2014)

Crowd workers may come from entirely different backgrounds, which creates the potential for a high level of diversity in the respective crowd. It is this unique scalability and diversity that,

if implemented correctly, ensures the considerable success of crowdsourcing systems for a variety of organisational functions.

The components that were identified in this study following the systems theory are technology, information, individual participants, processes, activities and the requester. The requester forms the organisation whilst processes and activities and participants form the social nature of a crowdsourcing system. The components were identified using systems theory and their role in motivating participation in crowdsourcing is investigated.

2.3 Related Concepts

According to Estelles-Arolas & Gonzalez-Ladron-deGuevara (2012), crowdsourcing is a developing phenomenon often used as a general term to refer to various forms of collaborative activity. This diversity leads to vagueness with associated internet based activities. This section will present some of the concepts commonly related to crowdsourcing and spell out their similarities together with their differences in order to understand where crowdsourcing fits and to lessen any conceptual ambiguities. The related concepts that will be discussed include outsourcing (Rouse, 2010), open source (Weber, 2004), open innovation (von Hippel, 2005), collective wisdom, user innovation and wisdom of crowds (Leimeister, 2010).

2.3.1 Outsourcing

Some researchers have defined crowdsourcing as a form of outsourcing and have drawn many similarities between the two. Outsourcing is defined as the decision by a company to contract a task to a third party vendor who, in exchange, provides and manages the task or service for financial gain over an agreed period of time (Kern, 1997).

In her study on trying to unpack and get a better understanding of outsourcing, Rouse (2010) has defined outsourcing as the act of assigning work or tasks to an external service provider. In this definition, the author further explains outsourcing as being categorised into three areas: simple outsourcing, outsourcing of IT services and outsourcing of business processes. From this, Rouse takes crowdsourcing as a particular form of outsourcing. This definition shows that although there are areas of similarities, there are other key differences that exist between the two and not all motivations from outsourcing are transferable to crowdsourcing. Additionally, outsourcing is generally dependent on business relations and monetary

incentives while crowdsourcing may have much more varied participant motivations and incentives.

One of the key differences between outsourcing and crowdsourcing is that, prior to rewarding or paying the person who has completed the task in crowdsourcing, that person is not known. Another key difference is that, as a result of crowd workers being in different geographical locations, crowdsourcing can deliver 24/7 service due to differences in time zone and is not tied to office hours whereas outsourcing workers adhere to set work hours.

2.3.2 Open Source

Both crowdsourcing and open source rely on the idea that knowledge is distributed. However, there are some significant differences between the two. Open source largely refers to software development where the source code of an application is made available to the public. Developers, mostly volunteers from different parts of the world, create code or solve software bugs in a collaborative manner. Although principles of open source are mainly used in the development of software, research is currently underway to determine how the same principles can be applied to other applications in other disciplines (Brabham, 2008). The main difference between crowdsourcing and open source is found in how an organisation makes use of intellectual property. In crowdsourcing, the intellectual property rights are transferred from the crowd to the organisation that issued the task whereas, in open source, open source licenses grant the rights to copy, change and redistribute to the public (Hetmank, 2014).

Sufficient crowd participation is vital for benefit realisation of a crowdsourcing project as compared to smaller, skilful participation of open source software (Warner, 2011).

2.3.3 Open Innovation

Open innovation has been defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation respectively” (Chesbrough, Vanhaverbeke, & West, 2006). The main focus of open innovation is that organisations should not only depend on internally generated knowledge but should also focus on external knowledge sources in order to support the organisations’ innovation processes. The difference here is that crowdsourcing can be applied to open innovation initiatives and other broader coverage and target areas but, most importantly, are not limited to these. Open innovation focuses exclusively on innovation processes of organisations (Zhao

& Zhu, 2012b). Crowdsourcing therefore can be viewed as a way of implementing outside-in knowledge flow with a large set of anonymous individuals as its knowledge provider.

2.3.4 Collective Intelligence and Wisdom of Crowds

Although crowdsourcing, wisdom of crowds and collective intelligence share the same assumption that knowledge is distributed, there are some key differences that distinguish these concepts. According to Leimeister (2010), collective intelligence is not a new concept and it has been used by scientists to explain occurrences where humans harmonise themselves to achieve a common goal. The term itself highlights the integral decision making abilities of large groups of people and is mostly used to describe scenarios where huge networks of individuals are better decision makers than a small group of individual experts (Surowiecki, 2004). The main difference between crowdsourcing and collective intelligence is that collective intelligence takes a more socially oriented view with group behaviour as its focus whereas crowdsourcing takes a more technology oriented view (Hetmank, 2014).

2.3.5 User Innovation

User innovation mainly involves innovation that is championed by pioneer users of a product who have precise needs and are willing to bear the costs and risks, such as users of a product who trigger modifications of weaknesses of a specific product (Schenk & Guittard, 2009). Common between crowdsourcing and user innovation is the fact that both make use of individuals outside the borders of its organisation. The main difference, though, between the two is that user innovation is user driven whereas crowdsourcing is organisation driven. User innovation, being user driven, usually involves users of the final product whilst crowdsourcing can involve anyone in the creation or consumption process (Schenk & Guittard, 2009).

Table 1 provides a summary of related concepts, how these concepts intersect and their distinguishing properties.

Table 1 - Intersecting and Distinguishing Properties of Related Concepts of Crowdsourcing (Hetmank, 2014)

Related Concept	Intersecting Property	Distinguishing Property
Outsourcing / Business Process Outsourcing (BPO)	Sourcing organisational tasks to external agents	Predetermined and known agents instead of an undefined large group of people

Open Source	Denotes a decentralised Production model based on a mostly geographically distributed workforce	Refers mainly to software development in which the intellectual property is usually not transferred to the company
Open Innovation	Uses external resources to improve the organisational innovativeness and efficiency	Focusses primarily on innovation processes
Collective Intelligence / Wisdom of Crowds	Shift from the individual to the collective	Takes a socially oriented view rather than a technically oriented view, based on social software and Web 2.0 technologies, and does not necessarily require an external crowd.
User Innovation	Make use of individuals outside the borders of its organisation	Primarily user driven by users of the final product.

As discussed in the research findings from the related concepts above, the findings cannot be directly transferred to crowdsourcing (Marjanovic, Fry, & Chataway, 2012; Zhao & Zhu, 2012b). However, it must be noted that crowdsourcing research evolved from some existing knowledge in these related concepts (Jain, 2010; Rouse, 2010).

A discussion of the concepts related to crowdsourcing provides not only a basic understanding of crowdsourcing in relation to other concepts but also ushers in a broader and more accurate understanding of crowdsourcing. In order to tap into the huge potential benefits of crowdsourcing, social, individual and technological aspects must be taken into account. Examples of these aspects include an understanding how crowd workers can be motivated to participate in crowdsourcing initiatives, how to support participation in crowdsourcing from the utilisation of technology such as social software and Web 2.0 technologies and from an organisational level, and how to align the crowdsourcing approach with organisational goals. In essence, the organisational, individual, technological and society related aspects will be investigated according to their roles in motivating participation in crowdsourcing initiatives and will be the focus of this study through different theoretical frameworks.

2.4 Research on Crowdsourcing

Crowdsourcing is being used across different industries and thus different implementations of crowdsourcing are used to suit different requirements. Different categories have been

identified to define the different kinds of crowdsourcing. Despite several applications in practice, the crowdsourcing concept has yet to receive intense attention (Brabham 2012; Marjanovic et al., 2012). As a research area, crowdsourcing is not yet part of the establishment (Marjanovic et al., 2012; Zhao & Zhu, 2012b).

Zhao and Zhu (2012b) conducted a study on the current status of crowdsourcing research and analysed 55 academic articles. They reported in their study that crowdsourcing can be better understood by examining both its contexts and functions. Context is defined as being either business context or non-business context while function focuses on the part of the product or service that is being crowdsourced (Vukovic, 2009). The business context aspect involves crowd work for profit making organisations whereas the non-profit context includes organisations such as research and development, public libraries or citizen science (Savage, 2012). Function is further categorised by the nature and granularity of the task (Rouse, 2010).

2.4.1 Function or Application Focus

The function category for crowdsourcing focuses on the different applications, situations, scenarios and purposes in which crowdsourcing is applied. Several researchers have written about the different applications of crowdsourcing in different disciplines such as marketing (Whitla, 2009) and public health (Brabham et al., 2014). In these separate studies, each researcher demonstrates how crowdsourcing has been successfully implemented in a specific domain. At a high level, research has defined crowdsourcing as either being for profit making business (Leimeister, Huber, Bretschneider, & Krcmar, 2009; Rouse, 2010; Whitla, 2009) or for non-profit making purposes (Brabham 2008; 2010). Crowdsourcing in a profit making business would include work where crowd workers are paid, usually financially, and the seeking organisation is also financially gaining from the contributions coming from the crowd. Crowdsourcing in a non-profit organisation would include crowdsourcing work where there are no financial incentives for crowd workers. This includes such projects as Wikipedia.

Another group of researchers defines the function category of crowdsourcing as either being competitive in nature where individuals participate as individuals or as small teams that compete against each other. Such contests can be idea generation competitions where individuals compete to submit the winning ideas or designs (Brabham, 2008; Terwiesch & Xu, 2008). On the other hand, other researchers view the function of crowdsourcing as being collaborative in nature. In this instance, participants share thoughts and contributions building

on the efforts of one another in such projects as Wikipedia (Howe, 2006; Leimeister, 2010; Vukovic, 2009).

2.4.2 System Focus

System studies focus on viewing crowdsourcing as a system that functions as a result of its individual components that are working towards a specific goal. This system comprises of interdependent components that rely on each other through processing of input tasks through various transformations producing different output. The input in this case will be the problem or task at hand which is at the heart of crowdsourcing (Howe, 2008). The transformations that involve the processing of the tasks include all the actions and activities undertaken by all the players or actors in a crowdsourcing initiative to solve a task or achieve a goal. The action could include the interactions between the contributions which could be collaborative or competitive in nature, as in research and development projects. The process also involves such tasks as determination of the best solution from the array of submissions by the contributors; a good example of this being IBM's innovation jam (Bjelland & Wood, 2008) which seeks to get collaborative input from its pool of users.

Another definition of a crowdsourcing system describes it as comprising of three main components. These components include, first, the organisation that is seeking a solution from the crowd and is set to benefit from the initiative, and is sometimes referred to as the initiator. Secondly, the crowdsourcing system consists of the contributors or participants prepared to spare their time and effort solving tasks. The last of these components is an intermediation platform which acts as the link between the crowd and the seeking organisation. Its role is to facilitate the relationship between the initiating organisation and the crowd, and to perform tasks such as aggregation of submissions, providing payments contributing individuals and handling of administration work (Zhao & Zhu, 2012b). There have been other studies that have looked at crowdsourcing as either an enterprise or public domain initiative.
This study looks at crowdsourcing as a public domain initiative.

2.4.3 Task Types

The nature of a task can be used as another way of classifying crowd work, Rouse (2010) defining the nature of crowdsourcing work as falling into three categories namely: simple, creative and complex tasks. Simple tasks in respect of crowd work are of relative low complexity and does not require specialised skills or education to be tackled. This includes

tasks like copying and pasting pictures or text, classifying images of vehicles as either righthanded or left-handed, data collection or rating (Parvanta, Roth, & Keller, 2013). The creative task category is defined as having tasks that are neither complex nor simple and require some skill, such as logo design or t-shirt design. The last class is defined as complex and involves specialised skills and education in sophisticated domains like software development or aircraft engineering, and requires deep knowledge and understanding in the specific areas. Likewise Schenk & Guittard (2009), also defined the same groups based on the nature of crowd work as another way of classification similar to Rouse (2010).

This study falls into the category of profit making business where crowd workers are paid financially for their contributions and the tasks are neither complex nor simple. Even though there is a great deal of volunteer crowd work on offer, research studies show that there will always be some tasks from society that are not applicable to volunteering and citizen science. This will see the demand for paid crowd work surpassing voluntary crowd work (Kittur et al., 2013). Moreover, an understanding of what can sustain motivation in paid crowd work on online platforms is vital.

2.5 Motivation in Crowdsourcing

"To be motivated" is defined as 'to be moved to do something' by Ryan and Deci (2000, p. 54). Motivation has been studied in the past and has for a long time been a central research topic in different disciplines including psychology (Ryan & Deci, 2000), economics, and organisational behaviour (Vincent, Herzberg, Mausner, & Snyderman, 1960). Two types of motivation have been described in the literature as extrinsic and intrinsic (Leimeister et al., 2009; Ryan & Deci, 2000). In its basic form, intrinsic motivation refers to doing something because it is inherently interesting or enjoyable; for example, doing something just for fun or for the challenge it presents. Extrinsic motivation, on the contrary, involves doing something in order to achieve some separable outcome; for example, doing something for a financial reward or for fame. Extrinsic motivation provides an incentive that the actual task being performed does not provide. Additionally, extrinsic motivation can take different forms like a financial incentive, a job offer or a promotion in which the drive to act on a task lies completely external to the task itself (Ryan & Deci, 2000).

Participants in crowdsourcing may participate for a variety of reasons (Brabham, 2008). Different researchers have conducted a number of studies to understand the motivation

behind participation in crowdsourcing projects and to get insights on motivation measured in different contexts such as for innovation contests (Zheng, Li, & Hou, 2011), idea competitions (Leimeister et al., 2009), citizen science, financial incentives (Kaufmann et al., 2011) and for business purposes (Brabham, 2010). Several studies have come up with reasons why users are motivated to participate. These include participation for money, career advancement, recognition among peers, meeting new people, fun, expression of oneself, enhancement of skills and an opportunity to learn new skills.

Research on motivation in crowdsourcing has shown mixed results on the issue of intrinsic and extrinsic motivation. In a study to investigate the interaction between intrinsic and extrinsic motivators, an experiment showed that an increase of extrinsic motivators in the form of paying more financial rewards did not result in more accurate performance. However, the presence of intrinsic motivators leads to better participant accuracy. Additionally, from the study, the interaction between intrinsic and extrinsic motivators seems to be such that the best work quality is achieved when intrinsic motivation is higher than extrinsic motivation (Rogstadius et al., 2011). It becomes evident that although both intrinsic and extrinsic motivations are important, an increase of extrinsic motivation can have a negative effect on the quality of output. Another similar study by Borst and Van den Ende (2010) shows that participants with high intrinsic and low extrinsic motivation show substantially better performance than participants who are highly intrinsically and extrinsically motivated. In the study, intrinsic motives of pleasure and personal challenge, as well as extrinsic motives of desire for compensation and recognition were identified as being instrumental (Borst & Van den Ende, 2010).

Whilst some researchers argue that an increase in extrinsic motivators may only increase the rate of performing a task and have a negative effect on the quality of work (Borst & Van den Ende, 2010; Rogstadius et al., 2011), other researchers argue that extrinsic motivators do not produce any positive effects at all in any circumstances (Hossain, 2012). Furthermore, Zheng et al. (2011) in a study on user motivation in crowdsourcing revealed that participants did not value financial rewards as much as reputation and recognition whilst other studies showed that financial rewards are a key motivator (Brabham, 2009; Leimeister et al., 2009).

Other than looking at motivation from the two perspectives of intrinsic and extrinsic motivation, other researchers have come up with different motivational constructs. These

include social (Batson, Ahmad, & Tsang, 2002), one's internal fulfilment, economic and technological (Bonaccorsi, Giannangeli, & Rossi, 2006).

2.6 A Broader Perspective on Motivation in Crowdsourcing

The framework of Malone et al. (2010) presents a view of crowdsourcing through four dimensions: who, what, how, why, and the relationships that exist between them (Figure 3). The framework addresses questions such as:

1. Who is performing the crowdsourcing task? This addresses and identifies the actor performing the task. This can be an individual or problem owner or the crowd.
2. Why are they doing it? This addresses the motivation for participation by the participants and any incentives attached to the tasks.
3. How is the task performed? This addresses how the crowd will perform the tasks, whether individually or as a group in a collaborative manner.
4. What about the ownership and what is being accomplished? The outcome of the crowdsourcing project and transfer of intellectual property.

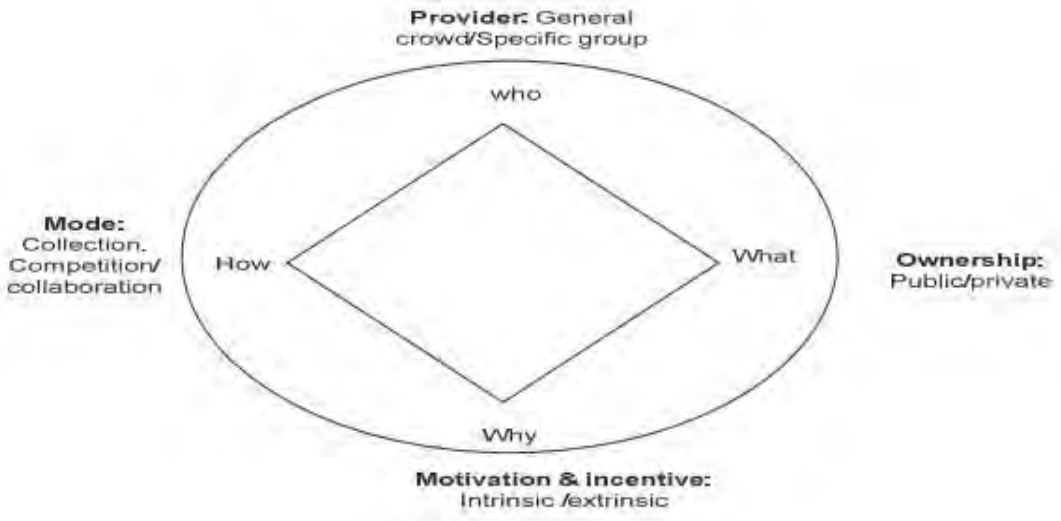

Figure 3 - Fundamental Dimensions in Crowdsourcing (Malone, Laubacher, & Dellarocas, 2010)

These questions address a number of issues regarding crowdsourcing. Table 2 provides examples of studies that focused on the different areas while specifically looking at the who, why, how and what questions.

Table 2 - Summary on Who-Why-How-What (Adapted from Malone et al. (2010))

Dimension	Attribute	Example Attribute	Example Source
Who	Demographics	Age, country, general/specific	(Borst & Van den Ende, 2010); (Doan et al., 2011); (Geiger, Rosemann, & Fielt, 2011)
What	Level of expertise	Novice, expert	(Doan et al., 2011); (Leimeister et al., 2009); (Howe, 2008)
	Domain of the task	Image labelling, transcription	
	Nature of task	Recognition, generation	
	Output	Sequence of protein folds	
	Ownership	Public/Private goods	
How	Incentives	Contest prize for best task	(Lu, Singh, & Srinivasan, 2011);(Brabham, 2010); (Kittur, Chi, & Suh, 2008)
	Aggregation method	Collection, competition, collaboration	
	Evaluation method	Vote, expert opinion	
	Visibility outputs	Opaque, transparent	
	Communication	Mediated through the tasks	
	Levels of hierarchy	Single, multiple	
	Workflow	Evaluation following collection	
Why	Requester's motivation	Profit, knowledge	(Kaufmann et al., 2011); (Leimeister et al., 2009) (Müller, Thoring, & Oostinga, 2010);(Ryan & Deci, 2000)

The focus of this study is on the 'why block' that seeks to address issues of motivation to participate and incentive mechanisms in paid crowdsourcing. In this study, crowdsourcing has been established as a system of components (organisational, individual, technical and social) that do not exist in isolation; the study seeks to understand the role played by each of the components in motivating crowd workers to participate in crowdsourcing. This system of components was further explained by breaking down the different areas and aspects of particular interest and future research interest. Zhao & Zhu (2012b) defined a distribution that also includes the motivation of participants as one of the key research areas.

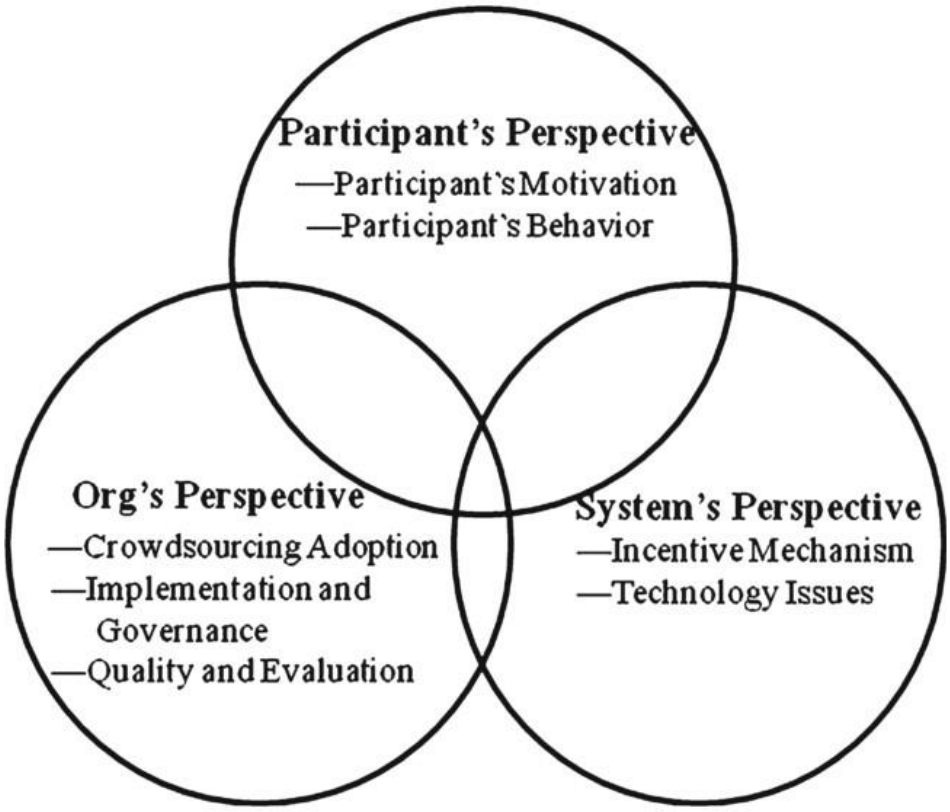

Figure 4 - Research Opportunities in Crowdsourcing for IS (Adapted from Zhao & Zhu, (2012a))

The following sections will look into the organisational, individual, technical and social factors according to the classification by Zhao and Zhu (2012b) in previous research work.

2.6.1 Individual or Participant Perspective

Successful crowdsourcing projects largely depend on mass participation from the crowd and, hence, the participants group forms a crucial part of crowdsourcing (Brabham, 2008; Zhao & Zhu, 2012). A number of studies have been conducted in different contexts to understand the factors that may lead participants into taking part in crowdsourcing work and these studies have been conducted in open source software, outsourcing and user generated content, and across many disciplines. To determine the factors, self-reports in surveys and interviews as well as observations have been used in trying to gain insights on how and why participants use specific media (Brabham, 2012). Although motivators for open source software and outsourcing can be helpful, they cannot be entirely adopted in crowdsourcing processes. However, crowdsourcing being similar in design and function, it can be expected that participants will be motivated by a wide range of motivators. This is because crowdsourcing varies in nature as determined by the context and function, and it has been applied to, as well

as the complexity of the task at hand. It becomes necessary to study motivators for participants in different contexts (Zhao & Zhu, 2012a).

For an individual participating in crowdsourcing, several motivations to participate have been noted in several studies. They range from personal enjoyment, fun, developing skills, earning money, interaction with others, and a sense of belonging to a particular group (Lakhani & Wolf, 2005; Nov, Naaman, & Ye, 2010; Tausczik & Pennebaker, 2012). The motivations also vary depending in the context of the task being performed.

There are many reasons why individuals participate in crowdsourcing projects, yet there is no single motivator that can be aligned to different crowdsourcing applications. Some motivators, however are common and appear in a number of different applications (Brabham, 2012a). Some of the common motivators include monetary rewards, fun, meeting new people, learning purposes, social reasons, or expressing oneself. With motivators being different in different crowdsourcing contexts, the right mix of incentives aligned with the participant's expectation can yield maximum output from the crowd (Leimeister et al., 2009).

2.6.2 Organisational Perspective

There are a number of benefits that can be realised from the use of crowdsourcing for organisations if the right mix of motivations is employed. Costs' saving is one of the key benefits of crowdsourcing. With a large pool of potential online workers at hand, huge amounts of work can be completed in a very short period of time at a relatively low cost and, in some cases, at no cost at all when participation is voluntary and no monetary rewards are offered for services rendered (Schenk & Guittard, 2009). Because participants are located in different parts of the world and in different time zones, solutions can be provided at any time without necessarily sticking to one time zone, crowdsourcing is a solution for work that needs to be delivered in a short period of time.

Besides all these benefits, there are a couple of challenges that organisations using crowdsourcing have to be aware of and handle correctly. A group of researchers (Silberman, Irani, Tomlinson, & Ross, 2010) noted that because crowd workers are unlikely to be seen by or to communicate with each other and the organisation they serve, the potential of their motivation being lowered is heightened. This lowered motivation consequently affects the output from crowdsourcing and thus an understanding of what it is that motivates these

workers is key to the achievement of a satisfactory output and pleasing results. Furthermore, while some people see opportunities for an income being created through crowd work, others are concerned about the exploitation that has come with this phenomenon. For example, the average hourly wage being offered on platforms like Mechanical Turk is US$2 without any other benefits, worker protection or legal protection of the job. These wages are regarded by some as being extremely low and exploitative (Ipeirotis, 2010). This again poses a challenge to organisations using crowdsourcing: to be able to make and keep their crowd workers happy and motivated with the gains they get from their participation. It is important to note that if the design of the incentive model is inadequate, the results that accrue from a crowdsourcing project will be poor.

From this discussion, it is evident that the rewards from crowdsourcing for an organisation can diminish if the right mix of motivators is not applied correctly. It therefore, means the organisation plays a crucial role in ensuring the success of a crowdsourcing project by ensuring that the goals of the organisation align with the motivations and goals of the crowd workers. The purpose of this study and the work of other researchers is to understand the role played by an organisation in ensuring the success of crowdsourcing. The findings from this study will help to achieve this.

2.6.3 Technical and Social Perspective

Systems theory was adopted in this study to come up with an integrated, socio-technical perspective aimed at the crowdsourcing system components that will be used to determine their role and interaction in motivating crowdsourcing participation. The components identified are processes and activities, participants (humans), information and technologies. Information technology is at the centre of this system, enabling the process and, where possible, supporting the activities performed in the system (Ackoff, 1971; Von Bertalanffy, 1972). The communication between the seeking organisation and the crowd through the intermediating platform is often achieved through various online forms such as email, face to face online communication, a customised website, a social network or any other online tools that support collaboration (Hossain, 2012).

With technology enabling communication between the seeking organisation and the pool of crowd workers, design of the technology, ease of use and other design elements become very important and these elements need to be adjustable to the needs of the users in order to keep

them motivated to use the technology (Walter & Back, 2010). Within the design of the technology platform, there must be a mix of various motivational elements that keep the users excited about using the technology platform (Pan & Blevis, 2011). Leimester et al. (2009) outlined different incentives which include prizes, profit options, and career options as some aspects of a crowdsourcing technology mechanism that can be used to keep crowd workers motivated.

2.7 Conclusions

It is worth noting that besides monetary incentives, as one of the main drivers of participation in crowdsourcing, there are other motivational factors that are involved depending on the tasks and the context. The studies that have been examined above on crowdsourcing intermediary platforms show that a lot of focus has been on individual motivational drivers that drive crowd workers into participating. Social motivational drivers were also addressed to some extent. However, it is evident that technology mediated motivational drivers have not been addressed fully. Motivational studies have also been studied in isolation where a study would only focus on the individual motivation drivers or organisational motivational drivers.

Existing literature has shown that the crowdsourcing platforms face huge challenges in trying to maintain an adequate flow of contributions and ideas from the crowd. This calls for an understanding of what motivates the crowd, for such knowledge will help designers of crowdsourcing platforms in planning incentive strategies. There is a need for more studies on real world cases to build additional theory and insights on the motivational drivers in crowdsourcing (Sharma, 2010).

Chapter 3 – Research Design

Within research there is a wide range of traditions and research paradigms with different underlying philosophies; the same applies to the IS research domain. With many varying research traditions and paradigms available, selecting an appropriate research paradigm becomes crucial for any study. It is the main purpose of this chapter to present the underlying philosophical, epistemological, methodological and ontological positions adopted and why they were adopted in this study.

This chapter includes: establishing the questions that were directed to the research participants, underlying philosophical, epistemological, ontological position, examination of data collection methods used including ethical considerations for this study, an explanation of how analysis work was done, and how evaluation of the analysis and findings was conducted.

3.1 Research Ontology and Epistemology

Ontology is concerned with the nature of reality and assumptions about the way the world functions (Saunders, Lewis, & Thornhill, 2009). Epistemology refers to what constitutes acceptable knowledge in the field of study. Considerations on looking at data collection and analysis of facts or feelings and attitudes have to be considered and a decision made. Epistemological considerations affect the understanding of the world from a research point of view (Saunders et al., 2009). Epistemology entails determining what constitutes valid knowledge and how it can be obtained. Ontological viewpoints have been classified into three main epistemologies by Orlikowski and Baroudi (1991): positivist (also known as objectivism), interpretive (also known as subjectivism) and critical research.

A positivist stance is based on the main assumption that the truth is objective and is characterised by distinct measureable properties that are independent of the observer. This positivist stance has been dominant in IS research (Goles & Hirschheim, 2000). It is also worth noting that, besides positivist research being a dominant research tradition in IS, interpretivist approaches have been widely accepted in the IS domain and has made valuable contributions to IS theory and practice (Walsham, 1995).

The interpretive approach is based on the main assumption that people create and associate their own 'truth' or subjective meanings as they interact with the world around them. It is through interpretive studies that researchers seek to understand a concept by accessing meaning that participants assign to them (Burrell & Morgan, 1982). Furthermore, interpretive research is explained as research where evidence of nondeterministic perspective is found, and the purpose of the research is to increase understanding of the phenomenon within cultural and contextual situations where the phenomenon of interest is examined in its natural setting and from the perspective of the participants and where the researchers do not impose their outsiders' prior understanding on the situation (Orlikowski & Baroudi, 1991). These two perspectives, positivist and interpretive, seek to either predict or further explain the status quo whereas critical research seeks to challenge and critique the status quo through revealing of what are believed to be entrenched, structural contradictions within social systems, thereby transforming these alienating and restraining social conditions.

This study takes its point of reference in the position of interpretivism and subjectivism as the researcher acknowledges that the world is socially constructed and that individuals understand the world differently. This assists in understanding the participants' subjective realities that are locally and specifically constructed when humans interact and take action. The social reality is based on the peoples' definitions (Andrade, 2009).

When knowledge of reality is socially constructed, for example, through shared meaning, language, documents and other artefacts, it is categorised as being interpretive (Klein & Myers, 1999). The aim of the study is to investigate the phenomenon of motivation in crowdsourcing projects, which is unique and complex. Motivation affects participation and involves opinions, behaviours and attitudes. Hence, the study adopted an interpretive research philosophy. Furthermore, in crowdsourcing there is a network of individuals from diverse backgrounds and geographic locations and, as such, each individual's understanding of motivation can be different from another. The study investigated meaning which must be interpreted in order to understand behaviours and opinions.

In an interpretive study, the research begins by assuming that access to reality is only through social constructions such as language, consciousness and shared meanings (Orlikowski &

Baroudi, 1991). Interpretive methods permit participants to utilise their individual words and images, and to draw on their own perceptions and involvements. The main effort is to describe, interpret, analyse and comprehend the social world from the participants' perspective, and any rigid prior researcher-imposed formulations of structure, function, purpose and attribution are resisted (Glaser & Strauss, 1967). In order to achieve this primary goal, qualitative research was conducted in natural settings and used data in the form of words rather than numbers (Kaplan & Maxwell, 2005). The research data was used to inductively establish emergent themes which helped in building theory and deeper understanding of motivation in crowdsourcing.

3.2 Research Approach

More than one method exists for primary data collection. Quantitative methods seek to generate scientific knowledge through causal relationships between a limited set of variables and a statistically tested hypothesis. Numbers are assigned to observations through counting and measuring things or objects (McCracken, 1988). Quantitative methods offer limited contact with research participants which makes it appropriate when investigating less personal and sensitive subjects than those addressed in this study (Walsham, 2006).

This study investigated relatively personal subjects like motivation, beliefs and perceptions; qualitative methods offer the best method to study these subjects. Qualitative research methods help researchers understand people and the social and cultural contexts within which they live (Klein & Myers, 1999). Studies where researchers seek to understand experiences and relationships are more inclined to adopt a qualitative approach (Cresswell, 2007).

Qualitative methods and interpretive research have potential in the exploration of understanding and uncovering unique insights, accessing complex details, thought process and emotions (Orlikowski & Baroudi, 1991). It must be noted that qualitative research does not automatically imply interpretive research (Klein & Myers, 1999). The subject of this research and its epistemological underpinnings align it with an exploratory qualitative

approach because the focus is on developing new understandings and providing rich insights. It was deemed to best suit the present research as the flexibility of qualitative research permits one to follow leads that emerge along the journey and to make inductive interpretations of data. Hence, the qualitative method is suitable for this study and has been chosen as the appropriate research method.

3.3 Research Strategy

This study seeks to uncover new insights regarding motivations. The main aim of the study was to get rich insight data surrounding a specific research issue and to capture the contextual complexity (Benbasat, Goldstein, & Mead, 1987). The study is exploratory in nature using a single case study. This exploratory study entails studying the social phenomena of motivation in crowdsourcing with very little prior expectations to develop explanations of the phenomena due to the fragmented research landscape on crowdsourcing. The exploratory study lays the ground work for future studies and assists in understanding motivation in crowdsourcing. The case study enables investigation of a phenomenon with a real life context within a short timeline using a cross sectional time horizon (Walsham, 2006). Exploration ensured that the study was not limited by a number of variables but had flexibility to allow uncovering new knowledge beyond the theoretical framework set out.

3.3.1 Case Study Research

A range of meaning oriented methodologies preferred by most interpretive researchers includes interviewing, ethnography, participant observation and case study. Of these, case study is one of the most common qualitative research methodologies (Pozzebon, 2004). Since IS is the study of information systems in organisations, case study research is well suited to IS study and has been recommended for conducting in-depth interpretive research which focuses on human interpretation and meanings (Walsham, 1995). Case studies can be used to achieve a number of objectives such as providing description, testing theory or generating theory (Eisenhardt, 1989). Although case studies provide an in depth understanding of a phenomenon, they do lack breadth and confine research to just a few organisations (Larsen & Myers, 1999). However, it is worth noting that by only focusing on a few organisations, researchers can focus on understanding a phenomena through the understanding shared by the participants of the phenomena itself (Orlikowski & Baroudi, 1991). Additionally case

studies are restricted to the settings observed but controlled observations and deductions made from such studies do not deprive itself from formal logic (Lee, 1989).

A natural setting, contemporary event, manipulation requirement and existence of a theoretical base have been identified by Benbasat (1987) as the pillars for consideration when deciding appropriateness of case study method for a study. This study sought to understand the extent to which social, technology, the individual and the organisation affect motivation to participate in crowdsourcing work. This means that context is vital and, thus, the study was conducted within its natural setting. A case study was chosen as the most appropriate research method because, looking at other methods like surveys, it is limited to understanding context yet surveys cannot handle multiple sources of data (Yin, 2009). Experimentation would not be suitable for this study as the aim of this study was providing an in-depth understanding of crowdsourcing phenomena where there is insufficient availability of variables for testing. This study did not aim for organisational intervention or to control a phenomenon; hence, action research was not a suitable research method for this study. This further strengthens the use of a case study research method for this study and gives it a distinctive advantage over other research methods.

3.3.2 Brief of the Case Site

Due to issues regarding confidentiality, accessibility, cost and suitability, the choice of an appropriate case site is not easy (Patton, 2002). The case study chosen for this study is a crowdsourcing intermediary organisation and, due to confidentiality issues, will be referred to as Platform X. Platform X is a South African company with their main office in Cape Town and a sub office in Johannesburg, South Africa.

Crowdsourcing can be used to engage the crowd to aid computer algorithms in dealing with issues of cultures, sarcasm, slang or native languages. As social media and online space is becoming influential in businesses, it has become vital for companies to keep track of what is being said about their services and products. This has become difficult to achieve as huge volumes of information are now available to scan through. As such, many companies do not have enough resources and capabilities to achieve this. Platform X provides a service to perform this task on behalf of many companies.

As advanced as technology has become, Platform X admits that some of their machine learning algorithms are not capable of predicting things like sarcasm and this shortcoming in technology saw the birth of the crowd. Platform X specialises in monitoring online conversations on social platforms such as Twitter, Facebook, news articles, blog posts and listings on directory sources such as Gumtree or property listings. One of the metrics of measure is for the crowd to determine whether, for example, a tweet is bad, neutral, not relevant, or good (sentiment analysis).

The main objective for Platform X is to monitor what is being said about their clients (who approach them) in the online space and provide them with insights that they can use in improving their services and products:

1. A brief on how the process works is given here;
2. Mentions (tweets, Facebook posts, press articles, blog articles, etc.) are collected by Platform X from cyberspace.
3. Posts that cannot be verified by machine learning algorithms are sent to the crowd. When a mention is sent to the crowd, it is sent to two separate raters who independently rate the mention.
4. If the two raters agree on all the meta data fields associated with a mention, the meta data fields are updated and the mention is then sent back to Platform X.
5. If the two raters disagree (on at least one of the fields), the mention is then sent to a third, independent rater to break the deadlock.
6. The mention will then be updated according to who the third rater agrees with.
7. Raters also have the option of appealing a mention that was marked as incorrect if they feel that the other raters were mistaken.

This case site provides a crowdsourcing platform where participants engage in rating what the media is saying about different brands and also provides an ideal setting for the objectives of this study. Single case studies play an important role in theory generation (Benbasat et al., 1987). Platform X is relevant for this study and was sufficient to satisfy the objectives of the study because it provides a natural setting to get insights and understanding of the role of

social, technology, individual and the organisation in motivating participation in crowdsourcing.

3.4 Data Collection Method

Theory can be used at different stages in a study and one instance where it can be used is as an initial guide to design an instrument for data collection (Walsham, 2006). This study adopted this approach and Appendix A shows the research instrument that was used to guide exploration and collection of data from research participants through online semistructured interviews that were conducted using an Instant Messaging (IM) program called Skype. The research instrument contains sensitising concepts which act as a starting point for the qualitative study (Bowen, 2006). Sensitising concepts form part of constructs that help in analysis of data and, most importantly, provide research participants with a general sense of reference which guides particular attention to certain events, occurrences and how to structure questions to be asked during the interviews regarding any specific area, although an open mind was maintained during the interviewing process (Charmaz, 2006).

Drawn from the notion that human beings make sense of the world around them through their everyday experiences, semi-structured interviews have been chosen as a means of getting the research participants' points of view and their individual perspectives (Klein & Myers, 1999). This was conducted on the basis of an interview guide developed from the literature reviewed. The order of questioning was not fixed and the type of questions catered for greater flexibility than in the case of a structured interview. A semi-structured interview is not as closed as a survey. This aids in uncovering the meaning of people's experiences through facilitation of rich descriptions. The interviews were structured in a way that the first part had general questions on motivation to get the interview started smoothly and got into more focused questions on motivation as had been revealed in literature (Yin, 2009).

Studying online platforms requires following the community's norms. Online studies should not burden participants in areas like violating an online community's expectations (Swoboda, Muhlberger, Weitkunat, & Schneeweiss, 1997) and intruding on their sense of privacy (Wright, 2005). Interviews form part of most interpretive studies as researchers seek to gather an understanding and interpretation of research participants (Walsham, 2006).

Studies exploring Internet based activity should be conducted online since research participants are already at ease with online communication (Kazmer & Xie, 2008).

Furthermore, given the nature of the phenomena being studied (crowdsourcing), most of its users are geographically dispersed making face to face interviews very costly. Online interviewing is receiving scholarly treatment with a number of studies, for example (AlSaggaf & Williamson, 2004; Hine, 2001; Kazmer & Xie, 2008; O'Connor & Madge, 2000; Opdenakker, 2006; Stieger & Reips, 2008). Critics argue that affective data, emotions or sentiments may be lost that may have existed in face-to-face interviews.

Conducting online interviews using instant messenger (IM) programs with voice chat capabilities was chosen as the most appropriate way to collect data. Since the phenomena being studied were Internet related activities, online interviews through an IM program preserved the contextual naturalness which was key in this kind of study. This contextual naturalness meant the research participant would communicate in a language and way that they do in their everyday interactions (James & Busher, 2012). This method provided an open-ended, flexible and in-depth way of getting insights and from the experience of the research participants.

Although research participants had a choice of their preferred chat program (and whether they wanted a voice chat or instant messaging only), the default IM program used was Skype. This was to ensure that research participants were as comfortable as possible. Skype as a free communication service is used by millions of users across the globe and provides the opportunity of voice calling, video calling, messaging, sharing of screens and sharing of files with people regardless of their geographical location. Not only does Skype offer family or friend communication but it also offers opportunities for research and education. Skype offers a novel interview method for the research and education sector to collect qualitative data (Deakin & Wakefield, 2014).

Participants can still express themselves in IM interviews through online conventions such as emoticons, font changes, italics, bolding and other different ways (Kazmer & Xie, 2008). However, the anonymity afforded by the Internet could even encourage participants to feel less inhibited and express themselves more honestly, emotionally and directly (Suler, 2004).

The use of online interviewing programs were also necessitated by the fact that crowd workers who are the research participants are geographically in different corners of the world which makes face to face interviews near impossible.

In addition to interviews, data from documents such as user manuals and data logs in the system were also used for the study.

3.5 Sampling and Participants Selection

Purposive sampling was used to identify the target sample for interviewing. Purposive sampling is widely used in qualitative research and several options exist which include criterion sampling, snowball sampling, theoretical sampling and convenience sampling (Patton, 2002). This study used criterion sampling (explained below) based on the level of contribution to the platform and to a lesser extent snowball sampling. Snowball sampling was used when some research participants recommended some participants as being key research participants for the study. Three groups were formed based on the number of tasks completed in a month, frequency of use and how long they had been using the system. The top ten crowd workers were targeted for interviews which included those participants who have been using the platform for a long time and were frequent users. The middle five ranked crowd workers and the five least contributing crowd workers were included in the target sample. The middle tier included those who have recently joined the platform and were frequently using it. The bottom tier included participants who joined and used the platform initially but were now infrequent users. This provided a mix of participants at different levels of participation to help understand what motivates them to participate. Guest (2006) found that theme saturation in qualitative interviewing typically occurs within the first 12 interviews and as such the researcher believes the targeted sample will be sufficient enough to provide the researcher with the answers to the research question.

Table 3 - Summary of Research Participants

Tier	Description	Targeted	Actual Respondents
Upper	Used platform for a while, frequent users and top performers.	10	7
Middle	New frequent users	5	3
Lower	Infrequent users	5	3

3.6 Validity and Reliability

In order to evaluate the research findings, some qualitative methods, literature and experimentation must be employed through a technique called triangulation. This is to overcome weaknesses or intrinsic biases that may come with qualitative methods where data is derived from a small number of observations. Validity in a qualitative study handles the subjective matter of dealing with data collection and analysis by the researcher.

Triangulation is a method by which qualitative researchers seek to check and establish the validity of their research question from multiple perspectives. Several ways are used to establish this; some of the common ones include data, literature reviews and intuition. Using data about the same subject collected from data sources could be one way of performing strengthening cross validation (Kaplan & Maxwell, 2005). Theoretical triangulation will also require a search through established literature for references that both support and not support research findings. Triangulation was used to check for validity and reliability. In order to ensure validity, triangulation was done through having second sessions with some of the research participants in order to verify their responses. Another source of data was used by checking on the individual statistics collected over time on the case study's main website.

A researcher can be involved in a study at different levels which can range from being neutral to being a full action researcher (Walsham, 2006). Depending on the type of study, a researcher could take up a more involved role in order to get access to the people and/or data. In this study, the researcher took an outsider researcher role since there was no personal stake in interpretation and outcome. However, in order to understand the language and culture of the research participants, the researcher joined and used the platform that was used as the case site for about 6 months. This was to make sure that the researcher fully understood how the platform worked. It is also worth noting that this prior exposure to the platform did not have an impact on the results of the study as it only aided the progression of the study.

3.7 Data Analysis

The motivational categories identified in the literature were used in identification of themes and relationships. NVivo (Qsrinternational.com, 2016) was used for textual content analysis

using coding methods proposed by Saldana (2009). Iterative thematic data analysis techniques were applied. New themes not revealed by the literature were looked out for. A feature for research aimed at generating theory is frequent overlap between data collection and analysis (Eisenhardt, 1989). This was a process that was followed in this study and, as such, data analysis was an ongoing process which started as soon as data became available and continued throughout the rest of the study.

Data analysis for this qualitative study was based on Creswell's (2009) model following these steps:

1. Arranging and organising data for analysis.
2. Listening through the interviews.
3. Transcribing the important parts of the interviews.
4. Generating themes and grouping the data.
5. Interconnecting themes into a story line.
6. Interpretation of the data and the results.

Qualitative data analysis for this study was inductive and iterative in nature and when individual participants' data in the study showed similarities in their behaviour through their responses, those emergent themes were identified and grouped together. This technique of grouping similar individual's responses together is a recognised technique in research and benefits research (Walsham, 2006). Thematic data analysis was used as a way of understanding the data that was collected from the research participants and this was used to gain a deeper understanding of relevant concepts derived from the existing literature. This allows the data to tell the story through revealing what is happening in the context of the research (Walsham, 2006).

3.8 Ethical and Confidentiality Considerations

In order to avoid harm to research participants, avoid invasion of privacy, avoid deception and avoid lack of informed consent, a number of approvals were sought and obtained before conducting the interviews with the research participants (Walsham, 2006). Formal ethics approval from the UCT ethics committee was obtained to conduct the study. Approval from

the case site authority was also granted for the study. Approval from the individual participants was obtained as well. Participation of the interviewees was voluntary.

At any time during the interview, if participants decided not to continue with the interview, they could do so. The researcher maintained confidentiality of information of the research participants. All names of the participants were anonymised to avoid any form of harm or invasion of privacy. Data collected from the participants was stored on a laptop and access to the laptop was password protected including those folders containing all the research information.

This study had 13 research participants interviewed over Skype using semi-structured interviews which took between 30 minutes to an hour. The interviews were conducted between the months of June and July 2015. The interviews were conducted using Skype voice chat and then recorded before they were transcribed into word documents. A consent form was sent to each of the research participants to sign before conducting the interview. The consent form contained a brief description of the study, the estimated time of the interview, and at any point during the interview if they so wished not to proceed with the interview they were free to do so, and that all the information they provided during the interview was treated confidentially. It is also worth noting that Skype interviews are considered the same as face-to-face interviews, and the consent forms were sent over email to the research participants for them to be aware of audio recording of the Skype interviews. All names of the research participants have been anonymised in order to protect their identity although the risks to the individual research participants is deemed to be insignificant since the study was exploratory and non-judgemental of individual contributions.

3.9 Conclusions

Figure 5 presents a summary of the research design. This chapter presented the research approach for the study as being an interpretive, exploratory, qualitative, single case site study conducted through semi-structured online Skype interviews. At an ontological level, this research assumed that the reality of motivation for participation through the case study is not given and is socially constructed by the stakeholders involved within the rating of mentions. Hence, the research participants' perspectives for this form of interaction and motivation with the platform are not known in advance. The adoption of a qualitative interpretive study was

selected in the hope that a comprehensive study using a single rich case provides a deeper understanding of the crowdsourcing phenomena within a motivational context. With just a single case study generalisation is not sought, the intent was to understand the deeper structure of a phenomenon which it is believed can be used to inform other settings. The theoretical interpretations are often stated more generally by deriving general interaction patterns that may be meaningful beyond the confines of the research site (Bowen, 2006). By clearly stating the theoretical framework and assumptions, the aim was to assist readers to understand some of the biases the researcher brings to the study.

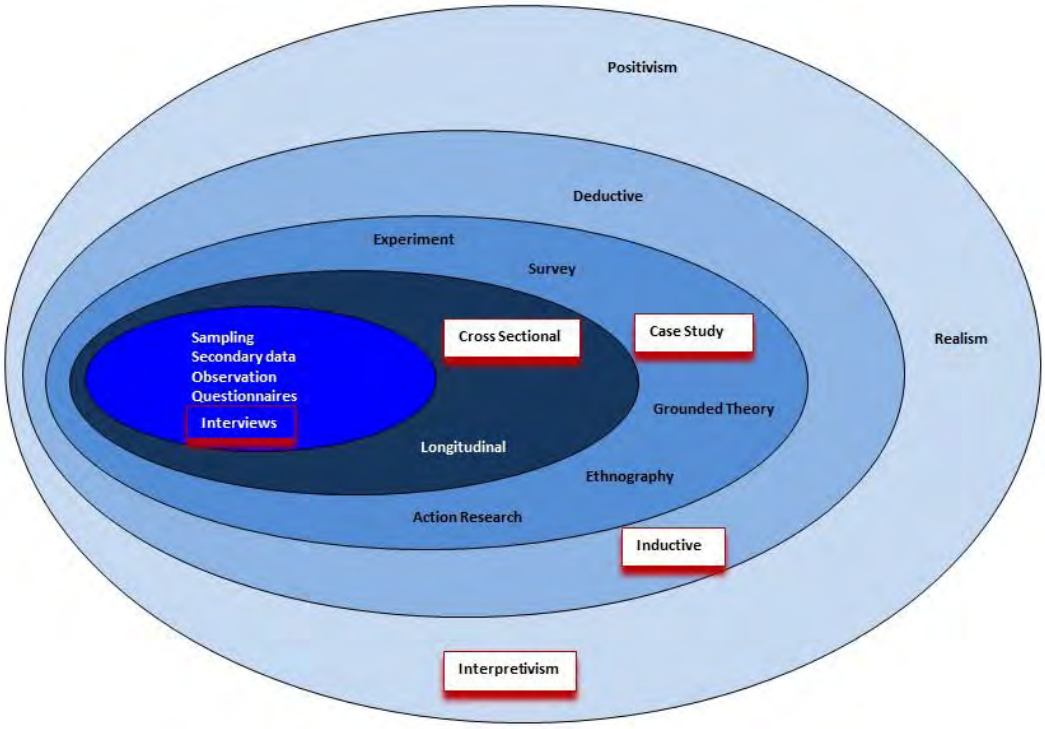

Figure 5 - Summary of Research Design (Adapted from Saunders et al., 2009)

Chapter 4 – Data Analysis

This chapter describes the data collection process. It gives a detailed account of how data was collected during the interview process. Data analysis was carried out by means of a thematic coding process using NVivo (version 11) software. The research findings are presented in the following sections.

4.1 Summary of Data Collection Process

Data was collected over a period of two months. Table 4 provides a summary of the steps that were taken before, during and after the data collection process. Familiarisation with Platform X started in December 2014; scheduling and interviews happened in the months of June and July 2015. Data analysis began as soon as the first interview ended.

Table 4 - Summary of Data Collection Process

Step	Action
1. Familiarisation with Platform X	During this period the researcher registered with Platform X and began using the system in order to fully understand how it worked.
2. Selection of research participants	Three groups of research participants were identified and, with the help from the administrators of Platform X. The groups were made up from information about usage and from performance statistics on the Platform X website. The researcher was provided with a list of names with contact details.
3. Scheduling of interviews	The administrators of the platform emailed each person on the list of potential research participants and informed them about the research project. A second email containing consent forms was sent to everyone who had indicated willingness to take part in the study. The researcher set up a schedule of individual interviews with the participants.

4. Data Collection	Semi structured interviews were conducted using Skype, however the video option was not used. The audio recordings of the interviews were made using a free third party tool called CallBurner ("Record your Skype audio calls," n.d.). Each interview lasted between 30-60 minutes. The interviews were transcribed with the help of transcription software called Express Scribe Transcription Software. The software allowed the researcher to rewind, pause, and vary the playing speed. It was also possible to open the audio clips and word document side by side, which made typing easier. All the names of the research participants were kept confidential, as required by the University's research ethics guidelines.
5. Data Analysis	Data from the transcribed interviews were loaded and then coded using the NVivo program. The researcher noted down all the concepts and insights that emerged during the analysis of the transcripts. In addition, theoretical foundations drawn from literature were used to reflect on and explain the findings derived from the process of data analysis. Data analysis is an iterative process.

Although the five steps are presented in a linear form as a table, the process became iterative once the data from the interviews became available. In other words, data analysis began as soon as the first interview ended.

Although 20 research participants had initially shown interest in taking part in the study, in the end only 13 people were interviewed. Eight research participants responded to the first round of invitations to set up interviews. They were interviewed. Five days after the first invitation, a reminder was sent to the participants who had not responded to the initial request round of invitations. Four more participants responded and were interviewed. A second reminder was sent after another five days after the first reminder. One more participant responded and was interviewed. A total of 13 participants were interviewed.

Table 5 summarises the process.

Table 5 - Summary of Responses to Interview Requests

Interview Call Out	Target Population	No. of respondents interviewed
Initial Invitation	20	8
First Reminder (5 days after the initial request)	12	4
Second Reminder (5 days after the first reminder)	8	1

Table 6 shows the different profiles of the research participants together with the code names that the researcher had given them.

Table 6 - Profile of Research Participants

Participant Number	Roles	Short Code
1	Freelance Photographer	[P1]
2	Retired Marketing Manager	[P2]
3	University student	[P3]
4	School leaver	[P4]
5	Housewife	[P5]
6	Sales Assistant	[P6]
7	Marketing consultant	[P7]
8	School leaver	[P8]
9	Pensioner	[P9]
10	Self Employed	[P10]
11	Student	[P11]
12	Legal consultant	[P12]
13	University student	[P13]

4.2 Data Analysis

After all the interviews had been completed, the audio recordings were transcribed using Express Scribe Transcription software. Quantitative data analysis makes use of statistical models to explain relationships between constructs. In this case, qualitative analysis was used to deal with the large amounts of data contained in the transcribed interviews.

The transcripts were then loaded into the NVivo software package. NVivo is a program that analyses data assigning codes. The NVivo program organised the data by making connections between coded and emerging concepts and then analysed them (Kaplan & Maxwell, 2005). Its visual aspect helped analyse the research data in a different way that simplified connection of the emergent and coded themes. It remains the responsibility of the researcher to reflect on the findings and apply how theoretical underpinnings relate to the generated codes. This is an important step. Figure 6 shows the NVivo interface with some of the codes that emerged from the research data together with the total number of sources that were coded for each code.

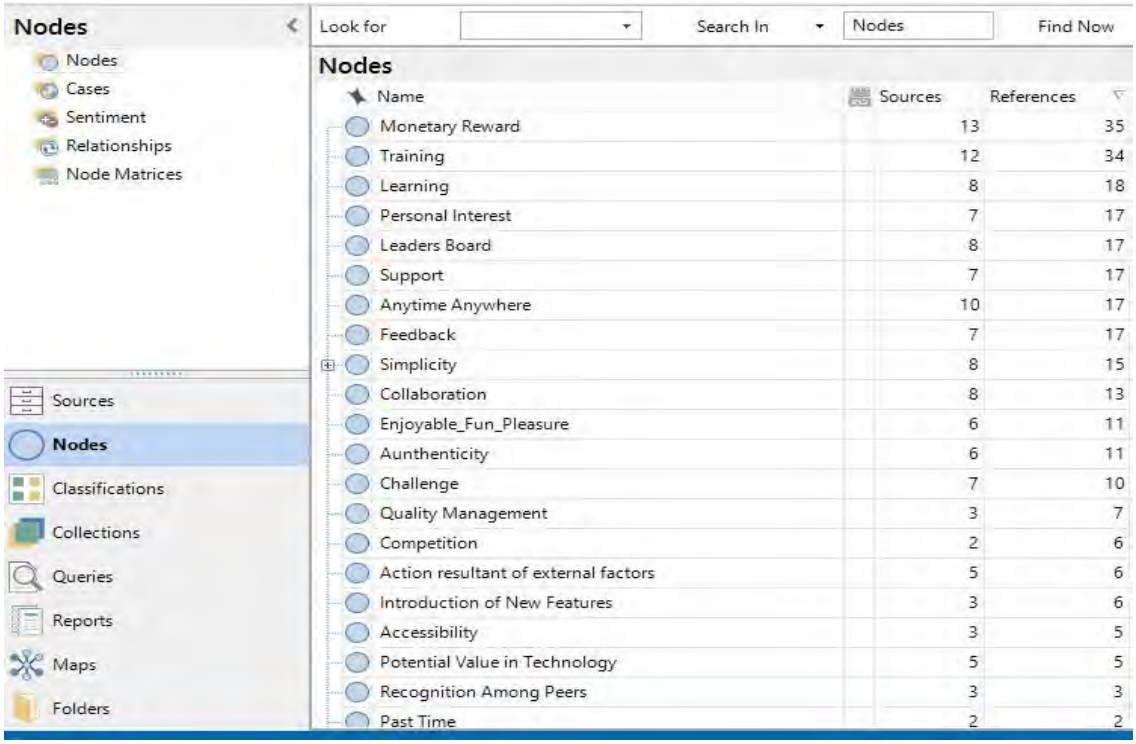

Figure 6 - Nodes from Research Data

Figure 7 shows research data loaded in NVivo for data analysis. It shows the research data and the number of themes that were coded from each source. Response data from each research participant was kept in a separate file. From Figure 7, nodes refer to the number of codes that were established from each of the corresponding research participants. Some of the nodes could be repeated within one research participant's data. References refer to the total number of extracts that were coded per research participant.

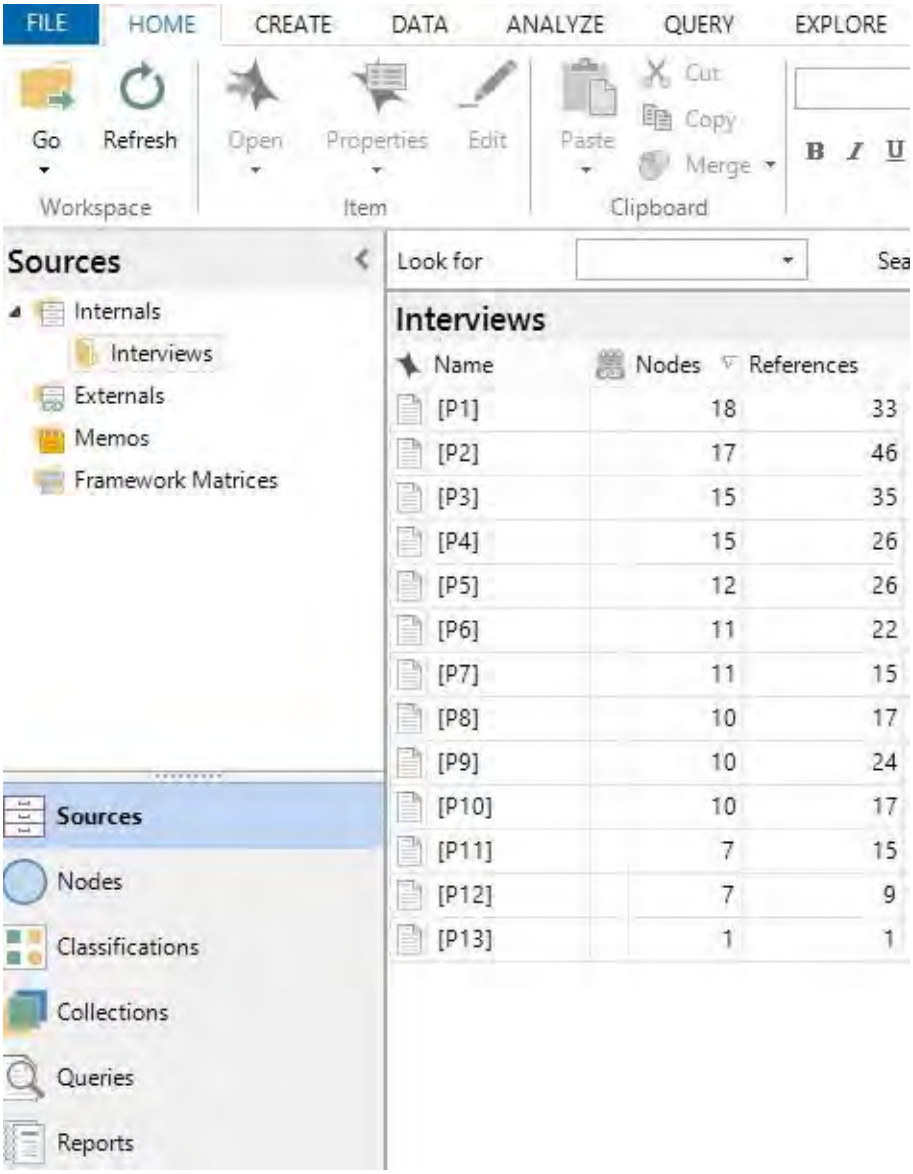

Figure 7 - Overview of NVivo Interview Sources

To get an overview of the common words that emerged, Figure 8 shows a word cloud representing the most frequent participant responses. It is evident that the most commonly used words were: system, time, people, mentions, ratings, motivation and money. In the same figure, the size of the word represents its frequency with which it was used, meaning a bigger sized word appeared more frequently than a small sized word.

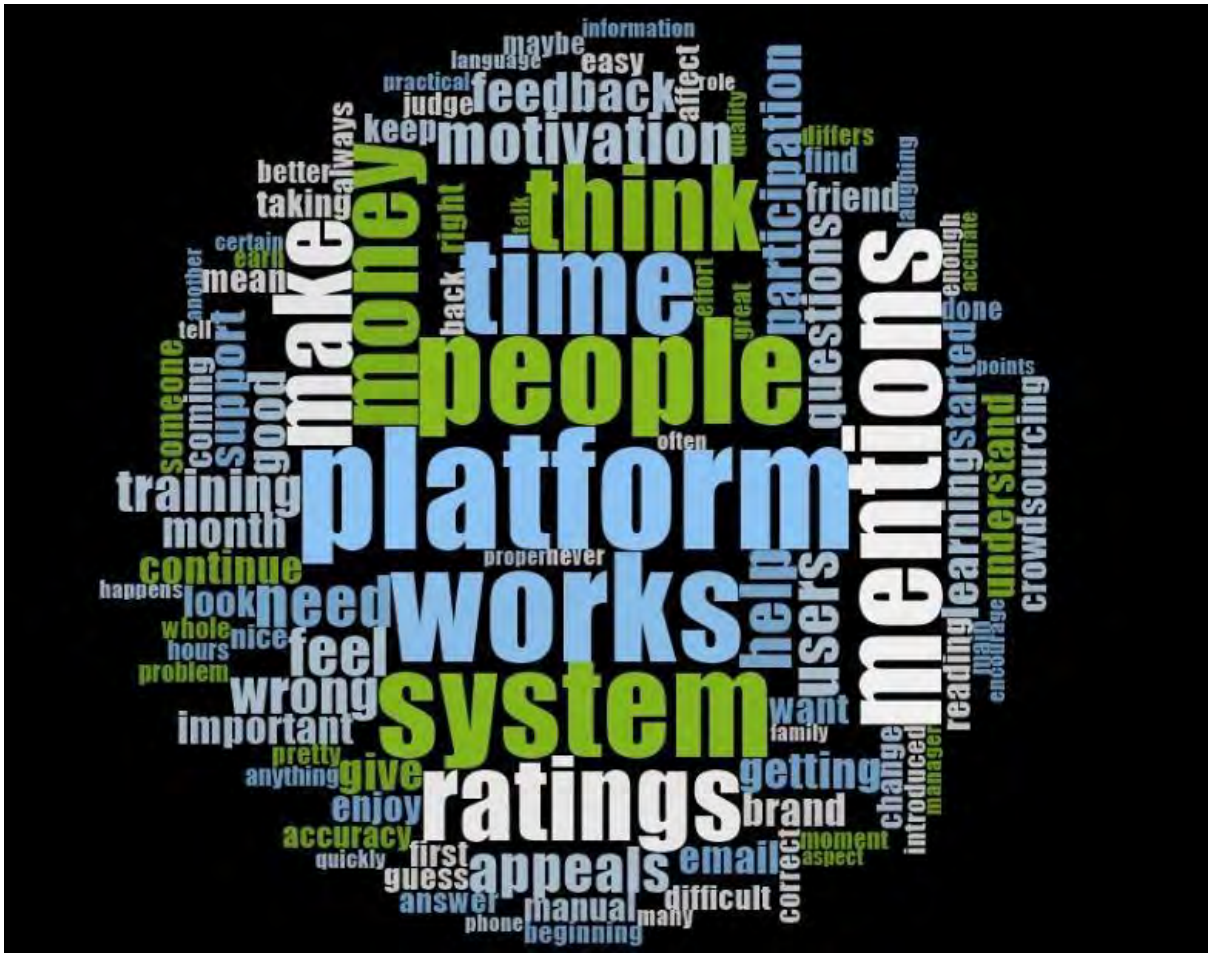

Figure 8 - Word Cloud Showing Common Words

4.3 Coding

In order to extract the insights and concepts which emerged from the research data, a structured process was followed. Firstly, the transcribed research data was loaded into the data analysis software, NVivo. There was a separate transcript for each participant. After an in-depth examination of the interview transcripts were coded. Coding is a process which organises, sorts, labels, summarises and synthesises research data with the portion of data being coded ranging from a single word to a phrase, a line, a paragraph or even a whole page (Saldana, 2009). The codes were short descriptive phrases or word(s) used to describe or summarise a sentence or paragraph from the research data. Some of the codes were derived from existing theory in accordance with Saldana's (2009) thematic data analysis technique, others were derived inductively from the research data as emergent codes.

Where a sentence or paragraph had a similar meaning the same code was used for them all (Saldana, 2009). Table 7 gives two examples of this, namely, how a line and a paragraph

extract were summarised by descriptive code. The code represents the primary topic of an item extracted from the research data; it appears in the right hand column of Table 7.

Table 7 - Line and Paragraph Coding

Paragraph/Sentence extracted from research data	**Code / Themes**
"…. I am competing with the other members, obviously I do not know them. Just on the home page there is like a leader board, so I try to compete with them to get like first place…"	RECOGNITION
"…you try and rate harder, to get on top and it is fun to compete."	COMPETITION

The initial coding generated 25 codes. Figure 9 shows all the codes that represent the research data. These codes were then assigned to one of four main categories which represent the four research areas or themes, namely the individual, technology, social and organisation which influence motivation.

Figure 9 – Code and Themes Generated from Research Data

4.4 Individual

This form of motivation came from the self, the desires which satisfy one's internal needs rather than for external needs.

4.4.1 Intrinsic Motivation

This category of codes represented a type of motivation which comes from within an individual, it is driven mostly by internal desires which are independent of external factors. Each code is discussed, citing how the research participants responded.

4.4.1.1 Learning

The majority of the research participants indicated that they were motivated to participate on the crowdsourcing platform because it gave them an opportunity to expand their knowledge in a number of areas. With mentions coming from different subject areas, this meant that by working on such tasks knowledge and important information was gained. This formed one of the key individual factors that motivated users to participate in crowdsourcing work. [P3] mentioned that:

> *"Well, I get to learn more about the companies, I would not normally have read so much news about different articles and things that are informative."*

This means that as the users are performing the tasks on the platform and generating some revenue for themselves, the person gets to read the latest informative news and keep informed.

[P3] mentioned that they were also presented with an opportunity to learn new languages as they were tackling mentions regarding translation of foreign languages.

> *"... you get to learn about more things, I am learning new languages as well so it is enhancing my skills."*

Much of crowd work involves social media. Social media with its vast amount of information was also mentioned as a source for learning about current affairs. Some users said that they felt smarter because they were broadening their knowledge. The following quotations illustrate how some participants felt about what they had learned from working on the platform:

"And as a result, I also get a bit smarter as most of the things we do deal with current affairs." [P6]

"Through my involvement l stay in touch with what is happening around in the world. Social media has most of the latest happenings of the world. I always want to stay updated on what is happening in the world and most importantly around me." [P7]

"Ok l was never on Twitter, never. But now l know Instagram l know Twitter ok Facebook. N*ow l understand how the Twitter people talk and how they work." [P5]*

"I learn so many things on Platform X at the moment every day of my life things l have never known and things you would not even think of" [P5]

"Well my family has mentioned that l have been a lot more wise so l guess that is a bonus point, my conversations are very intellect lately because l know so much and l again the money is good it is fun work l really enjoy it." [P10]

All these quotations show that the opportunity to learn was a very important factor which motivated participants to continue to work on the platform.

4.4.1.2 Personal Interest

It was worth noting that a number of participants acknowledged that their personal interests were a major motivator for their continued use of the platform. This meant that each individual's personal interests must at some point align with the type of tasks and the work they were assigned to do on the platform.

Curiosity and the opportunity to explore new ideas and areas kept some users committed to working on the crowdsourcing platform. They wanted to continue digging deeper in pursuit of what interested them. The following quotations are evidence of the importance of this motivating factor:

"I was fascinated by what was shown in the presentation and straight after the presentation l talked to the presenter and that is how l got enrolled on their site." [P7]

"Well, it is actually a good thing to be involved in something which is not that known. If it can catch on your and you are already into it can only be better for the future if it

is something which is fairly new. I mean it is like anything if a trend catches on and everyone goes for it there is more opportunity in everything. So that is positive." [P9]

"It is always good to be part of a technology that is transforming how business is being conducted especially when you are using it and getting a lot of money from using the system." [P12]

In previous studies (Frey, Haag, & Schneider, 2011; Fuller, 2006; Jeppesen & Lakhani, 2010) personal interest was identified as an important motivator behind users joining and staying with a crowdsourcing platform. Crowdsourcing is a technology that is still in its infancy, many users were proud to be involved in this new and fast developing technology (Simula & Vuori, 2012). Its novelty and potential value within the technology provide a source of motivation for participation for the crowd workers as pointed out by the research participants in the following extracts:

"….I enjoy it being younger I understand the technological side of things and think it is great and has huge potential" [P8]

"It is always good to be part of a technology that is transforming how business is being conducted especially when you are using it and getting a lot of money from using the system." [P12]

"I do not know how big this will become in the future from the look of things it is becoming pretty big as it is now there is a lot companies in the world that are doing this…" [P4]

4.4.1.3 Fun/Enjoyable

A number of the research participants indicated that they enjoyed using the platform, they likened using the system to playing a video or computer game where one is motivated to continue playing by trying to get an ever higher score. The quotations from three interviews show that some users regard this factor an important motivator. Previous studies have also

identified fun as a motivator (Villaroel & Tucci, 2009). The following extracts show some responses from research participants:

> *"…so I said to this lady who I trained that it is like a video game, like a computer game that you are playing and to me it is for getting high accurate ratings. It is an enjoyable activity, take time and as I said has got multiple benefits it is not just work, it is also the challenge to me personally to get it right." [P2]*

> *"Well, I enjoy it, it is fun to get up in the morning and get going; it is very entertaining." [P10]*

> *"I do not really need any encouragement. I mean there I made a commitment to do quality rating and there is enough commitment from myself to use it and I said it is a good one to pass time and keep in touch with what is going on even if you living in a secluded village, it is just an enjoyable activity." [P2]*

4.4.1.4 Challenge

The element of challenges kept a number of users motivated as pointed out by some research participants. Individuals with a liking for tackling challenges and taking part in some competition were kept motivated by this urge. They set individual targets where they challenged themselves to achieve those set targets. Users set hourly, daily, weekly and monthly targets which formed a strong motivation for continued participation from the individual. This factor was also identified as one of the key drivers of motivation in crowdsourcing work according to previous studies (Antikainen, Mäkipää, & Ahonen, 2010).

> *"That is very important to me the accuracy ratings list is very important to me that shows my relevance. That is my main motivator and not the money, the money is nice, but to me it is also as I said I have a mind-set to see this as a game as a computer game and I do not know how many computer games you always wanted to play but I always want to go for the high score. That is the mind-set that keeps me going." [P2]*

> *"To me getting mentions correct gives more energy to continue rating. I also have personal targets that I have on a daily, weekly and monthly and when I manage to achieve those targets it makes me feel good." [P7]*

"I have a goal in the mornings when I wake up before I go on Platform X put it on at least when I do a 100 I should only get 10 mentions incorrect for that way I know my accuracy is a 90% and that is something that I do some people also do that. Platform X is very concerned with the accuracy of the mentions and very strict and not how many hours or how many mentions you do if you do 1000 today that is good for you but if you only got 600 of that 1000 right it is bad." [P5]

4.4.1.5 Pass Time

It became evident that some of the users were retired people or unemployed people who had a lot of free time and wanted to continue keeping their brains active by using the platform to pass time. This kept them busy and occupied as mentioned by some of the research participants:

"I am a freelance photographer which sometimes I have a lot of extra time so in order not to waste my time…" [P1]

"I do not really need any encouragement I mean there I made a commitment to do quality rating and there is enough commitment from myself to use it and I said it is a good one to pass the time and keep in touch with what is going on even if you living in a secluded village, it is just an enjoyable activity." [P2]

4.4.2 Extrinsic Motivation

4.4.2.1 Monetary Reward

Monetary reward has been identified as one of the main drivers in motivating crowd workers to participate in crowdsourcing work in previous studies (Boudreau et al., 2011; Franke & Shah, 2003; Fuller, 2006; Lakhani et al., 2007; Villarroel & Tucci, 2010). This study also showed similar results. While it is not only monetary rewards that motivate crowd workers, the majority of the participants showed that monetary rewards were central to motivation to participate in crowdsourcing work. The following were some of the comments from the research participants regarding monetary rewards:

"For me the money is a very strong motivation for me to continue using the system and withdrawal of this mechanism will mean my exit from the system. My daily, weekly

and monthly targets on a personal level are also based on the monetary figures and this just goes to show how important the money is to me. Time is money and I would not see myself doing something that does not translate into money. It is an income that I really look forward every month to supplement my monthly finances and I guess it will be more or less a similar situation with everyone else using the system (……..laughing)." [P7]

"To sign up with Platform X simply because I wanted to get some income" [P2]

"Of course as long as I continue to make money, I will continue using it" [P3]

"Well yet again if you can make money go for it (laughing)... that is the main motivation behind it. I mean if there was not money involved I do not think anyone would certainly do it really. If it rewards you for the time that you put in then it is great. The more time you put in the better you can do and the more money you make. The better the money the more time you will put in and the more mentions you rate. Which at the end of the day is better for the crowd itself." [P9]

It was also interesting to note that, although monetary rewards were mentioned by many research participants as a key motivator, others also thought the platforms' informative nature was more important to them than just monetary rewards as one research participant mentioned:

"...to tell you, I would still continue using the platform even without any payment because so many of my friends and relatives rely on me to tell them there is load shedding today because I am the first to know. So even if I did not get money I would really participate. It is very informative." [P5]

4.4.2.2 Leaders' Board

As a way of acknowledging top performers, the leaders' board formed an important role in motivating users. This feature created a platform for some competition as users sought to attain and maintain places in the top performer's listing. This theme was closely linked to personal challenge; however, leaders' board achievement provided some form of urge for external recognition among crowd workers. More than 95% of the research participants

showed the role of the leaders' board as being crucial in keeping them motivated to participate as is evident in the following extract from their responses:

> *"…that is very important to me the accuracy ratings list is very important to me that shows my relevance. That is my main motivator not the money, the money is nice, but to me it is also as I said I have a mind-set to see this as a game as a computer game and I do not know how many computer games you always wanted to play but I always want to go for the high score. That is the mind-set that keeps me going. I love to see the most accurate after seeing my name on top of the list. Its removal will take away half the fun at least. This will take away the fun."[P2]*

> *"…she keeps track of it as well and she keeps bugging me as she tries to overtake me so we made it a game so to take away that leaders' board, which will be a BIG mistake." [P2]*

> *"…the leaders' board (most accurate/most rated) it is a board with all the top 10 raters statistics so it drives me to try get to the best possible spot on that board…" [P8]*

4.5 Organisation

The organisation that hosted and coordinated all the work on the crowdsourcing platform also played a crucial role in determining how the crowd workers behaved based on how they administered the platform and the rules they set.

4.5.1 Training

This factor came out as one of the main motivators to continued participation on the platform. New users to the platform faced a huge challenge of bridging the gap between the theoretical user manuals and the practical crowd work as one of the research participants put it across. The responses from the research participants suggested that there is a need to structure proper and suitable training since most of the participants requested to have a practical approach to training needs in addition to current user manuals. Training was found to be crucial as it enabled or discouraged continued use of the platform especially for new users.

The users mentioned training as being a very important part of motivating users and the majority of the users shared sentiments on having a personal mentor in addition to the user manuals. One user gave an analogy of a person having passed an oral drivers test but not having practical experience. Also, a number of users showed evidence of how they struggled in their first days but were fortunate enough to seek practical help from people who had introduced them to the platform, and quite a number of them now are featuring in the top 10 leaders which goes to show the importance of a solid foundation in training for new users. A number of suggestions were made including mentoring of new users, forums, webinars, and video training. The following are extracts from responses gathered from research participants:

> *"…actually I do think a bit more training support would help newbies get on the system faster. Maybe they could actually make a dummy screen that we could watch that would show real examples and how to work the system, a video tutorial would help immensely. It is okay to read things, but to actually see it working really does a lot to help and would probably help new users get a hang of the system a lot faster. Manuals are fine to get the theory part of it. But it is the same as if you give a learner driver a book that teaches him to drive, and then after he has read it, then tell him to go drive a car. Practical experience would just help to get to the starting point a lot faster…" [P6]*
>
> *"...friend - assisted me with the basic practical. The assistance I got did help a lot to get to know what was going on. Put the theory into the practical" [P6]*
>
> *"Not understanding what is actually expected can hinder active participation on the platform." [P9]*
>
> *"A training manual and a quick video or something would help many people. This can have a huge role as I can assume that many people give up because they do not earn enough due to the load or ineffectiveness of their own work." [P11]*
>
> *"…there is a lot of people who are starting up who can have been a lot better than me who would have just probably thrown their towel in or given up purely because there*

was not much support available and l feel like having a mentoring system in place will be fantastic whereby the more experienced people can help the newer people." [P4]

"There must be a way like a forum or videos that explain the new ways to tackle mentions." [P7]

4.5.2 Support

Although the support offered by the current system administrators was satisfactory, at certain times the general feeling was that support formed a pillar of motivation and directly affected their participation and the current system administrators on several occasions failed to provide quick assistance. This was mostly post training support. This presented mixed feelings among the research participants regarding support. Generally they were happy, as seen with the following responses by research participants. However, many foresee system administrators being overwhelmed with support issues in the near future; if there is no plan to increase their capacity as they pointed some incidents they could not get enough support.

"….sometimes they take very long to reply so l just do appeals then because then l noticed that it is more effective now because they do them the same day or next day so there is a bit of a lag in response time if you communicate via email." [P3]

"…I find that this platform is very good with keeping you in the loop, queries and follow ups are dealt with speedily." [P6]

"l must say from them whenever l have got a query or a mention or a new brand coming and l do not understand them l can email them and they will immediately email me back." [P5]

"…they reply to my emails promptly usually 5 minutes later l have got a reply they gave me a call a while back because they noticed l was not rating a lot because of my internet problems and it makes you feel like oh at least they know l exist you know and they are ready for any questions you have and they say if you have got any

problems with your internet or you cannot rate for a while just let us know I think that is great and they are doing a good job." [P1]

4.5.3 Human Aspect and Feedback

The importance of feedback and the human aspect was valued by a number of participants. The importance of just a small thank you message like the email that was sent after a Blitz and also when one user got a thank you phone call, really showed how feedback can have a huge motivating effect on the participating users. It became very clear that the research participants appreciated feedback and wanted to see more feedback regarding their work; they viewed it as an important factor towards motivation to participate. Feedback has been identified as a factor that affects motivation to participate in several studies (Antikainen et al., 2010; Muhdi & Boutellier, 2011).

> *"....after such a period they send messages and these messages are really inspiring and makes one feel that they are part of a family where their efforts are being recognised and acknowledged. It really brings the human aspect into this whole process and ensures that everyone working on the system knows that behind the machines there are also people looking and appreciating the work that everyone is doing on the platform." [P7]*

> *"You know I am like any other woman, I would like some praise and email to say you are doing awesome keep going…. (laughing). It is something that a man does not want but woman (laughing) when we clean the house for our husbands we want them to come in and say waal this looks good. Do not ignore it….(laughing)." [P10]*

> *"…and the other thing that bothers me is that you do not get feedback on your own feedback so I like to get more on that back but of course that takes time and that takes time so I am aware what their constraint is but still for a rater it is nice too" [P2]*

> *"…I think the feedback that I give is valuable but the other way round also counts that I get feedback on the feedback that I give them." [P2]*

4.5.4 Consistency in Quality Management

Inconsistency in the responses that the users get when they make appeals was also a big issue that was mentioned by research participants. The way the quality of their work was controlled had a huge impact on their motivation to participate as on several occasions they felt that they would get conflicting responses to their work from the moderators, thereby confusing them on what would be the correct position. The following extract highlights this factor:

> *"….and the consistency which is a big problem I would say where sometimes one thing comes and another thing does not. That will stop someone because one day you answer something and then the next day you answer same thing and maybe they differ whereas then some of your money has been taken for something which you have had either right or wrong in the past."[P9]*

> *"…so that is also when it comes to the consistency I mean I do not how many Judges there are but if you think about it one or two Judges dealing with thousands of mentions even no one can remember exactly what was said when so that is difficult so if there is need for support and I would say that needs to be separated from the Judges because they do not really have the time train people. So if there is any support that could be put in I would say that is the best." [P9]*

> *"…but then as I said the better you get the more frustrated you get sometimes because you know for a fact what the mention is saying you are 100% right on that but then Judge differs from you on your answer or when you appeal and you lose because of small things so the better you get the more frustrating that sometimes it gets." [P9]*

> *"…there is no consistency in determining this and getting this wrong will mean one will not get the best quality of work and consequently not earn money from the system…" [P12]*

4.6 Technology

This category presents factors that were coming directly from technology that was used as the platform and its use by crowd workers.

4.6.1 Anywhere Anytime Flexibility

Anywhere anytime flexibility was identified as being one of the key motivators and some users even went on to extend this by suggesting having a mobile application for the platform so that, since many people are now using mobile devices especially phones, they could also be doing the work whilst sitting in traffic or while they wait for other services in a queue. This requirement showed the need for a flexible platform that could match the changing needs of the crowd workers. Additionally, the research participants enjoyed the fact that they could work anytime for a period that they determined, being their own bosses and, most importantly, working from the comfort of their homes as one research participant pointed out. The following is a listing of some of the responses regarding this factor:

> *"….the other thing that encourages me is that you can work when you want to there is no set time of you have to get up at 9 and have to work and that kind of thing. So l can work when l want to so l practically work the entire day…" [P3]*
>
> *"…well it fits in with being able to use the platform whenever and where ever." [P6]*
>
> *"…you can basically become your own boss by working when you want for how long you want, which not many sources of income can offer you that." [P8]*
>
> *"Money is the main motivation and primarily working any time that suits your own time needs is also a large motivating factor for me." [P11]*
>
> *"Doing work when they feel like doing it at any time of the day without any obligation to work every day. This is one of the main reason l used the system." [P12]*
>
> *"There is need to have a mobile application for the system. Currently the system seems to scale well with the desktop or laptop version and using a mobile phone has not been the best so far. An improvement in this area will be appreciated very much as now people would want to make use of the system say when they are on a bus going home or when they are in a queue in a bank waiting to be served they could utilise that time effectively." [P7]*

4.6.2 Usability

The system was simple and easy to use with the instructions on how to navigate through the tasks easy to follow. This usability factor is similar to other findings in other related studies

where simplicity or ease of use or navigation was named as one of the motivators of participation in crowdsourcing work (Brabham, 2012a; Zhang, 2008). A complex system which is difficult to follow will negatively affect user participation. The following extracts from the research participants provide evidence of the role played by simplicity of a system in keeping users motivated:

> *"As I do it part time, usability and ease of use are extremely important so I can just switch from whatever I was doing and start on the platform quickly as to make the most of the spare time I have." [P6]*

> *"The platform is set up quite nice I must say, it is well thought through and so you do not spend too much time on mentions etc…" [P2]*

> *"…layout is fine its simple, its plain and quickly at a glance you can see what is needed…." [P2]*

> *"The website is well setup, it is pretty straight forward, it is very quick and direct and I think in terms of logistics they have everything in place to make rating quick and more efficient and that helps you do your work obviously." [P1]*

> *"…it is simple and easy to use." [P3]*

4.6.2.1 Obstacles

In order to understand the role played by different factors in motivating participation, it was also important to look at some of the obstacles that research participants mentioned as these also have a great impact in affecting motivation to participate. These include things like bad network signal, break in availability of crowd tasks making users idle, unavailability of a mobile application of the crowdsourcing platform to utilise growing mobile presence, absence of a mentoring system aimed at assisting new users, and an increasing number of moderators in order to improve feedback.

> *"I am talking about something that happened almost a year ago and in the beginning you were sitting doing ratings and you would get a snack time and that will tell you there is no mentions to rate so you will have to wait for a moment and the mentions will come through but at the moment it is been running 24 hours with no snack times and the whole time and we getting new brands weekly at least a new brand."*

"I had problems with my internet speed so that would make it much harder because I was using a dongle and uses all my internet units and is very slow and have got better internet so that is much faster page opens quickly so that is very fast now since then I have not struggled with anything in terms of their side it is all good. "

4.7 Social

This category presents how individuals behaved in the presence of others.

4.7.1 Collaboration

An important factor that came from the research participants during the interviews was the fact that, despite this being a crowdsourcing project, its users were not allowed to work in any form of teams or to collaborate on tasks. This was to ensure that diversity was maintained in terms of the output that came from the crowd workers. However, it became very evident that there were elements of small teams of two people or more mostly assisting each other, especially when one of the users was still new. The research data acknowledged this was not according to the values of the crowdsourcing platform but it was very vital to them to have some form of collaboration. The following extracts provide further clarity:

"….they really do not want us to communicate with each other because it will spoil the data or you know or make it inconsistent. So from then on I did not ask any more about any other people because I thought they wanted us not to know anyone, some seclusion not communicate with other people, so their data is like really better." [P3]

"I go visit and have coffee together we talk about mentions and certain things and we talk about our experiences and I taught her and she is very happy and in the beginning she was very insecure and she was like am I smart enough to do this and I said you will get it do not worry about it and now she is in the top 10 of accurate raters and she is also now in top 10 of most mentions done correctly. But in the beginning she would have stopped because if she did not have my support she would have stopped. Now she is in the top 10. So it is crucial that people get training that is what I think but that is my personal opinion." [P2]

"…I had my friend's help. I know Platform X they might haven't approved that for sure if they wouldn't have liked the idea." [P1]

"It took me 3 months to get to the level where l am and if l did not have training from [P5] it would have taken me longer and at some point people do give up because they cannot just get there and if you know someone who has done it and who is earning a certain amount then that makes you persistent, keeps you going. Training is extremely important." [P10]

"l have another friend in Neisner who l also coached in the beginning and now he is on his own" [P10]

"New users need a chance to interact or get practical assistance from the seasoned users of the system. After using the system for a couple of weeks all my earnings went into negative because l was getting most of the mentions wrong…" [P12]

"The other aspect l don't like about the platform is the lack of a forum or platform where users can interact especially new users to the platform getting some tips from the seasoned users so that they can kick start their rating and get some guidance and motivation to use the system as it is very difficult to comprehend rating of the mentions for new users." [P7]

4.7.2 Authenticity

It became evident from the responses that, at the beginning of using the platform as a new user, there was a general scepticism regarding online crowdsourcing. Six of the research participants pointed out that their close friends, relatives and themselves when they first heard about the platform, used the following phrases to describe it:" *fake*, *a pyramid scheme or scam".* It was after a few months of using the system and seeing the money generated that most of users got support regarding the authenticity of the platform. This forms a strong factor because this initial uncertainty can deter some potential users of the platform. The following presents some of the responses from research participants:

"…. at first it did not seem real like maybe it is like fake or something then after l did it for a day or two it was actually you know l learnt that it is not fake" [P3]

"Actually my family was very discouraging, they said that this was spam or what do you call it.....scam or a pyramid scheme and it is not going to work just wasting my

time, so very sceptical in the beginning but as I got the money and worked hard they turned around." [P3]

"I must laugh you tell my husband in the beginning he was not convinced. Now if you show someone you are making money online you know what I am talking about, all the scams that is going on and all the stuff." [P5]

"My brother introduced me but my family are against me using Platform X as a full time job for obvious reason that there is no security in it we are not employees" [P8]

"As opposed to getting an support I guess from other peoples' side a lot of people do see this as not a real job sort of because again you know again I am not physically in an office and formally employed, I do not get a salary slip every month regularly what I earn is based entirely on how I personally do and how I well I do it. There is a bit of support but in general mostly people are against it because they do not understand it I suppose." [P4]

Although friends and relatives played a huge role in introducing others to the platform, their scepticism or withdrawal from using the system did not affect others in continuing to use the system. As long as they enjoyed using the system or continued making money, they were not affected by their friends or relatives who introduced them to the system leaving the platform.

"….as long as I enjoy what I am doing I will keep on doing it I will not be influenced by somebody else actions." [P2]

4.7.3 Brand Loyalty

Data coming from the research participants showed that some users had certain interests in some companies that were being looked into in the crowd work. Some of the users had some investments in those companies and they felt being involved in this crowdsourcing platform would give them an opportunity to be close to what is happening regarding the brands and companies that interested them and their loyalty to them. This played a huge role in motivating users to continue participating on this crowdsourcing platform.

"Well, in the beginning it was just to make money and help out the family, but later on some of the brands that are become a part of the mentions being tracked are actually the brands that I have stocks in so that motivated me even more to make sure the data

is correct and that they get the relevant information through because if the data is correct they can change the company's' view or profile and that will mean more profit and then I will get more money." [P3]

4.7.4 Recognition among Peers

With the knowledge and information from the platform that the users worked on, it meant the users were up to date with current affairs and this is why some users wanted to be recognised and acknowledged among their friends and relatives as being knowledgeable from sharing information. This provided motivation to continue working and to acquire more information and to raise their status among their peers.

"….many of my friends and relatives rely on me to them there is load shedding today because I am the first to know. So even if I did not get money I would really participate." [P5]

"It really makes me feel good to know that I am part of a project that is helping so many companies and a new technology that a lot of people are still not yet aware of. I always find it interesting when my colleagues ask me about the platform and explaining to them how the platform works. It is great to be part of such a cutting edge technology that is changing the way that companies are doing business." [P7]

4.8 Proposed Conceptual Model

This section presents a summary of the results from the data analysis regarding the main themes that were established. A conceptual model is proposed in Figure 5, showing how the different themes under technology, organisation, individual and social affect motivation to participate in crowdsourcing.

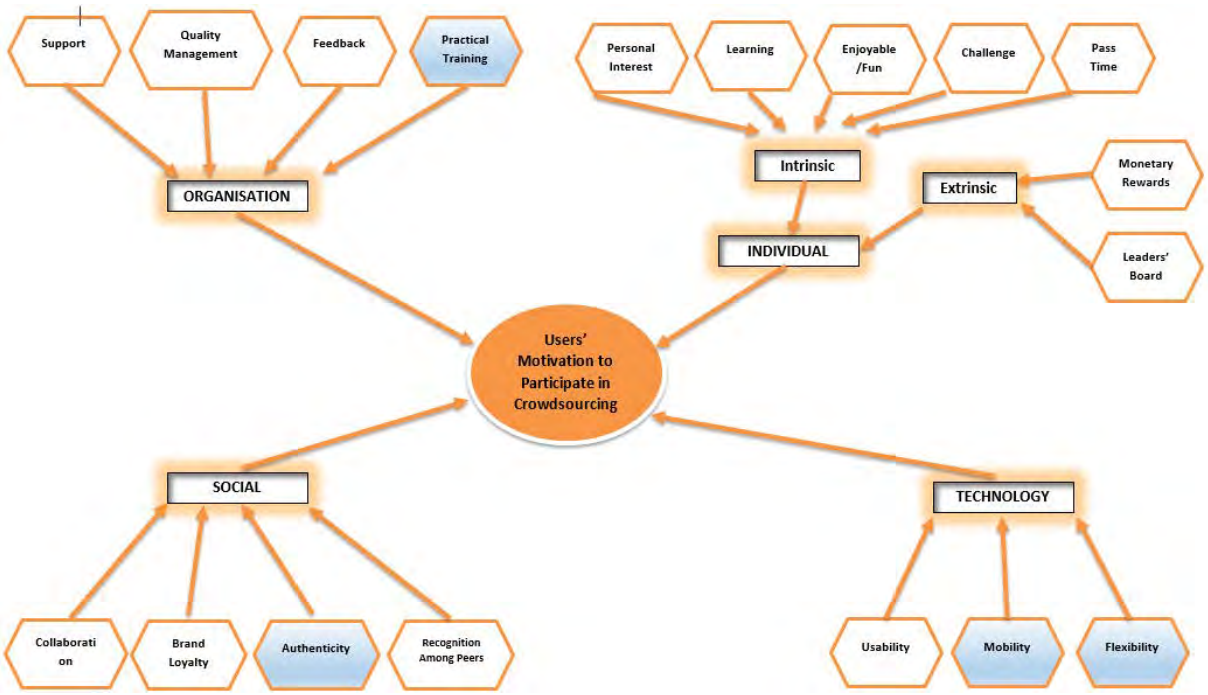

Figure 10 - Proposed Conceptual Model - Motivation to Participate

The model shows that there were new emergent themes that came out of the study, namely: practical training, authenticity, mobility and flexibility. The themes were classified as being social, technological, individual and organisational. From this case study, practical training was very important and key to enabling the continuity of crowd workers, especially new ones. They wanted practical training like video demonstration, webinars or online mentorship by experienced users of the system. Scepticism at the start of using the platform also plays a crucial role in determining whether or not a new crowd worker would continue using the platform. This could either create motivation for or de-motivate a new crowd worker. Once they used the platform, crowd workers expected the platform to be flexible enough to be used on other devices they were comfortable with for everyday use.

4.9 Conclusions

This chapter identified the factors that affect motivation to participate in crowdsourcing from the research data collected. A number of factors were identified which fell in four different categories: individual, organisational, social and technology. The findings showed that although extrinsic motivators which were under the individual, such as monetary rewards, played an important role in motivating crowd workers, there were other motivators which also played a role in motivating crowd workers; these included personal interest, authenticity,

leader's board, feedback and collaboration. Most of the motivators were consistent with findings from similar studies, like monetary rewards, personal interest, passing time, area of interest, recognition among peers, competition, ease of use, learning and fun. There were new emergent factors that were identified in the study which included authenticity of the crowdsourcing platform, mentorship of new users by seasoned users, mobility and flexibility of technological tools in meeting users' expectations and feedback. These new emergent factors also proved to be very important in motivating users to participate in crowdsourcing.

Chapter 5 – Conclusion

This study investigated how individual, organisational, social, and technical factors affect motivation to participation in crowdsourcing. Research data was gathered from 13 participants from one chosen case site using a qualitative approach. Semi-structured interviews were used through an online messaging program as the research participants were located in different geographic areas.

This chapter discusses the research findings in relation to research objectives and questions. The chapter goes on to discuss the contribution and the limitations of the study, and areas for further research.

5.1 Revisiting the Research Questions

Some new emergent factors, which had not been common in previous studies, were identified in this study. These factors include authenticity of the whole crowdsourcing project, mentorship of new users by seasoned users, mobility and flexibility of technological tools in meeting users' expectations and feedback. The study also re-established a number of factors which affect motivation to participate in crowdsourcing.

The motivation to participate in crowdsourcing is a complex mix of factors that goes beyond just motivation of an individual. Previous studies have focussed on understanding motivation from an individuals' perspective, with particular attention paid to factors which involve intrinsic and extrinsic motivation. This study shows that other factors, which originate from the interaction of technological, social, and organisational forces, also affect motivation to participate in crowdsourcing. The following sections present these factors.

5.1.1 Individual

What motivates individual participation in crowdsourcing?

Consistent with previous research, this study established learning, personal interest, monetary rewards and leader's board achievement as the main motivators for participation in crowdsourcing. Other factors identified as affecting motivation include passing the time, the challenge, and enjoyment. The study established that monetary rewards formed the main motivator to join crowdsourcing projects as most of the research participants had some financial issues prior to joining and saw the platform as a source of income to help ease their

financial problems. However, as they continued, an interest in using the system and in achieving the top ten list (leader's board) motivated them to continue using the crowdsourcing platform as it presented a challenge. These time variant motivational needs and dynamism are consistent with previous studies (e.g. Rotman et al., 2012).

5.1.2 Social

How does social influence affect participation in crowdsourcing?

One of the objectives of this study was to determine how social influence affected participation in crowdsourcing. A number of social factors were identified, which include recognition by peers, brand loyalty, mentorship and authenticity of the crowdsourcing platform. Authenticity and collaboration were established as new emergent factors. These mainly came into play at the early stages of deciding to use the platform. The recognition of the authenticity of the crowdsourcing as deemed by friends and relatives was a major factor which motivated participants to continue using a crowdsourcing platform. The study established that when close friends or relatives viewed crowdsourcing as a scam their negative view had a huge impact on participants' motivation. One way of viewing this scepticism about crowdsourcing can be viewed as positive reinforcement for it motivated the individual crowd worker to work hard in order to prove the scepticism about the crowdsourcing platform as wrong. Scepticism can also undermine the motivation of a crowd worker who is discouraged by the thought that it is fake. The latter result fits with social judgement theory (Doherty & Kurz, 1996). Crowd workers can become confused by the negative views of friends or family so that they can be persuaded that crowdsourcing platform is not genuine.

Another important social factor established by the study was that the early days of using the system are very influential in determining whether a participant continued to use the system. The study established that the users required some form of mentoring, from seasoned users, in particular, in order to quickly gain the practical experience necessary for using the crowdsourcing platform.

5.1.3 Technology

What role does technology play in crowdsourcing?

Another objective was to determine the role played by technology in keeping crowd workers motivated. This study re-affirmed that a number of technological factors affected participants' motivation to participate in crowdsourcing. These included technology design, ease of use or simplicity (Sharma, 2010; Zhang, 2008).

New emergent factors linked to technology were also identified. The crowdsourcing platform investigated relied on different technological tools to connect the crowd, organisation and tasks. This connection meant that issues related to these tools could have a direct effect on the overall crowdsourcing project. The study showed that, although the users were satisfied with the simplicity of these tools many of them also called for tools that could be adapted for use with mobile devices like smartphones and tablets. This showed that as technology advanced over time, the tools needed to be redesigned, enhanced and customised in order to meet the changing needs of both the users and the organisation (Fiodock & Rynne, 2010). Failure to develop and adapt technological tools could result in a loss of relevance. This study, established that, the system worked on devices like personal computer and laptops, but the users required a more flexible system that it was scalable on mobile device like mobile phones or tablets so that the users could use the system on their hand-held devices anywhere. This flexibility would allow users to choose the device that was most convenient in a given situation.

5.1.4 Organisation

What role does the organisation play in crowdsourcing?

One of the objectives was to determine the nature of the role played by the sourcing organisation in keeping crowd workers motivated and retain their participation. This study identified several factors, which included quality management, feedback, training and support. The study established that it was essential that quality was maintained consistently. From the study the inconsistencies regarding some appeals done negatively affected their motivation to participate as they often ended up confused. It was important that the organisation provided the crowd workers with feedback which expressed appreciation for their contributions, for example, sending thank you messages to the top crowd workers. This non-monetary reward was found to be an important motivator that could in turn reinforce or increase motivation.

5.2 Research Contributions

IS research has been linked closely with the IT artefact because it has been conventionally situated around societies, organisations and technology (Benbasat & Zmud, 2003; Hevner, March, Park, & Ram, 2004). IT artefacts have been changing continuously, consequently shifting and establishing new social phenomena that continue to attract IS scholars' attention. Crowdsourcing is a product of this transformation and an emerging IT artefact which is a new frontier for IS research (Zhang, Scialdone, & Ku, 2011).

The study established that a holistic approach is necessary in order to establish the role of motivation in promoting participation as there is a complex mix of factors that can affect motivation (Zhao & Zhu, 2012a). The contribution can be classified as practical and theoretical. On the practical side, this study provides understanding of what motivates users which can aid crowdsourcing project developers and architects design the type of incentives that will get the best work quality from the crowds. An understanding of crowd motivation and engagement offer an environment which is conducive to participation, can be on the alert should motivation and participation weaken, and help in correcting. Practical lessons drawn from the study could help crowdsourcing practitioners determine the best time to introduce an incentive, the correct amount in order to ensure a conducive environment for crowd participation and hence quality output. Additionally the study could inform key considerations when implementing a crowdsourcing project in an organisation (Zhao & Zhu, 2012b). To sum up, literature suggests that the effectiveness of crowdsourcing is influenced by the state of worker attention and engagement.

Theoretically this study contributes to the crowdsourcing body of knowledge through the establishment of the proposed conceptual model that summarises the results of the study. This expands existing knowledge regarding motivation to participate in crowdsourcing projects under different contexts. Three emergent factors identified in the study which affect motivation to participate include: authenticity of the whole crowdsourcing project, mentorship of new users by seasoned users mobility and flexibility of technological tools in meeting users' expectations and feedback.

5.3 Limitations and Recommendations for Further Research

A single case study dealt with themes that affect motivation to participate in crowdsourcing. The extent to which the results of this study can be extended is limited due to the fact that there are so many different implementations and contexts involved in crowdsourcing. However, according to Yin (2003) single case study findings can be generalisable to theoretical propositions. This means the findings from this study can be generalisable to the proposed conceptual model established in this study.

Crowdsourcing research can enrich crowdsourcing theory in a number of ways. In the future, longitudinal studies could investigate ways of monitoring and evaluating how long motivation can last. Mixed methods could be employed to determine the duration of motivation in the lifespan of a crowdsourcing project. Mixed methods could help get a broader perspective and also determine cause and effect regarding specific areas of motivation in crowdsourcing.

Another area that requires further research is the extent to which the three themes that emerged in the course of the study (authenticity, practical training, and mobility/flexibility) affect motivation to participate across different crowdsourcing contexts.

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Appendix A – Semi-Structured Interview Questions

Appendix A presents the interview questions and how they were formulated and linked to theory.

Construct	**Definition**	**Related Construct**	**Related Theory**	**Related Theory Reference**	**Questions**
Introductory Questions					1. How did you find out about this crowdsourcing platform and what made you decide to use it? 2. From your own perspective what are the potential benefits of using this crowdsourcing platform? What do you feel you get out of your involvement in this crowdsourcing platform?
Effort Expectancy and Usability	The degree of ease associated with the use of the system	Support for users e.g. tutorials, FAQs, Help, training guides	Unified Theory of Acceptance and Use of Technology	(Cheng and Vessileva, 2006)	1. What system factors encourage your participation? From your perspective what are the main obstacles that can hinder active participation on this platform? 2. To what extent does the following affect your participation on the platform? a) Layout/presentation of the tasks. b) Information/Instructions/Help on the platform designed to help you understand how to perform each of the tasks. c) Effort needed to learn how to navigate and use the application. 3. What role does usability (ease of use) play in your continued use of the platform?
		Interesting and relevant content presented in an attractive and well organized manner.	Unified Theory of Acceptance and Use of Technology	(Kohavi et al., 2007)	
		Perceived ease of use	Technology Acceptance Model	(Davis et al., 1989) (Bagozzi et al., 1992)	
		Lack of Complexity	Model of PC Utilisation	(Taylor & Todd, 1995b)	

		Usability e.g. clear navigation paths, low threshold interfaces.	Innovation diffusion theory. Reader to Leader Framework	(Moore & Benbasat, 1991) (Preece, 2001)	4. What aspects of the platform do you enjoy the most/least? Why? 5. What support do you believe is important for new users? What role do you think training can have in getting started with using the system? 6. What type continuing training do you need to maintain your current knowledge of using the crowdsourcing platform? What kind of technical support do you receive? And how do you feel about the support you are receiving from the site management? What does this training have on your continued participation?
Social Influence	The degree to which an individual perceives that important others believe he or she should use	Subjective norm	Theory of reasons action	(Davis et al., 1989)	1. What role did your family/friends/relatives play in introducing/encouraging you to use this crowdsourcing platform? Imagine that some of the people who introduced you to the platform suddenly stop using the platform. Would you still continue participating? 2. Imagine being the highest contributor in terms of quantity and quality. Suddenly the top contributors' board is discontinued. To what extend will this affect your motivation to participate? 3. Crowdsourcing is emerging technology which is still new to a lot of people. Having
		Social factors	Model of PC Utilisation	(Taylor & Todd, 1995b)	
		Image	Innovation diffusion theory	(Moore & Benbasat, 1991)	
		Sense of belonging.	Reader to Leader Framework	(Preece, 2001)	

	the new system	Community Recognition/Reputation	Reader to Leader Framework	(Preece, 2001)	said that, how does this impact your motivation to participate? 4. Are the any other people known to you participating on any crowdsourcing platform project?
Facilitating conditions	Objective factors in the environment that make an act easy to do.	Perceived behavioral control	Theory of planned behaviour	(Ajzen, 1991) (Mathieson, 1991)	1. Given a chance to design/redesign a crowdsourcing platform what will be the things you would consider important in making sure the platform is easy to use? 2. What does the site management do to encourage you to continue participating on the crowdsourcing platform? And are you satisfied with the kind of support you have received? Can you elaborate on the role this support from the site management play in your participation on the crowdsourcing platform? 3. Do you believe you have the proper resources and knowledge to use the crowdsourcing platform? (If not could you ask someone for help?) 4. Imagine that this crowdsourcing platform does not offer you money for
		Compatibility	Innovation diffusion theory	(Moore & Benbasat, 1991)	
		Knowledge	These are traits an individual can possess that can influence their motivation for participation in crowdsourcing.	(Lakhani et al., 2007)	
		Interest		(Frey et al., 2011)	
		Altruism		(Nov, 2007)	

		Extrinsic Motivation	Self Determination Theory	(Ryan & Dec, 2000)	your participation. Would you still participate? If yes, why would you bother?
Closing Questions					1. Is there anything that you feel can be improved to increase your motivation to participate? Elaborate on its role in enabling your motivation for participation.