

14. Strategic Management Stream

Competitive

TITLE:

Crowdsourcing: What is it and how does it create value? An exploratory study.

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ABSTRACT

This study seeks to examine the phenomenon and value creation potential of crowdsourcing in the light of recent strategic management literature. A theory building approach is used with seven case studies of crowdsourcing firms. Findings illustrate the phenomenon of crowdsourcing and how value is created. Findings indicate that three dimension are important. The first dimension is that businesses entirely based on crowdsourcing are new, unique and disruptive. The second dimension is that crowdsourcing businesses must attract clients and large crowds who willingly participate anytime and anywhere. The third dimension is crowdsourcing creates value for the firm providing tangible value benefits for clients and crowd. Crowdsourcing is conceived as an activity system with business model design elements. We articulate the contribution in terms of the degree to which sources of value in crowdsourcing are embedded (or not) in existing strategic management value creation frameworks and how it creates value.

KEYWORDS:

Competitive advantage, dynamic capabilities, resource-based view of the firm (RBV), strategy

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Abstract only

INTRODUCTION

Value creation is a central concern in strategic management scholarship. Strategic management scholars have been recently engaged in discussions concerning expanding traditional research boundaries pertaining to resource value and value creation beyond and outside the firm (Priem, Butler & Li, 2013). The value creation approach focussing primarily inside the firm is most notably covered by the resource-based view (RBV) (Barney, 1991). This approach is supplemented with the ‘downstream’ consumer demand-side approach (Priem, Li & Carr, 2012), integrative ‘upstream’ and ‘downstream’ value system models (Schmidt & Keil, 2013) as well as expansive nascent approaches encompassing business ecosystems and business models (Zott, Amit & Massa, 2011).

Crowdsourcing is a term first coined by Jeff Howe (2006a) in *Wired* magazine and is commonly perceived as a Web 2.0 artefact. Web 2.0 is defined as an online two-way social operating system consisting of networks that surround people, rather than simply present content (Tu, Blocker & Roberts, 2008). It is a potentially value-creating phenomenon that is defined as an organisation outsourcing a function once performed by an organisation’s employees to an undefined and usually large network of people via an open call for proposals usually co-ordinated by a firm (Howe, 2006b).

The concept of crowdsourcing is still an emerging research topic (Afuah & Tucci, 2013; Euchner, 2010; Chanal & Caron-Fasan, 2010). Afuah and Tucci (2012) focus on crowdsourcing primarily as a problem-solving mechanism and examine it through behavioural and evolutionary theories of the organisation. They posit that while crowdsourcing is not new, the development of the Internet has opened many possibilities for the phenomenon to play out. Crowdsourcing may be seen as a passing fad or just another business phenomenon which might or might not create elusive long-term value. But what is it and is it a passing fad? How exactly is value created? Is this value sustainable? These questions are important and are starting to emerge in serious academic debate.

Such academic debate recently featured in the *Academy of Management Review* regarding the importance of crowdsourcing and value capture (Afuah & Tucci, 2013; Bloodgood, 2013). This study makes a bold attempt to contribute a comprehensive understanding of value creation as called for in this scholarly discussion and explores the nascent phenomenon of crowdsourcing and examines its potential to create value through competing theoretical perspectives at organisation level.

A firm establishes competitive advantage by creating superior value to its competitors and creates this value through the benefits it offers customers outweighing those associated costs (Afuah, 2013). At this point crowdsourcing appears to be showing some early promise of more sustainable value creation (Carroll, 2011). Indeed, the paid crowdsourcing labour pool contains well over one million workers who have earned \$1-2 billion in the last decade, and crowdsourcing vendors, who typically charge a fee or commission, make over \$500 million annually (Felstiner, 2010). Crowdsourcing employs over two million knowledge workers, contributing over half a billion dollars to the digital economy (Vukovic & Bartolini, 2010).

Due to the fact that practice leads theory, crowdsourcing demands a strategic literature response to what it is, how it creates value and how it fits with existing value creation theories (Afuah & Tucci, 2013; Bloodgood, 2013). Using a theory building approach utilising case studies of crowdsourcing firms the study seeks to clarify, articulate and build theory on sources of value of crowdsourcing through the following research question: *what is crowdsourcing and how does it create value?*

LITERATURE REVIEW

In terms of value creation there are competing streams of literature in strategic management frameworks. In accordance with Amit and Zott (2001), traditional views in strategic management point that value can be created through Schumpeterian innovation (Schumpeter, 1943), the configuration of the value chain and firm positioning (Porter 1985). Their views extend also to network effects among firms (Gulati, Nohria & Zaheer, 2000), transactional economic exchange efficiencies (Williamson, 1985) the creation of resource value, rarity, inimitability and non-substitutability (VRIN) (Barney 1991) and/or the exploitation of specific firm resources and

competences (Teece & Pisano, 1994). In this study network effects among firms (Gulati et al, 2000) and Porter's value chain positioning (Porter 1985) are not considered strong contenders of value creation. This is due to the fact that in crowdsourcing the crowd is large, free-wheeling and amorphous which makes value chain frameworks unclear and network centrality and inter-network value and behavior difficult to gauge.

Outside strategic management frameworks, value creation is also an important concept. In the marketing literature stream 'service-dominant logic' (S-D) posits that service is the focus of economic exchange and the locus of value (Vargo & Lusch, 2006). In this context, value becomes a joint function of both provider and consumer but is always determined by the consumer (Vargo & Lusch, 2006). However, because it is difficult at times to clearly define and/or separate provider(s) and consumer (s) in certain crowdsourcing contexts means applying S-D logic may be difficult in the precise assignation of value. As a result, S-D logic has not been applied to this paper.

In the Innovation stream of literature, crowdsourcing may be seen as a form of open innovation, which is defined as a type of innovation whereby firms access and exploit outside knowledge while liberating their own internal expertise for others' use (Chesbrough, 2003). Alternatively it may be seen as a form of co-creation where consumers interact with firms to co-create value (Prahalad & Ramaswamy, 2004). While crowdsourcing could certainly take on the form of open innovation or co-creation, it could also instead potentially be a production line, a recruitment method or an efficient mode of economic exchange. Value for a firm could equally emanate from these alternative posturings. In addition, the crowd may (fully or in part) or may not be considered a firm's consumer in certain crowdsourcing contexts, so co-creation does not apply in all crowdsourcing settings. Some crowds fulfil the role of producer (workforce) and also at times consumer or not.

Crowdsourcing

Crowdsourcing, in its different forms and types and even in hybrid formations of these, has the potential to create value for businesses. Kazman & Chen (2009) see crowdsourcing strategy leading to the creation of value specifically because it harnesses the creative energies of self-selecting participants with little or no financial compensation or formal managerial structure.

Value creation is a key concept in management and organisation literature but it is not well understood, there is little consensus on what value creation is, the process by which value is created and the mechanisms that move it to value capture (Lepak, Smith & Taylor, 2007). What the sources of value creation are in crowdsourcing is also unclear and lacks a unified consensus. Value is created when firms develop or invent new ways of doing things using new methods, new technologies, and so, when the organisation is the unit of analysis, innovation and invention activities impact the value creation process. Value may be captured by the use of resources with attributes that make them difficult to imitate, through the source's use of creative destruction prior to competitors using the innovation, and through methods of resource management (Lepak, Smith & Taylor, 2007).

Crowdsourcing has the potential to have a marked effect on value-creating economic transactions. In many cases crowdsourcing firms rely solely on their crowdsourcing participants for important firm capabilities as decision-making, innovation or problem-solving (Afuah & Tucci, 2012).

It is still unclear how crowdsourcing fits with traditional frameworks and theories which point to value creation in the received strategic management literature.

Schumpeterian Innovation

Clearly, the implication of firms failing to respond to changing market externalities can potentially be Schumpeterian obliteration (Schumpeter, 1943). Schumpeter's Theory of Creative Destruction posited that the innovative transformation created by entrepreneurs engaged in introducing disruptive technologies sustained long-term economic growth and created wealth while it simultaneously destroyed the value of established dominant companies, not engaged in such innovation. A good example is to consider what crowdsourcing organisation *Wikipedia* – just over a decade old and with its 35 paid staff - has done to the 200 year old firm *Encyclopaedia Britannica* with its 400 paid staff – grown to 25 times its size and almost decimated its business (Angelova, 2010; Wikipedia, 2011).

In relation to Schumpeter's contribution to distinguishing types of innovation, Casadeu-Masanell and Zhu (2013) highlight the different types of innovation he framed, which includes: new products, new production methods, new supply sources, exploitation of new markets and new ways to organise business. These five types of innovation are individual sources of value creation and crowdsourcing

has been used in a way to engage all these different types of innovation. For example new products are created through crowdsourcing via crowd ideas in Innocentive, a crowdsourcing firm. Threadless, a firm reliant on crowdsourcing for submitting, choosing and buying new t-shirts has designed new production methods, new supply sources, exploited social media for new markets and by so doing has re-engineered a new way to organise t-shirt retail.

Transaction Cost Economics

Transaction Cost Economics (TCE) posits that firms' and markets' exchange governance is driven by the desire to minimize the direct and opportunity costs of economic exchange, known as "transaction costs" (Williamson 1985). The firm, guided by its goal of transaction cost minimization, helps explain why firms use certain exchange relationship governance tools (Lambe, Wittmann & Spekman, 2001). In the type of crowdsourcing described as 'Tournament-based' (Afuah & Tucci, 2012) crowdsourcing participants compete for a winner-takes-all prize which reduces the transaction cost because the client avails themselves of many person hours of work for what is usually a superior result as a consequence of the combined efforts of the crowd (Shapiro, 2011). The cost is far less than if they had employed staff, agents or contractors to complete the task (Simonson & Brahma, 2011).

In addition, the lack of formal employment contracts and of formal workplace relations allows crowdsourcing exchange parties to largely eschew traditional contracting costs. As well, due to the nature of the task-specific, on-demand labor that offers the efficiency of 100 percent (task-based) utilization, industry reports estimate an additional saving of 10 to 15 percent on each labour transaction in comparison to traditional regimes (Simonson & Brahma, 2011).

Resource-based view of the firm

Established economic and strategic management streams point to the configuration of firm resources and capabilities. A firm that has attained a competitive advantage has enhanced its value creation potential. Such value creation is the difference between the benefits of a resource-capability combination and the economic cost to exploit them over rival firms (Peteraf & Barney, 2003). Such firm heterogeneity is a hallmark of the resource-based view of the firm, where a firm's unique bundle of resources and capabilities create value. Firm value and hence competitive advantage can be created

by a firm via Ricardian rents by virtue of firm resources which are valuable, rare, inimitable and non-substitutable (VRIN) – a key concept in the resource-based view (RBV) (Barney, 1991; Makadok, 2001; Wernerfelt, 1984).

The VRIN concept in the RBV when applied to crowdsourcing can vest in the crowd - the formation of which may be viewed as a unique resource. Only in relatively recent history have firms been able to advantage themselves of relatively cheap, high speed computer networks which now allow unprecedented access to scaled-up workforces, crowd-based production, crowd intelligence, crowd-generated monetary exchange (known as crowdfunding) and crowd ideas.

Dynamic Capabilities

The Dynamic Capabilities View (DCV) which was originally constructed by Teece and Pisano (1994) and focuses on a firm's strategically-assembled dynamic internal capabilities which when bundled optimally can foster new and valuable products/processes creation while being ever-mindful of changing market circumstances. The theoretical construct of the DCV helps to specifically address the question of how firms can cope with changing environments, systematically solve problems, sense opportunities and threats to its business and to make timely and market-sensitive decisions to alter its resource base (Barreto, 2010). Makadok (2001) speaks of the individual element or the combination of both strategic resource-picking (RBV) and capability-building (DCV) in terms of how firms create superior economic rents or competitive advantage. His view of resource-picking is seen in terms of a firm 'purchasing' and 'acquiring good resources' (Makadok, 2001, p. 388). Crowdsourcing recasts the organisation's role in resource-picking to make it a degree more complex than simple acquisition. The act of organisations 'resource-picking' in crowdsourcing scenarios is often more aptly termed *resource-attracting*, *resource-motivating* or perhaps *resource-inspiring* and this is achieved through a variety of means including positive brand appeal, trust-sharing, community-building, cash incentives, fame-potential, altruism/philanthropy-appeal, career-development, reputation-building or pleasure-appeal (Brabham, 2010; Dellarocas, 2010).

Business Models

Academic scholars, it seems, are laggards in theorizing about new business phenomena and more distant than ever from influencing practice (Corley & Gioia, 2011). A recent review of the business model revealed that much of the associated literature is less than a decade old and only a few academic contributions to the business model have appeared in top journals (Zott, Amit & Massa, 2011). Furthermore, Casadus-Masanell and Ricart (2010) make the point that while real-life managers must understand how good business models work to ensure thriving businesses, the academic community has only offered the earliest of insights coupled with a lack of agreement on important concepts of business models.

Business models have been posited as the ‘architecture’ of value creation (Teece, 2010). The business model, due to its holistic nature, encompasses a ‘downstream’ view in which end-consumers, in contrast to a single focus on the firm itself, become a consideration in value creation.

So, the way in which crowdsourcing firms access crowdsourcing capabilities and resources, create innovation and ideas, efficiently mediate demand and supply transactions, produce collective intelligence and can attract and grow a huge and scaleable global workforce with relatively cheap economic transaction costs via Internet networks is intriguing and worthy of further investigation on how value is created and what are the sources of such value creation. How crowdsourcing measures up against traditional value creation theories is likewise intriguing. We are also responding to Afuah and Tucci’s (2012) article on crowdsourcing which predicts crowdsourcing to be “a rich source of theoretical and empirical knowledge and scholarly activity for many years to come” (p.372).

METHODS

The study was qualitative and inductive which was justified because firms using crowdsourcing as their major revenue source have only emerged within the last two decades and, in addition, Web 2.0 style crowdsourcing itself is relatively nascent.

Our research used an inductive and multiple-case design (Eisenhardt & Graebner, 2007). The study was grounded in a qualitative study of seven firms using crowdsourcing as their major revenue source (Table 1). The case studies used multiple sources of data such as interviews, qualitative surveys,

emails and phone calls, media reports and interviews, document analysis, site visits, online website material, firm blogs and archival material.

We used purposeful sampling of two distinct informant groups, namely, firm executives and firm crowd members. These informants were deemed to have unique insights and expert knowledge of crowdsourcing in a real-life context. The firm owners had all built successful and growing firms which were entirely crowdsourcing-focussed and only qualified if they had crowds over 50,000. This manner of firms using crowdsourcing had to be of a critical and indeed *existential* nature. Three of the seven crowdsourcing firms were sourced at *Crowd Conf 2012* – an industry crowdsourcing conference in the USA. The other four firms were contacted direct by the researchers to request participation.

The firm executives were located in four countries Australia, Canada, United States of America (USA) and Nepal. The matched crowd members who were interviewed were located in 10 countries including Australia, Canada, Nepal, New Zealand, Philippines, Serbia, United Kingdom (UK), Ukraine, USA and Venezuela. All crowd interviews were conducted one-to-one and four out of 21 were face-to-face. The remaining 17 crowd interviews were conducted remotely by telephone, mobile or skype. In total 45 semi-structured interviews were conducted including a cross-case matched selection of similarly-ranked firm executives and each firm's corresponding crowd members. The main interview questions asked of each group (firm executives) is detailed at Appendix A. Interview questions were derived from the value creation literature and contained derived elements from the resource-based view, dynamic capabilities, Schumpeterian innovation and transaction cost economics. The crowd members were matched to the firms and were recruited through direct contact by the researchers or on recommendations by the firms. One firm did not allow the researchers to contact its crowd because of privacy laws. All crowd members were experienced and dedicated to crowd work. Some informants performing crowd tasks up to 18 hours a day, every day.

In keeping with the prescriptions of Glaser and Strauss (1967), we employed consistent interview and written survey questions to all informants in each of the two groups so as to allow constant data comparison data across both groups of informants over time. The data was analysed with an overall

grounded theory approach with no *a priori* hypotheses and using inductive style analysis utilising open coding (Glaser & Strauss, 1967; Strauss & Corbin, 1998). Researchers analysed the data using observations among emerging data, themes, concepts and dimensions which built a data structure featuring first order concepts refining to second order themes and then resulting in a finalised aggregate of dimensions (Gioia, Corley & Hamilton, 2012). This was a fluid process and honoured the tradition of inductive research. To start, we used techniques involving *in vivo* line-by-line coding (Strauss & Corbin, 1990). These codes were analysed in NVivo10 software for thematic similarity. At the same time as the *in vivo* coding work, the researchers also constructed fine grain tables of significant quotes and gathered details regarding each firm including notes on observations of three firms, Facebook and Web-based company pages and further press interviews conducted by some of the informants (Miles and Huberman, 1994). To remain true to the data and the inductive flavour, we, in tandem with *in vivo* coding usage also used first order codes, whereby the language used by the informants was used as frequently as possible (Gioia, et al., 2012; Van Maanen, 1979). The results were initially coded manually into a spreadsheet. We repeated the line-by-line *in vivo* coding to code directly into *NVivo 10* software database. Both spreadsheet and databases versions of coding had high levels of congruence. Our repetitive data collection resulted in the exponential building up of themes until no new themes were appearing and data saturation was thereby achieved. The initial coding provided emerging thematic codes for executives with 63 initial coding nodes with 1,528 individual associated coding references. The crowd elicited 90 initial coding nodes with 1,104 individual associated coding references. A summary of steps taken to ensure the reliability and validity of the data is contained in Table 2.

FINDINGS

The codes from both groups of interviewees were eventually selectively coded and cycled into 28 first order concepts. These 28 first order categories were completely informant-based and arose from *in vivo* line-by-line coding. After further analysis the researchers categorised the 28 first order concepts

to ten second order themes to form the basis of the emergent framework concerning the phenomenon of crowdsourcing and how it creates value and these were further condensed to three aggregate dimensions (Gioia et al., 2012). Table 3 displays the informant quotations which relate directly to and help validate the second order themes and aggregate dimensions.

Figure 1 outlines the informant-based first order concepts leading to second-order themes and then to aggregate dimensions – albeit not intending to convey cause and effect. In relation to crowdsourcing firms, our findings point to what type of business, how they are formed and designed and, in addition, how they create value.

Figure 2 outlines the essential characteristics, functioning and value emanating from crowdsourcing firms based on the grounded research from the emerging themes, concepts and aggregate dimensions established from the informant quotes as outlined in Table 3.

DISCUSSION

.Despite early theoretical efforts to uncover value creation drivers in both eBusiness and crowdsourcing domains (Afuah & Tucci, 2013; Amit & Zott, 2001; Bloodgood, 2013), and in response to the dearth of empirical studies on crowdsourcing (Afuah & Tucci, 2012), existing work has not produced a comprehensive rendering of what crowdsourcing is or of its value drivers. This study revealed that there were ten main themes emerging from the data which yielded three aggregate dimensions of crowdsourcing. These three include: firstly, that crowdsourcing businesses self-identify as a unique type of trailblazing business model which is disruptive to rival businesses in the same industry; secondly, that crowdsourcing businesses must attract clients and large crowds who willingly participate anytime and anywhere; and, thirdly, crowdsourcing creates business value and provides tangible value benefits for clients and crowd.

The study provides the following grounded theoretical findings in relation to crowdsourcing:

- 1/ It is new, unique, disruptive, innovative and novel;
- 2/ It is crowd/client participatory, engaging and self-selection oriented;
- 3/ It has ‘anyone, anywhere, anytime’ ubiquity;
- 4/ It provides value and mutual, tangible benefits for all parties involved;
- 5/ It is practiced globally in almost all countries.

6/ It usually operates on a basis of either competition or mass collaboration.

7/ It involves very large crowds participating.

Therefore, crowdsourcing firms establish competitive advantage through innovation, novelty and industry disruption. The firm owners self-portray as innovative trail-blazers who run novel businesses which disrupt like firms in the same industry. Crowdsourcing businesses run through continuous global, open call attracting those willing to participate in the crowd. The firms are expert in efficiently running large numbers of simultaneous projects and handling the input of huge numbers of individual contributions. Value is derived by establishing a competitive advantage over rivals in terms of quality, size, scale and speed and by establishing value offerings for all parties and involving all three groups tightly in the process of crowdsourcing. Demand and supply elements are inter-twined in the crowdsourcing process.

One theoretical contribution is that such findings would speak to the notion that crowdsourcing qualifies as a business model and operates an 'upstream' (firm-centric) and 'downstream' (consumer demand) system where all parties including firm, crowd and client are tightly linked and interwoven (Priem, Li & Carr, 2012; Zott, Amit & Massa, 2011). Crowdsourcing may rightfully be named as a business model and be seen as a holistic system where value is received and created in a multitude of places and from different perspectives. The resource-based view notion of VRIN is most often focussed strictly on the firm as the locus of value creation. The firm-centric view of value creation is important but the downstream (consumer demand) is equally as important – particularly in crowdsourcing where the firm can divest some traditional firm-specific capabilities directly to the crowd. Also in some crowdsourcing scenarios, the crowd can function both upstream and downstream simultaneously within its value system.

In terms of other existing frameworks all firms are industry disruptors and exemplify levels of Schumpeterian innovation. All firms are dominant niche players in their respective industries – both producing niche services, a new way of doing business and dominating their respective online markets. The Schumpeterian notion that crowdsourcing exists as a new way of doing business and that it invents a new source/manner of collecting labour and productive output also speaks to its value creation potential and/or realisation. Inherent to crowdsourcing as it is practiced is the understanding

that it is a system of mutual benefit for all parties. Clients get results “better, faster, cheaper” in the words of the CFO of Firm D. The crowd reaps a variety of value, through a key feature of what crowdsourcing is, that is, chiefly a new method to source work and potential payment. The theoretical contribution is that crowdsourcing is one of the most contemporary examples of Schumpeterian innovation and a new and industry-disrupting way of doing business.

Each firm has indicated categorically that the crowd is their greatest resource. The sheer unprecedented sizes, global reach in the range of 100 -192 countries and niche specialities (particularly firm B) of each firm’s crowdsourcing workforce in their industries is an outstanding example of the elusive value-creating VRIN of the resource-based view (Barney, 1991).

In terms of TCE theory (Williamson, 1985), each firm is a highly efficient mediator of demand and supply forces in its marketplace. Only the successful individual or team behind the crowd-supplied product or service receives payment from the client. Most crowd production is therefore rejected and unsuccessful crowd members are not formally compensated through any payments. Such crowd production in these instances is vast, for example firm A receives new production material from a crowd member every five seconds and Firm G receives over 300 crowd production material items per day. Such vast quantities of crowd produced items are controlled and governed by strict technology protocols. In addition, Firm A partially mitigates the production wastage by having an after-market site for rejected, unpaid crowd production items at reduced prices to encourage clients to purchase.

The managerial implications related to the findings is that crowdsourcing is a novel business model, which has value drivers around innovation, efficiency via reduced transactional costs, unprecedented access to and scaling of human resources and global engagement of vast quantities of human resource talent.

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Table 1 – Case study participant firm details

Firm	Headquarters	Staff	Crowd Size	Industry	Firm Maturity	Interviewees
Firm A	Australia	75 FTE	228,000	Design	Start-up Founded 2008	Founder/Chief Executive Officer Chief Technology Officer Production Manager 3 crowd members (+2 crowd member surveys)
Firm B	Canada	30 FTE	200,000	Marketing Research	Start-up Founded 2009	Founder/Chief Executive Officer Chief Marketing Officer Creative Services Research Lead
Firm C	Nepal	50 FTE	150,000 – 1,000,000	information tech services	Start-up Founded 2008	Founder/ CEO Product Manager VP, Business Development 4 crowd members (+8 crowd member surveys)
Firm D	USA	50 FTE	5,000,000	Services	Start-up Founded 2009	Founder/ Chief Executive Officer Founder/Chief Technology Officer Chief Financial Officer 5 crowd members
Firm E	Australia	300 FTE	7,300,000	Services	Start-up Founded 2009	Founder/ Chief Executive Officer CTO Client Services Manager 3 crowd members
Firm F	USA	20 FTE	100,000	Science	Start-up Founded 2010	Chairman Founder/CEO Scientist 4 crowd members
Firm G	USA	106 FTE	2,500,000	Fashion Design & Retail	Start-up Founded 2000	Founder/CEO Chief Creative Officer Business Dev Manager 2 crowd members

Table 2 - Validity and Reliability - through the course of research

Based on Gibbert, Ruigrok & Wicki (2008); Reuter, Foerstl, Hartmann & Blome (2010); Scandura & Williams (2000); Yin (2009).

Reliability/Validity Criterion	Research Phase			
	Design	Case Selection	Data Gathering	Data Analysis
Reliability (demonstrating that operations can be repeated with same results.)	Strict case study protocol developed. Repeatability of interview questions was established and used. Survey interview questions mimic the oral interview questions. Observations and interviews were recorded and accurately transcribed.	Selection was based on sophistication & advancement of web-based crowdsourcing business models employed by the company.	Development of case study questions abstracted and coded against loosely established impression-seeking exercise and literature review. Recordings of data gathering based on concrete and traceable actions.	Involved authors not involved in field gathering data and instituted coding checks.
Internal Validity (establishing a causal relationship, where certain conditions are show to lead to other conditions).	Impression-forming online exercise and previous value creation literature, theoretical frameworks/ models used as a starting point. This helped to establish progressive explanation-building potential.	Triangulation from double-source (CEO & other mostly C-level executives) as well as crowd members in firm to maximise data richness; firms from four countries; crowd from 5 developing and 5 developed countries; all small to medium enterprises (SMEs).	Multiple informants utilised; Study ensured checking of interview accuracy with all informants <i>post-facto</i> . Regular peer debriefing was conducted.	Triangulation of case study interview and other secondary data; Discussion between authors to attain inter-rater agreement.
Construct Validity (establishing correct operational measures for the concepts being studied).	Study established chains of evidence with multiple informant groupings, data sources and units of analysis.	Case studies to develop theory and so qualitative research justified due to nascence of crowdsourcing phenomenon.	Triangulation demands multiple sources of information; multiple interviews. Interviews and	Interviewees all reviewed case protocol including ethics.

	<p>Study ensured link between initial study questions and the case study procedures including informant type and units of analysis.</p> <p>The types of firms and the circumstances of the evidence to be collected was established prior to data collection efforts.</p>		documents will be the basis of evidence.	
External Validity (establish a domain in which the findings can be generalised).	<p>The scope of the sample was consistently within companies using crowdsourcing as a major business model & all firms were small to medium enterprises and less than a decade old therefore each firm provided the basis for replication logic across the 8 firms.</p> <p>Interview questions/ survey questions were replicated across both groups in a consistent manner.</p> <p>Extant literature potentially provides a basis for evidence comparison.</p>	The study presented a clear description of case firms' context and description.	Data gathering in the study utilised comparison of secondary data to assist triangulation.	The study's data is earmarked to be used to establish future-testable propositions.


Table 3. Informant quotes combined with Archival and Observation data which substantiate first order concepts, second order themes and aggregate dimensions.

Theme 1: The entire business is based on crowdsourcing

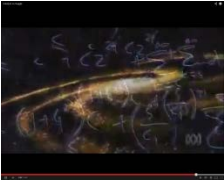
First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
The company was born crowdsourcing	<p>'Basically our entire business model is built on the premise of crowdsourcing.' (CTO, Firm A).</p> <p><i>...the company (Firm B) was born out of a crowdsourcing community (Quote from CEO and Founder of Firm B, by Calgary Herald, February 12, 2014, Business, International Sales, http://www.calgaryherald.com/business/International+Sales/9490862/story.html)</i></p> <p>'It wasn't a company doing normal things and then adding crowdsourcing to its repertoire, it was a company that was born crowdsourcing'. (Chairman, Firm F).</p>
From its start the company was open to fostering and employing crowds	<p>'We learned that it's fairly difficult to get consistently valid and good results from the crowd, and at the same time we also saw the huge potential and a really interesting business to pursue in leveraging the power of a crowdsourced intelligence and then in the matter of an evening you could change the algorithm and you could send it out overnight and by the time you got back to the office the next day you had labels which you could actually use to inform you if you need to change the algorithm or if it got worse or better, whereas in the traditional model, you would send it out to a team that is working 9-5 and it can take them a week to actually give you results back.' (CTO, Firm A)</p> <p>'He sketched on a napkin an idea of you know, how he could build a crowdsourcing community of software development enthusiasts, their ideas and then using that same crowd to kind of you know, find the best ideas, collaborate with the crowd and then ultimately fund those ideas based on the crowd perspective.' (CEO, Firm C)</p> <p>'We don't have a high turnover of successful freelancers. We have a lot of people continuously signing up, and so there is in fact always and always has been, and I suspect always will be, an over-supply of freelancers. There are many more freelancers than there are jobs.' (CTO, Firm E).</p> <p>'You know for four years like we really just kind of treated it like we built this entity that people like to hang out at, you know think if you put a public park and it got really you know, like really, really popular, it was like an important part of the city, like you would never, like all of a sudden, like make people have to pay to go there, right. We made sure that it like stayed how it needed to be and the way that, if we needed to make more money, then we just figured, ok how is money coming in now, and we'll just try and scale that versus like, you know trying to shove marketing down people's throats.' (CCO, Firm G).</p>

Theme 2: Crowdsourcing owners are pioneers and trailblazers

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
Crowdsourcing is a new and unique sort of business	<p>'I mean we're in an industry that didn't exist five years ago, and even today, it's still a burgeoning not-that-well-known buzzword, I still can't really describe to my mother what it is that we actually do.' (CTO, Firm D).</p> <p>'Yes, and when we launched our community, we didn't actually know, we didn't have a term for it. So you know, we were doing it, but we didn't know it was crowdsourcing until Jeff Howe who wrote the crowdsourcing book contacted us and said: "hey, you guys, you're crowdsourcing, I'd like to write about you in our book" and we're like, "that's great, now we can kind of define what we're doing".' (CMO, Firm B)</p> <p>Yes. I think a good way to think about is you know, if you're looking at a traditional MBA model of how you grow a business, we definitely go against those traditional models, and we do that for a reason, we feel like regardless of the country and what needs there are there, we always seem to find a large group of hungry well-educated individuals that need work, and we find they do great work, you know, we couldn't, we're not – we're actually really what should I say - blessed by them, we feel fortunate to have these people (CFO, Firm C)</p> <p>Yes, it's meant to be a hybrid model between the two – outsourcing and crowdsourcing...We do for sure, yeah, we have – obviously we think we're unique in many ways (CEO & Founder, Firm C).</p> <p>But it's not like the whole world understands that they should solve their business problems with crowdsourcing, and you've been to CrowdConf, you know, it's the world's biggest crowdsourcing conference and there's only 600 people there, and oh by the way they're not just talking about micro-tasking they're talking about crowd funding and crowd innovation and O-Desk and we see the people who sell \$500 projects instead of \$5 or 5 cent projects. So this is still an underground technology and we are selling to a very exclusive group of people. (CFO, Firm D).</p> <p>From Observation Notes: <i>The businesses portrayed themselves as 'cool', non-traditional and somewhat mysterious. Of the three firm sites visited (two in USA and one in Australia) all were extremely difficult to find, had no signage and were in 'creative' locales in their respective cities. No-one wore suits and it proved difficult to find who was senior in the company even after wandering around for a while in one firm. There were empty pizza boxes and soda cans in great supply across the office floor in one firm and in the second firm a number of staff seemed to be enthusiastically involved in stacking a multitude of beer into a fridge mid-morning. A fourth site was visited online via a link sent from an enthusiastic staff member who entreated me to watch the whole thing. It portrayed all staff participating in an in-office rock concert being held in the morning with all staff attending...A google search of this firm's CEO's name revealed his own name had a .com website attached to it with sub-heading 'Coolest dude on earth' (July, 2013).</i></p>
Crowdsourcing business owners think differently	<p>'He kind of wasn't encumbered by those pre-definitions about what would work and what wouldn't work, but also unencumbered by you know, like set rules and regulations and would really challenge the team to go – well how can we get around this, what would be the opportunity' (CEO & Founder, Firm B).</p> <p>Yes, I think we're a little different, there are other competitors in this space.. I mean you know, companies like that in that realm I think we would consider you know, even sometimes, you know maybe partners with some of them, it's still I think we like still have something pretty unique from our competitors. I think everyone (here) is doing something a little differently. (Bus Mgr, Firm B)</p> <p>'But that's where we are massively, massively different from any other player. Because every other player has a crowd, and they try to recruit a crowd and curate that crowd so that their crowd has particular competencies. And we don't do that at all, we use the crowd, not a crowd. So we make our work available anywhere where there is a community.' (CFO, Firm D).</p> <p>'There's a few copycats out there that kind of duplicate our model, but none of them have ever really reached scale. I think it's easy to just say we have technology platform that anybody could build you know, because it's actually pretty simple software-wise to put out - just upload a design and vote on it, but the secret is really in the people using it, and it's very hard to get access to the artist community, like we've been able to do over the years' (CEO & Founder, Firm G).</p>

<p>Crowdsourcing business owners are pioneers</p>	<p>'So what we've done is you know, I think what we've done you know, is really pioneered the application of crowdsourcing or you know a group of people solving a common problem' (CTO, Firm A).</p> <p>'Yes, and I think we were a bit of a trail-blazer, so I think that the people that started other crowdsourcing companies following that were members of our community, watched our successes and failures and kind of took that into their own ventures and knew what worked and what didn't work too, so I think we were definitely breaking new ground.' (CEO & Founder, Firm B).</p> <p><i>Crowdsourcing is a big craze today, but local startup, (Firm B), has been in the space since 2009, working with early adopters to help them use the power of crowdsourcing to gain actionable insights on their business. (Company website, Firm B, 27 September, 2012, News).</i></p> <p><i>(Firm B's CEO) is an accomplished and highly successful entrepreneur. After years of pioneering work in the emerging field of crowdsourcing, she founded (Firm B) in 2009, helping clients such as P&G, University of Oxford, American Airlines, and Orange Telecom to gain a new level of market intelligence through crowdsourcing. (Company blog, Firm B)</i></p> <p>So that is, I know you probably looked at other companies, I think that (we are) unlike every other company (CFO, Firm C).</p> <p>Image from firm public presentation at Internet Retailer Conference and Exhibition in June 2011 by Firm G CEO:</p>  <p>"Crowdsourcing" Pioneer, started in 2000. Poster child of crowdsourcing</p> <p>Active Community of 4m monthly visitors, 350k designs, 200m votes</p> <p>Strong Social Presence of 1.6m Twitter followers, 300k Facebook fans</p> <p>Global Business selling millions of t-shirts per year in over 150 countries</p>
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Theme 3: Crowdsourcing businesses are innovative and disruptive to other businesses

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
<p>Crowdsourcing businesses are disrupting industries</p>	<p>'But I would say, at its heart, we have used crowdsourcing as a way to disrupt an industry, you know, like graphic design, you know. Previously people were limited to you know, maybe three or four concepts from a single designer you know, maybe it was their nephew or their niece, you know, maybe it was a student, maybe it was a graphic design shop down the road.' (CTO, Firm A).</p> <p>'So when you move to crowdsourcing you're only paying for what you see, you're paying for the output, and typically something that took two hours with traditional BPO, we can bring that down to potentially forty minutes, thirty minutes, just because of our parallel processing.' (CFO, Firm D)</p> <p>'So it's very disruptive in terms of what we are able to pay, and then you start saying we're going to pay that same amount in rural parts which is just huge.' (CEO & Founder, Firm D).</p> <p>I think ours is one of the first companies to be able to allow for that. This broke a lot of new ground for us and it kind of fits into mediated logo t-shirts which is what we were trying to do when we started the business. (Bus Mgr, Firm G).</p>
<p>Crowdsourcing businesses are highly innovative</p>	<p>'Right and so we believe that you know, we've done something good in flipping that model on its head saying well actually the only thing that should matter is the quality of the work' (CTO, Firm A).</p> <p>'But we're definitely by far the biggest, you know, we're the company in the States that really innovates on it, and generally what happens is we will keep pushing the model forward, trying to solve the sort of pain-points and friction points and then we see the rest of the people sort of following suit and trying to – you know, copy what we're doing' (Product Manager, Firm A).</p> <p>'What we're really doing is we're opening up a whole area of the market that didn't really exist before. So if you're cafe owner for example, and you want to get a website built, in the past you might not be able to afford \$5,000 to get a website built. But now you can go online and get a website for \$100 or \$200; that will perfectly suit your needs.' (CEO & Founder, Firm E).</p> <p>The thing about this business that we've realised is it's always, it's going to be innovative, innovating over time, so the things that we're going to be doing for companies three years from now, probably haven't even been thought of yet, so we're constantly kind of looking for the new ways to use the technology. (CEO & Founder, firm E).</p> <p>'I think the fact that we were the first player in the States, and that we're still here and that we've grown the community to hundreds of thousands.' (Bus Mgr, Firm G).</p>
<p>The crowd itself can offer highly innovative solutions</p>	<p>Like there was one competition recently that I was entering and it like, very quickly people found it - a new data solution, it was about locating whales based on the sounds that they make, I like whales. (Y, Crowd, Firm F).</p> <p><i>In less than a week a glaciologist from Cambridge had produced an algorithm that out-performed those developed in over a decade of research in the space agencies. (Crowd member, Firm F).</i></p>  <p>(screen shot of part of algorithm from network tv broadcast) Australian Broadcasting Commission, Catalyst Science Program Broadcast, August 2011, http://www.youtube.com/watch?v=g6X3zUwiwws</p>

	<p>I think there's a lot, there's no creative boundaries for the t-shirt as a canvas – because you have to wear it every day, and you do have, and it's a form of expression unlike any other canvas I believe, so that – and also t-shirt as a price point is very accessible to the masses, so it's like a piece of art that you carry around with you without paying hundreds or thousands or hundreds of thousands of dollars for a canvas that you actually put like on a wall (Bus Dev Mgr, Firm G).</p> <p>My favourite is actually probably for the H F, building algorithms that automatically graded essays, high school essays, so these are all essays that are being graded by two teachers and we built an algorithm. We had a competition to build an algorithm that could out-perform whatever the teachers could do. (CEO, Firm F).</p>
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Theme 4: Crowdsourcing involves handling lots of people and jobs/ projects efficiently

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
Scale and size of crowds attracted by crowdsourcing firms are great	<p>'I mean we have designers in 192 countries...we're way bigger than anybody else, so that's great.' (Product Mgr Firm A).</p> <p><i>First, scale. The .. platform can handle crowds of a million participants or more — something we're already planning for this year with clients. Second, our software is fully enterprise-ready, enabling us to offer secure integration for large, complex global organizations — we're constantly adding to this capability. Together, the two pieces create a platform for massive, globally-dispersed crowds to drive the kinds of disruptive and innovative outputs that were only notional as recently as three years ago.</i> (CTO Interview featured on company website, Company B)</p> <p>'We have proven that we can do this on a massive scale where we've done a project upwards of 720 million tasks.' (CFO, Firm C).</p> <p>'I think it just was obvious in the sense of scalability you know, as K was saying, you know, the general model of – there's a demand for talent, and there's supply of talent, and we've found this model of giving people some training, giving them an opportunity, and plugging into the local economy and we wanted to scale that, you know we wanted to say great we can hire fifty people, but can we do a million.' (CEO, Firm C).</p> <p>We've got 7 million users, we could have 700 million users and still be getting going right. In fact the other 5 billion people on this planet are going to be potentially customers for us, and many of them also want to get a job so you know, we're in a very good position in terms of the way things are heading with Internet growth and so on, so we just focus on keep getting growth up there, keep the revenue up in triple digit realm if we can. (CEO & Founder, Firm E).</p>
Waste or excess or inaccurate production of crowd effort is handled efficiently	<p>(Firm E) can produce several years of work per day. (CEO & Founder, Firm D).</p> <p>'Here's the thing - once the competition is set up and going, it's all automated.' (Data Scientist, Firm F).</p> <p>'Yes, but so with the leaderboard, I'll get 80% accurate, you'll get to 85, I'll keep working until I get ahead of you, and you keep working until you get ahead of me, and that pushes us to perform better than if we were working on the problem by ourselves. Does that make sense? And so that's a characteristic of (Firm F) that is different.. there's a level of objectivity.' (CEO & Founder, Firm F).</p> <p>Yes, working with accuracy label means on the red job – that means your accuracy is bad, and are not able to work a whole week. We would be given a chance in the following week so that we can increase our performance. Yesterday due to low accuracy 25% or 667 workers have been disabled (from company Internet connection). These 667 are workers who will now get a chance next week to redeem themselves. (J, Crowd, Firm C).</p>
Crowdsourcing is a new employment avenue involving participating and at times self-managing crowds	<p>'In the past thirty days alone we paid out \$1.6 Million to graphic designers.' (Product Mgr, Firm A).</p> <p>'(We have) 200,000 designers, all over the world and we've paid out over US\$45 Million...We've completed about 175,000 projects.' (CTO Firm A).</p> <p>'I think the numbers are – there's 700 Million now in terms of jobs that have been posted that have gone through the system in total which breaks down to about four Million Projects, but the – yes – and the average project there is under \$200.' (CTO, Firm E).</p> <p>'But it really depends, I mean we now have something like 600 different categories of projects' (CTO, Firm E).</p> <p>'So you end up with 87 data points that they need, and on that particular job, which we did in three weeks, we had 120 million-plus individual human actions, with 37 different job types, task types.' (CFO, Firm D).</p>

Theme 5: The crowdsourcing business, its clients and its crowd are all essential elements to successful operation

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
Crowdsourcing businesses represent an activity system or business model innovatively incorporating demand & supply elements	<p>For customers (Firm D) adds value by providing a scalable workforce and high quality workers. For crowdsourced workers (Firm D) establishes a meritocracy and allows the workers to earn more and more money. (CEO & Founder, Firm D).</p> <p>If by clients we mean users of our website, we have 6.7 Million that have signed up to the website to date. At any given time, point in time there'll be something like 12,000 (clients) online... there's 700 Million now in terms of jobs that have been posted that have gone through the system in total which breaks down to about 4 Million Projects.' (CTO, Firm E).</p> <p>'People largely find and build businesses often on the back of (Firm E's crowd) and those people have ongoing existing relationships where they've got a business that is completely being run by (the crowd), or at least big chunks of it, say for instance the entire technical back end might be run by (the crowd).' CTO, Firm E).</p> <p>'There's two key areas that we participate in, or that we play in, the first one is the community that we created – I kind of use the metaphor like tents if you're looking at it like tent poles or if you look at it on a graph, the first graph that's peaking like a bell curve graph is the community participation and the creative community, the interaction of (Firm G) creating a cyber-community of friends, of people that are just passionate about visual arts and graphic design... the second value that we add to our community and our customers, so the ones that voted that design highly can actually purchase it and support it and align you know, and visualize the fact that this is the type of artwork that I love'. (BDM, Firm G).</p>

<p>Crowdsourcing businesses would falter without all parties including company, client and crowd participating</p>	<p>'They (clients and crowd) certainly overlap but we each, each party has their own unique interest that they are also trying to pursue, right, and what is really great for the client is not necessarily great for designers and so because of the two sided marketplace and the money that is primarily coming from the client side, it's very easy for the company to fall into a trap of just solving customer problems, oh well if we solve these problems we could drive more business and we'll make more money for the business and all of this sort of stuff and that is fine, you have to do that too, but the reality is without the designer community there isn't a business either, so even though they are not directly paying us money, the business doesn't exist without them, so I thought it was really important to have somebody looking out, after that side of the business.' (Product Mgr, Firm A).</p> <p>'Yes, you're going to get that overlap of people (crowd and customer). Initially everybody is going to be a customer you know, because those are going to be the only people you can market to. I mean they are the ones who participate. So you know, obviously there's some people who are going to be like all customer and no participation or all participation and no customer, but there's always going to be a good enough amount between the two to have the business be healthy. (CCO, Firm G).</p> <p>'Yes, I think it's a combination of both, so we certainly have a lot of clients that are growing quickly just like we've grown up 100 times over the last eight months in terms of our number of tasks that we've done, eight months ago we were only doing five thousand tasks a week and today we're doing five million tasks a week, so we grow as our clients are growing, and fortunately we have some very high growth clients.' (CEO & Founder, Firm E).</p>
<p>Large crowd numbers are important in crowdsourcing businesses</p>	<p>'There are 100 million people that are members of communities at which (Firm D) work is available, 14 million of them have at some time or another looked at one of our tasks to decide whether they wishes to do it or not. Four million have actually done tasks for us, and on the average day we have 20,000 – 25,000 new people and we have no idea who they are, they are just an IP address.' (CFO, Firm D).</p> <p>'Well I mean we've huge liquidity in the market place, so we've got 7 million users.' (CEO & Founder, Firm E).</p>

Theme 6: Crowdsourcing is always available at all times to people willing to participate

<p>First order concepts</p>	<p>Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes</p>
<p>Crowdsourcing is a global Internet-enabled business and always on</p>	<p>'Yes, so we've still got quite a large contingent in the United States, but we also have you know, a big population of designers in Indonesia, the Philippines, and then Eastern Europe as well, so countries like Bulgaria, Serbia, Romania.' (CTO, Firm A).</p> <p>'The crowdsourcing allows us to tap people with different skills for us right. They come from different backgrounds, and I mean the opposite of crowdsourcing would have been if we had employees, if we had employed those people in-house, right. But everything cost-related would have been like prohibitive, like we had to pay for their management costs, administration costs, right, now what crowdsourcing allows us to do is access experience of these people remotely over the internet' (Product Mgr, Firm C).</p> <p>'Look that soft platform that manages everything from worker retention and grading to setting up gold standards for testing, worker reputation engine, so we definitely provide that, some of them have – in terms of hardware some of them have their own, some of them go to internet cafes.' (VP, Bus Dev, Firm C).</p> <p>'The customers are about 60% outside the US, and the crowd, the community that submits and scores designs are more international, like more like 70% international. But there is not like one demographic, I mean it's anywhere from high school students to art directors at agencies, to even like, we've printed people in their sixties, it's kind of all over the place.' (CEO, Firm G)</p> <p>'The big difference is that we've got a lot of (crowd) coming from Eastern Europe, Indonesia, Philippines, which is not big customer markets for us, but big (crowd) community. Brazil is a big (crowd) community. Chile, the UK. The UK is quite big for us in terms of artist community because of the focus on art. We're starting to break through in Asia a little bit. We're seeing like the Asian community – the oriental Chinese, Asian community starting with the very artistic, but we've never really marketed ourselves there, so we think that there's a lot of growth in these regions for us once we get a foothold in there.' (BDM, Firm G)</p>
<p>Most countries in the world now participate in crowdsourcing</p>	<p>'I mean we have designers in 192 countries. You know, they – up until very recently the largest community of designers was in the US and recently that was eclipsed by Indonesia, and we have large populations in like Eastern European countries, the Philippines is a pretty big one, Australia, Canada' (Production Mgr, Firm A).</p> <p>'Our workforce is in over 80 countries.' (CEO & Founder, Firm D)</p> <p>'Yes, so I don't actually think it is in fact most in the US but they are the largest source. And then, the largest of the freelancing sites – are countries is India but I mean down that list from there it sort of goes through I mean, a lot of the developing world, Bangladesh, Pakistan, the Philippines, but also a lot of Eastern Europe actually is quite big for us, places like Romania... And yes, and on the employers' (clients) side, it's basically a list of the developed world, particularly, with a particular focus on sort of the Anglosphere - Australia, Canada, the UK, but places like Germany, France are quite big for us, but I mean broadly all of the developed world, I mean we don't see much maybe from Japan, I mean we see bits but considering their size, but yes I mean, we have users everywhere literally.' (CTO, Firm E).</p> <p>'Probably just about every one. Actually not sure if it's every one, but it certainly yes, I don't know exactly how many countries, but it would be I'd say about 100, it's definitely more than 100.' (CEO & Founder, Firm F).</p>
<p>Crowdsourcing businesses offer a new employment/payment avenue for developing country populations which are increasingly participating in Internet-enabled businesses</p>	<p>'There's also the economics of it, you know, \$500 in San Francisco is different than \$500 in Jakarta, right, so the amount of effort that somebody is going to put in you know, in San Francisco, versus the amount of effort that somebody will put in in Jakarta is totally different, so you have these kinds of dynamics that go on, but truthfully, the US is a hugely active country for us, but they participate in a completely different way than the people in Indonesia would or the Philippines would, because you know like somebody in the Philippines, they could make a month's income within one contest, and I mean, some of the larger contests you could do that in the US, but still not as clear, and definitely not as much...I mean for the contest where you're winning \$2500 or whatever, \$5000 even, I mean that's great, and you could certainly, that is you know a month's income I guess, you know, somewhere around there, depending on where you are and whatnot, so for an Indonesian when \$400 can be a month's income and \$1000 – wow that's crazy, like this is fantastic.' (Production Mgr, Firm A).</p> <p>'Yes, we could never offer money, just for legal reasons around the globe, so if we did do any, you know, prizes it would be typically like a gift card and I think, I mean you could check up some of the websites we have there that are, that would be, that might give you a run of what we have available, yes and what I'm thinking of now is definitely like an Amazon card, that kind of thing.' (Creative Service Research Lead, Firm B).</p> <p>'When you think of Finland, you think of Nokia, you know, and that's what we want, we want to be you know, the same thing. It's like Nepal - oh (Firm C) – we want it to be a win for the whole nation, this idea of innovation that comes out of the last place on earth that you would think it would come from.' (CEO, Firm C).</p> <p>'The other area we see a lot of growth in is e-government work in developing countries, so while we're working our workforce in developing countries, there's a lot of developing countries that have initiatives to digitize their federal and local records, and they're kind of just like the mobile industry where these countries are skipping</p>

	<p>over the headline phase and going right to mobile, most of these countries are going right from paper in the courthouse to digitizing, and we have proven that we can do this on a massive scale.' (VP, Bus Dev, Firm C).</p> <p>'And so it's not simple economics, there's that one cool piece of research that's been done, where some guy put up very mundane set of tasks up and just kept lowering and lowering and lowering the price offer, to see what hourly rate of pay would get rejected by what geography in the world, and the Europeans stopped doing stuff when the rate of pay dropped down below about \$4 or \$5, and even the Indians stopped doing stuff when the rate of pay dropped down to the \$1.20 range, but the US continued to be productive all the way down to 25cents – 30 cents an hour.' (CFO, Firm D).</p> <p><i>Does (Firm D's) CEO get paid starvation wages like the rest of its workers?</i> (Crowd member, male, 06:20, 08/04/2012, Firm D, Firm Facebook entry).</p> <p><i>You've got the world's population connecting very rapidly. There are five billion people almost that haven't connected to the internet. And the first thing that those five billion people will want to is get a job when they go online, because they earn \$8 a day or less and in some circumstances substantially less.</i> (CEO and Founder, Firm E, quote from an interview conducted by Australian Broadcasting Commission, 24 November 2011, <i>Inside Business</i>, http://mpegmedia.abc.net.au/news/insidebusiness/video/201311/INBm_Tx_2411_512k.mp4)</p> <p>'Yes, one of the big problems we have is business restrictions; we are isolated from the job markets and businesses with other countries. (Firm E) for me has been in a way a hidden door by which I can access those markets, which are the ones to use for the company I'm a part of...Yes, it is a lot of money, yes it is, like it's like the minimal wage if we go through the official exchange rates, if the method of paying is put through the parallel market rates which I'm really not allowed to say over the phone. If you go by that I am earning in a month I earn more money than what some people earn throughout the whole year.' (CM, Crowd, Firm E).</p>
<p>Crowdsourcing work is available to most people who are willing to participate. Crowds may experience difficulties and unfairness</p>	<p>'Sometimes there are times when I feel like the contest is not favourable for designer, it's very much favourable for clients. It happens, but just like (Firm A), it's a kind of industry that can never be perfect, so whenever you are getting frustrated, with some not nice clients or not nice contests, you just have to think of that idea that this is not perfect, so accept the things that you might not be liking.' (JP, Crowd, Firm A).</p> <p>'Another issue is regarding our pay. I am well known that the tasks we do are highly paid in US. I mean in US dollars they come in great amount and still we workers feel that we are paid lower. In past few months I have experienced a great decline in average pay per task. But on the other hand, it is great that we are getting work and we are getting paid as what we do. It's just that I have to give more time to earn the same amount that I used earn a few months before. This is the major discouragement for workers. the price of US dollars is rising. However, our pay rate is decreasing and we cannot question about this to (Firm C) because worker contract has been signed as such'. (GD, Crowd, Firm C)</p> <p>'I am not even sure how to put it on a resume, something else I just thought of too is I haven't declared this on my income tax either... I'm afraid to look into that.... I just thought of something to tell you. I'm embarrassed to do this work, I don't tell anybody really what I do, two people on this whole planet know that I do this work, and anyone else I sort of fudge. I run into a lot of people that I used to work with from the call centre, and they'll say what are you doing now, and I'll say I'm just as vague as I possibly can be, I just say I'm doing a little bit work from home, but it doesn't really pay a lot though and I leave it at that, I just start asking them questions like crazy, and I don't know why I'm embarrassed to admit that I do this, I think because I'm working for pennies and not for dollars.' (KK, Crowd, Firm D).</p> <p><i>Just got expelled with a 50% accuracy for missing 4 questions on the now lower paying Does a Business Exist task. The only problem is all 4 answers were actually correct. It is bad enough to have a task reduced in pay then to be told you have wasted your time because your answers are flawed. Some answers were flawed by people who are getting better tasks and speeding through them with out giving the correct answers while others were non relevant very minor differences between website addresses, etc.</i> (Crowd member ,male, 10:40, 10/03/2014, Firm D, Firm Facebook entry).</p> <p>'The early jobs that I took I took for a lower rate just to get the work, but the most frustrating thing is when somebody says that they need a job at a certain time and then you work, you kind of put off all other work to do that, and then when the time elapses you find that it's disappeared, and you have earned no money for a week.' (D, Crowd, Firm E).</p> <p>'There has been some major difficulties in terms of people trying to cheat. So I suppose people creating multiple accounts to give them a little bit of an edge.' (EJL, Crowd, Firm F)</p>

Theme 7: Crowdsourcing offers a competitive advantage over traditional businesses

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
<p>Crowdsourcing businesses are better, faster, cheaper and reduce risk for clients</p>	<p>'We can do it better, faster and cheaper, and I mean that, it's better, it's faster and it's cheaper. Even very, very simple tasks like the image moderation work we do.' (CFO, Firm D).</p> <p>'What I have to be able to do is to deliver (clients) an answer in which I have mathematical statistical proof of that there is a 95% probability that the number I've given them is correct...The value-add here in the emerging science of micro-tasking of which we by far are the world leaders, is actually about the management of highly complex workflows with massively tough computational problems that sit behind the solution.' (CFO, Firm D).</p> <p>'The best anyone had managed to do was a 70% prediction accuracy and that was after four years in academia, and we were able to beat that within a week and a half of the competition going live and we ended up two months later with an algorithm that generated 77% accuracy, one tenth of an improvement, so you know, that's a pretty spectacular result.' (CEO & Founder, Firm G).</p> <p>Certainly better, I mean the accuracy – we run a whole bunch of these competitions and we have never failed to out-perform the best that a company can do themselves or using a consulting firm. (CEO & Founder, Firm F)</p>
<p>Crowdsourcing businesses are global and always available</p>	<p>'I mean we have a new design that is submitted to the site every five seconds, right, so it's a huge amount of work.' (Product Mgr, Firm A).</p> <p>'So I mean in terms of employers, No.1 U.S. 50%, - No. 2 is UK 10%, - No. 3 is India 7%, then - Australia 5%, - Canada 4%, and a very long tail, and in terms of (Firm E) crowd 35% or in India and then it goes Bangladesh, Pakistan, Philippines, Romania, China, Vietnam, Ukraine, etc. All around the world.' (CEO & founder, Firm E).</p> <p>'UK, Canada, Australia, as second third and fourth, they're always kind of neck and neck, Commonwealth countries. Then you've got Germany, France, Spain, Italy, Mexico, Singapore, Brazil, comprising kind of the top ten, and some of these countries like Brazil is growing hand over fist for us. It's amazing. Singapore is doing phenomenally well for us in terms of year or year growth.' (CEO & Founder, Firm G)</p>
<p>Crowdsourcing businesses operate at huge size and scale</p>	<p>I don't know exactly what the current number is, but it's about 800,000 registered users of which about 150,000 or 200,000 do work on the average day (CFO & Founder, Firm D).</p>

	<p>'So we have about 4 million people who have done useful work for us. The reach is higher but we only count someone as being in the workforce if they do some work for us and it's validated by our system... Our workforce is in over 80 countries.' (CEO & Founder, Firm D).</p> <p>'We've got 7.3 million and growing, and our closest competitor has got two, so you know it's got – with marketplaces it's sort of like winner takes all but the employer is going to go where the most (crowd workers) are and the (crowd workers) want to go where the most employers are, right, so we've got more skills, a deeper marketplace, more liquid market place etc., so there's a lot of benefits there.' (CEO & Founder, Firm E).</p> <p>'Over the course of all the history probably close – somewhere between five and ten million (clients).. it's on demand (so) we don't have to take inventory on it, so we can come out with some every week and we can launch with 400 designs in the catalogue..Yes, we're – actually we're the largest fashion brand on Twitter, it's like 2.5 Million followers, and then Facebook is big for us too, we've got about 700,000 followers on there (CEO & Founder, Firm G).</p>
<p>Crowdsourcing businesses can have a social benefit which also generates profit</p>	<p><i>(Firm B) harnesses the power of crowdsourcing to help great organizations and companies around the world. In addition to our work with companies on market intelligence, brand development and innovation programs, we also work with non-profits, universities, government organizations and enterprise community groups on social good initiatives. Programs have included research grant competitions, non-profit team insights and collaboration, grassroots charitable initiatives, and innovation challenges toward solving global humanitarian problems.</i> (Company website, Firm B).</p> <p>'That's the great thing about crowdsourcing is that they get to choose as much as they want to work, so we have some people that want to work five hours a week, and some that want to work 40 hours. The average being somewhere around 15, so we definitely don't force them or overwork them and in the area of pay, I mean in Nepal we're able to pay extremely well for and I mean that's even looking at like urban Kathmandu where it's very expensive to live, I mean we're still able to pay more than twice, you know again, what you'd get back as an entry level banker.' (CEO & Founder, Firm C).</p> <p>'So I think what throws people is when they see us lead with a statement that we want to connect a million people in the developing work with basic computer work and raise them up as leaders to impact their communities, that automatically says oh this must be not-for-profit, but it's unfortunate because we feel that maybe business has been jaded in a way and most businesses should be about the common good and creating good for all stakeholders.' (CEO & Founder, Firm C).</p> <p>150,000 is kind of the number we have for Nepal. But the purpose for doing that is to raise those people up as leaders to address poverty in their own communities and so the way we say we define that last part we say leaders, leadership equals character times competency, it's just a simple math formula for character times competency, and so the competency part is, so every week when our teams gather, our teams of five gather in person to have their meeting, they spend one hour on competency and one hour on character. So the competency is really basically a performance review of the last week, so the team leader has a report of everything that they did right or wrong, they go over the leader board where there is a team, where as a team we're in – you know, we've moved up to fourteenth place as a team this last week.' (CEO & Founder, Firm C)</p> <p>And we never want to basically restrict the artist from going forward, so we have had a lot of companies that we've worked with that have said and I'm sure you've heard this as well, they have said, hey can we connect directly with the artist, we're the first people to connect them, but we also want to keep in the conversation, because we don't want these companies to abuse the artists, so we kind of stay in the conversation as if they need us to kind of make sure that they don't get treated poorly. (CEO & Founder, Firm G).</p> <p>'I mean what we're doing is we're creating employment in places that desperately need it, they're in jobs that are desperately needed globally, which you know, white collar jobs and skilled jobs all working in quality jobs in whole bunch of different areas and so I mean it's a win/win for everyone really.' (CEO & Founder, Firm E).</p>

Theme 8: Crowdsourcing offers tangible benefits and exceptional value for clients

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
<p>Crowdsourcing businesses offer more choice to clients</p>	<p>'Yes, sometimes they (the client) can get 80 – 100 different designers.' (CTO, Firm A).</p> <p>'I think it just makes it very attractive, I think anybody who is you know, who has tried to work with or hire a designer, this is a very different experience, so they're like wow, you know, I was used to struggling and maybe finding a person and getting one or two concepts, and now you're telling me that I can get like 30, 40, 100 concepts from all sorts of different people, work with them, decide if I like them, and then you know, continue an ongoing relationship going forward, great, that sounds perfect, I would love to do that.' (Product Mgr, Firm A).</p> <p>(We offer) high quality results out of lots of people. Its core capability is producing everything at high quality. (CEO & Founder, Firm D).</p>
<p>Crowdsourcing businesses enable superior service offerings</p>	<p>'We run tests and we're about 40% more efficient than your average data entry worker that's just sitting in the office entering data for eight hours a day.' (CFO, Firm C).</p> <p>'We're really not interested in a fringe solution for like warranty card entry or something that's a side effort to their business, we want to be right in right involved in their core value, in fact, most of our customers would say that we allow them, we enable them to deliver their core differentiator, so in terms of time, we make them faster than any of their other competitors, or we make them more accurate, or we're able to do it at a better cost than their competitors.' (CFO, Firm C).</p> <p>'So if they come to us and we give them a contract, generally it's very flexible, in that today you might have a thousand pieces of content, and tomorrow you might have ten thousand or one hundred thousand, so we can actually scale for that and it doesn't drastically increase your cost nor does it take a big amount of time to actually make that happen, whereas it would with a traditional outsourcing firm or an internal team.' (CTO & Founder, Firm D)</p> <p>There's no other way to scale up and scale down a workforce as fast as (Firm E) can. (CEO & Founder, Firm D).</p>
<p>Crowdsourcing businesses offer participatory client engagement</p>	<p>'The fact that we have on average 350 designs coming to Firm H a day, from all parts of the world, and it's an open call, you know you can come to (Firm G), and actually you know we're doing a lot to increase that user experience, so we're using, one of the things that we're doing is we're using technology and applications of technology such as notification, gamification, badging to continually drive relevance to the artist community right, so it makes their job easier, when they post something.' (BDM, Firm G).</p> <p>'They're designs that are submitted and sometimes they go through like dozens of rounds of community critique and the community is helping the designer make those designs better and finally it gets submitted and it scores well.' (CEO & Founder, Firm G).</p> <p>'It's actually something that is at the heart of our company, so if we sort of get down to the nitty gritty like we believe we're democratizing advertising market intelligent, we're actually putting the consumer, the customer or</p>

	the employee in the driver's seat right beside the company or the Government, because they are now having a full voice'. (CEO & Founder, Firm B).
Crowdsourcing businesses enable unprecedented scale over short-term periods	<p>'We have one client where should all of their fans and employees come on our community it will be in the millions, and that's the client we're working with now. Where they're coming on you know, thousands at a time, and we're starting to get enterprise clients that are saying I'd like to move all of my customers, all of my fans and all of my employees, because I now understand that this is you know, an enterprise innovation way of doing things.' (CMO, Firm B).</p> <p>'We are the most scalable option for getting tasks done. So, for example, if you're a company and you want to have a human being to categorize every tweet that gets mentioned about your brand, you might not know on any given day how many things are going to get mentioned about your brand. One day you might do a big launch or like some scandal might happen and you get like millions of tweets coming out. Other days they might be much lower. There's no other way to scale up and scale down a workforce as fast as Crowdfunder can.' (CEO & Founder, Firm D).</p> <p>'So the fact that the client can come to us and say, hey I need this job done by tomorrow, and we can scale up to a pool of thousands of people to get that completed is something that they greatly appreciate, and they're paying probably the same cost if they had gotten it done by a traditional outsourcing firm over say a week's time. A ton of value is in having that flexibility.' (CTO & founder, Firm D).</p>

Theme 9: Crowdsourcing fosters various types of value for the crowd

First order concepts	Substantiating Informant Quotations, Archival and Observation Data illuminating Second-order Themes
<p>The crowd may attain employment, income, career or personal development, a better life, esteem-building, a creative or philanthropic outlet, work-life balance, 24-hour global employment availability, a time-filling avenue, an alternative employment or payment currency avenue as well as learning, teaming, client-building- and leadership- opportunities.</p>	<p>'The crowd is usually made up of people who like to work for themselves. Generally they are introverts. Some may have a physical disability. Some of them are moms who would prefer to work only when their children are at school. Our crowd self-select'. (CEO & Founder, Firm D).</p> <p>I've talked to a number of our crowd members and they can tell you that you cannot categorize them simply. An example is the woman who did most work for us last year .. her entire reason for doing crowdsourcing all day every day is that so she doesn't have to come out of her room and deal with her retired husband who is now at home every day. (CFO, Firm D).</p> <p>'Maybe I can just give my last word. I think this job is really nice for me. I am meeting new clients, I am meeting different people from around the world, and I was able to showcase my skill and I am beginning to and I think the best part is I have developed my skill more than what I can develop if I did not participate in this international competition. I mean if I did not know (Firm A) maybe my skill in logo design is just as I said around 5% but since I have been working for years for (Firm A) I think it feels to me like my ability my esteem has moved into around 90%, I think it's something like that.' (JP, Crowd, Firm A).</p> <p>'Well actually, the main drive is money definitely because that's what we actually work for, but except that, they have different principles on how you build up your own character, that's for your personal benefit and that's how you develop yourself personally as well as we actually do different community services every month, you know, so that's something that we'll be giving to the community, some social services like whether donating your clothes, or feeding the old people, or you know, giving some funds to the people who are victims of natural calamities, so there are different things, but these main three are the things that have been motivating us to work in (Firm D).' (A, Crowd, Firm C).</p> <p>No, it's not the money. Before I joined (Firm C), I used to spend most of the time in India, I didn't used to do anything and this made me actually... with (Firm C) they give me work to do and also work in the community which I do every two weeks...I have now worked three times in community service in an orphanage. (J, Crowd, Firm C).</p> <p>'I just really enjoy it, it gives you such satisfactory to do, you know, especially if you come across a task that is difficult and you work your way through it, and then the next time you see it it's a little bit easier, the next time it's a little bit easier, and the next time it's just like you could whip right through it, there's a lot of satisfaction in that, they take a lot of our feedback very seriously, if you make a suggestion, they thank you for it of course, and then all of a sudden there it is. There's your suggestion in you know, existing, for everybody else to see and that's a real buzz.' (KK, Crowd, Firm D).</p> <p>It's certainly not the money (laughs), meaning that look their basic tasks don't pay enough for it to be about the money, you know I do some other things now for them, like in terms of like reviewing tasks before they're posted and that sort of thing, and that pays somewhat better, so that's good, but it's more just – it's something to keep my brain occupied with, and to try, like to try these sorts of things, and originally too, with the sites that I am on there's a forum or two that I am on, and part of it you know trying that is just to be part of that forum and the sort of a communication that goes on there, that we can complain about tasks together, or talk about the ones that are easier or harder or that sort of thing. (KY, Crowd, Firm D).</p> <p>'And certainly because money wasn't my motivation I wasn't really concerned about it. In fact sometimes I do competitions in areas that I don't know because my primary aim is to learn new things and learn how to predict better. So I mean because money isn't my motivation, I'm not too concerned. I mean one thing about (Firm G) is that you have to put a lot of time in, so I think even if money was your motivation, the per hour rate would probably be very low. So certainly it doesn't concern me at all, not getting any money.' (AS, Crowd, Firm F).</p> <p>'They make it easy for us, because the company pays the money to (Firm F), they kind of buy so many hours, we work so many hours and then Firm G pay us. So they're just like a middle-man who makes it easy for us, because people like me are not into – we gladly work for free you know.' (PB, Crowd, Firm F)</p> <p>I really found them quite interesting, they were about graphic design, they were about photography and science photography and I found that quite interesting because the videos were well produced and they were the type of shows that I would probably be watching anyway if I saw them on the Discovery Channel or on National Geographic, I would probably spend time looking at them anyway so I found that interesting that I was getting paid to actually watch and transcribe something that I would normally watch anyway (LC, Crowd, Firm E).</p> <p>it was really great pleasure to work for (Firm A), and for me it was very pleasure work as a Freelancer I had much more free time for me and for my kids because I have family, and I could work on projects I like, not every project I have to work on, so that was a few reasons why I choose to work for (Firm A) and definitely money was better than I could earn here in Serbia.(GD, Crowd, Firm A).</p> <p>'I think they (Firm G) just hold a kind of a special place with me, because I do see them as kind of – they were the vehicle to starting something pretty special for me you know.' (GJ, Crowd, Firm G).</p>

Figure1. Data structure combining executive and crowd groups to form Aggregate Dimensions.

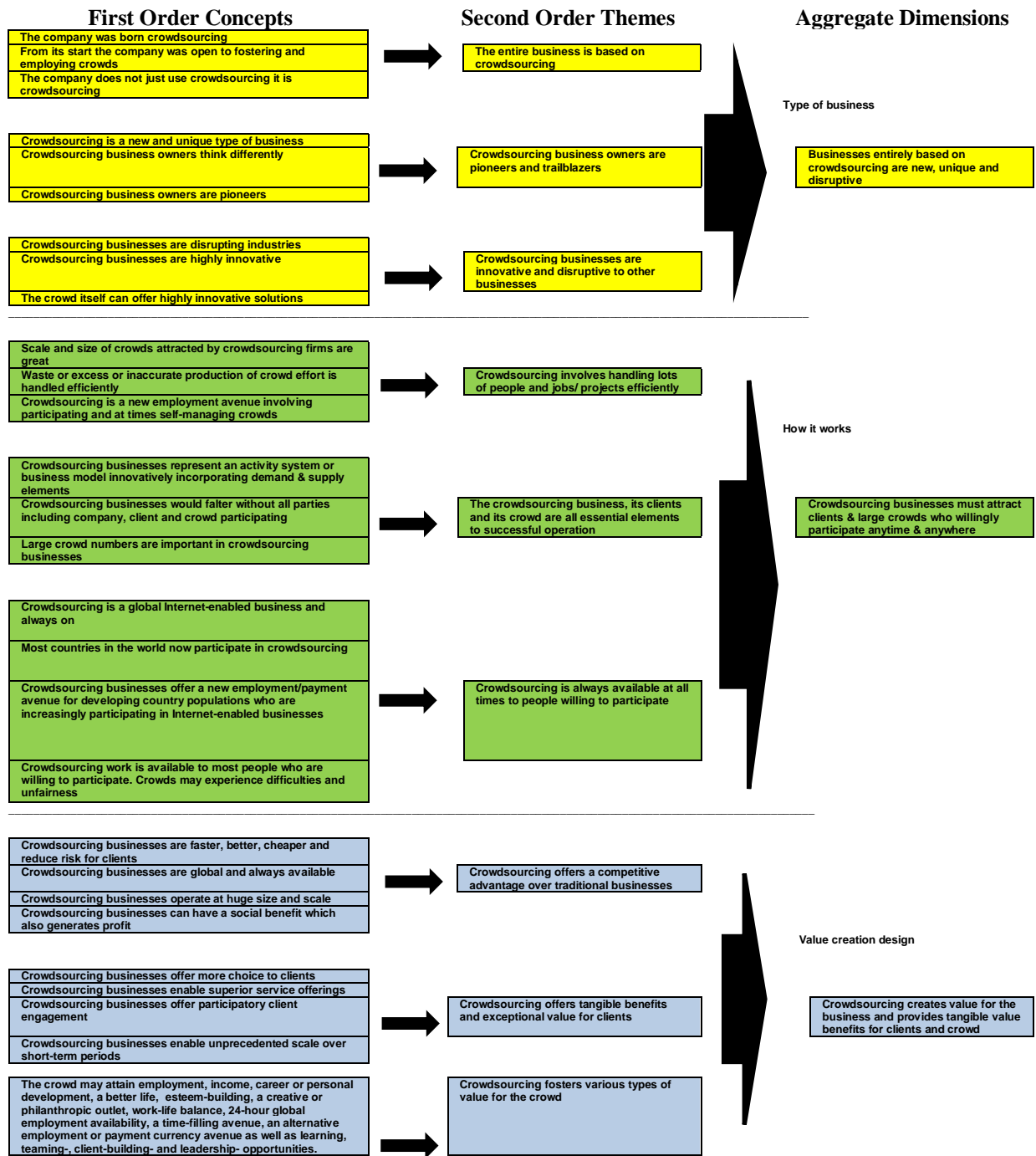
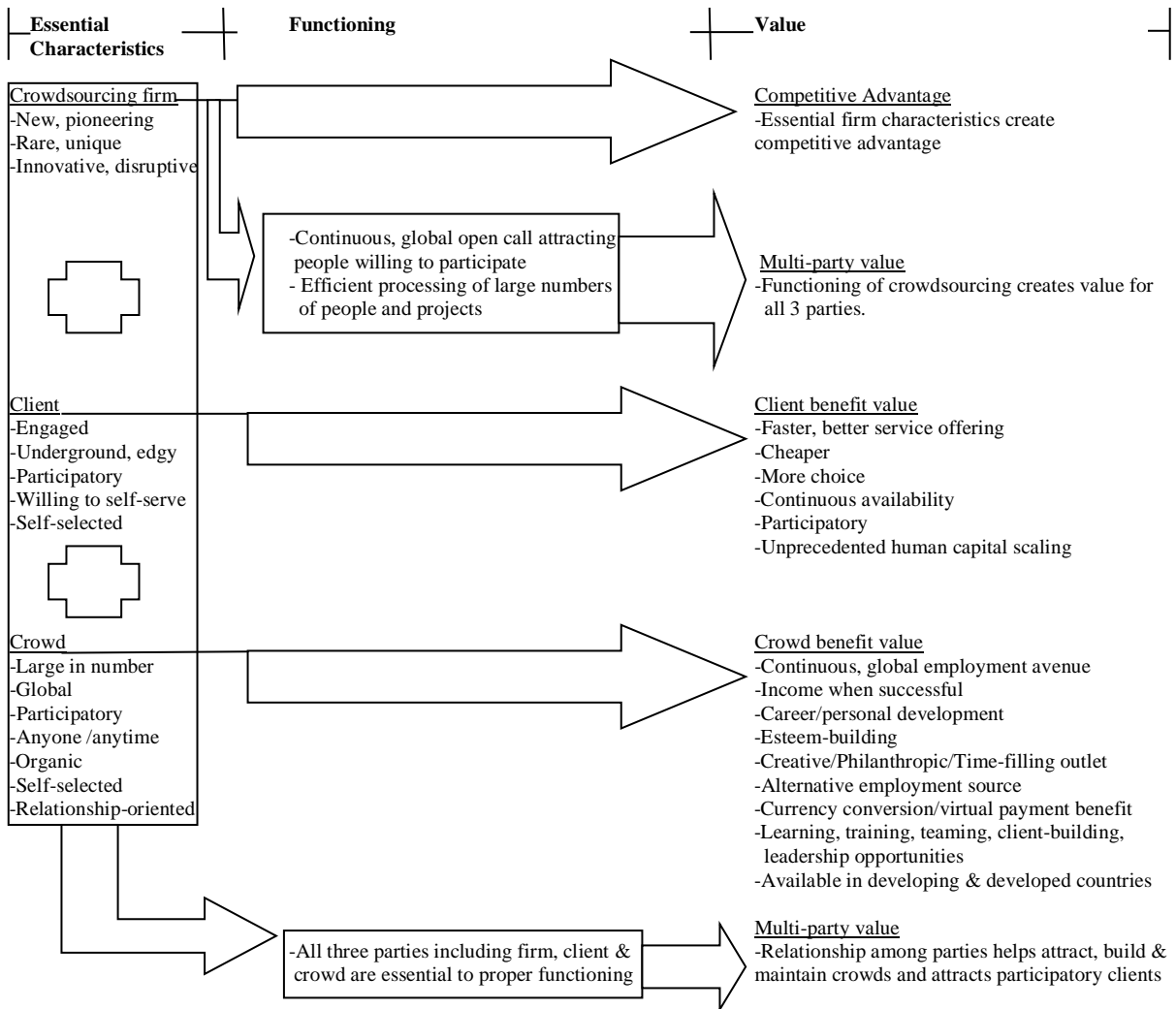


Figure 2: Grounded model of crowdsourcing firm characteristics, function and value creation elements



APPENDIX 1 – Executives Crowdsourcing Interview Questions

Interview Guide



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Crowdsourcing Executives

Name of organisation: _____

Name of respondent & position: _____

Contact (email): _____

Address: _____

Interview guide for the qualitative study: unstructured interviews

- 1) Company background (Historical background, missions and goals, corporate culture, number of employees etc.).
 - **When established?** _____
 - **Main goal/type of company?** _____
 - **Is it privately held company?** _____
 - **A start-up?** _____
 - **No. of employees?** _____
 - **No. of clients?** _____
 - **No. of crowdsourced resources if known?** _____
- 2) How does using crowdsourcing create value for your organisation?
- 3) In what ways does the company create value for its own stakeholders (this can be for clients as well as crowdsourced staff)?
- 4) Why did you choose a crowdsourcing approach?

- 5) How did you go about choosing a crowdsourcing based business model out of other models you could have chosen?
- 6) What is the company's operations strategy in dealing with the changing business environment?
- 7) Are there companies with whom you are in direct competition?
- 8) How does the company communicate with its main stakeholders – particularly those who form the crowd?
- 9) Has the company encountered difficulties with communication with its crowd in particular? Eg. Is there high turnover? Quality problems?
- 10) How does the company attract a crowd? Ie. Do you do anything special to engage/attract them?
- 11) How would you characterise your company's crowd? Eg educated, creative, young, from developing economies, tech-savvy etc.
- 12) How does the company define its core capabilities? Eg. Innovative, Tech-savvy, flexible
- 13) What does this company consider to be the most important capability and how does the crowd fit in (if at all) to this important capability?
- 14) What would the company consider its most valuable resource(s)?
- 15) Do you think your crowd creates any sort of competitive advantage for your company over competitors?
- 16) Do you see crowdsourcing as primarily a business model, a company capability, a company resource or a form of communication?
- 17) What is the future outlook for the company?

Crowd Crowdsourcing Interview Questions

The University of Melbourne Qualitative Survey – Crowdsourcing

*Before you commence please read and sign the final page Consent form
Email completed survey to k.wilson10@student.unimelb.edu.au*



THE UNIVERSITY OF
MELBOURNE

1. How did you come to do crowdsourcing work? How did you find out about it?
2. What motivates you to be part of a crowd labor workforce? Is it money or other things?
3. Are there times when you participate in crowd-working but do not get paid or maybe get paid a low rate and how do you feel about this?
4. What types of crowd-working tasks do you typically perform and how often?
5. Do you develop any special relationship with the people you work for and would you say you trusted them?
6. Do you consider crowd-work a long-term career option?
7. What keeps you coming back to participate in crowd-work?
8. Is crowd-working ever fun and/or does it make you feel special in any way?
9. Do you consider the crowd-work you do to be unfair in any way? Or any difficulties you have found?
10. Any other thoughts?
11. What is your gender? Male Female
12. What is your age? _____
13. What is your current country of residence? _____
14. Optional: also please leave a contact email so I can contact you to clarify or check something or do a follow-up. _____

Email completed forms to k.wilson10@student.unimelb.edu.au