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TOWARDS UNDERSTANDING THE PROCESS OF TOURNAMENT
CROWDSOURCING: THE VALUE CO-CREATION PERSPECTIVE

RUI HE
Doctor of Philosophy

ASTON UNIVERSITY
September 2018

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Thesis Summary

In the contemporary business environment, firms are increasingly moving from creating business value internally to co-creating business value with external stakeholders. Value co-creation refers to the process where a focal firm involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value. Tournament crowdsourcing, as an application of crowdsourcing, has become an emerging approach for firms to engage with external crowds in pursuit of business value. In the existing Information Systems literature, scholars' understanding of value co-creation and crowdsourcing is still at an explorative stage. The process of value co-creation and crowdsourcing have not been extensively studied. In this research, we adopt an interpretive approach and employ multiple-case designs to investigate the process of tournament crowdsourcing through the lens of value co-creation. The findings of this research contribute to the literature on crowdsourcing by 1) introducing the process framework which examines value-generating phases and value propositions from both the perspective of the focal entity and the crowd, 2) revealing the dynamic involvement of the crowd, the process from value creation to value co-creation, and the dynamic value stream, 3) identifying the combined usage of multiple systems and mechanisms for tournament crowdsourcing by contemporary platforms, and potential conflicts related to the governance of the platform, and 4) identifying phases and associated activities relevant to finding the right crowd members from the perspective of the focal entity during the process of tournament crowdsourcing. The findings of this research also contribute to the literature on value co-creation by 1) introducing a thorough definition of value co-creation, 2) conceptually and empirically enriching the most salient components in value co-creation, and 3) bringing in new insights into the value co-creation phenomenon by examining the context of tournament crowdsourcing. In practical terms, the findings of this research may inspire practitioners of generating better understanding about their roles in facilitating value co-creation, the strategic usage of systems and mechanisms, being aware of potential conflicts and finding the right crowd members when conducting tournament crowdsourcing initiatives.

Keywords: Crowdsourcing, Tournament, Value Co-creation, Right Crowd, Process Framework

*for Lei and Zhanlu,
my endless love,
for Julia,
who sets a model of a dedicated researcher,
for the 30-year-old Rui,
who is embracing a new chapter in life,
for those about to rock,
one salutes you.*

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CHAPTER 1 MOTIVATIONS FOR THE RESEARCH

1. The Crowdsourcing Phenomenon and Tournament Crowdsourcing

Over the last few decades, we have witnessed how information technology (IT) has changed the way of doing business. Recently, Samsung has been using an online cloud-based working environment specialized in making collaborative diagrams (called gliffy¹) to facilitate collaborations among remotely distributed workforces. Lay's initiated an online contest to develop a new flavour of crisps. Starbucks developed its mobile application by which consumers could create customized beverages. Emerging terms, such as strategic alignment, open innovation, and customization, reflect the trend that, with the rapid development of IT, today's firms have become more open-minded to embrace external stakeholders and resources. Crowdsourcing has emerged as one of the most popular trends to engage with external crowds in the pursuit of business value.

The concept of crowdsourcing, which was introduced by Howe (2008), is defined as outsourcing a specific task to the "crowd" in the form of an "open call". In fact, the core idea of crowdsourcing is not new. However, being revitalized by modern IT, crowdsourcing today is endowed with new concepts and diversified applications, which offer companies new ways of conducting business activities. Citroën, for example, developed a web application on Facebook to co-design the C1 Connexion series with consumers. Consumers were encouraged to select their favourite designs, in terms of the number of side doors, the interior colour, the appearance colour, Bluetooth devices, GPS devices, and types of wheels. The final design was settled by the preferences of more than 24,000 consumers.

From the perspective of a focal entity (a firm or an individual), tapping into crowdsourcing might be driven by substantial perceived benefits. One distinct benefit is to leverage the wisdom of the crowd. Accessing to a large number of diversified crowd members could potentially produce solutions to address particular issues, for example, research and

¹ See www.gliffy.com.

development through open innovation, consumer research and ideation (e.g. Geiger and Schader, 2014, Chiu et al., 2014, Schlagwein and Bjørn-Andersen, 2014). Moreover, the cost of crowdsourcing is relatively low. It is a purchase-on-demand transaction, while compensations for crowd workers are relatively cheap. Meanwhile, as the project initiator, the focal entity usually possesses a strong bargain power.

In a typical crowdsourcing project, there are usually three parties involved: *the focal entity* refers to the initiator of the project, *the platform* refers to where the project is being crowdsourced, and *the crowd* refers to available workforces that might take part in the project (e.g. Zwass, 2010, Zogaj et al., 2015, Love and Hirschheim, 2017). The focal entity firstly identifies its needs and specifies requirements of the task on the selected platform. The platform, as the intermediary, usually provides systems, technical supports, governance and value added services to connect the focal entity with the crowd. The crowd consists of an undefined group of users, diversified in biography, expertise and other backgrounds. Any crowd member could voluntarily take part in the project.

Scholars in the IS (information systems) discipline have attempted to classify crowdsourcing by examining different aspects of the phenomenon. Zogaj et al. (2015), for example, categorize crowdsourcing by discussing the affiliation of the platform. Simula and Ahola (2014) identify different types of crowdsourcing by looking at attributes of the crowd. Kaganer et al. (2013) distinguish between various contribution mechanisms employed by crowdsourcing platforms.

Tournament crowdsourcing, usually in the form of online competition, tournament or contest, is widely employed for knowledge-intensive tasks, such as analytics, research and development, and software development (e.g. Pénin and Burger-Helmchen, 2011, Huston and Sakkab, 2006, Bonabeau, 2009). It involves crowd members self-selecting to work on projects, with the best solution chosen as the winner (Afuah and Tucci, 2012). In a typical tournament crowdsourcing project, the focal entity creates a competitive environment and offers rewards to facilitate the creation of best solutions from the crowd. A tournament crowdsourcing

project could usually attract a large number of crowd members and generate certain social impacts. Therefore, it is also being used for marketing-related activities (Ghose et al., 2012). Tournament crowdsourcing is backed up by crowd solving systems (Geiger and Schader, 2014). The selected platform could be a third-party intermediary. In some cases, the focal entity also creates its own website or application (e.g. Schlagwein and Bjørn-Andersen, 2014). In order to take part in the project, an individual needs to submit a complete solution to a given problem. Only the best deliverables win the promised rewards.

2. From Value Creation to Value Co-creation

In the IS discipline, where researchers are keenly interested in investigating the strategic use of IT and its associated impacts, the contemporary literature has increasingly captured changes in business value creation. In essence, companies used to sustain its competitive advantages by protecting its scarce resources (Porter, 2004). Business value, therefore, was created by in-house processes and capabilities, and isolated from the business environment. Nowadays, preserving scarce internal resources is still a major concern; however, this is much more difficult because of the fast information exchange enabled by IT. To grasp more opportunities, firms are taking an open perspective, seeking collaborations with stakeholders (e.g. internal employees, business partners, consumers, trade associations and suppliers) (Han et al., 2012). Hence, business value is increasingly being co-created by the focal firm with multiple stakeholders (Grover and Kohli, 2012).

Value co-creation is the emerging term which describes how business value is realized in the contemporary business environment. By summarizing the existing literature, we define it as *the process where the focal entity involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value*. The settings of value co-creation, firstly, emphasize the involvement of external stakeholders such as business partners, suppliers, associations, consumers, and others who could affect, or be affected by, the actions of a business as a whole (Moir, 2001). Secondly, value co-creation is the process which consists of a series of intensive value-generating interactions (Grover and Kohli, 2012). In essence, value is not solely created by the focal entity;

instead, it is co-created through active, continuous, bilateral and multi-lateral interactions between the focal entity and stakeholders, and among stakeholders. Thirdly, value co-creation considers about value propositions (Han et al., 2012). The focal entity and multiple stakeholders may have distinct perceptions of expected value and achieved value before, during and after a series of interactions. It is necessary to discuss value perceptions from multiple perspective in a dynamic way.

Value co-creation is an appropriate lens to investigate the phenomenon of tournament crowdsourcing. At the same time, tournament crowdsourcing is a perfect context for studying value co-creation. Specifically, a focal entity that launches a tournament crowdsourcing project typically pursues value which is co-created through the involvement of the crowd. The involvement of the focal entity and the crowd, value-generating interactions and value propositions perfectly match the key components in value co-creation. Theoretical development in value co-creation, therefore, is a suitable lens to systematically investigate the phenomenon of tournament crowdsourcing.

3. Gaps in the Existing Literature

Value co-creation and crowdsourcing have triggered researchers' interest in the IS discipline. However, through reviewing the existing literature, it is found that scholars' understanding of these two areas is still in its incipient stage. Contemporary studies commonly focus on investigating limited and similar areas of the phenomenon. For example, the majority of investigations into value co-creation focus on analysing the outcome of value co-creation (e.g. Gnyawali et al., 2010, Chen et al., 2012, Han et al., 2012). Some have studied crowd members' motivations for taking part in crowdsourcing projects (e.g. Alam and Campbell, 2017, Leimeister et al., 2009, Heo and Toomey, 2016). Meanwhile, some areas have not been intensively studied; for instance, the interdependency of interactions in value co-creation (Grover and Kohli, 2012) and value propositions in crowdsourcing. In both areas, there is a lack of an integrated view to investigate the phenomenon. Particularly, there is an absence of systematic investigations into the process of value co-creation and crowdsourcing.

4. Research Objectives and Questions

To address identified gaps in the existing literature, this research aims to generate a thorough understanding of the process of tournament crowdsourcing through the lens of value co-creation. We attempt to answer the following two questions:

1. How is value co-created by the focal entity and stakeholders during the process of a tournament crowdsourcing project?
2. How does the focal entity find the right stakeholders from the crowd during the process of a tournament crowdsourcing project?

In order to answer the first question, we employed the lens of value co-creation to investigate interactions and value propositions from both the perspective of the focal entity and the stakeholders during the process of tournament crowdsourcing projects. We aimed to identify value-generating phases and associated value in a process framework. To answer the second question, we took the perspective of the focal entity and examined interactions between the focal firms and stakeholders during the process of tournament crowdsourcing projects. We aimed to identify phases relevant to finding the right crowd and associated activities.

5. Theoretical Contributions

This research primarily contributes to the literature on crowdsourcing by introducing a process framework which examines value-generating phases and value propositions from both the perspective of the focal entity and the stakeholders during the process of tournament crowdsourcing. Secondly, the findings of this research reveal the dynamic involvement of the crowd, the process from value creation to value co-creation, and the dynamic value stream during the process of tournament crowdsourcing. Thirdly, it is also found that contemporary platforms are employing multiple systems and mechanisms for tournament crowdsourcing projects. There are potential conflicts associated with the governance of the platform. Fourthly, the findings of this research take the perspective of the focal entity and identify phases

relevant to finding the right crowd during the process of tournament crowdsourcing.

This research also contributes to the literature on value co-creation. Initially, a thorough definition of value co-creation is elaborated. Secondly, this research conceptually and empirically enriches the most salient components in value co-creation. Thirdly, investigations into tournament crowdsourcing projects bring new insights into the phenomenon of value co-creation.

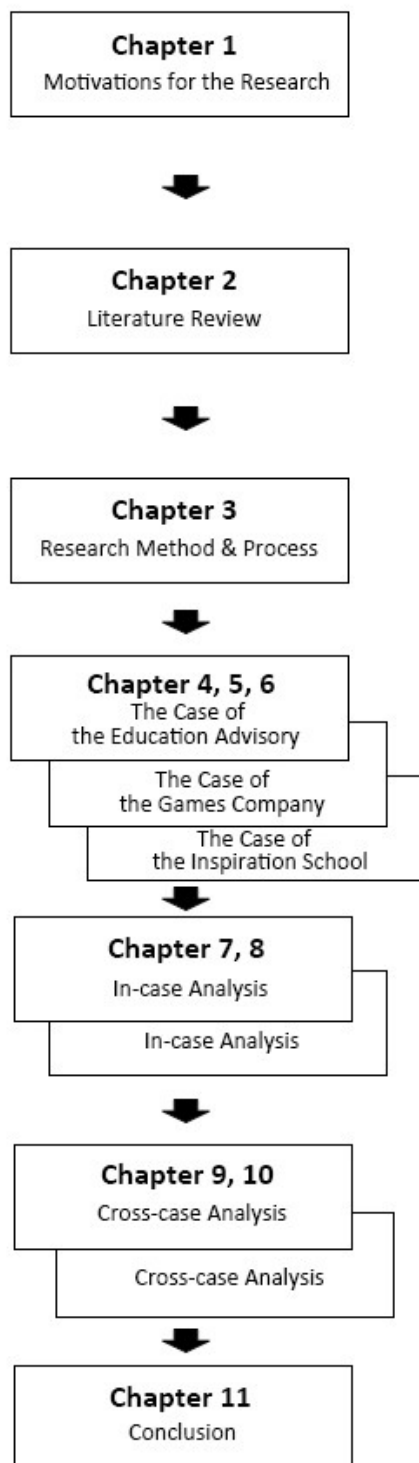
6. Managerial Implications

This research has much relevance to practice. For practitioners, findings of this research may facilitate inspirations of better understanding about their roles in facilitating value co-creation, the strategic usage of systems and mechanisms, being aware of potential conflicts and finding the right crowd members when conducting tournament crowdsourcing initiatives.

7. Outline of the Thesis

The structure of this thesis is presented in Figure 1. Chapter 2 presents literature reviews on crowdsourcing and value co-creation, and discusses identified gaps. Chapter 3 explains the research methods and the process employed in this research. Case studies of three studied projects are presented in Chapters 4, 5 and 6. We discuss the in-case analysis in Chapters 7 and 8. Cross-case analysis, discussions and theoretical contributions are elaborated in Chapters 9 and 10. Chapter 11, as the conclusion of this thesis, summarizes the key findings of this research, contributions to the literature, managerial implications, potential limitations and suggestions for future research.

Structure of the Thesis



Research Design

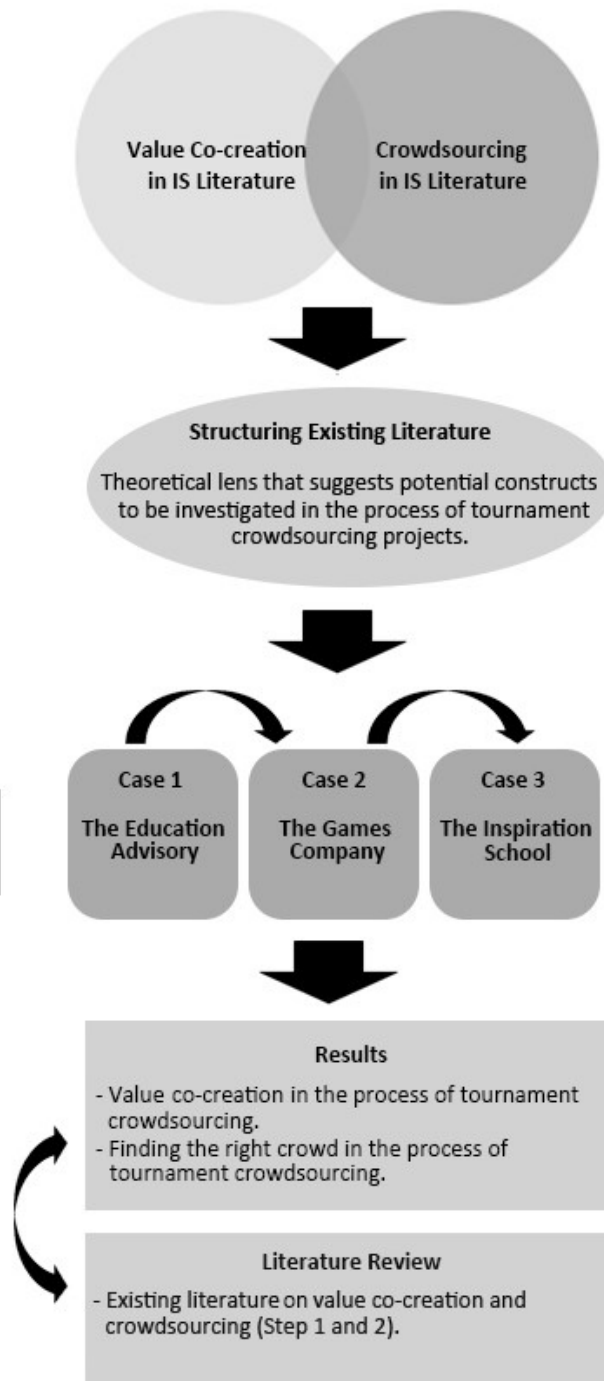


Figure 1. Structure of the Thesis

CHAPTER 2 LITERATURE REVIEW

1. Crowdsourcing

1.1 Introduction

This chapter firstly reviews the existing literature on crowdsourcing. Section 1.2 explains the strategies for the literature search. Section 1.3 provides an overview of the crowdsourcing phenomenon. Section 1.4 discusses classifications of crowdsourcing. Section 1.5 investigates systems for crowdsourcing. Section 1.6 analyses characteristics of tournament crowdsourcing.

1.2 Literature Search Strategy

To secure the comprehensiveness and high quality of the literature search, we identified the top journals (Grade 4 and Grade 3) in Information Management, General Management and Marketing by referring to the Association of Business Schools Academic Journal Quality Guide Version 5 (2015). Selected journals are shown in Table 1. Then, by searching the databases of these journals, using the key words and phrases: “crowdsourcing”, “crowdsource”, “online sourcing”, “tournament”, “contest” and “competition” in the title, abstract and the keywords, we collected a bundle of papers. After eliminating irrelevant papers, there was a sample of 39 papers, spanning the years between 2009 and 2017. All selected papers are listed in Appendix A. In addition to selected papers, we also included some papers being referenced by the selected papers.

IS Journals	
Information Systems Research	Information Society
MIS Quarterly	Information Systems Frontiers
Journal of Management Information Systems	Information Systems Journal
Journal of the Association of Information Systems	Information Technology and People
Computers in Human Behaviour	International Journal of Electronic Commerce
Decision Support Systems	International Journal of Human-Computer Studies
European Journal of Information Systems	Journal of Computer Mediated Communication
Expert Systems with Applications	Journal of Information Technology
Government Information Quarterly	Journal of Strategic Information Systems
Information and Management	Journal of the American Society for Information Science and Technology
Information and Organization	
General Management Journals	
Academy of Management Journal	Administrative Science Quarterly
Academy of Management Review	Journal of Management
British Journal of Management	Business Ethics Quarterly
Marketing Journals	
Journal of Consumer Psychology	Marketing Science
Journal of Consumer Research	International Journal of Research in Marketing
Journal of Marketing	Journal of Retailing
Journal of Marketing Research	Journal of the Academy of Marketing Science

Table 1. Selected Journals for the Literature Review on Crowdsourcing

1.3 Crowdsourcing: An Overview

The term “crowdsourcing”, which was introduced by Howe (2006), refers to outsourcing a traditionally in-house performed task to an undefined, usually large group of individuals in the form of an “open call” (e.g. Nevo and Kotlarsky, 2014, Zhao and Zhu, 2014, Geiger and Schader, 2014, Zadeh and Sharda, 2014, Costa et al., 2013, Schlagwein and Bjørn-Andersen, 2014). The idea of crowdsourcing is neither historically new (Schlagwein and Bjørn-Andersen, 2014, Ren et al., 2014, Majchrzak and Malhotra, 2013) nor necessarily IT based (Schlagwein and Bjørn-Andersen, 2014, Nevo and Kotlarsky, 2014). The “wanted” poster is a typical

example of old-fashioned and non-IT-based crowdsourcing, which has been used to leverage public capabilities to chase criminals since the non-internet age. These days, crowdsourcing has become much more efficient and effective as it takes advantage of the state-of-the-art IT, particularly internet-based technology (Germonprez et al., 2011, Lu et al., 2013). Emerging Internet technologies have substantially reduced the transaction cost of information exchange, and facilitated new modes of collaboration and coordination (Schlagwein and Bjørn-Andersen, 2014). This makes online crowdsourcing the most cost-effective way to engage a large and highly diversified crowd of undefined individuals for task completion.

In the literature, crowdsourcing often refers to online crowdsourcing (e.g. Prestopnik and Tang, 2015, Shen et al., 2014, Geiger and Schader, 2014, Baba et al., 2014). It is interpreted differently by scholars. In an effort to analyse 40 original definitions of crowdsourcing from more than 200 existing papers, Estellés-Arolas and González-Ladrón-de-Guevara (2012 p.197) define crowdsourcing as:

A type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task.

This definition is relatively comprehensive, and adopted by multiple scholars (e.g. Chiu et al., 2014, Schlagwein and Bjørn-Andersen, 2014, Majchrzak and Malhotra, 2013, Shen et al., 2014, Tarasov et al., 2014, Zhao and Zhu, 2014). In this dissertation, crowdsourcing is regarded as online crowdsourcing, and we use the definition summarized by Estellés-Arolas and González-Ladrón-de-Guevara's (2012).

1.4 A Classification of External Crowdsourcing

Crowdsourcing engages the focal entity (an individual, an institution, a non-profit organization or company, who initiates crowdsourcing activity) and the crowd (a group of individuals of varying knowledge, heterogeneity and expertise, who voluntarily participate in the crowdsourcing activity) for task completion via internet technologies. It is an umbrella phenomenon that consists of a wide range of applications (Nevo and Kotlarsky, 2014, Chiu et

al., 2014, Geiger and Schader, 2014, Costa et al., 2013). These applications cover: microsourcing (e.g. FreeLancer), brand community (e.g. My Starbucks Idea by Starbucks), public competitions (e.g. Lay's crisps flavour contest), knowledge contribution (e.g. Wikipedia), technology forum (e.g. FENG.com), and others. This section aims to classify types of crowdsourcing through analysing crowd attributes, contribution mechanisms, participants' motivations, and any other attributes.

Although existing literature commonly assumes crowdsourcing, as online activity, aims to engage an *external* crowd, a crowd could also be *internal* (Simula and Ahola, 2014). Internal crowdsourcing is viable when the focal entity (particularly a multinational organization with a large labour pool) engages its internal human resources as the crowd to accomplish certain tasks via internal channels (usually the intranet, but this could be combined with emails, presentations, face-to-face communication, etc.). An example of internal crowdsourcing is "Just Do It" by Accenture, which aimed to initiate internal brainstorming to facilitate innovation and operation efficiency via internal channels (e.g. email, internal chatting software, and face-to-face presentation). In contrast to internal crowdsourcing, external crowdsourcing recruits a crowd outside the focal entity. External crowdsourcing can be open to everyone, or limited to a finite participant pool on targeted communities (Heo and Toomey, 2016, Majchrzak and Malhotra, 2013). Based on the characteristics of the external crowd, Simula and Ahola (2014) further classify external crowdsourcing into community crowdsourcing, crowdsourcing via broker, and public crowdsourcing. The following classification of external crowdsourcing is built on the work of Simula and Ahola (2014), and further modified and developed through the combining of other previous studies.

Community Crowdsourcing

In a community crowdsourcing project, the crowd consists of individuals and organizations with specific interest, knowledge, expertise and other pre-qualifications on a specific online community (Simula and Ahola, 2014). The community usually has a specific theme (e.g. FENG.com is an IOS-based product and software community). The platform encourages crowd interactions through gamification mechanisms (e.g. Geiger and Schader,

2014), communication channels (Chiu et al., 2014) and certain governance mechanisms (such as user levels and permissions). In addition, distinguished users are also granted some privileges to help manage the community. Contributions are highly voluntary and greatly automated by crowd member themselves. Usually there is no guaranteed financial payment. A project is often accomplished through collaborations among crowd members.

Crowdsourcing via Broker

Crowdsourcing via broker refers to outsourcing tasks via crowdsourcing brokers (online platforms, e.g. Freelancer). It is about outsourcing discrete micro-tasks and other small enterprise services to many small service providers on a targeted online platform (Obal, 2006, Lu et al., 2013, Gefen and Carmel, 2008). The platform serves as the intermediary which connects potential buyers (the focal entity) with potential suppliers (the crowd). Instead of collaboration, crowd members who possess specific skills, knowledge and expertise compete with each other and take part in projects. Usually, there are guaranteed rewards for qualified contributions or best solutions. In a specific project, very often there is no interaction among crowd members. Participation of the crowd is mostly motivated by monetary benefits. The majority of both the focal entity and the crowd on broker platforms are individual users or SMEs, and most projects are not complex (Lu et al., 2013). Kaganer et al. (2013) distinguish between four contemporary crowdsourcing brokers that vary in crowd participation and contribution mechanisms. These are: the facilitator, the arbitrator, the aggregator and the governor. In a specific crowdsourcing project on the facilitator platform (e.g. Elance), the focal entity selects only one from multiple bidders by judging their profiles, work experience, expertise, and some other factors. Then the focal entity hires the winning bidder to accomplish the project. On an arbitrator platform (e.g. crowdSPING), any crowd participation in a specific project must submit completed deliverables. The focal entity selects one, or a few, from multiple deliverables. In terms of the aggregator platform (e.g. Amazon Mechanical Turk), the focal entity segments a complex task into a large number of small and easy pieces. Each piece is accomplished by one crowd member, and the focal entity assembles all the deliverables. On a governor platform (e.g. TopCoder), the platform, on behalf of the focal entity, hosts and governs the project.

Public Crowdsourcing

Public crowdsourcing activities aim to engage as many crowd members as possible (theoretically, everyone) for task completion. The focal entity usually initiates a crowdsourcing campaign via social media channels or creates its own dedicated platform or application (e.g. My Starbucks Idea by Starbucks). A public crowd is highly diversified in terms of knowledge, expertise and biography (Simula and Ahola, 2014). The crowd could voluntarily participate in the campaign through deliverable uploading, commenting and rating. Usually there is no or a very low threshold (e.g. expertise or pre-qualification) for participation. The nature of the interaction is mixed with competitions and collaborations, being motivated by intrinsic and extrinsic motivations (Zheng et al., 2011). A competitive nature exists in contributors who submit deliverables, while a collaborative nature exists in commentators and raters. Usually, there are several winners, who get the financial rewards. The winners are often chosen by the focal entity, sometimes based on the results of crowd voting. Public crowdsourcing is frequently used for marketing, R&D and consumer research related business purposes (Whitla, 2009). An example is “LEGO IDEAS” by LEGO. LEGO involved consumers in toy designs, and merchandised those top-rated designs. In addition, public crowdsourcing often involves post-crowdsourcing activities that engage highly valued candidates into the focal entity’s value-creation procedures. Lay’s crisps flavour contest, for example, invited highly valued candidates to join another round competition. The winning idea was further jointly developed by the competition winner and Lays. The design became an actual product. Revenue from the new product was shared by the winner and Lay’s. Table 2 summarizes the key attributes of the three types of external crowdsourcing.

A CLASSIFICATION OF EXTERNAL CROWDSOURCING			
	Community	Broker	Public
Crowd	Finite labour pool.	Finite labour pool.	Targets everyone.
Platform	Online community.	Broker platform.	Social media, dedicated platform.
Participation requirement	Knowledge, expertise, pre-qualification.	Knowledge, expertise, pre-qualification.	Low threshold.
Crowd interaction	Yes, collaborative.	No, competitive.	Yes, collaborative and competitive.
Dominant crowd motivation	Intrinsic.	Extrinsic.	Intrinsic & extrinsic.
Guaranteed payment	Usually no.	Yes.	Usually yes.
Example	FENG.com.	Freelancer.	Lay's crisps flavour contest

Table 2. A Classification of External Crowdsourcing

1.5 Systems for Crowdsourcing

By distinguishing systems being employed by crowdsourcing applications, Geiger and Schader (2014) identify four archetypes of crowdsourcing information systems, namely crowd processing, crowd rating, crowd solving and crowd creation systems (Figure 2). The four archetypes differ in differentiating value between contributions and deriving value from contributions. In essence, differentiating value between contributions considers whether contributions from the crowd are qualitatively identical and equally valued (homogeneous) or valued differently according to individual quality (heterogeneous). Deriving value from contributions distinguish between whether value is derived directly from individual contributions (non-emergent) or from the entirety of contributions (emergent).



**Figure 2. The Four Archetypes of Crowdsourcing Information Systems
(Geiger and Schader, 2014, p5)**

Crowdsourcing enabled by crowd processing systems aggregates non-emergent value which derives directly from a large number of homogeneous contributions. Each valid contribution is qualitatively identical and equally valued. This kind of systems could fulfil the needs of micro-tasking and crowd-funding (e.g. Deng and Joshi, 2016). Typical examples are Amazon Mechanical Turk for micro-tasking and leetchi for crowdfunding.

Crowdsourcing enabled by crowd rating systems seeks collective value generated from a large amount of homogeneous contributions. An individual contribution does not directly contribute to the final solution. Instead the quantitative properties of collected contributions are highly valued. An example of crowd rating systems is voxvote for mobile crowd voting.

Crowdsourcing enabled by crowd solving systems collects non-emergent value derived directly from individual heterogeneous contributions. An individual contribution is qualitatively unique and thus valued differently according to its quality. Each valid contribution represents an alternative or complementary solution to the given problem. An example of crowd solving systems is 680.com for tournament crowdsourcing.

Crowdsourcing enabled by crowd creation systems generates collective value emerged from interactions of a variety of heterogeneous contributors and their contributions. The quality of individual contributions and interactions among contributors have a complementary share in the collective outcome. An example of crowd creation system is FENG.com for iOS problem solving community.

1.6 Tournament Crowdsourcing

As we have discussed in Section 1.4, scholars have attempted to classify crowdsourcing applications by looking at different angles of the phenomenon. However, technically none of the existing classifications could exclusively distinguish them. Indeed, a majority crowdsourcing applications share some common features while distinct with each other in other features. In this section, we are going to elaborate the common characteristics of tournament crowdsourcing.

Competitive and Collaborative Environment

Tournament crowdsourcing is a typical application of crowdsourcing, usually in the form of online competitions, tournaments or contests. A typical tournament crowdsourcing project, the focal entity creates a competitive environment and offers rewards to facilitate the creation of the best solutions from the crowd. Crowd members voluntarily select to work on the project individually and only the crowd members with the best solutions are chosen as winners (Afuah and Tucci, 2012). The competitive environment is one of the must-have features of tournament crowdsourcing (e.g. Bauer et al., 2016, Hutter et al., 2015, Chiu et al., 2014, Leimeister et al., 2009, Majchrzak and Malhotra, 2013). In some cases, crowd members could also socialize with each other (e.g. commenting, sharing and tagging) and be involved in

solution evaluation (e.g. votes, likes and dislikes). The collaborative environment is a contingent feature of tournament crowdsourcing (e.g. Hutter et al., 2015, Chiu et al., 2014, Majchrzak and Malhotra, 2013).

Guaranteed Compensations

The second must-have feature of tournament crowdsourcing is guaranteed compensations (e.g. Zheng et al., 2017, Dissanayake et al., 2015, Schlagwein and Bjørn-Andersen, 2014, Hutter et al., 2015, Sun et al., 2012, Zheng et al., 2011). The rewards, the number of winners, the criteria for evaluation and how deliverables are evaluated are specified by the focal entity when a project is initiated. Only a few crowd members with the best solutions are chosen as winners. The rest crowd members receive nothing from the promised rewards pool (Zheng et al., 2017, Hutter et al., 2015). In addition to the promised compensations for winners, there might be extra compensations for all participants. In order to promote awareness and encourage participation, the focal entity sometimes offers extra rewards, usually in the form of lucky random draw. All crowd members who participate in the project (may include all crowd members who submitted deliverables and even all crowd members who socialize with each other) share the equal chance to win the extra rewards.

Solution Submission as Participation

In a typical tournament crowdsourcing project, the submission of solutions is prior to evaluating contributors and their contributions, meaning that every participation must submit a complete solution (similar to the characteristic of crowdsourcing via broker the arbitrator model). In some other crowdsourcing applications, micro-sourcing as an example, the crowd member evaluation and selection is prior to the deliverable submission. Thus only crowd members selected by the focal entity are required to submit solutions. Winning rewards tends to be the major motivation for crowd members' participation (Zheng et al., 2017, Alam and Campbell, 2017, Ye and Kankanhalli, 2015). As we have discussed in previous sections, crowd members might also be impacted by intrinsic motivations (Ye and Kankanhalli, 2015, Leimeister et al., 2009, Sun et al., 2012).

Fixed Milestones

Usually a tournament crowdsourcing project has a fixed timeline (Leimeister et al., 2009). When initiating the project the focal entity specifies important milestones, for example the opening time, the deadline of the deliverable submission, the duration of deliverable evaluation and the date of winner announcement. We also found that in addition to the fixed timeline, a crowdsourcing project may have an extension (e.g. the Lay's crisps flavour contest). In particular, when certain submitted solutions are highly valued by the focal entity, the focal entity may further co-develop solutions with selected crowd members. A general lifecycle of a tournament crowdsourcing project usually consists of milestones including project specifications (the focal entity), working on the project and solution submission (crowd members), solution evaluation (the focal entity, the crowd if applicable), rewarding (the focal entity and winners) and extension (if applicable).

Systems for Tournament Crowdsourcing

"Crowd solving systems seek non-emergent value that derives directly from the isolated values of their heterogeneous contributions. Contributions are qualitatively different and thus represent alternative or complementary solutions to a given problem" (Geiger and Schader, 2014 p.5). Compared with other systems, crowd solving systems best fulfil the needs of tournament crowdsourcing, particularly in consideration of the competitive environment and contribution mechanism.

With specific business purposes, managerial concerns and resource availability, the focal entity may have different choices of platform selection. The focal entity could create a dedicated website (e.g. Threadless) for a long-term continuous project. By doing so, the focal entity is able to take full control over the project management and customize the technical functions of the platform to the full extent. However, this is usually a costly option. Alternatively, the focal entity could turn to third party platforms for a short-term one-off project. To boost social awareness, social media platforms such as Weibo and Facebook are preferable. To secure confidentiality, broker platforms (e.g. Freelancer, 680.com and zbj.com) can be good choices. Third party platforms usually possess large crowds of diversified users,

and offers managerial and technical supports. Dependent on the selected platform, the focal entity needs to comply with the platform and retains its control over the project management to a certain extent.

Comparing with Other Crowdsourcing Applications

Being intrigued by the myth of the wisdom of the crowd, scholars frequently associate crowdsourcing with knowledge creation, creativity and innovation (e.g. Chiu et al., 2014, Geiger and Schader, 2014, Sun et al., 2012). This however is not sufficiently robust. Inspired by scholars who attempt to classify crowdsourcing applications (Geiger and Schader, 2014, Heo and Toomey, 2016, Majchrzak and Malhotra, 2013, Simula and Ahola, 2014), we extend the discussions of the previous section and loosely distinguish among some common crowdsourcing applications by their contribution mechanisms, i.e. whether crowd member contribute individually or collaboratively, and the required level of intellectual input of each contribution (see Figure 3).

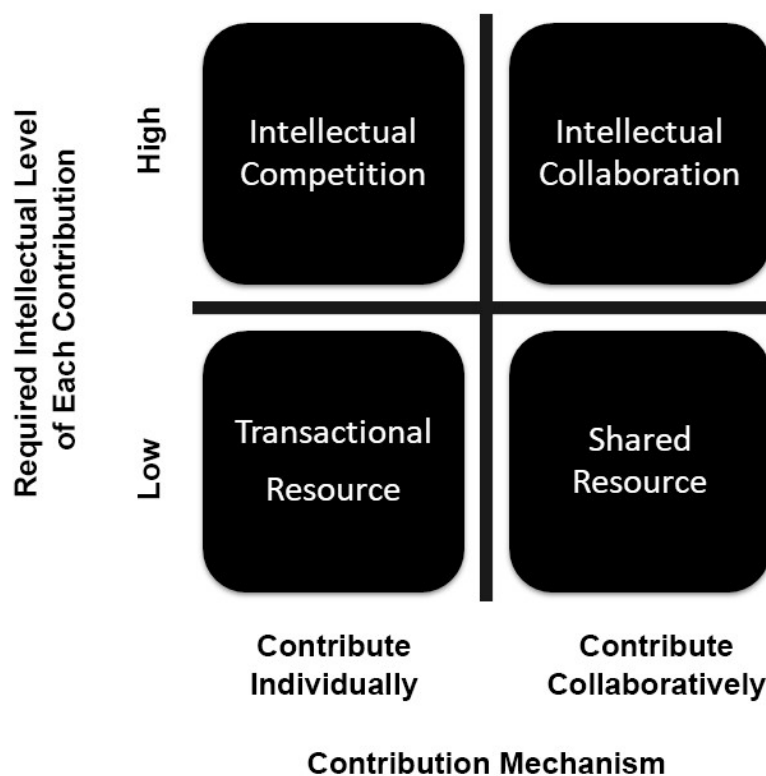


Figure 3. A Classification of Crowdsourcing Applications by the Contribution Mechanism and the Required Level of Intellectual Input of Each Contribution

Instead of taking advantage of the wisdom of the crowd, some crowdsourcing applications exchange mostly physical resources (e.g. time, labour and fund) and require low level of intellectual input from individual crowd members. Crowdsourcing applications as such are classified as *transactional resource*. Examples of transactional resource include crowd-funding, micro-tasking and crowd voting. *Intellectual competition* requires relatively a higher level of intellectual input from individual crowd members. A typical example is micro-sourcing. Crowdsourcing applications which requires crowd members contribute collaboratively with a low level of intellectual input are termed *shared resource*. Brand communities, as an example, usually have relatively low thresholds for participation. Crowd members interact with each other to share information and experience. When a community requires crowd members to make contribution collaboratively with a high level of intellectual input, it becomes *intellectual collaboration*. For example, a professional community usually consists of a group of knowledgeable experts who work collaboratively to deal with complex problems (e.g. Linux software development).

Tournament crowdsourcing is able to deal with knowledge-intensive tasks such as analytics, research and development, and software development (e.g. Pénin and Burger-Helmchen, 2011, Huston and Sakkab, 2006, Bonabeau, 2009). In addition, when crowd socialization is enabled, it is also suitable for marketing-intensive tasks (Ghose et al., 2012). In fact, tournament crowdsourcing has overlaps with multiple crowdsourcing applications. In terms of contribution mechanism, as we have discussed about the competitive environment and the collaborative environment, the major contributions are made individually by crowd members via competitions (e.g. Zheng et al., 2017, Blohm et al., 2016, Leimeister et al., 2009, Schlagwein and Bjørn-Andersen, 2014, Dong and Wu, 2015). Meanwhile, each contribution requires a relatively high level of intellectual input. Tournament crowdsourcing therefore can be classified as intellectual competition. It has similarities with micro-sourcing, however distinct in solution submission as participation (the sequence of stakeholder selection and solution submission). An additional consideration is that a crowdsourcing project may also enable crowd socialization and voting. In such occasion, collaborative and individual contributions with low level of intellectual input also exist. Tournament crowdsourcing

therefore may also possess the characteristics of transactional resource and shared resource

2. Value Co-creation

2.1 Introduction

This part of the literature review discusses the existing literature on value co-creation. It summarizes the key concepts, and reviews various applied lenses that study value co-creation. Section 2.2 explains the literature search strategy. Section 2.3 introduces concepts of “value” and “business value”. Section 2.4 summarizes definition statements of “value co-creation”. Section 2.5 presents the contexts that have been studied in previous research. Theoretical lenses applied by scholars and their major findings are discussed in Section 2.6. Section 2.7 conceives a taxonomy which identifies essential components in value co-creation. In Section 2.8, we justify “value co-creation” as “process”. Section 2.9 discusses studying the process of value co-creation with the lens of value co-creation.

2.2 Literature Search Strategy

Similar to the literature search strategy discussed in Section 1.2, we identified the top journals (Grade 4 and Grade 3) in Information Management by referring to the Association of Business Schools Academic Journal Quality Guide Version 5 (2015). Then, we searched the databases of these journals, using the key words: “value co-creation” and “value cocreation”, “co-creation of value” and “cocreation of value”, “co-create value” and “cocreate value”, “co-creating value” and “cocreating value” in the title, abstract and the keywords, and collected a bundle of papers. After eliminating the irrelevant papers, there was a sample of 17 papers, spanning the years between 2008 and 2015. All the papers are listed in Appendix B.

2.3 Value and Business Value

Value, according to the *Oxford Dictionary*, refers to the importance, worth, or usefulness of something. In business studies, value is perceived as a concept that cannot be easily or clearly defined (Sánchez-Fernández and Iniesta-Bonillo, 2007) for several reasons. Firstly, value may be associated with a wide range of interpretations, such as: worth or usefulness economic benefit; the utility and quality of a product or service; customer relationship and satisfaction; improvement of a business process; a strategic relationship; and the market share, etc. Secondly, different stakeholders may have different perceptions of value, specifically what

value consists of and the degree to which value is measured. Therefore, when discussing value, it is necessary to recognize the chosen perspective. Thirdly, value can be difficult to measure. Whilst some value, for example, economic value, can be quantified; other value, for example, customer satisfaction, cannot be easily measured.

In the business world, value often refers to *business value*. This is explained as any measure of a business entity, including financial aspects and non-financial aspects, important for business operations (Ardagna et al., 2009). Business value is generated through assembled management skills, physical assets, working capital, human resources, legal rights (e.g. patents, trademarks, contracts, etc.) and so forth, which makes the business entity viable and valuable in its competitive market (d Fisher and Martin, 1994).

Business value takes a firm's perspective of value. In literature, one way to distinguish different types of business value is to judge whether it is tangible or intangible (e.g. Kohli and Grover, 2008, Gholami and Kohli, 2012). *Tangible value* refers to financially measurable value, for example, (e.g. productivity, market value, and financial value, Gholami and Kohli, 2012). *Intangible value* refers to financially immeasurable value, for example increased capabilities and knowledge (Gholami and Kohli, 2012). With tangible value, usually financial methods could be used for measurement, for example: Tobin's q (e.g. Brynjolfsson and Yang, 1999), return on assets (e.g. Stratopoulos and Dehning, 2000) and pre-tax profits (e.g. Weill, 1992). Intangible value, however, is harder to quantify. Often, measurement relies on proxies or indirect approaches (Marr, 2007); for example, using scaling techniques to measure satisfaction.

The conventional way that a firm generates business value is by leveraging its own resources and capabilities. However, the past few years have seen a rapid development in internet technologies, and there has been a critical shift taking place in how business value is created (Grover and Kohli, 2012). Competing in an increasingly dynamic business environment, the traditional boundaries of firms are blurring (Hadaya and Cassivi, 2012, Kim et al., 2014). Firms no longer solely rely on their in-house capabilities or processes but also take advantage

of its network in order to create business value. While the focal firm and its multiple stakeholders (e.g. shareholders, customers, suppliers, partners, political groups, trade associations and competitors) co-create business value, they also co-create value for the stakeholders. This phenomenon is called *value co-creation*.

2.4 Defining Value Co-creation

This section reviews definitions of *value co-creation* in the existing literature. Table 3 summarizes statements related to value co-creation from the selected papers. In general, there is an absence of a unified definition. It is found that many of the papers do not have a specific definition statement (e.g. Ceccagnoli et al., 2011, Eaton et al., 2015, Grover and Kohli, 2012, Rai et al., 2012, Han et al., 2012, Chen et al., 2012, Füller et al., 2009, Luo et al., 2015, Kim et al., 2014). In these papers we tried to find relevant statements. For example, Eaton et al. (2015, p.218) in their paper elaborate:

A service system is an interactive configuration of various resources and their mutual exchange to facilitate value cocreation that is institutionalized and regulated through institutional logics and standards.

This statement does not attempt to define value co-creation; instead its main focus is to explain the service system. However, it implies that value co-creation is associated with resources, mutual exchange and certain governance mechanisms. Statements like this are also captured in Table 3

SELECTION OF DEFINITIONS AND RELEVANT STATEMENTS REGARDING VALUE CO-CREATION	
Füller et al. 2009	Cost-efficient and multimedia-rich interaction opportunities offered by the Internet and the existence of online communities have made virtual co-creation a suitable means of creating value and improving the overall success of new products. Information technology enables new forms of producer–consumer collaboration in new product development processes. p.71
Zwass 2010	Co-creation is here defined broadly as the creation of value by consumers. p.11 Co-creation is here treated broadly as the activities of individuals/consumers/users in the production domain, generated independently or at the behest of producer organizations. p.12
Gnyawali et al. 2010	Value cocreation actions refer to competitive moves firms undertake to create perceived and real benefits for their users by engaging other parties as partners and contributors to the SNS services. p.598
Kohler et al. 2011	Co-creation is the process during which consumers take an active role and cocreate value together with the company. p.773
Ceccagnoli et al. 2012	Like other settings of IT value cocreation, in our setting IT is instrumental in creating a product to cocreate business value. p.284
Chen et al. 2012	Companies have begun to explore the possibility of capturing consumers’ “collective intelligence” by establishing firm sponsored online brainstorming sites where individuals can share their ideas and offer comments on the ideas contributed by others. We term these sites “Company-Sponsored Online Co-Creation Brainstorming” (COCB). The value of this open and voluntary co-creation depends largely on members’ contribution levels, the quality of the contributions, and sustained participation. p.142
Sarker et al. 2012	Cocreation involves a symbiotic relationship between a firm and its primary stakeholders, wherein the stakeholders (i.e., the focal firm with its partners or clients) customize and coproduce products/services. p.319
Grover and Kohli, 2012	Contemporary environments involve IT investments being made by multiple companies in cooperative, platform-based, and relational arrangements where the objective is to cocreate value. p.255
Rai et al. 2012	Firms often establish interfirm relationships to cocreate relational value that cannot be created on their own or through market exchanges. p.234
Hadaya and Cassivi, 2012	IT-based co-creation of value encompasses the idea that the IT value created is realized through actions of multiple parties and that this value emanates from robust collaborative relationships among firms. Furthermore, to sustain IT-based co-creation, there must be incentives for parties to participate and equitably share the emergent value. p.183

Han et al. 2012	IT value is increasingly being created and realized through actions of multiple parties, value emanates from robust collaborative relationships among firms, and structures and incentives for parties to partake in and equitably share emergent value are necessary to sustain co-creation. p.310
Tollo et al., 2012	Value co-creation is an emerging business, marketing and innovation paradigm describing the firm's aptitude to adopt practices enabling their customers to become active participants in the design and development of personalised products, services and experiences. p.12719
Kim et al., 2014	Sustained competitive advantage lies in a firm's ability to manipulate resources and capabilities into value co-creation processes. Firms can create value by integrating customers in the product and service creation process. In the case of customer involvement, the literature suggests that the increase of value co-creation activities between a firm and its customers provide unique and inimitable knowledge and this knowledge becomes new sources of a firm's economic rent. Examples of co-creation activities include interactions between customers, suppliers, and responses to government policies and competitors. p.543
See-To and Ho, 2014	Value co-creation is the process where "the consumer and the firm are intimately involved in jointly creating value that is unique to the individual consumer and sustainable to the firm". p.183
Lusch and Nambisan, 2015	Value cocreation, which views value as cocreated by the service offer(er) and the service beneficiary (e.g., customer) through resource integration and indicate the need for mechanisms to support the underlying roles and processes. p.155 Value co-creation refers to the processes and activities that underlie resource integration and incorporate different actor roles in the service ecosystem. p.162
Luo et al., 2015	A new stream in the marketing literature indicates customers need no longer be mere passive recipients of value propositions offered by firms but co-creators of value, product innovation and competitive strategy. The new understandings emphasize that the firm does not create and deliver value to the passive consumers, but through interaction and dialogue embeds value into the co-creation process between the firm and active consumers. The move the focus of marketing to a process of co-creating value through a series practices of exchange and interaction with consumers, that is developing a service orientation based on processes of collective value creation. p.493
Eaton et al., 2015	A service system is an interactive configuration of various resources and their mutual exchange to facilitate value cocreation that is institutionalized and regulated through institutional logics and standards. p.218

Table 3. Selection of Definitions and Relevant Statements Regarding Value Co-creation

Through reviewing the existing literature, we found that none of the selected papers has an extensive discussion on what elements should be covered in a definition of value co-creation. This might be the reason for the absence of a unified and robust definition of the emerging concept. By analysing definitions and related statements in the existing literature, we propose that, in order to give a robust definition of value co-creation, at least three questions need to be addressed: the first question concerns who is involved in value co-creation; the second question asks how value is co-created; and the third question focuses on what value is co-created, and who shares it.

Who is Involved in Value Co-creation?

In terms of who is involved in value co-creation, given the differences in research contexts, scholars mention a variety of entities, including: the focal firm and the alliance company (Sarker et al., 2012, Chen et al., 2012, Kohler et al., 2011, Grover and Kohli, 2012), customer, client and consumer (Lusch and Nambisan, 2015, Luo et al., 2015, Di Tollo et al., 2012, Kim et al., 2014, Kohler et al., 2011, Chen et al., 2012, Füller et al., 2009, See-To and Ho, 2014), partner (Sarker et al., 2012, Rai et al., 2012, Gnyawali et al., 2010, Hadaya and Cassivi, 2012), stakeholder (Sarker et al., 2012), competitor (Kim et al., 2014), individual (Zwass, 2010, Chen et al., 2012) and supplier (Kim et al., 2014). Regardless of the specific context, in any value co-creation activity there are a focal entity (not necessarily a firm, as it could be an individual, although literature often assumes it to be a firm) that initiates the activity and external participants (these could be any as mentioned by scholars) that take part in the value co-creation activity. In this dissertation, for a specific value co-creation activity, we use the term “the focal entity” to refer to the activity initiator; all external participants are termed “stakeholders”.

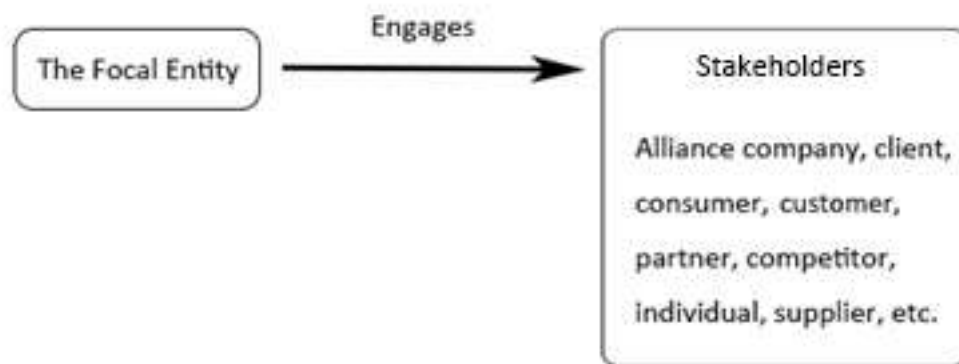


Figure 4. The Focal Entity and Stakeholders in Value Co-creation

How is Value Co-created?

Value co-creation, according to scholars (e.g. Kohler et al., 2011, Lusch and Nambisan, 2015, See-To and Ho, 2014, Luo et al., 2015, Kim et al., 2014), is explicitly explained as the “process” that involves a variety of interactions between the focal entity and stakeholders, and among stakeholders that generate value. A summary of captured interactions from all the papers includes: resource exchange and integration (Eaton et al., 2015, Rai et al., 2012, Lusch and Nambisan, 2015, Kim et al., 2014, Hadaya and Cassivi, 2012), relationship building (e.g. “inter-firm relationship”, Rai et al. 2012; Grover and Kohli, 2012; “symbiotic relationship between a firm and its primary stakeholders”, Sarker et al. 2012; “strategic relationships”, Rai et al. 2012; “collaborative relationship”, Han et al. 2012; Hadaya and Cassivi, 2012; and “value-adding partnerships”, Rai et al. 2012), product/service co-production and customization (Sarker et al., 2012, Kohler et al., 2011, Füller et al., 2009, Luo et al., 2015, Di Tollo et al., 2012, Kim et al., 2014), knowledge sharing and learning (e.g. “collective intelligence” Chen et al. 2012; “inimitable knowledge creation”, Kim et al, 2014), and governance, which includes institutionalization and regulation (Eaton et al., 2015), a mechanism that supports the underlying roles and processes (Lusch and Nambisan, 2015), and structures and incentives for equitably sharing and sustainability (Eaton et al., 2015, Lusch and Nambisan, 2015, Han et al., 2012). Based on the existing literature, we further argue that co-creating value involves intensive interactions. Intensive interactions highlight that interactions between the focal entity and stakeholders, and among stakeholders are active, bilateral/multilateral and

continuous. This is in contrast to value creation which involves mostly inactive and discontinuous interactions. Co-creating value therefore involves stakeholders outside a focal entity to perform business processes, which traditionally are performed in-house by the focal entity, through intensive interactions.

What Value is Co-created and Who Shares It?

As discussed earlier in Sections 2.3 and 2.4, it is difficult to define value as it could be associated with a wide range of interpretations. With respect to definition statements in value co-creation literature, it is found that not all scholars specify what is co-created value, and interpretations of value are diversified. Value is specified as business value (Ceccagnoli et al., 2011), relational value (Rai et al., 2012, Grover and Kohli, 2012), perceived and real benefits (Gnyawali et al., 2010), improving the overall success of new products (Füller et al., 2009), and the firm's economic rent (Kim et al., 2014). Another significant concern raised in Section 2.3 is that, when discussing value, it is necessary to recognize the chosen perspective. The majority of existing studies only take the perspective of the focal entity to discuss co-created value. Since value co-creation involves the focal entity and multiple stakeholders, value propositions therefore should be discussed, not only from the standpoint of the focal entity but also the perspective of stakeholders (Han et al., 2012, Zwass, 2010). Hence, in a value co-creation setting, the focal entity and each of the stakeholders may have different perceptions of value. Meanwhile, value perceptions are not synchronized, i.e. each party may perceive value at different time during different interactions. All value perceptions constitute a stream of value.

Value Co-creation: A Definition

In conclusion, to define value co-creation, firstly, the focal entity and stakeholders should be identified. Secondly, stakeholders are actively involved in previously in house performed business processes of the focal entity. Value is generated through intensive interactions between the focal entity and stakeholders, and among stakeholders. Thirdly, the focal entity and each of the stakeholders may have different and unsynchronized perceptions of value which constitutes a stream of value. Hence, we combine the views and definitions from the previous studies and come up with a definition of value co-creation. We define value co-

creation as:

the process where the focal entity involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value.

2.5 Contexts That Have Been Studied by Existing Literature on Value Co-creation

Table 4 summarizes the contexts that have been studied in value co-creation literature. The contexts could roughly be summarized into two categories: those related to SNS (social networking services) and those related to inter-firm relationships. SNS, based on Gnyawali et al. (2010), refer to web-based software applications that connect and socialize users through a collection of means (e.g. video, audio, image, text chat, message, e-mail, blog, file sharing, etc.). In SNS-related contexts, the focal entity engages stakeholders via SNS (e.g. social media, online community). In total there are 11 papers in this category. All the focal entities are firms; while stakeholders are individuals, small vendors and consumers. Meanwhile B2C (business to consumer) accounts for the most studied context with six papers. In the inter-firm relationship-related contexts, both the focal entities and stakeholders are firms. There are a Total of eight papers in this category.

CONTEXTS THAT HAVE BEEN STUDIED BY EXISTING LITERATURE ON VALUE CO-CREATION			
Paper	Context	The Focal Entity	Stakeholders
Gnyawali et al., 2010	SNS (social networking services, e.g. Facebook).	SNS firm.	Individual SNS users, other firms.
Füller et al., 2009	Internet-based producer-consumer collaborative activities.	The focal firm.	Consumers.
Chen et al., 2012	Company-sponsored online idea-generating community.	The focal firm.	Consumers.
Sarker et al., 2012	Inter-firm collaboration between ERP vendor and partners.	The vendor firm.	Client firms.
Grover and Kohli, 2012	Inter-firm collaboration.	The focal firm.	Other firms.
Eaton et al., 2015	Apple's iOS service system.	The focal firm (Apple).	Individuals and SMEs.
Kohler et al., 2011	Virtual co-creation system (e.g. online community).	The focal firm (system owner).	Individuals.
Ceccagnoli et al., 2012	Independent software vendors in ERP industry.	The focal firm (software vendor).	Other firms (software vendors).
Rai et al., 2012	Inter-firm relationships in the logistics industry.	The focal firm.	Other firms.
Han et al., 2012	Inter-firm open innovation alliances.	The focal firm.	Other firms.
Lusch and Nambisan, 2015	SNS.	SNS firm.	Individual SNS users.
See-To and Ho, 2014	Word of mouth on SNS.	The focal firm.	Consumers.
Luo et al., 2015	Brand community on social media.	The focal firm.	Consumers.
Tollo et al., 2012	Technology-driven firms.	The focal firm.	Customers.
Kim et al., 2014	Firm innovation.	The focal firm.	Consumers, suppliers, partners.
Zwass, 2010	E-commerce.	The focal firm.	Individuals.
Hadaya and Cassivi, 2012	Inter-firm relationships.	The focal firm.	Other firms.

Table 4. Contexts That Have Been Studied by Existing Literature on Value Co-creation

2.6 Theoretical Lenses and Major Findings

This section reviews theoretical lenses employed by scholars to study value co-creation. We will discuss the key assumptions underpinned by each theoretical lens, and summarize the key findings of the existing literature. Table 5 presents a summary.

The Relational View

The relational view originally focuses on the analysis of inter-firm relationships (Dyer and Singh, 1998). The core premise is that the focal entity (firm) is able to generate relational rents and competitive advantage through value-adding initiatives enabled by critical resources spanning firm boundaries and are embedded in inter-firm resources and routines (Hadaya and Cassivi, 2012, Grover and Kohli, 2012). Relational rent refers to “supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation and can only be created through the joint idiosyncratic contributions of the specific alliance partners” (Dyer and Singh, 1998 p.662).

The relational view reveals that there are four components that determine relational value. They are: relationship specific assets, knowledge sharing routines, complementary resources and capabilities, and governance mechanisms (Dyer and Singh, 1998, Hadaya and Cassivi, 2012, Grover and Kohli, 2012). Specifically, the first way a firm can generate relational value is through investing in assets that are jointly created and shared by the focal entity (firm) and the stakeholders (other firms). The second way is through knowledge sharing routines which enable the creation, recombination and transfer of specialized knowledge. The third way is to leverage alliances’ complementary resources and capabilities which the focal firm does not possess. The fourth way is to set up control structure to reduce transaction costs and maximize value co-creation.

The relational view captures the interactive nature of value co-creation. Components proposed by Grover and Kohli (2012) illustrate four types of interactions where value is co-created. Based on their elaboration, the four components are not mutually exclusive. There might exist inter-dependencies. Thus, relational value is co-created through the synergy of the

four components. They suggest investigating the inter-dependencies of these four components and focusing on the process of value co-creation.

There are four papers that employed the relational view to study value co-creation. Grover and Kholi (2012) apply the relational view to discuss IT-based value co-creation. In their conceptual development, they highlight the important role of IT, where each of the four determinants of relational value (relationship specific assets, knowledge sharing routines, complementary resources and capabilities, and effective governance) present a value creation layer and is enabled, expanded or created by IT. In addition, they propose some future empirical research focuses regarding IT value co-creation in the IS discipline, particularly the inter-dependencies of the four layers, and the process of value co-creation.

Gnyawali et al. (2010) investigate whether SNS firms (social networking services, e.g. Facebook) are able to enhance the firm's performance by taking value co-creation actions. In their research, value co-creation actions include *co-development action* and *relational capability action*. Co-development action is IT-based value co-creation, which refers to the engagement of third-party developers to co-develop SNS platform applications. Relational capability action is non-IT based value co-creation, which refers to network building with other firms to expand the breadth and depth of SNS platform services. Gnyawali et al. (2010) hypothesize that value co-creation actions are positively related to firm performance, and this has been empirically proved.

Rai et al. (2012) seek to identify the means by which IT helps to co-create relational value in the context of inter-firm relationships in the logistics industry. Their research focuses on the effect of inter-firm IT capability profiles and inter-firm communication on relationship value. Based on their definition, inter-firm IT capability profiles refer to "*groupings of inter-firm relationships that implement and use a set of IT functionalities to execute inter-firm business processes*" (Rai et al. 2012 p.234). They use "share of wallet" (the percentage of money a customer allocates in a category that is assigned to a specific firm) and loyalty as proxies to measure relationship value. One of the key findings indicates that more sophisticated inter-

firm IT capability profiles and more frequent inter-firm communications on business development create greater value in inter-firm value co-creation.

Hadaya and Cassivi (2012) apply the lens of relational value to examine the effect of investment in shared IT assets and joint collaborative planning on the performance of inter-firm value co-creation. They proved that greater investment in shared IT assets facilitates the focal entity's usage of that IT asset with the stakeholders (other firms). This further boosts the operational and strategical benefits achieved through sharing relation-specific assets, inter-firm knowledge sharing routines, and complementary resource and capability exchange. Moreover, joint collaborative planning, which is defined as a process that orients the plans of individual firms toward each other in order to enable joint planning across organizational boundaries, leads to a better performance of value co-creation.

In summary, firstly, the relational view captures the interactive nature of value co-creation. Value is co-created through interactions between the focal entity and stakeholders, including: mutual communication (Rai et al. 2012), investing in and sharing relationship specific assets (Grover and Kohli, 2012; Hadaya and Cassivi, 2012), knowledge sharing routines (Grover and Kohli, 2012; Hadaya and Cassivi, 2012), complementary resources and capabilities (Grover and Kohli, 2012; Hadaya and Cassivi, 2012), and collective governance mechanisms (Grover and Kohli, 2012; Hadaya and Cassivi, 2012). Secondly, IT plays a significant role in value co-creation. It is found that interactions are enabled, expanded or created by IT (Grover and Kohli, 2012); the focal entity's and the stakeholders' inter-firm IT capability profiles and their investment in shared IT are proved positively related to the performance of value co-creation (Rai et al. 2012; Hadaya and Cassivi, 2012). Thirdly, although the original relational view focuses on inter-firm relationships, it could also be applied to study SNS-related contexts (Gnyawali et al. 2010). Fourthly, Grover and Kohli (2012), in their conceptual paper, propose a research agenda to investigate: 1) potential interdependencies among relationship specific assets, knowledge sharing routines, complementary resources and capabilities and governance, and 2) the process of value co-creation.

The Resource- Based View

The resource-based view identifies two types of resources: property-based and knowledge-based (Miller and Shamsie, 1996). These resources are viewed as *“stocks of available factors that are owned or controlled by the firm”* (Sarker et al. 2012 p.319), and consist of a bundle of potential services that can be used for rent generation. Different firms control different resources, and use resources differently. Therefore, an individual firm has its resource boundary. On this basis, scholars following a resource-based view see value co-creation as expanding an individual firm’s resource boundary through sharing other stakeholders’ resources.

There are three papers that employ the resource-based view. Sarker et al. (2012) attempt to identify different mechanisms underlying inter-firm value co-creation and contingency factors affecting these mechanisms in the context of ERP vendors and partners. According to their findings, the first mechanism for the focal entity and stakeholders to co-create value is through exchanging resources, which reflects the basic assumption of the resources-based view. The second mechanism is to co-develop and share revenue stream (e.g. when a partner firm sells an ERP package, profit is shared by the partner firm and the ERP vendor by proportion). The third mechanism to co-create value is synergistic integration. Sarker et al. (2012) describe synergistic integration as when both the focal entity and stakeholders co-work in a mutually reinforcing manner, with mutual trust and common interest. Both sides surrender some of their own autonomy and invest in the relationship. In addition, Sarker et al. (2012) identify enablers and inhibitors that influence the value co-creation mechanisms. Enablers and inhibitors include: the governance mechanism, IT-related collective strength, and conditions regarding power and politics. Sarker et al. (2012) reveal that better governance mechanisms (for example self-reinforcing mechanisms, contract agreements) and IT-related collective strength (e.g. collective IT capability, simplicity of IT, IT support, IT-related knowledge sharing and learning) enhance value co-creation. Conditions regarding power and politics (conflicts in interest, status differences between the alliance partners) negatively contribute to performance in value co-creation.

Han et al. (2012) investigate value co-creation in the context of inter-firm open innovation alliances (OIAs). Their basic assumption is that alliance announcements lead to positive abnormal returns. The positive reaction towards inter-firm alliance is because of transaction cost reduction¹ (Williamson, 1994) and organizational learning and synergistic resource-pooling (the resource-based view perspective). The findings of this paper reveal that: 1) a firm's announcement of joining OIAs value co-creation leads to positive abnormal stock returns; 2) the announcement of a market-leader-company's entry to an OIA increases abnormal stock returns of existing member firms in that OIA; 3) a firm's announcement of joining OIAs value co-creation leads to its rival firms' (rival firms in the same OIA) positive abnormal stock returns; 4) a focal entity with more heterogeneous stakeholders experiences higher abnormal returns; 5) a focal entity that participates in value co-creation driven by radical innovation (compared with incremental innovation) experiences higher abnormal returns; 6) focal entity with full access and decision authority (compared with limited access and decision authority) experiences higher abnormal returns.

Kim et al. (2014) propose a novel framework which combines the resource-based view and dynamic service capabilities. They firstly draw on the resource-based view to define a firm's internal resources (property-based and knowledge-based resources) and relational capabilities (abilities to maintain relationships with stakeholders). Then, they introduce dynamic service capabilities which allow resources and relational capabilities to affect value co-creation. Dynamic service capability is defined as *"the firm's ability to integrate, build, and reconfigure internal and external competencies to address a rapidly changing environment"* (Kim et al. 2014 p.535). It consists of the dynamic integrative capability (the ability to combine resources and relational capabilities), the dynamic re-configurative capability (e.g. replication, resource allocation, and patching and brokering sources within the firm), and the dynamic extractive capability (related to deducting abilities to achieve efficient performance). They further propose that a firm's property-based and knowledge-based resources combined with relational capabilities will translate into greater effectiveness in developing the three dynamic

¹ The TCE perspective: transaction cost incurs when a firm participates in a market; transaction cost includes search and information cost, bargaining cost, and policing and enforcement cost.

service capabilities, which leads to a better performance in value co-creation.

To conclude, there are several implications regarding findings of papers that draw on the resource-based view. Firstly, the resource-based view by itself cannot sufficiently explain value co-creation. When applying the resource-based view to investigate value co-creation, scholars often combine this with additional theoretical lenses. For example, Sarker et al. (2012) introduce additional mechanisms and enablers/inhibitors; Han et al. (2012) combine TCE with RBV; Kim et al. (2014) bring in relational capabilities and dynamic service capabilities. Secondly, certain capabilities are needed by the focal entity and stakeholders in order to facilitate value co-creation, for example: IT-related capabilities (Sarker et al. 2012), relational capabilities (Kim et al. 2014), and dynamic service capabilities (Kim et al. 2014). Thirdly, a variety of contingency factors influence value co-creation. These factors are: the governance mechanism, IT-related collective strength, and power and politics (Sarker et al.). Fourthly, as Han et al. (2012) reveal, while the focal entity involves stakeholders to co-create value for itself, it also co-creates value for stakeholders. Co-created value is, therefore, shared by the focal entity and stakeholders.

The Taxonomic Framework of Factors in Co-creation

The “Taxonomic framework of factors in co-creation”, which is introduced by Zwass (2010), aims at stimulating investigations into value co-creation in the field of e-commerce. The framework identifies components which captures the most salient aspects of co-creation (Chen et al. 2012). Components include co-creators, process, task, and co-created value.



Figure 5. The Taxonomic Framework of Factors in Co-creation (Zwass, 2010)

According to Zwass (2010), the first component “co-creator” considers the stakeholders of a value co-creation activity, and their motivations of participation. Motivations can be extrinsic motivators (i.e. external rewards) and intrinsic motivators (i.e. inner senses). The second component “process” considers the governance of value co-creation activity. It can be achieved through incentive control and IT support. The third component “task” considers the characteristics of the task, which poses requirements on the stakeholders and the process. The fourth component co-created value considers how stakeholders’ contributions are aggregated and how economic benefits spill over to stakeholders.

Chen et al. (2012), based on this taxonomy, investigate and identify the key relationship between feedback/participant activity levels and duration of participation in the context of the company-sponsored online idea-generating community. They demonstrate that the level of peer feedback and the response speed of the sponsor company have significant influences on both members’ contribution levels and duration of active participation. The sponsoring company’s feedback, however, seems to influence only the quality of members’ contribution level.

The taxonomic framework of factors in co-creation identifies salient components in value co-creation. However, this taxonomy has limitations in terms of comprehensiveness. For example, only governance is listed in the component of “process”. Based on findings of Chen et al. (2012), we could also add communication into this component. By reflecting the relational view and resource-based view, it is also possible to include resource exchange, knowledge sharing and learning. Another concern about this taxonomy is that the arrows are not explained. Whether these arrows refer to relationship or direction is unknown. Although this taxonomy is perceived to have certain limitations, it has potential to be further developed. In Section 2.7, we develop a taxonomy that identifies essential components in value co-creation. The taxonomy is built on ideas introduced by Zwass (2010).

Lenses Related to Consumer Behaviour

A group of scholars apply lenses related to consumer behaviour to study value co-creation. Füller et al. (2009) employ the lens of consumer empowerment to investigate how best to design an internet-based co-creation platform and tools. Consumer empowerment is explained as: *“How the new technologies enable people to interact with the world on different levels (personal, dyad, group, or community) and to do or to achieve things that they found difficult to do or to achieve before”* (Füller et al. 2009). It is proposed that, to effectively support virtual consumer value co-creation, internet tools should make customers experience increased self-determination and efficacy, and enable them to enjoy their participation.

Similarly, Kohler et al. (2011) investigate value co-creation platform design with the theoretical lens related to users’ interaction experience. Based on their findings, platform design needs to enhance user experience through improving: (1) pragmatism (develop interactive objects, design to inspire, and create immersive environments), (2) usability (simplify the experience, provide clear navigation structure, promote intuitive usage, and provide individual support), (3) collaboration (co-create the system), (4) sociability (attract critical mass, encourage collaboration, engage in conversations, and foster informal sociability), and (5) hedonism (playfulness and provide challenging tasks).

See-To and Ho (2014) analyse the impact of eWOM (e word of mouth, the effect of online information passed from person to person) on purchase intention, trust and value co-creation. They indicate that: (1) the consumer-learning process is one of the processes in value co-creation; (2) trust is a prerequisite for value co-creation; (3) value co-creation enhances consumer engagement, which facilitates purchase intention.

Luo et al. (2015) explore whether value co-creation practices in brand communities have positive effects on: the relationship between the consumer and the brand, the relationship between the consumer and other consumers, community commitment, and brand loyalty. Their perspective is based on brand loyalty (the consumers' commitment to repurchase or continue using the same brand). Findings related to value co-creation reveal that value co-creation practices (the interaction between the focal firm and consumers, and among consumers) in social media based brand communities enhance the consumer-brand and consumer-to-other-consumers relationship.

In conclusion, firstly, lenses related to consumer behaviour emphasize the quality of interaction in value co-creation. To secure the quality of interaction, the shared IT platform and tools are expected to enhance consumer empowerment (Füller et al. 2009) and the experience of user interaction (Kohler et al. (2011). In addition, informal governance (for example mutual trust and relationship, See-To and Ho, 2014) could generate a positive impact on securing the quality of interaction. Secondly, communication (eWOM, See-To and Ho, 2014), relationship building (Luo et al. 2015), and learning (See-To and Ho, 2014) are value-generating interactions between the focal entity and stakeholders, and among stakeholders (e.g. eWOM among stakeholders, See-To and Ho, 2014; learning among stakeholders and between the focal entity and stakeholders, See-To and Ho, 2014; consumer-brand and consumer-to-other-consumers relationships, Luo et al. 2015).

Other Theoretical Lenses

Theoretical lenses adopted by the remaining papers are highly diversified. They are: boundary resources and tuning (Eaton et al. 2015), innovation commercialization, appropriability, and markets for technology (Ceccagnoli et al. 2012), S-D (service-dominant) logic (Lusch and Nambisan, 2015), and Artificial Neural Network (ANN) measure of innovation (Tollo et al. 2012).

The basic assumption of boundary resources and tuning is that when the focal entity has the ownership of the value co-creation platform and authority to control regulations on that platform, it influences platforms users' resistance and accommodation (Eaton et al. 2015). The findings of this paper mainly contribute to the formal control (governance) in value co-creation. Boundary resources and tuning, as governance mechanisms, are able to enhance value co-creation performance through gatekeeping stakeholders' interactions.

Ceccagnoli et al. (2012) investigate whether independent software vendors' (ISVs) participation in an ERP co-development platform (value co-creation) improves its business performance and how appropriability mechanisms influence the benefits of partnership. Hypotheses are grounded in the literature on innovation commercialization, appropriability, and markets for technology. This stream of work suggests that *"the decision of start-ups to partner with established firms in order to commercialize their innovations is critically conditioned by ownership of IPRs (intellectual property rights) and downstream complementary capabilities (e.g. manufacturing, marketing, and distribution)"* (Ceccagnoli et al. 2012 p.265). Findings indicate that: 1) ISVs can acquire significant benefits (increase in sales and increased potential of initial public offering) through the participation in a value co-creation platform ecosystem; 2) the ownership of IPRs and downstream capabilities is positively related to the outcome of value co-creation.

S-D (service-dominant) logic, according to Lusch and Nambisan (2015), views that a firm focuses on serving², rather than focusing on offering product or any other output. Within S-D logic, value is co-created by the service provider and the service beneficiary through resource integration in a supportive environment. It is propose that, to achieve fruitful value co-creation, it is necessary to: 1) identify the key actors and their roles in value co-creation; 2) create a supportive environment for resource integration through establishing a mechanism that facilitates interaction, accommodating internal processes to adjust to diverse actors, and enhancing transparency of resource integration.

Tollo et al. (2012) apply Artificial Neural Network (ANN), which is a statistic modelling approach, to conduct quantitative analysis of the relationship between value co-creation and innovativeness. They identify three value co-creation practices (interactions): 1) resources exchange, 2) customer relationship, and 3) mutual learning. The findings suggest that value co-creation practices can be considered as good indicators for the outcome of a firm's innovation-related activities.

In conclusion, firstly, we captured four interactions in value co-creation. They are: resource exchange (Lusch and Nambisan, 2015; Tollo et al. 2012), relationship building (Tollo et al. 2012), learning (Tollo et al. 2012), and governance (formal control: boundary resources and tuning, Eaton et al. 2015; IPRs protection, Ceccagnoli et al. 2012). In addition, it is highlighted that the focal entities' downstream capabilities (Ceccagnoli et al. 2012), capabilities to identify the key stakeholders and their roles in value co-creation (Lusch and Nambisan, 2015), and capability to create a supportive environment (Lusch and Nambisan, 2015) are positively related to value co-creation outcomes.

² Exchange of service that occurs by one actor using its skills and capabilities for the benefit of another actor.

THEORETICAL LENSES AND THE KEY FINDINGS OF EXISTING LITERATURE IN VALUE CO-CREATION	
Paper	Key Findings
The Relational View Relationship value is gained through relationship specific assets, knowledge sharing routines, complementary resources and capabilities and effective governance.	
Grover and Kholi, 2012	<ul style="list-style-type: none"> - Indicate four determinants: 1) relationship specific assets; 2) knowledge sharing routines; 3) complementary resources and capabilities; and 4) governance. Each of them presents a value creation layer and is enabled, expanded, or created by IT. - Propose a future research agenda to investigate inter-dependencies of the four layers and the process of value co-creation.
Gnyawali et al., 2010	<ul style="list-style-type: none"> - Empirically prove value co-creation actions (co-development action and relational capability action) are positively related to a firm's performance.
Rai et al., 2012	<ul style="list-style-type: none"> - Indicate more sophisticated inter-firm IT capability profiles, plus more frequent inter-firm communications on business development, create greater value in inter-firm value co-creation.
Hadaya and Cassivi, 2012	<ul style="list-style-type: none"> - Reveal that greater investment in shared IT assets facilitates the focal entity's usage of that IT asset with stakeholders (other firms). This further boosts operational and strategical benefits achieved through sharing relation-specific assets, inter-firm knowledge sharing routines, and complementary resource and capability exchange. - Indicate joint collaborative planning, as a governance mechanism, leads to better performance of value co-creation.
The Resource-based View Property-based resources and knowledge-based resources span across firm boundaries. The focal entity is able to leverage other stakeholder's resources and capabilities.	
Sarker et al., 2012	<ul style="list-style-type: none"> - Identify three mechanisms underlying inter-firm value co-creation: (1) resource exchange, (2) co-development and sharing of revenue stream, (3) synergistic integration. - Identify three enablers/inhibitors that influence these mechanisms: (1) governance, (2) IT-related collective strength, (3) power and politics.

	<ul style="list-style-type: none"> - Identify that a better governance mechanism and IT-related collective strength enhance value co-creation. Power and politics negatively contribute to value co-creation.
Han et al., 2012	<ul style="list-style-type: none"> - Indicate that a firm's announcement of joining OIAs value co-creation leads to its positive abnormal stock returns. - The announcement of a market leader company's entry to an OIA increases abnormal stock returns of existing member firms in that OIA. - A firm's announcement of joining OIAs value co-creation leads to its rival firms' (rival firms in the same OIA) positive abnormal stock returns. - A focal entity with more heterogeneous stakeholders experiences higher abnormal returns. - A focal entity participating in value co-creation driven by radical innovation (compared with incremental innovation) experiences higher abnormal returns. - A focal entity with full access and decision authority (compared with limited access and decision authority) experiences higher abnormal returns.
Kim et al., 2014	<ul style="list-style-type: none"> - Propose that a firm's property-based and knowledge-based resources combined with relational capabilities will exhibit stronger effectiveness in developing the three dynamic service capabilities, which generates better performance in value co-creation.
Taxonomic Framework of Factors in Co-creation The most salient aspects of co-creation.	
Zwass, 2010	<ul style="list-style-type: none"> - Classifies value co-creation into several components, capturing the most salient aspects, including: (1) co-creators, (2) process, (3) task, and (4) co-created value.
Chen et al., 2012	<ul style="list-style-type: none"> - Demonstrate that the level of peer feedback and the response speed of sponsor company feedback have significant influences on both members' contribution levels and duration of active participation in value co-creation activity. - The sponsoring company's feedback, however, seems to influence only the quality of members' contribution level.
Consumer Empowerment Considers how the new technologies could better serve user interaction.	
Füller et al., 2009	<ul style="list-style-type: none"> - To effectively support virtual consumer value co-creation with different IT-related capabilities, internet tools must make customers experience increased self-determination and efficacy and enable them to enjoy their participation.

User Experience The experience users have with the co-creation system is the key to make virtual places a vibrant source of great connections, creativity, and co-creation.	
Kohler et al., 2011	<ul style="list-style-type: none"> - The design of value co-creation system needs to treat user experience as the core consideration. This includes: (1) pragmatic (develop interactive objects, design to inspire, and create immersive environments), (2) usability (simplify the experience, provide clear navigation structure, promote intuitive usage, and provide individual support), (3) collaborative (co-create the co-creation system, (4) sociability (attract critical mass, encourage collaboration, engage in conversations, and foster informal sociability), and (5) hedonic (playfulness and provide challenging tasks).
eWOM (e word of mouth) The effect of online Information being passed from person to person.	
See-To and Ho, 2014	<ul style="list-style-type: none"> - Identify that the consumer-learning process is one of the processes in value co-creation. - Trust is a prerequisite for value co-creation. - Value co-creation enhances consumer engagement, which further enhances purchase intention.
Brand Loyalty The Consumer's commitment to repurchase or continue using the same brand.	
Luo et al., 2015	<ul style="list-style-type: none"> - Reveal that value co-creation practices (interaction between the focal firm and consumers, and among consumers) in a social-media-based brand community enhance the relationships between the consumer-brand and consumer-to-other-consumers.
Boundary Resources and Tuning The focal entity owns the value co-creation platform and control regulations on the platform, which influences platform users' resistance and accommodation.	
Eaton et al., 2015	<ul style="list-style-type: none"> - Identify boundary resources and tuning, as the focal entity's governance practice could enhance value co-creation through gatekeeping stakeholders' interactions.

Innovation Commercialization, Appropriability, and Markets for Technology The decision of start-ups to partner with established firms in order to commercialize their innovations is critically conditioned by ownership of IPRs (intellectual property rights) and downstream complementary capabilities (e.g. manufacturing, marketing, and distribution).	
Ceccagnoli et al., 2012	<ul style="list-style-type: none"> - Reveal that ISVs (independent software vendors) can acquire significant benefits (increases in sales and increased potential of initial public offering) through the participation in a value co-creation platform ecosystem. The ownership of IPRs and downstream capabilities is positively related to value co-creation outcome.
S-D (Service-dominant) Logic Within S-D logic, value is co-created by the service provider and the service beneficiary through resource integration in a supportive environment.	
Lusch and Nambisan, 2015	<ul style="list-style-type: none"> - Propose that to achieve fruitful value co-creation, it is necessary to: (1) identify the key actors and their roles in value co-creation; (2) create a supportive environment for resource integration through establishing a mechanism that facilitates interaction, accommodating internal processes to adjust to diverse actors, and enhancing the transparency of resource integration.
Artificial Neural Network (ANN) A statistic modelling used to conduct quantitative analysis of the relationship between value co-creation and innovativeness.	
Tollo et al., 2012	<ul style="list-style-type: none"> - Identify three value co-creation practices: (1) resources exchange, (2) customer relationship, and (3) mutual learning. - Suggest that value co-creation practices can be considered as good indicators for the outcomes of a firm's innovation-related activity.

Table 5. Theoretical Lenses and the Key Findings of Existing Literature on Value Co-creation

2.7 A Taxonomy of Value Co-creation

This section presents a taxonomy of value co-creation (see Figure 6). The taxonomy is inspired by the taxonomic framework of factors in co-creation (Zwass, 2010). We integrate theoretical lenses and the key findings in the literature, identify essential components in value co-creation, and add on arrows with explanations. Components in the taxonomy are categorized into: 1) value co-creation antecedents, which refer to pre-conditions, and basic settings of value co-creation; 2) value co-creation components, which refer to interactions between the focal entity and its stakeholders, and among stakeholders; 3) value co-creation consequences, which refers to co-created value.

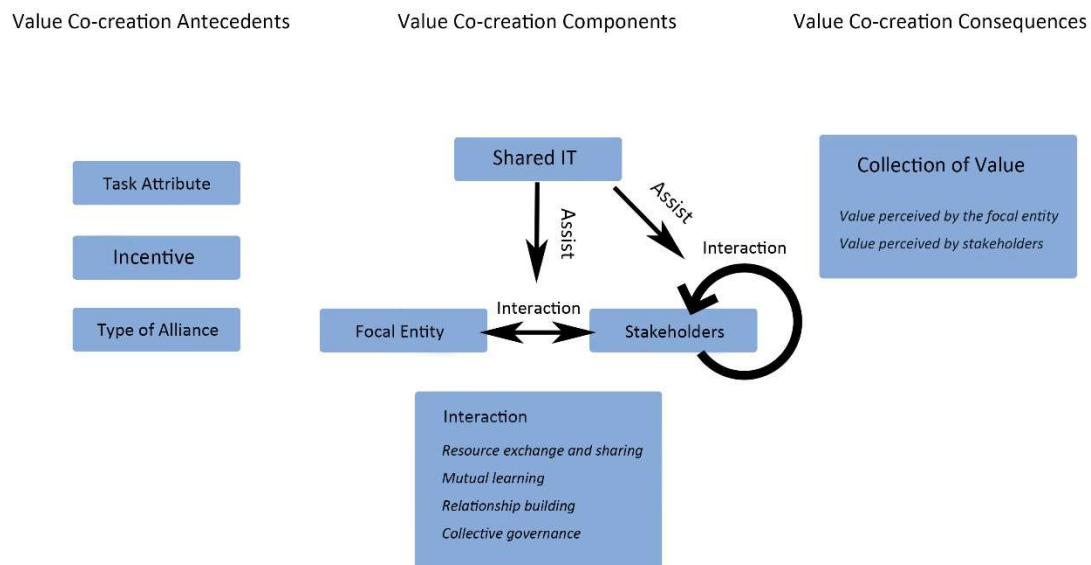


Figure 6. A Taxonomy of Value Co-creation

Value Co-creation Antecedents

Task attributes pose requirements on participants and contribution from the co-creation process. Zwass (2010) outlines four aspects to loosely characterize task attributes; they are: structure complexity (e.g. high in open source software, low in Wikipedia, and very low in blogging), intellectual demands, effort intensity, and time range. Although without clear measurement (i.e. the low-high level of each aspect is not clearly defined), by comparing these aspects, an overview of a specific value co-creation project may be generated.

Motivations can be roughly categorized into extrinsic and intrinsic motivations (e.g. Zwass, 2010, Cook, 2008). Extrinsic motivations refer to external incentives, such as financial benefit and recruitment opportunity. Intrinsic motivations refer to participants' internal incentives, such as brand loyalty, a sense of problem-solving, pride and altruism. In a specific value co-creation activity, motivations should be considered from both the perspective of the focal entity and stakeholders.

The type of alliance considers the nature of the involved parties in value co-creation. As discussed in Section 2.5, common types of alliance in literature are inter-firm alliance (e.g. Sarker et al. 2012, Grover and Kohli, 2012, Rai et al. 2012, etc.), business-consumer alliance (e.g. Füller et al. 2009, Chen et al. 2012, Luo et al. 2015; etc.). In addition, there are emerging types of alliances using SNS to engage with a crowd of individuals or small vendors (e.g. Gnyawali et al. 2010, Eaton et al. 2015, Lusch and Nambisan, 2015, etc.).

Value Co-creation Components

In a specific value co-creation activity, there are the focal entity, who initiates the activity, and the stakeholders, who participate in the activity. Both the focal entity and stakeholders possess certain resources (for example, property-based resources and knowledge-based resources, Sarker et al. 2012) and capabilities (e.g. inter-firm IT capability, Rai et al. 2012, Saker et al. 2012; relational capabilities and dynamic service capabilities, Kim et al. 2014; downstream complementary capabilities, Ceccagnoli et al. 2012), which could be leveraged through interactions to co-create value. There are four major interactions captured in the literature: resource exchange and sharing, mutual learning, relationship building, and collective governance.

Resource exchange and sharing is the interaction which involves exchanging and sharing resources between the focal entity and stakeholders, and among stakeholders (e.g. Grover and Kohli, 2012, Sarker et al., 2012, Han et al., 2012, Kim et al., 2014, Hadaya and Cassivi, 2012, Lusch and Nambisan, 2015, Tollo et al., 2012). Resources include property-based resources (e.g. physical asset, labour and fund, etc.) and knowledge-based resources (e.g.

complementary capability, expertise and pre-qualification, etc.). The focal entity and the stakeholders are able to span their own resource boundaries through resource exchange.

Mutual learning is the second value-generating interaction (e.g. See-To and Ho, 2014, Tollo et al., 2012). This involves learning activities; for example, acquiring new knowledge and skills, between the focal entity and stakeholders, and among stakeholders. Learning is a further step to proceed exchanged resources (particularly knowledge-based resources).

Relationship building is the third interaction and involves establishing and maintaining mutual relationships between the focal entity and the stakeholders, and among stakeholders (e.g. Luo et al., 2015, Tollo et al., 2012, Rai et al., 2012). The literature reveals that relationship building is positively related to transaction cost reduction, risk reduction, establishing trust and commitment, effective communication, enhancing interaction experience, and strategic alignment (e.g. Tollo et al., 2012, Rai et al., 2012, Chen et al., 2012, Kohler et al., 2011, Sarker et al., 2012).

The fourth interaction is collective governance. This involves establishing collective governance mechanisms that control the value co-creation process. A collective governance mechanism might consist of both formal and informal controls. Formal controls refer to enforcement mechanisms (e.g. power and politics, contract and patent protection, etc.) that can counter the threat of opportunism inherent in an alliance and safeguard partners' interests (e.g. Sarker et al., 2012, Grover and Kohli, 2012, Eaton et al., 2015, Ceccagnoli et al., 2012). Informal controls are often related to mutual trust and relationship building (See-To and Ho, 2014, Grover and Kohli, 2012, Lusch and Nambisan, 2015), which could also have a significant impact on value co-creation.

Shared IT considers how IT supports mutual interactions between the focal entity and the stakeholders, and among stakeholders. The existing literature has investigated the role of IT in value co-creation; for example, IT value co-creation based on the relational view (Grover and Kohli, 2012), investment in shared IT (Hadaya and Cassivi, 2012), IT-related capabilities (Rai et

al. 2012, Saker et al., 2012), and the design of a value co-creation platform and toolkit (e.g. Füller et al., 2009, Kohler et al., 2011). IT is commonly regarded as an enabler of value co-creation.

Value Co-creation Consequences

Value co-creation consequences are about value propositions. As value co-creation involves the focal entity and the stakeholders, value propositions, therefore, should be discussed from both the perspective of the focal entity and the stakeholders. Co-created value could be tangible value, such as sales and IPO (initial public offering) (e.g. Ceccagnoli et al., 2012), share of wallet (Rai et al., 2012), stock returns (Han et al., 2012) and intangible value, such as loyalty (Rai et al., 2012, Luo et al., 2015), the quality of ideation (Chen et al., 2012), and innovation (Tollo et al., 2012, Kim et al. 2014).

2.8 Value Co-creation as a Process

In the existing literature, value co-creation could be a paradigm (e.g. Tollo et al., 2012), an activity (Zwass, 2010), an idea (e.g. Hadaya and Cassivi, 2012), an action (e.g. Gnyawali et al., 2010), or a process (e.g. Kohler et al., 2001, Lusch and Nambisan, 2015, Füller et al., 2009, See-To and Ho, 2014, Luo et al., 2015, Kim et al., 2014). Scholars examine particular angles of the phenomenon, since those angles best fit their research purposes. Regarding this research, we intend to study the process of value co-creation. This section aims to justify value co-creation as a process.

In the first place, we examine the definitions of value co-creation. It is found that multiple scholars explicitly regard value co-creation as the process of interactions. For example, Kohler et al. (2001), See-To and Ho (2014), Luo et al. (2015), and Kim et al. (2014) define value co-creation as the process of consumer involvement and co-production. Lusch and Nambisan (2015) define value co-creation as the process of resources integration.

In addition, evidences are also found through examining theoretical lenses adopted by scholars to study value co-creation. The relational view indicates that relational value is generated through sharing relationship-specific assets, knowledge sharing routines, complementary resources and capabilities, and governance mechanisms (Dyer and Singh, 1998, Hadaya and Cassivi, 2012, Grover and Kohli, 2012). These four components can be regarded as the process of interactions between the focal entity and the stakeholders. Grover and Kohli (2012) further indicate that there might be interdependencies between the layers of value co-creation, and propose a future research agenda to focus more on the interdependencies and the process of value co-creation. In terms of the resource-based view, its core premise reveals value co-creation as process of expanding an individual firm's resource boundary through sharing other stakeholders' resources (Sarker et al. 2012). In Zwass' (2010) taxonomic framework of factors in co-creation, "process" is identified as one of the most salient aspects in value co-creation.

In the taxonomy of value co-creation which was discussed in Section 2.7, value co-creation as a process is even clearer. The taxonomy summarizes theoretical lenses and the key findings in existing literature on value co-creation. It identifies the antecedents, components and consequences of value co-creation. This is very similar to a process framework which consists of the input, the process and the output.

2.9 Studying Tournament Crowdsourcing through the Lens of Value Co-creation

Value co-creation is a suitable theoretical lens to study the process of tournament crowdsourcing. In Sections 2.4 and 2.8, we have defined and justified value co-creation as the process where the focal entity and its multiple stakeholders co-create and share a collection of value through mutual interactions. This definition converges with Estellés-Arolas and González-Ladrón-de-Guevara's (2012) definition of crowdsourcing in several aspects. They both mention the focal entity (an individual, an institution, a non-profit organization or company), the stakeholders (a group of individuals of varying knowledge, heterogeneity and number), and interactions that generate value (via a flexible open call or the voluntary undertaking of a task). In addition, Section 2.5 has discussed contexts that have been studied

by the existing literature in value co-creation. A great proportion of papers investigate value co-creation in SNS-related contexts. Indeed, tournament crowdsourcing is a SNS context. The platform plays a crucial role that connects the focal entity and the stakeholders, offers technical support and governs the project. Therefore, value co-creation is a legitimate lens to investigate tournament crowdsourcing. In the rest of this section, we will further discuss the process of tournament crowdsourcing through the lens of value co-creation. The discussion follows the structure of “A Taxonomy of Value Co-creation” (see Figure 4, Section 2.7).

Value Co-creation Antecedents in Tournament Crowdsourcing

Tournament crowdsourcing has been widely applied in the form of public ideations, design contests, marketing campaigns and so forth, to address residential, commercial, educational and scientific tasks (Prestopnik and Tang, 2015). As discussed in Section 1.5, depending on the specific context, the characteristics of the project might be different. In general, the difficulty of the task is low to medium.

In a typical tournament crowdsourcing project, The focal entity can be an individual, an institution, a non-profit organization or a company (Estellés-Arolas and González-Ladrón-de-Guevara, 2012). The stakeholders consist of a group of undefined individuals, diversified in knowledge and heterogeneity (Estellés-Arolas and González-Ladrón-de-Guevara, 2012, Majchrzak and Malhotra, 2013, Steelman et al., 2014).



Figure 7. Social Actors in a Typical Tournament Crowdsourcing Project

The focal entity's potential incentives to initiate crowdsourcing may include expanding resources and capabilities (e.g. Chiu et al., 2014, Majchrzak and Malhotra, 2013, Ye and Kankanhalli, 2015), cost reduction (e.g. Chiu et al., 2014, Ye and Kankanhalli, 2015, Lu et al., 2013), finding solutions to complex problems (e.g. Chiu et al., 2014, Costa et al., 2013, Geiger and Schader, 2014, Majchrzak and Malhotra, 2013, Ren et al., 2014, Shen et al., 2014, Zhao and Zhu, 2014), knowledge and learning (e.g. Geiger and Schader, 2014, Heo and Toomey, 2016, Lu et al., 2013), content generation (e.g. Geiger and Schader, 2014), stakeholder involvement (e.g. Chiu et al., 2014, Thuan et al., 2016), innovation (e.g. Leimeister et al., 2009, Majchrzak and Malhotra, 2013, Schlagwein and Bjørn-Andersen, 2014, Sun et al., 2012, Zheng et al., 2011), and brand visibility (e.g. Ye and Kankanhalli, 2015, Zadeh and Sharda, 2014). The crowd's incentives to join a specific public crowdsourcing project could be extrinsic and/or intrinsic (Zheng et al., 2011, Majchrzak and Malhotra, 2013, Sun et al., 2012). Extrinsic motivations include financial benefits (e.g. Zheng et al., 2011, Brabham, 2012, Leimeister et al., 2009, Geiger and Schader, 2014, Schlagwein and Bjørn-Andersen, 2014), career opportunities (Leimeister et al., 2009), and gaining recognition and reputation (e.g. Zheng et al., 2011, Brabham, 2012, Leimeister et al., 2009, Nevo and Kotlarsky, 2014). Intrinsic motivations include learning (e.g. Leimeister et al., 2009), enjoyment (e.g. Geiger and Schader, 2014, Prestopnik and Tang, 2015, Schlagwein and Bjørn-Andersen, 2014), and altruism (e.g. Nevo and Kotlarsky, 2014, Prestopnik and Tang, 2015).

Value Co-creation Components in Tournament Crowdsourcing

The value co-creation literature indicates that value is co-created through the process that comprises interactions between the focal entity and the stakeholders, and among stakeholders. This could be applied to investigate the context of tournament crowdsourcing. In a tournament crowdsourcing project, the focal entity firstly initiates the project, posts a task, and specifies requirements, the duration and rewards, and other project information. Then, crowd members review the project specifications and decide whether or not to participate in the project. Some crowd members decide to take part in the project and work on deliverables. Completed deliverables are submitted to the focal entity. After collecting the deliverables, the focal entity evaluates the deliverables, selects winners, and rewards the winners. If necessary,

the focal entity might further develop the best deliverables with selected crowd members. This is the general process of a tournament crowdsourcing project (e.g. Zheng et al., 2011, Geiger et al., 2011). During the process, there are multiple interactions between the focal entity and crowd members (stakeholders). Resource exchange and sharing, mutual learning, relationship building, and collective governance might be interactions that generate value. In the existing literature in crowdsourcing, we captured interactions of resource exchange and sharing (e.g. Heo and Toomey, 2016, Leimeister et al., 2009, Nevo and Kotlarsky, 2014, Steelman et al., 2014, Sun et al., 2012, Ye and Kankanhalli, 2015, Zheng et al., 2011, Thuan et al., 2016), mutual learning (e.g. Costa et al., 2013, Geiger and Schader, 2014, Leimeister et al., 2009, Majchrzak and Malhotra, 2013, Schlagwein and Bjørn-Andersen, 2014, Sun et al., 2012), relationship building (e.g. Geiger and Schader, 2014, Nevo and Kotlarsky, 2014, Shen et al., 2014, Ye and Kankanhalli, 2015, Zadeh and Sharda, 2014, Zheng et al., 2011, Thuan et al., 2016), and collective governance (e.g. Baba et al., 2014, Chiu et al., 2014, Geiger and Schader, 2014, Heo and Toomey, 2016, Tarasov et al., 2014).

In addition, interactions are supported by IS (Geiger and Schader, 2014, Heo and Toomey, 2016). The platform in a tournament crowdsourcing project usually provides technical tools for interactions, such as messaging, commenting, voting, rating, tagging, and sharing (e.g. Baba et al., 2014 etc., Chiu et al., 2014, Costa et al., 2013, Heo and Toomey, 2016, Leimeister et al., 2009, Lu et al., 2013, Majchrzak and Malhotra, 2013). These functions could facilitate the focal firm-to-crowd and crowd-to-crowd interactions. The platform is also a crucial part of collective governance. The governance of the platform usually involves formal control; for example, patent protection, privacy protection, and other regulations.

Value Co-creation Consequences in Tournament Crowdsourcing

In the context of tournament crowdsourcing, value propositions should be discussed from the perspective of both the focal entity and the the crowd. Perceived value could best reflect the content of value. Moreover, value should be discussed along with the process of the project, before, during and after the interactions.

3. Gaps in the Existing Literature

IS scholars' understanding of the crowdsourcing phenomenon is still at an explorative stage. There is very limited research that focuses on investigating tournament crowdsourcing. Particularly, value-generating interactions and value propositions in the process of tournament crowdsourcing have not been extensively studied. These areas are worth being investigated. In value co-creation literature, there is a lack of an integrated view to examine the process of value co-creation. Value co-creation antecedents, components and consequences, as a whole, remain a promising research area with substantial potential.

To address the identified research gaps, this research aims to investigate the process of tournament crowdsourcing through the lens of value co-creation. Specifically, we focus on examining the interactions between the focal entity and the stakeholders, the interactions among stakeholders, and the value propositions from the perspective of both the focal entity and the stakeholders during the process of tournament crowdsourcing. In addition, we attempt to understand how the focal entity find the right stakeholders from the crowd during the process of tournament crowdsourcing.

4. Conclusion

This chapter presents a literature review of crowdsourcing and value co-creation. In the first part of the literature review, we begin by discussing the definitions of crowdsourcing and relevant concepts. In this thesis, crowdsourcing is defined as an online activity where the focal entity engages a crowd of individuals, diversified in knowledge, heterogeneity and number, to complete a task, in the form of an open call. After this, we examine the external crowdsourcing and systems for crowdsourcing. Then, we focus on elaborating characteristics of tournament crowdsourcing, including the competitive and collaborative environment, guaranteed compensations, solution submission as participation, fixed milestones, systems for tournament crowdsourcing, and comparisons with other crowdsourcing applications.

The second part of the literature review focuses on discussing the existing literature in value co-creation. We begin with explaining value and business value. By reviewing definition statements of value co-creation in previous studies, we proposed three questions associated with defining value co-creation: 1) who is involved in value co-creation? 2) how value is co-created? 3) what value is co-created and who shares it? Based on the proposed questions, we define value co-creation as the process where the focal entity involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value. Next, we examine the contexts that have been studied. By summarizing the theoretical lenses employed by scholars to study value co-creation and their key findings, we identify the key components in value co-creation, including: value co-creation antecedents (task attribute, incentive, type of alliance), value co-creation components (the focal entity and the stakeholders, IT support, and interactions of resource exchange and sharing, learning, relationship building and governance), and value co-creation consequences. Then, we justified value co-creation as a process that is a suitable theoretical lens to examine the process of tournament crowdsourcing.

In the last section, we identified research gaps in crowdsourcing and value co-creation literature, and clarified the research focuses of this research.

CHAPTER 3 RESEARCH METHODS AND PROCESS

1. Introduction

This chapter explains the research methods and process. Section 2 discusses the interpretivism research philosophy. Section 3 focuses on explaining case study research and multiple-case designs. Section 4 elaborates on the criteria of the case selection in this study. Section 5 explains the research design and process that guided the investigation. Section 6 describes the data collection process and the multiple sources of data. Section 7 justifies the process theory development. Sections 8 and 9, respectively, explain in-case and cross-case analysis. Section 3.10 discusses assessing the quality of case study research.

2. Interpretivism Research Philosophy

Interpretivism, also known as antipositivism, implies that researchers integrate human interest into a study, and interpret the elements being investigated (Lee and Lings, 2008). Researchers adopting an interpretive approach assume that reality is accessed only through social constrictions, such as languages, shared meanings, consciousness and other artefacts (Myers, 2009). It is essential for the researcher to act as a social actor, appreciate differences between people, and focus on meaning interpretations (Saunders et al., 2016). Moreover, interpretive research usually employs multiple research methods in order to reflect different aspects of the phenomenon being investigated.

In social science, the development of interpretivism philosophy is built on the critique of positivism. Positivism in its essence views the world as consisting of isolated and observable elements that interact in a regular, observable and determined way (Saunders et al., 2016). The scientific method is the only way to generate knowledge (Lee and Lings, 2008). Independent from the study, researchers conduct quantifiable observations that lead to statistical analysis, and then come to a conclusion (Saunders et al., 2016). It is important for the researcher to concentrate on observable facts.

With regard to our research, the investigation of value co-creation and finding the right crowd in the process of tournament crowdsourcing is still at an early exploratory stage. The investigated phenomenon involves multiple social actors, and we are particularly interested in examining interactions among them from the perspective of different social actors. Interpretivism acknowledges the experiences of different social actors in the same context, and allows in-depth investigations into the phenomenon. This research, therefore, follows the philosophy of interpretivism.

3. Case Study Research

Case study is an empirical inquiry which examines contemporary phenomenon in real-life contexts. It focuses on “understanding the dynamics present within single settings” (Eisenhardt, 1989 p.534), and serves as a research method to accomplish various research aims, including description provision, theory test and theory generation (Eisenhardt, 1989). According to Yin (2013), qualitative cases studies are generally preferred methods when 1) addressing “how” and “why” questions, 2) the researcher has limited control over events, and 3) the research focus is on a contemporary phenomenon within a real-life context. The investigation of the process in tournament crowdsourcing fulfils these criteria. We aim to examine “how value is co-created in the process of tournament crowdsourcing” and “how the focal entity finds the right crowd in the process of tournament crowdsourcing”. Tournament crowdsourcing projects are real-life contexts involving multiple social actors, which are complex and highly socially interactive. Researchers have limited control over relevant events. The case study method best fits our research interest and investigated contexts, therefore, is the most appropriate approach for this research.

In this research, we adopted multiple-case designs and investigated three cases. The distinct advantage of this is that the evidence from multiple cases and subsequent cross-case analysis increase the external validity of the study. It is generally regarded more robust (Yin, 2013). In multiple-case designs, each case supports a particular purpose within the overall scope of inquiry (Yin, 2013). The logic of replication underlying the use of multiple cases either predicts similar outcomes or predicts contrasting outcomes yet for anticipatable reasons (Yin,

2013).

4. Case Selection

In case study research, a case is a single social setting (Lee and Lings, 2008), which is the unit of analysis (Yin, 2013). In this research, the unit of analysis is a tournament crowdsourcing project. Following the logic of replication, three projects were selected. When selecting cases, we firstly considered the idea of purposive sampling; i.e. sampling cases relevant to research purposes (Lee and Lings, 2008). In essence, we inquired basic project information in advance to evaluate feasibility. For example, we examined business purposes, the overview of the project lifecycle, potential social actors, and potential interactions among social actors.

The second concern was about feasibility and achievability. Tournament crowdsourcing projects can be large scaled in terms of a long timeframe, massive amounts of stakeholders, and a high level of complexity. Investigating a large-scaled project within time and resource limits could be unrealistic. There are also potential risks associated with information overload. On the other hand, tournament crowdsourcing projects can also be overly small scaled. There are potential risks of information insufficiency. To avoid both extremes, this research prioritized tournament crowdsourcing projects initiated by SMEs (small and medium sized enterprises), with timeframes ranging from one to three months, and having moderate complexity (it was possible to understand the context, for example, deliverables, relevant slangs, and platform services).

The third consideration was information accessibility (Lee and Lings, 2008). Our research interest required information comprehensiveness. Therefore, it was vital to get full access to relevant project information. In each project, we gained approval from the focal firm in advance, which allowed the researcher to become involved in the project as an observer, investigate the entire process, access relevant interviewees and documents, and collect data. The following firms and projects were selected for case studies (Table 6).

THE FOCAL FIRM		THE PROJECT
Case 1	The Education Advisory	Exploring online learning, online marketing, and mobile applications.
Case 2	The Games Company	Online contest for creative Takagism (also known as “escape room”) game designs.
Case 3	The Inspiration School	Online contest for creative course designs and talents.

Table 6. Selected Firms and Projects for Case Studies

5. Research Process and Design

The research process and design are summarized in Figure 8. Firstly, we reviewed the literature on value co-creation and crowdsourcing in the information systems discipline. By summarizing existing literature, we structured the research lens and identified potential constructs to be investigated in the process of tournament crowdsourcing projects. Then, we carried out the empirical data collection, and conducted in-case and cross-case analysis. Through comparing similarities and differences of the findings from the three cases, we developed a process framework. When discussing theoretical contributions, we updated the literature by adding in the most recent papers, reviewed the literature again, and related our findings to existing literature.

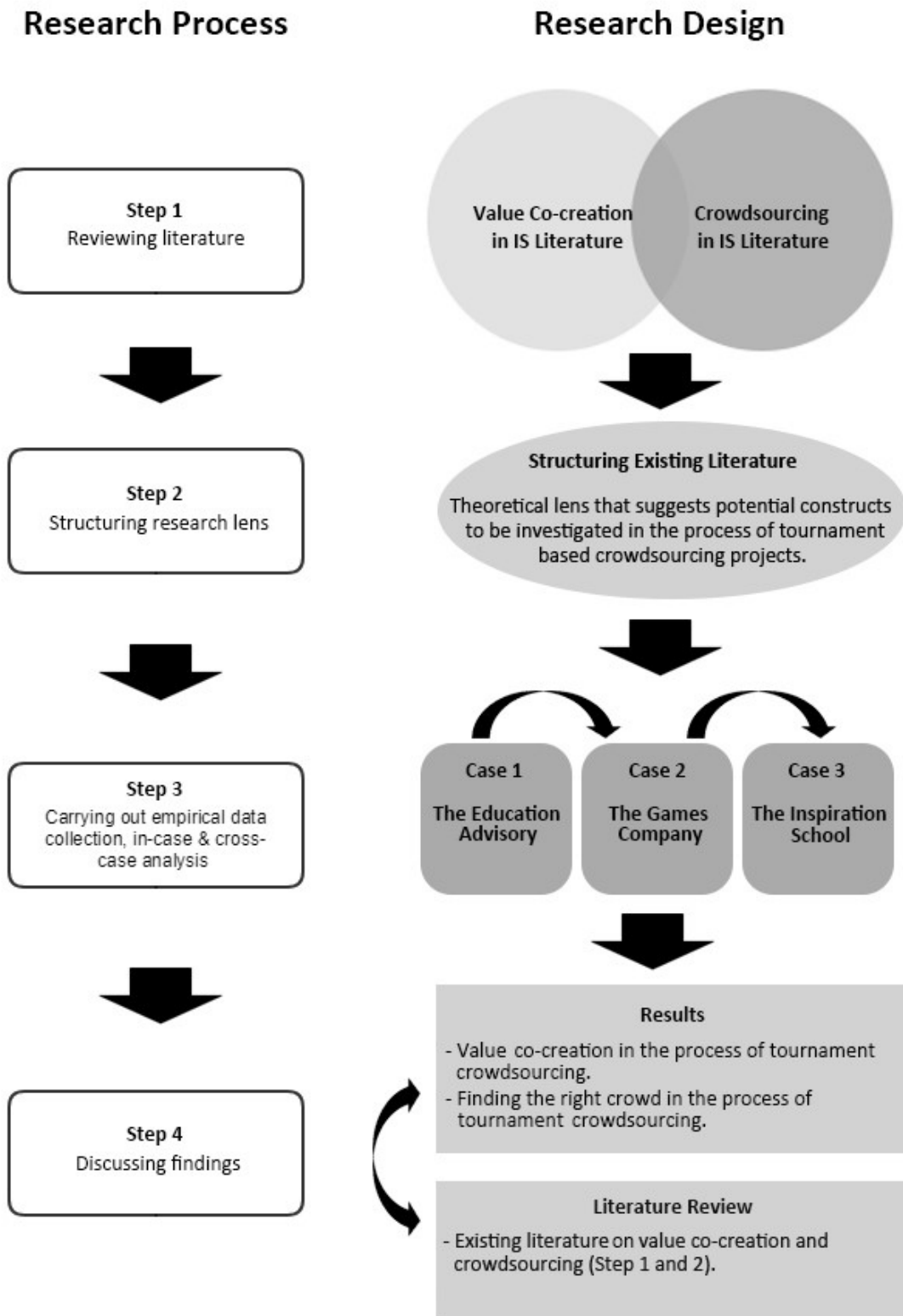


Figure 8. Research Process and Research Design

6. Data Collection

In each case, the process of data collection started with an interview with the focal firm prior to project initiation. We aimed to capture the basic information of the upcoming project and evaluate availability and feasibility in regard to the access to data and research interest. During the project lifecycle, the researcher was physically involved on the focal firm site as an observer. Observation was on a daily basis, focusing on capturing the focal entity's managerial practices and interactions with stakeholders (within the focal firm and between the focal firm and the crowd). Observations and documentations (e.g. archive, online and other documents) were recorded, translated and transcribed. We conducted interviews with members of the project management team regularly during the project. When the project was completed, we identified the key stakeholders from the crowd and conducted interviews with them.

Observation

Direct observation enables the researcher to actually enter the social settings they wish to study (Lee and Lings, 2008). Being physically involved on the focal entity site, the researcher is able to timely acquire abundant first-hand information (Lapan et al., 2011). In this research, direct observations were made on a daily basis throughout the entire project lifecycle. We attempted to capture comprehensive data, including the managerial practices of the focal firm, team meetings, discussions, online operations and interactions with stakeholders.

Documentation

Documentation served as a supplementary source of data. With permission from the focal firm in each case, we were able to gain access to the project interface, collect relevant project information, track the history of operations, and record literal interactions between the focal firm and stakeholders. A distinct advantage of the online documentation was the accuracy in recording time points of the project. It was an important reference for us to organize and analyse the collected data in a chronological order.

Interviews

In-depth interviews are favoured by qualitative researchers as they generate understandings of respondents' psychology (Lee and Lings, 2008). By conducting interviews, we aimed to collect detailed information from different social actors (multiple people from the focal firm and multiple stakeholders from the crowd). We were interested in investigating motivations associated with actions that were taken and decision-making, perceived value, and experiences of participation.

In each case, we firstly conducted a structured interview with key informants at the focal firm prior to project initiation. The questions were about the profile of the focal firm, project preparations, details of the implementation plan, desired results, financial rewards, expectations, and other information related to the project. During the project, we conducted semi-structured interviews with different members of the project management team regularly. Interviews inquired into the motivations for particular actions, reasons for decisions taken, perceived value, and other aspects of the experience. When the project was completed, we identified the key stakeholders from the crowd and conducted semi-structured interviews with them. Interviewees were asked about their motivations, decision-making, value perceptions, opinions, and their experience of participating. Collected data is shown in Table 7. The lists of interviews are shown in Tables 9, 11 and 14 in Chapters 4, 5 and 6.

THE CASE OF THE EDUCATION ADVISORY	
Interview	<ul style="list-style-type: none"> - 11 formal interviews with 3 members of the focal firm. - 6 formal interviews with 6 crowd members.
Observation	<ul style="list-style-type: none"> - Daily observations spanning from 21/03/16-22/04/16. - Informal chats with 3 members of the focal firm during observations.
Documentation	<ul style="list-style-type: none"> - Online documentations on the platform. - Offline documentations recorded by the members of the focal firm.
THE CASE OF THE GAMES COMPANY	
Interview	<ul style="list-style-type: none"> - 12 formal interviews with three members of the focal firm. - 3 formal interviews with 3 crowd members.
Observation	<ul style="list-style-type: none"> - Daily observations spanning from 13/06/16-24/07/16. - Informal chats with 3 members of the focal firm during observations.
Documentation	<ul style="list-style-type: none"> - Online documentations on the platform. - Offline documentations recorded by the members of the focal firm.
The Case of the Inspiration School	
Interview	<ul style="list-style-type: none"> - 14 formal interviews with 4 members of the focal firm. - 6 formal interviews with 6 crowd members.
Observation	<ul style="list-style-type: none"> - Daily observations spanning from 26/12/16-17/02/17. - Informal chats with 4 members of the focal firm during observations.
Documentation	<ul style="list-style-type: none"> - Online documentations on the platform. - Offline documentations recorded by the members of the focal firm.

Table 7. A Summary of Collected Data

7. The Process Theory Development

In this research, as we attempted to build a *process theory*, our analysis followed a *process theory* development (Langley, 2007). It is necessary to explain the basic assumptions underlying process theories and justify why process theory development fits this research.

When it comes to building process theories, scholars usually attempt to distinguish between a process theory development and a variance theory development. The basic distinction between them is that they interpret “process” differently. Scholars contributing to process theory regard *process* as the narrative description of how things evolve and change

over time (Van de Ven, 2007). A process theory development is the dynamic thinking of a phenomenon. It consists of movement, event, activity, change and temporal evolution (Langley, 2007). In contrast, scholars contributing to a variance theory development interpret *process* as a set of variables which pertain to actions and activities. A variance theory development considers outcome-driven explanations through statistical analysis between independent and dependent variables (Van de Ven, 2007). Figure 9 (Langley, 1999) shows the differences between these two approaches in explaining the same phenomenon.



Figure 9. Two Approaches to Explaining Strategic Change (Langley, 1999)

According to Langley (1999), there are four characteristics associated with data in building a process theory. They are: data composed of events, data on multiple units and levels of analysis with ambiguous boundaries, data of viable temporal embeddedness, and data that are eclectic. These characteristics are crucial resources to deepen the understanding of a process theory development, particularly its research focus, employable methods, and potential contributions.

As with the first characteristic, process is explained as progressions of events that describe how things change over time (Van de Ven, 2007). This is the basic assumption of a process theory development. Langley (1999) argues that understanding patterns in events is the key to develop a process theory.

The second characteristic implies that developing a process theory could be applied to deal with a complex phenomenon which involves multiple units and levels of analysis with ambiguous boundaries. On such an occasion, qualitative methods are preferred over quantitative methods. As units of analysis are difficult to isolate clearly, statistical variable analysis could not be easily conducted while qualitative methods are viable to understand a socially constructed phenomenon.

When discussing the third characteristic, Langley (1999) indicates that a process theory development merits in information richness:

Unless the process is highly circumscribed, certain phenomena will tend to be absent from a systematic list of ordered incidents. For example, there are often gradual background trends that modulate the progress of specific events. Also, part of what interests us may be going on in people's heads and leave no concrete trace of the exact moment of its passing (Langley, 1999 p.692-693).

A process theory development emphasizes comprehensiveness of data, which often combines multiple sources of data, including interviews, focus groups, direct observations, questionnaires, archive documents, and so forth. This could increase the comprehensiveness and credibility of data.

Regarding the last characteristic, Langley (1999) and Langley et al. (2013) make the clarification that data serves a process theory development, not only because it contains descriptions of series of events but also varieties of other forms of qualitative and quantitative information. Thus, events and variables are not mutually exclusive: any event may incorporate multiple variables. This further indicates that a process theory focuses on both the progression of events and the revolution of relationships between analysis units as they interpret and react to events.

Our research interest focused on the process of tournament crowdsourcing, and value-generating interactions between the focal firm and stakeholders, which required information richness from multiple sources. A process theory development is in alignment with the philosophy of interpretivism and the method of case study. It perfectly fulfilled our research needs.

8. In-case Analysis

Before conducting in-case analysis, the collected data were integrated and organized in accordance with the timeline of the investigated project. We started with reviewing collected data, aiming to capture the richness of the context. As shown in Appendices C, D and E, we distinguished the perspective of the focal firm and stakeholders, summarized the key events, identified perceived value, and mapped out the project flow. Meanwhile, tables and visualized figures (Appendices C, D and E) were created to explain and structure the key elements of the project. We then wrote up the case study and attempted to recreate how the project unfolded, and to capture interactions between the focal firm and stakeholders, and among stakeholders.

The next step was in-case analysis. This research employed principles for conducting and evaluating interpretive field studies in IS (Klein and Myers, 1999) and the three-order in-case analysis strategy (Gioia et al., 2013). According to Klein and Myers (1999), there is a set of principles for interpretive field research. The fundamental principle of the hermeneutic circle suggests that we generate understanding towards a whole from preconceptions about the meanings of its parts, and interrelationships between the whole and its parts. The principle of contextualization proposes critical reflections of the social and historical background of the research settings so that the audience can understand how the situation being studied emerged. The principle of interaction between the researcher and the subjects highlights a critical reflection of how the collected data was socially constructed through the interaction between the researcher and informants. The principle of abstraction and generalization essentially considers moving from idiographic details concluded from data interpretations to theory building, by applying the first and second principles. The principle of dialogical reasoning focuses on examining possible contradictions between actual findings and the

research lens which guided the research design. The principle of multiple interpretations suggests that the researcher should be aware of potential differences in interpretations between different informants. The last principle requires the researcher to be sensitive to potential bias and systematic distortions in the narratives collected from informants.

In practice, the interpretation process moved back and forth between the elements being investigated and the associated contexts (the fundamental principle). Interpretations were kept comprehensive and consistent (the principle of contextualization). We acknowledged how data were constructed through the interaction between the researcher and informants. Therefore, first, we tried to gain an understanding of the investigated phenomenon from the perspective of informants, and then carefully translated it into the perspective of IS researchers (the principle of interaction between the researcher and the subjects). Findings were then abstracted and framed into the process framework (the principle of abstraction and generalization). The process framework was related to existing literature and extensively discussed in the cross-case analysis (the principle of dialogical reasoning). During data analysis, we were vigilant about potential differences in interpretations from different informants (the principle of multiple interpretations), bias and systematic distortions (the principle of suspicion).

As suggested by Gioia et al. (2013), qualitative data can be analysed in a series of orders. During the first order, the researcher focuses on capturing original terms and languages of the investigated informants. When proceeding to the next order, the researcher seeks for themes summarized from the first order and explains the studied context. During the final order, the researcher reaches aggregated dimensions and steps into theory building.

Following the set of principles for interpretive field research and the logic of the three-order in-case analysis strategy, we reviewed the collected data for the second round. In the first order analysis, we established concepts directly from original transcripts. In the second order analysis, we associated the first order concepts with themes we summarized from the literature review. Specific themes included interactions/practices and associated perceived

value relevant to resource exchange and sharing, learning, relationship building, and collective governance. During the third order analysis, the second order themes were aggregated into dimensions. We then followed the logic of the process theory development. Dimensions were structured and referred to as phases relevant to value co-creation and finding the right crowd in the process of the crowdsourcing project. Figures 10, 11 and 12 show examples of the three-order analysis we conducted in three studied cases.

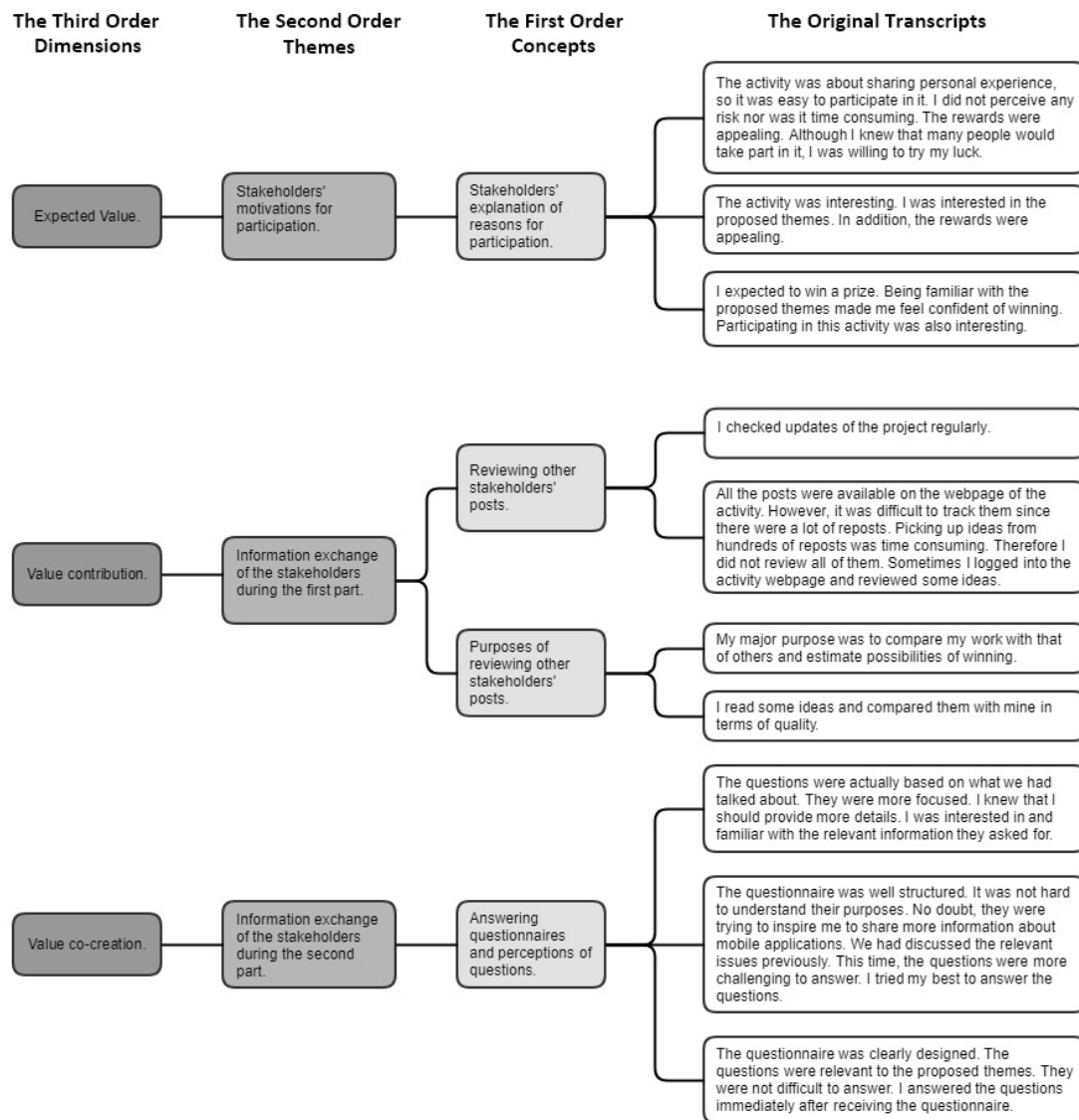


Figure 10. An Example of the Three-order Analysis in the Case of the Education Advisory

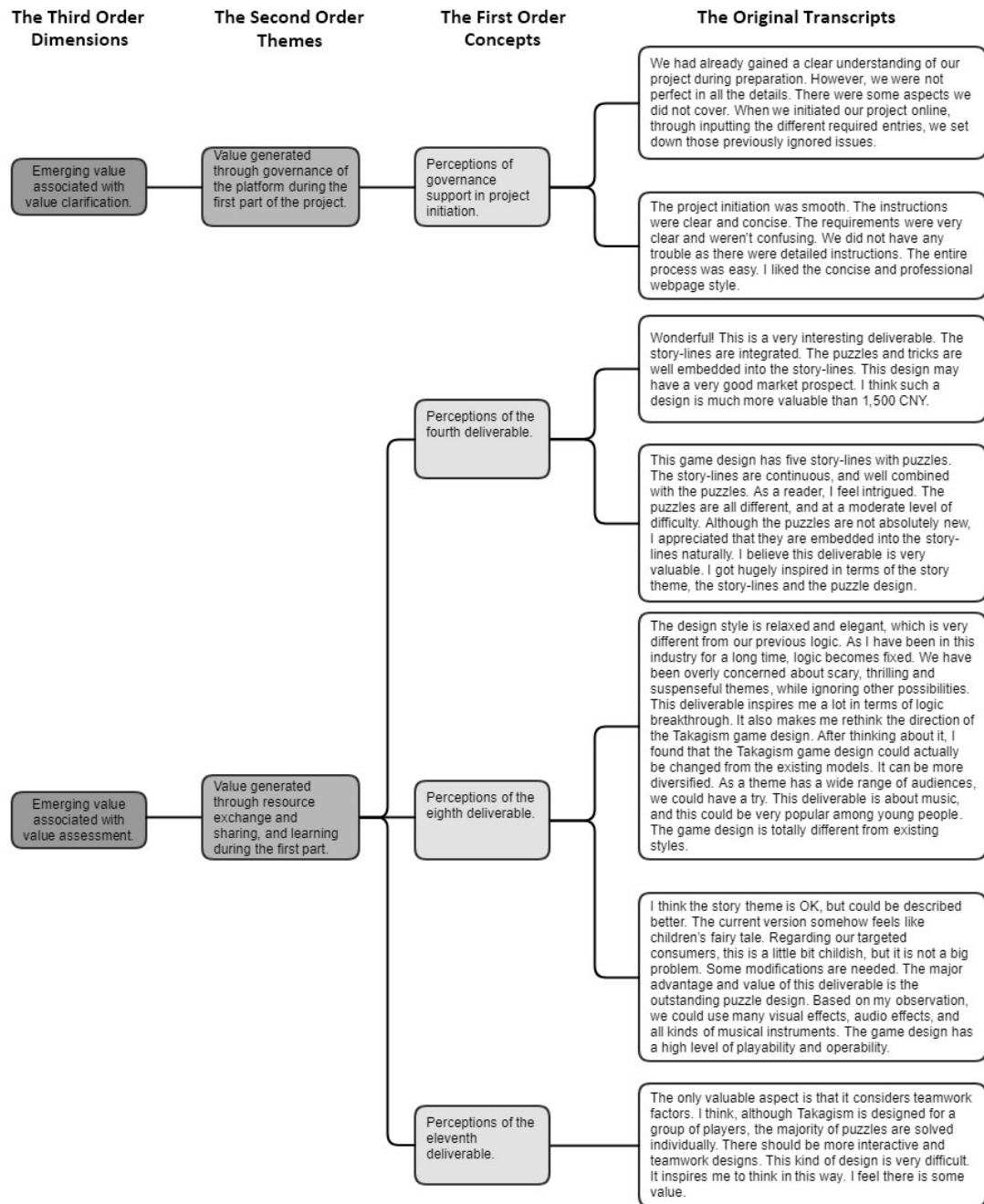


Figure 11. An Example of the Three-order Analysis in the Case of the Games Company

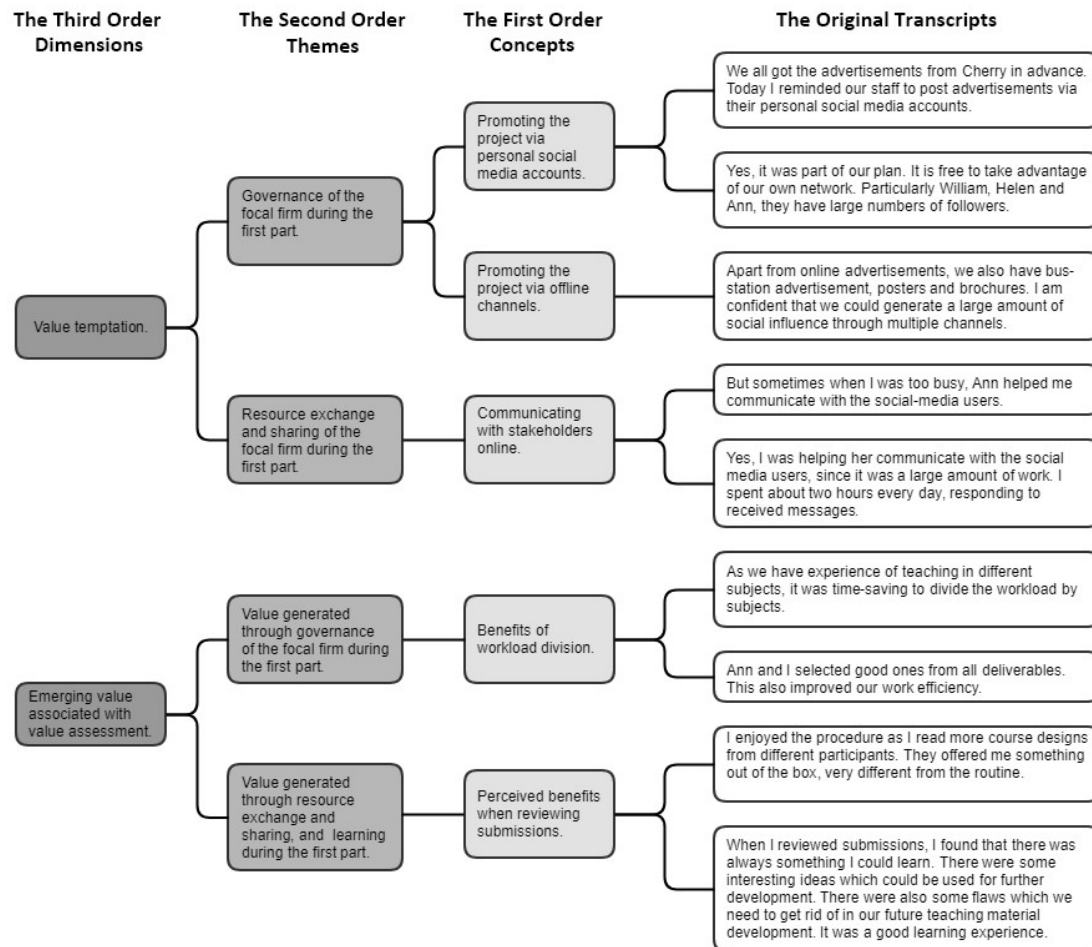


Figure 12. An Example of the Three-order Analysis in the Case of the Inspiration School

9. Cross-case Analysis

Cross-case synthesis is the analytical technique which applies especially to a study that consists of multiple cases (Yin, 2013). Guided by the logic of replication, we employed the comparison technique to analyse the similarities and differences of the findings of the three studied cases. Following the principle of abstraction and generalization (discussed in Section 8), we then developed the process framework. When discussing theoretical contributions, we followed the principle of dialogical reasoning (discussed in Section 8), and related the process framework to existing literature.

10. Quality of the Empirical Research

In judging the quality of an empirical study, examiners often focus on logical tests to examine trustworthiness, credibility, confirmability and data dependability (Yin, 2013). Yin (2013) suggests four logic tests being commonly employed to establish the quality of research, including construct validity, internal validity, external validity and reliability. In the following part of this section, we will examine our research respectively, according to the four logic tests.

Construct validity

Construct validity refers to the identification of correct measures for the concepts being investigated (Yin, 2013). To increase construct validity, the first tactic suggested by Yin (2013) is collecting multiple sources of evidences that corroborate the same fact or phenomenon. During our investigation into the tournament crowdsourcing projects, we collected data from multiple sources, including direct observations, documentations, and interviews. Meanwhile, in each case, we interviewed different members of the project management team and multiple stakeholders who participated in the project. Collecting evidence from multiple sources essentially offers multiple measures that encourage convergent lines of inquiry.

The second tactic to increase construct validity is to establish a chain of evidence (Yin, 2013). As an observer involved in the studied project, we collected data through the entire project life cycle. We observed the project from the initiation to the end, recorded relevant documentations during different phases of the project, and interviewed members of the project management team regularly. We also interviewed stakeholders by asking questions following the project flow. Before conducting analysis, we organized and integrated all the collect data in accordance with the timeline of the investigated project.

The third tactic for enhancing construction validity is to have the draft case study report reviewed by key informants (Yin, 2013). In practice, we ensured that transcripts of interviews and the case study report were reviewed by interviewees to confirm information accuracy. Moreover, the process of coding and interpretation was governed and advised by two experienced researchers.

Internal validity

According to Yin (2013), the internal validity test examines the robustness of established causal relationship. Internal validity is mainly concerned in explanatory/causal studies, not in descriptive/exploratory studies (Yin, 2013). Our research better fits the characteristics of a descriptive/exploratory study. Although internal validity may not be a major concern, there is a lot in common between the rationale of our data analysis and the logic of the pattern-matching technique, the time-series analysis, and the logic model technique. These techniques are regarded as effective tactics to increase the internal validity of the study (Yin, 2013).

External validity

External validity essentially considers the generalizability of findings (Yin, 2013). In case study research, using multiple cases is a common way to increase external validity. In this research, we followed the logic of replication, employed multiple-case designs and conducted cross-case analysis. These strategies and practices should enhance the generalizability of our research.

Reliability

The reliability test examines whether the operations of the research can be repeated, with the same outcome (Yin, 2013). Thus, if another researcher follows the same procedures and investigates the same case again, the findings and conclusions should be the same, with no difference. The purpose of conducting the reliability test is to minimize potential errors and biases (Yin, 2013).

Developing the research protocol helps to guide the researcher in carrying out the data collection. This approach greatly increases the reliability of the research (Yin, 2013). In practice, we followed the instructions proposed by Yin (2013), and developed the research protocol (the case study template), which specified an overview of the research, field procedures, interview questions, the template of observation and a guide for the case study report. Our data collection was guided by the research protocol, which ensured consistency within cases

and across cases.

Another way to increase research reliability is creating a case study database (Yin, 2013). We were aware of the importance of creating a case study database prior to the data collection. Therefore, data were carefully recorded, translated, restored, and organized. Before data analysis, we further integrated and organized the collected data in line with the timeline of the investigated project. The case study database of this research is comprehensive, clean and well organized.

CHAPTER 4 CASE STUDY OF THE EDUCATION ADVISORY

1. Introduction

The project initiated by the Education Advisory was a tournament crowdsourcing project with R&D (research and development) and marketing purposes. The nature of tasks were knowledge-intensive and marketing-intensive. The focal firm created a competitive environment to call for contributions from crowd members on a social media platform with guaranteed rewards for winners. The project had two phases with fixed milestones, during which time crowd members voluntarily made contributions through submitting solutions individually. Meanwhile, socialization among crowd members were enabled, which created a collaborative environment.

During the first phase of the project, the focal firm involved a large number of crowd members in its R&D and marketing processes. During the second phase of the project, the focal firm involved selected crowd members in its R&D process. Intensive interactions were captured during the first phase of the project when the focal firm proactively involved in direct communication with crowd members to facilitate the provision of desired information. This was extended to the second phase when the focal firm further interacted with selected crowd members to collect extra information via questionnaires. Through diversified interactions between the focal firm and crowd members, and among crowd members, a variety of value was created and perceived by the focal firm and each of the crowd members. According to our definition of value co-creation, the features of value co-creation in the project initiated by the Education Advisory were evident.

2. Background of the Education Advisory

2.1 An Overview

Established in 2012, the Education Advisory¹ is an educational institution specializing in professional English training and consultancy services for studying abroad. Its signature programmes cover a wide range of levels of English-language tests, including: IELTS, TOEFL, GMAT, SAT and SSAT. The one-stop consultancy service offers customized planning for those wishing to study abroad, including: English skill assessment, university selection and application, visa advice, and cross-cultural training. The Education Advisory focuses on delivering personalized services to high-end customers (in terms of purchasing power). As of Autumn 2016, it had two local campuses, located in a medium-size city in the North part of China. According to its 2015 financial report, the annual revenue was approximately 2,000,000 CNY (about 224,255 GBP).

2.2 Organizational Structure

The Education Advisory was co-founded by three ambitious friends, Alex, Chris and Vanessa. Before starting their own business, Alex and Chris worked for one of the most famous Chinese education institutions as “celebrity lecturers” (locally well known teachers) and later Alex was promoted to a senior manager position. Vanessa worked as an assistant to an American pop star. At the beginning, the three co-founders were the only full-time staff. Now, the Education Advisory has more than 20 full-time staff, as well as several part-time employees.

There are five roles in the organization: head teacher, campus manager, teaching staff, tutor, and consultant (see Figure 13). Alex is the head teacher. His major responsibilities include: corporate strategy planning, resource allocation, human resource management, and marketing. Chris and Vanessa are campus managers. In support of the head teacher, they are responsible for executing strategies and managing daily operations. There are about 15 full-time and several part-time teaching staff running English training programmes. Teaching staff are supported by tutors, who are always available on the campuses to assist students in

¹ The real name of the company is not mentioned for reasons of confidentiality.

achieving their learning targets. The consultancy services are run by two experienced consultants who are responsible for providing personalized planning to students who wish to study abroad.

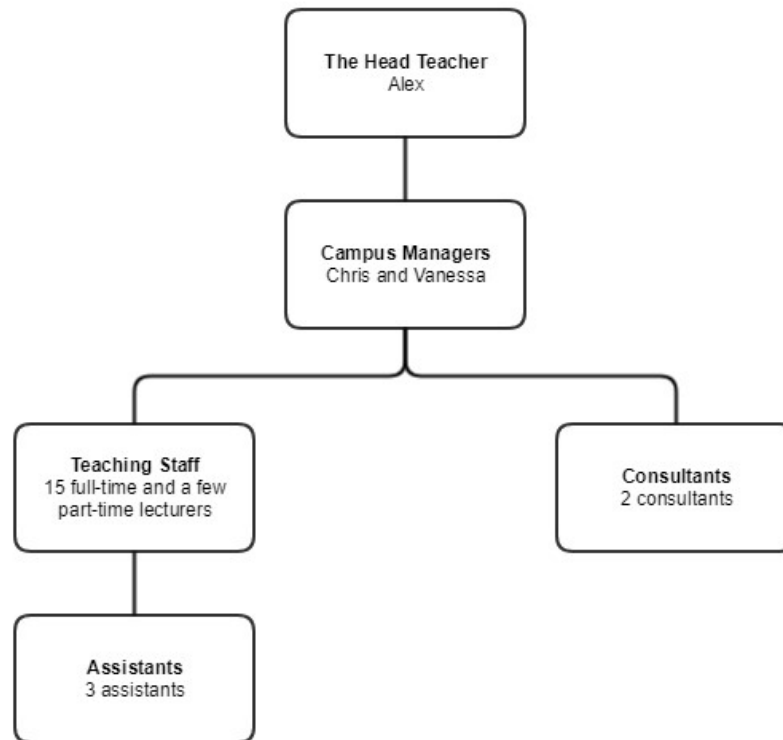


Figure 13. Organizational Structure of the Education Advisory

2.3 The Local English Learning Market: Challenges and Opportunities

The rapid growth in the demand to learn English over the last few years has made the local market highly competitive. According to Alex, there are six to eight large institutions and more than one hundred small and medium size institutions competing locally. As the large institutions possess incomparably abundant resources, their leading positions could hardly be challenged. Small and medium size companies are the major competitors of the Education Advisory. To survive in this competitive market, the business philosophy of the Education Advisory is to prioritize investing resources into a relatively narrow but distinctive range of services.

Recently, while the pressures from existing competitors and new entrants remain intense, the emergence of the online learning platform has been changing the conventional ways of doing business. The most noticeable advantage of online learning is its tremendous flexibility in terms of time and place. In addition, young students are particularly sensitive to emerging online products. Online learning has already taken a considerable amount of the market share. This, according to Alex, brings both opportunities and challenges. There are, potentially, great business opportunities, as online learning could expand business boundaries from the local to a national market. At the same time, there are many more competitors. The competition, therefore, is more open and intense, which means that profit margin are likely to shrink.

2.4 Business Strategies

Having recognized that the market place was changing to include online learning, the Education Advisory realized that it was time to make a move. New business strategies were developed, which focused on exploring internet-based learning and marketing. In the short term, the Education Advisory decided to work, cooperatively, with sophisticated online learning platforms, to try new marketing channels and approaches. In the long term, it planned to develop its own mobile phone application.

According to Chris, as the Education Advisory did not have much experience in online learning, cooperation with a sophisticated platform could significantly reduce resource investment and potential risks. Therefore, they chose to collaborate with a young but well-known and fast-growing online learning platform in China. The platform is actually an eBay-like online market, however different in what kind of products and services being sold. The platform enables education institutions and individuals to sell video courses and real-time courses online. Moreover, as a newly established platform, it offered appealing promotion strategies including substantial “early bird” benefits and offline assistance. Recently, the Education Advisory had signed contracts with the platform and started its online learning business.

At the same time, the Education Advisory started investing more resources in online marketing. Previous marketing strategies were mostly offline-based and included seasonal advertisements, posters, brochures, and word of mouth. These sorts of strategies were believed necessary and effective to promote local sales at a reasonable cost. However, the scope of promotions was relatively narrow, as interest was only being generated locally around campus areas. Alex and his colleagues realized that they should explore online-based marketing to supplement existing strategies. The Education Advisory set up an official company account on one of the most popular mobile-phone-based social network applications in China. This account was jointly managed by Alex, Chris and Vanessa. They started using both the official account and their personal social media accounts for online marketing. After initiating a couple of small-scale online promotions, the official account had accumulated more than 1000 followers. So, having both confidence and ambition, they planned to initiate larger-scale online promotion activities.

In the long-term plan, the development of a mobile phone application was placed on the agenda. As Alex explained, the English-language learning market would become saturated sooner or later. Open competition would result in an improvement of the overall market service quality. At the same time, however, the profit margin would shrink. To sustain long-term profitability, the Education Advisory needed to seek new business models. Therefore, the three co-founders had conceived the idea of a mobile phone application, which would combine online learning and multiple value-added features.

3. Background of the Crowdsourcing Project

3.1 An Overview

In line with the latest business strategies, the crowdsourcing project was planned with three purposes. The initial purpose was to promote company awareness on the already-established online learning platform. In addition, the co-founders of the Education Advisory intended to try new online marketing strategies. The third purpose was for the Education Advisory to prepare for its own mobile phone application development. As a long-term strategy, the co-founders preferred to begin on this by gaining a thorough understanding of its

potential customers.

3.2 Project Themes

Through initiating the crowdsourcing project, the Education Advisory expected to collect valuable information and boost its brand awareness. Three project themes were conceived. Crowd members were expected to take part in any of them. The first theme served the first project purpose, which was designed to collect perceived pros and cons of online learning from the crowd. In addition, a QR code (quick response code) was added to the poster design, which would direct crowd members to the homepage of the Education Advisory on the established online learning platform. The second and third themes served the third project purpose. These themes were designed to collect information about consumers' learning habits and preferences of mobile phone applications. Running through the project, the co-founders expected to acquire experience of implementing new marketing strategies. This would serve the second project purpose.

3.3 The Project Management Team

The project management team consisted of the three co-founders. Alex, Chris and Vanessa agreed to manage the project jointly and, therefore, they shared the major responsibilities, including: strategy planning, decision-making, financial control, and performance appraisal. In addition, each member was assigned a specific role. Alex was the team leader; he was responsible for hosting team meetings and discussion, assigning tasks, and setting up milestones and objectives. Chris was the coordinator; her major responsibilities included schedule arrangement, staff coordination, and data analysis. Vanessa was the operator; her major responsibilities included progress-tracking, online operation, data collection, and crowd member coordination.

3.4 Background of the Crowdsourcing Platform

The project management team decided to crowdsource the project on the most popular Chinese web-and mobile-phone-based platform (similar to Twitter). By Autumn 2016, the platform had more than 106-million daily active users. The project management team believed that it was perfect for conducting consumer research, boosting brand awareness, and expanding its network. Moreover, the platform offered specialized services dedicated to crowdsourcing projects. Any verified organization account (being verified by the platform through authenticating official organization certifications) could use these services. Under the supervision of the platform, a verified company could create its dedicated webpage for the project. The webpage was highly customized and visible to all crowd members. It also offered technical support, services and governance to facilitate interactions between the focal firm and crowd members, and among crowd members.

3.5 Timeline of the Project

The project consisted of two part (see Table 8). The first part was initiated on 21st March 2016 online, and lasted for 31 days. From 21st March to 17th April, crowd members took part in the project through reposting and sharing ideas. In the meantime, the project management team promoted the project, communicated with crowd members and collected information. From 12th April to 18th April, the project management team summarized and analysed the collected information, and produced management reports.

The second part of the project was from 18th April to 22nd April. The project management team invited some of the crowd members to take part in interviews or questionnaire sessions. Collected information was then analysed and presented in management reports. At the end of the project, the project management team nominated winners and issued the promised rewards.

PROJECT TIMELINE	THE FIRST PART 21 st Mar 2016 to 17 th Apr 2016	THE SECOND PART 18 th Apr 2016 to 22 nd Apr 2016
The Focal Firm	The project management team.	
The Crowd	115 stakeholders who shared ideas, 1394 stakeholders who reposted project information.	12 Stakeholders.

Table 8. Timeline of the Case of the Education Advisory

3.6 Rewarding Strategy

The crowdsourcing project offered ten prizes for the best ideas and five prizes in a lucky random draw, together totalling 5,000 CNY (approximately 564 GBP). According to regulations on the platform, prizes could not be cash, so the team purchased electronic devices and tea sets as rewards. According to team members, the threshold for participation was low. There were no specific requirements of background (in terms of age, occupation, education, etc.), skill or expertise. Crowd members were expected to share their own experiences and opinions, which would not be time or resource consuming. Comparing costs with potential rewards, team members believed that their rewarding strategies were appealing. The best ideas would be decided by the team through examining information relevance, credibility, and constructiveness.

In addition to the rewards for the best ten entries, five prizes were offered in a lucky random draw. This was held in order to boost project awareness and encourage participation. The draw was operated by the platform and open to all crowd members that took part in the project (including sharing ideas and reposting/forwarding relevant project information). Thus, all participants had a chance to win a prize. Alex explained that such a strategy aimed at encouraging crowd members to repost relevant project information. Reposting carried out by crowd members refers to the action of forwarding project information posted by the Education Advisory. When a crowd member reposted, the forwarded information was visible to that crowd member's network. It was seen as free promotion.

3.7 Project Management and Expected Outcome

As planned, Chris and Vanessa kept track of activity progress on a daily basis during the first part of the project. Vanessa recorded project indices (for example, the number of participations, page views, and followers) and collected crowd participations (for example, idea sharing and replies) on a daily basis. During the last few working hours, team members discussed the progress of the project and jointly decided any further actions to be taken. Vanessa then executed any required actions online (for example, replying to crowd members' posts and chasing for extra information). At the end of the first part, Chris summarized all the collected information, conducted statistical analysis, and produced management reports (three reports respectively analysed the three proposed project themes). In addition, participants (crowd members who shared ideas) were categorized by the quality of their contributions and their attitude to participation.

During the second part of the project, the team prepared more specific and in-depth questions based on the management reports produced from the first part. Crowd members that were marked with better contributions and attitudes were invited to take part in interviews or questionnaire sessions. Collected information was then analysed by Chris, and the subsequent information was presented in further management reports. Finally, the team selected winners, authorized the lucky random draw, and issued promised rewards.

As stated in the project overview, the Education Advisory expected to: 1) boost its brand awareness on the established online learning platform, 2) explore new social-media-based market strategies, and 3) gain a thorough understanding of consumers' learning habits and preferences of mobile phone applications. Specifically, the team expected 3000 to 5000 page-view increases on the online learning platform, 1000 crowd participations (idea sharing plus reposting), 100 valid ideas, 100 follower increases, and ten participations in the second part of the project with a good quality of information. Most importantly, the management team expected to produce insightful management reports as references for competing in the online learning market, managing online marketing practices, and developing a mobile phone application in the future.

4. Collected Data

In order to investigate the case of the Educational Advisory, we collected data from multiple sources. These include: 1) interviews; 2) internal documents and online documents (for example, the history of operations online); 3) direct observations (for example, daily operations and team meetings); 4) informal conversations with members of the project management team. Table 9 summarizes the interviewees, their roles, interview contents and notes, and dates when interviews were conducted during the project timeline.

INTERVIEWEE	ROLE	INTERVIEW CONTENTS AND NOTES	PROJECT TIMELINE
Alex	<ul style="list-style-type: none"> - The head teacher of the Education Advisory. - Member of the project management team. 	<ul style="list-style-type: none"> - Background of the company and the project. - Project preparation. 	12/03/2016. Project initiation.
		<ul style="list-style-type: none"> - Project initiation. 	22/03/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Project during the 1st week. 	24/03/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Project during the 2nd and 3rd week. 	05/04/2016 Online part 3 rd week.
		<ul style="list-style-type: none"> - Offline part. - Summary of the project. - Commented on by Vanessa and Chris. 	21/04/2016. Offline part.
Chris	<ul style="list-style-type: none"> - A campus manager of the Education Advisory. - Member of the project management team. 	<ul style="list-style-type: none"> - Project initiation. 	22/03/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Project during the 1st week. 	24/03/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Project during the 2nd week. 	01/04/2016. Online part 2 nd week.
		<ul style="list-style-type: none"> - Project during the 3rd week. 	07/04/2016. Online part 2 nd week.
Vanessa	<ul style="list-style-type: none"> - A campus manager of the Education Advisory. - Member of the project management team. 	<ul style="list-style-type: none"> - Project during the 1st and 2nd week. 	29/03/2016. Online part 2 nd week.
		<ul style="list-style-type: none"> - Project during the 3rd and 4th week. 	12/04/2016. Online part 4 th week.
Totoro	<ul style="list-style-type: none"> - A stakeholder participating in the 1st and 2nd part of the project. - One of the winners. 	<ul style="list-style-type: none"> - Experience of participation. - Personal opinions and comments. 	23/04/2016. End of the project.
Baby Dragon	<ul style="list-style-type: none"> - A stakeholder participating in the 1st and 2nd part of the project. - One of the winners. 	<ul style="list-style-type: none"> - Experience of participation. - Personal opinions and comments. 	24/04/2016. End of the project.
Feng	<ul style="list-style-type: none"> - A stakeholder participating in the 1st and 2nd part of the project. 	<ul style="list-style-type: none"> - Experience of participation. - Personal opinions and comments. 	24/04/2016. End of the project.

	- One of the winners.		
Madam Curie Likes Wandering	- A stakeholder participating in the 1 st and 2 nd part of the project. - One of the winners.	- Experience of participation. - Personal opinions and comments.	24/04/2016. End of the project.
Dessert	- A stakeholder participating in the 1 st and 2 nd part of the project. - One of the winners.	- Experience of participation. - Personal opinions and comments. - Interviewed by questionnaire.	25/04/2016. End of the project.
Beautiful Shoulder	- A stakeholder participating in the 1 st and 2 nd part of the project. - One of the winners.	- Experience of participation. - Personal opinions and comments. - Interviewed by questionnaire.	26/04/2016. End of the project.

Table 9. The List of Interviewees in the Case of the Education Advisory

5. The Crowdsourcing Project Initiated by the Education Advisory

In analysing the crowdsourcing project initiated by the Education Advisory, we distinguished between the perspective of the Education Advisory and that of the stakeholders. We aimed at capturing how value was co-created as the crowdsourcing project unfolded. The case study follows the first round of data analysis (Appendix C). We integrated and organized the collected data according to the timeline of the crowdsourcing project. We then reviewed the collected data and identified events, practices, actions, interactions and the perceived value. Interpretations were based on the research lens concluded from existing literature on value co-creation.

The social actors involved in the case of the Education Advisory are clarified in Table 10. Alex, Vanessa and Chris were members of the project management team, representing the focal firm. In the first part of the project, there were 1394 stakeholders who reposted project information and 115 stakeholders who shared ideas. In the second part of the project, there were 12 stakeholders, including Totoro, Baby Dragon, Feng, Madam Curie Likes Wandering, Dessert, Beautiful Shoulder and other 6 stakeholders.

THE FIRST PART		THE SECOND PART
The Focal Firm	Alex, Chris and Vanessa.	
The Crowd	<ul style="list-style-type: none">- 1394 stakeholders who reposted project information.- 115 stakeholders who shared ideas, including Totoro, Baby Dragon, Feng, Madam Curie Likes Wandering, Dessert, Beautiful Shoulder and other 109 stakeholders.	<ul style="list-style-type: none">- 12 Stakeholders, including Totoro, Baby Dragon, Feng, Madam Curie Likes Wandering, Dessert, Beautiful Shoulder and other 6 stakeholders.

Table 10. The Social Actors Involved in the Case of the Education Advisory

5.1 The Dissemination

The *dissemination*, which was the initial interaction between the Education Advisory and crowd members, aimed at promoting the project among the crowd. It consisted of two steps: 1) the focal firm initiated the project online and employed multiple promotion strategies; 2) crowd members became aware of the project. In following paragraphs, we elaborate what actually happened between the Education Advisory and stakeholders, from both perspectives, during the dissemination.

From the Perspective of the Focal Firm

Alex, Chris and Vanessa had prepared for the crowdsourcing project for three weeks. Since it was their first time initiating a large-scale crowdsourcing project, they were extremely cautious. The three team members spend a substantial amount of time learning about initiating a crowdsourcing project on the selected platform and finalizing the project details to be advertised. On 19th March 2016, two days before initiating the project, everything was well-prepared so that team members were ready to register the project on the platform.

Registration, a compulsory governance mechanism of the platform, checked for any violation of relevant regulations prior to initiating the project. Team members were required to specify project type, basic information, rewards, and other project instructions. The platform offered six different types of services, including “wheel of fortune”, “flash sale”, “reposting for rewards”, “crowdsourcing for ideas”, “pre-order sales” and “product/service free trial”. These services were only available to officially verified private/organization accounts². “Crowdsourcing for ideas”, which was one of the services only available to verified organization accounts (not available for verified private accounts), was selected as it best fitted the purposes of the crowdsourcing project. In the section of basic information, team members input “Exploring Online Learning” as the project title and “#Exploring Online Learning#” as the project topic³. The project duration was set from 10 a.m. on 21st March 2016 to 10 p.m. on

² An individual/organization must fulfil certain conditions and submit certifications of identity to be verified by the platform.

³ All posts and reposts which contained the project topic “#Exploring Online Learning#” were automatically recognized and recorded by the platform as evidence of participation and shown on the dedicated project webpage.

17th April 2016. In addition, the team uploaded a nicely designed image as the advertising banner (this banner would be automatically displayed when a post or repost contained the project topic “#Exploring Online Learning#”), and clarified that any crowd member could take part in the project. In the rewards section the team specified ten prizes for best ideas. Then team members uploaded an attractive poster as the advertising interface. The poster integrated all key information, including project topic, slogan, themes, schedule, methods of participation, rewards, and a QR code (quick response code) linked to the homepage of the Education Advisory on the online learning platform.

“#Exploring Online Learning#”⁴

The Education Advisory has collaborated with the online learning platform, making learning available at any time anywhere. There are distinguished lecturers and free courses waiting for you.

You are invited to take part in one or all of the following themes (participating in more themes increases the chances of winning prizes):

- 1. Please scan the provided QR code and review our homepage. We would like to have your opinions on online learning (e.g. pros and cons, whether you are willing to have a try, and any areas of improvement).*
- 2. Please tell us what kind of information about English learning you are interested in, whether it is about exams, TV series, fashion, or something else. We would like to know how you become a high achiever.*
- 3. Please recommend your favourite mobile applications for gathering information (e.g. applications for news, learning, literature, and general knowledge, either in Chinese or English). Please briefly tell us about the features of the applications, and how you become an information expert!*

Schedule:

From 21st March 2016 to 17th April 2016.

Methods of Participation:

- 1. Post your ideas about one or more themes plus the project topic #Exploring Online Learning#, or directly click on the participation button on the project homepage and*

⁴ The original poster was in Chinese.

share your ideas.

- 2. Repost any contents that contain the project topic #Exploring Online Learning# to take part in the lucky random draw.*

Reward Instructions:

- 1. Five first prizes will be rewarded to entrants submitting the best five ideas. Each of these winners will be rewarded an electronic device. Another five prizes will be rewarded to runners-up. Each of these winners will be rewarded a tea set. We are looking for sincere, constructive and interesting ideas. We encourage originality and reject plagiarism.*
- 2. When the project is completed, we will conduct a lucky random draw. Five lucky reposters will each be rewarded with a tea set.*

(Images of the rewards)

(Company logo and two-dimensional code)”

A few hours later, the team members were notified by the platform through a private message that the project had been successfully registered and was officially approved. The team members were able to pre-view the dedicated project webpage created by the platform. On 21st March 2016, Alex and his colleagues released the project. At that moment, the crowdsourcing project was visible to all crowd members and the project subject “#Exploring Online Learning#” was activated.

Later that day, Alex, Chris and Vanessa forwarded the project via their personal social media accounts. However, the results of this private promotion were not good enough. The team members then decided to use the promotion services sponsored by the platform. Once purchased, the platform would promote the project with guaranteed results (the number of reviews). There were different pay-as-you-go promotion packages, with different levels of guaranteed results. Higher priced packages guaranteed better results. Each purchase lasted for 24 hours. The team members purchased sponsored services twice: on 25th March 2016 and 1st April 2016.

During the dissemination phase, the project initiation was strictly governed by the platform. The project registration mechanism, dedicated services for verified organization accounts and relevant policies secured a very high threshold for initiating a project online. This was commended by the team members for enhancing the credibility of the project. Alex commented:

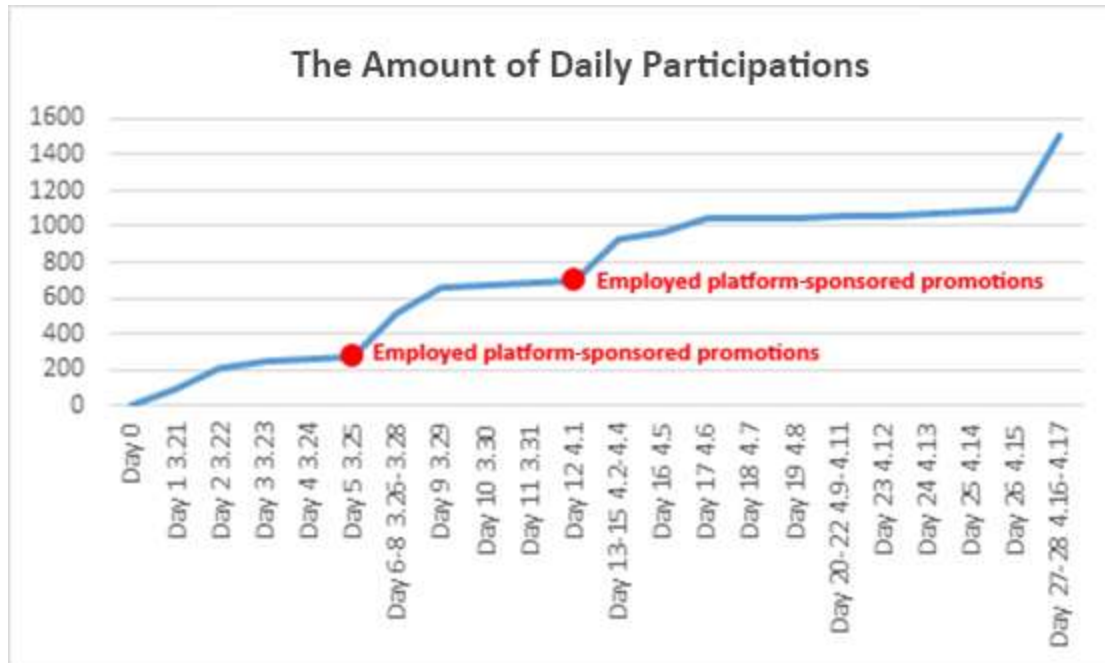
It is a mature platform. The service is only available to officially verified organization accounts and each project must go through the same supervision process. It is strict enough to detect any violations of their regulations...I think we benefitted from such governance practices, since the credibility of our project was strengthened, especially from the participants' perspective.

In addition, the platform also provided useful services, tools and instructions that supported the project initiation. The team members perceived these supports to be both practical and helpful. Chris, for example, stated:

I felt they [the services and tools provided by the platform] were good. The platform offered all kinds of modules. All we needed to do was to input the required information and decide on the schedule. Then, it launched the activity automatically. We used it by following the instructions, which was quite convenient.

The team members also indicated that the platform-sponsored promotions were effective in boosting project awareness. Based on our observation, after employing the platform-sponsored promotion services on 25th March 2016 and 1st April 2016, there were sharp increases in the amount of participation in the project (reposts plus idea sharing); see Figure 14. Vanessa commented:

It was a one-time promotion, targeting potential consumers in 24 hours, which was very effective in the short term. Activity reviews increased very fast. Therefore, reposts were boosted immediately. It facilitated effective dissemination. However, the staying power of the promotion was not that good. As it was only a 24-hour promotion, we expected there would be a slowdown after reaching a peak. Overall, we think it was valuable.



**Figure 14. Results of the Platform-sponsored Promotions
in the Case of the Education Advisory**

In summary, during the dissemination period, the Education Advisory perceived value which was generated through the governance of the platform.

From the Perspective of the Stakeholders

After its initiation, the crowdsourcing project was listed by the platform and became visible to all crowd members. Being new, it took the top position for a while, until there were other more recent projects. New projects also had opportunities to be displayed in advertising banners. After that, more and more crowd members became aware of the project. Through reviewing project specifications, some crowd members gained a better understanding of the project and made the decision to participate. We captured perceived value which was generated through resource exchange and sharing. Totoro (a crowd member) stated:

I got to know the project via advertisements...The poster was attractive. From an aesthetic perspective, it was designer class. Additionally, the poster covered all the essential information I needed to know. It was easy to understand.

5.2 The Chatting

The *chatting* was the major interaction between the focal firm and stakeholders during the first part of the project. There were two steps: 1) some stakeholders reposted project information and some stakeholders participated in the project through sharing ideas and communicating with the focal firm; 2) while collecting and reviewing received information, the focal firm chatted with stakeholders online. In the following paragraphs, we are going to elaborate what we captured.

From the Perspective of the Stakeholders

As soon as the project was initiated, there were crowd members forwarding information about the project. These stakeholders did not share their opinions about the three proposed project themes, and only reposted “#Project Explore Online Learning#” with a link of the project webpage. Stakeholders, as such, were called “reposters”. During the first part of the project, any post that contained the project subject “#Project Explore Online Learning#” was recognized by the platform and displayed on the dedicated project webpage. Reposting (without sharing ideas) could not win rewards for best ideas; however, reposters were able to be involved in the lucky random draw.

At the same time, some stakeholders started participating in the project through sharing ideas. A common motivation we captured was the possibility of winning a reward. Some other motivations included: having fun, being interested in proposed themes, and trying one’s luck. In fact, the low threshold for participation was very low. Sharing personal opinions required very limited efforts. As Baby Dragon (a stakeholder) said:

This activity did not require any specific knowledge background. The proposed themes were closely related to my daily life. For me, it was so easy. I was willing to share my own experience.”

After their initial idea sharing, stakeholders received a “thumb-ups” and replies from the focal firm. They were commended and asked to provide more information. Some stakeholders had multiple conversations with the focal firm. According to their experience, feedback from the focal firm was viewed as an effective way of relationship building. Stakeholders perceived a sense of pleasure, fun, friendship, trust and being valued, all of which enhanced their willingness to participate. Additionally, through direct interactions with the focal firm, stakeholders gained a better understanding of what information was expected from them. Stakeholders could, therefore, provide more accurate information. We captured perceived value which was generated through relationship building and information exchange. Feng, Beautiful Shoulder and Dessert (stakeholders) described:

Their (the focal firm) communication strategy was smart. I knew that there were so many participants. It was a pleasure to be the one who got a chance to directly communicate with the company. I felt I was highly valued by them.

They were friendly and humorous. Chatting with them was great fun. This made our communication fruitful and effective. From my perspective, a better inter-relationship increased the possibility of winning a reward.

My strategy was that I provided what they asked for. Whenever they asked me for further information, I was willing to provide more information.

We also found that some stakeholders benefitted from reviewing the ideas of others'. The dedicated webpage of the project recorded all reposts and idea sharing, and these were visible to all crowd members. Some stakeholders indicated that they frequently reviewed other stakeholders' idea sharing and acquired new knowledge and useful information. We captured perceived value which was generated through resource exchange and sharing, and learning. For example, Madam Curie Likes Wandering (a stakeholder) said:

I am interested in these topics. By the way, learning English is a big deal to me, since I am preparing to study abroad. Recently, I have been searching for mobile phone applications for learning English. I got many options from there [the webpage of the project], and some of them were not bad.

Moreover, the crowdsourcing project was perceived credible as it used official services provided by the platform. Stakeholders believed that the project was under the supervision of the platform and, therefore, had very low risks of potential fraud. Stakeholders also commended the platform for offering practical tools and convenient services. Relevant project updates were timely notified by the platform. We captured perceived value which was generated through the governance of the platform.

In summary, during the *chatting*, we found that the major motivation for stakeholders' participation was expected resource exchange and sharing. Value perceived by stakeholders was generated through resource exchange and sharing, relationship building, learning, and the governance of the platform.

From the Perspective of the Focal Firm

The focal firm kept tracking the project on a daily basis. Vanessa's responsibilities were recording daily project indices (including the number of reposts, idea sharing, follower increases, and page views on the online learning platform) and picking out stakeholders' idea sharing and replies. Then, Chris categorized collected idea sharing and replies into three themes (in line with the three proposed project themes) and conducted some early analysis (in preparation for the statistical analysis). The dedicated project webpage recorded all reposts, idea sharing and replies in chronological order. Team members were able to collect them into a folder, which was an easy way to distinguish them from a large number of reposts. In the notification centre, the focal firm received project updates in real time. The supports provided by the platform greatly facilitated work efficiency. During the last few working hours of every weekday, the team members summarized daily progresses, analysed collected information and proposed further actions. After this, Vanessa executed proposed actions (e.g. replying to stakeholders' posts on a daily basis and purchasing platform-sponsored promotion services as required). We captured value which was generated through the governance of the focal firm and the platform.

The project in total accumulated 1394 reposts during the first part of it, including four sharp increases around 21st March 2016, 25th March 2016, 1st April 2016 and 15th April 2016 (see Figure 15). The first boost in the number of reposts occurred when the project was just initiated. The second and third sharp rises took place when the focal firm employed platform-sponsored promotion services. The last surge was when the first part of the project was approaching its end. In fact, the reposts usually did not contain any information about the three proposed project themes. However, the focal firm perceived them to be valuable in terms of dissemination. Once a reposter posted “#Project Explore Online Learning#”, the information was then visible to the reposter’s followers. It was seen as a free advertisement. We captured value which was generated through resource exchange and sharing. Alex and Vanessa explained:

We focused on boosting awareness of our activity [project], letting more people know about it. At first, we did not use any promotion tools. We only took advantage of our own networks, promoting the activity via our own social media accounts. However, this was not effective. In such a situation, reposts were perceived to be very valuable. Although these participants did not share their ideas, their reposts let more people become aware of our activity. The value of information sharing was in boosting awareness. On account of this, I think reposts were very important during this stage.

From time to time, reposting was the most cost-effective advertisement. They were free and lasted forever. We had forecasted the importance of reposts; therefore, we set the lucky random draw to reward reposters.



Figure 15. The Amount of Daily Reposts during the First Part of the Project in the Case of the Education Advisory

During the first part of the project, there were 115 stakeholders who shared their ideas on the three proposed project themes (see Figure 16). The focal firm collected more than 200 valid ideas. Every time the focal firm received an idea, it gave a “thumb up” and communicated with the stakeholder that shared the idea. Team members responded quickly with encouraging, humorous and friendly remarks. By doing so, the focal firm attempted to build close relationships with stakeholders in order to collect extra information. According to team members’ reflections, such a communication strategy was effective. They collected plenty of valid ideas for statistical analysis. We captured perceived value which was generated through resources exchange and sharing, and relationship building. Vanessa said:

It was my job to directly communicate with them. Communication is my strength. I knew how to motivate them. For example, you could not behave like a spokesperson of the government. Instead, it was better to behave like a friendly student who needed their help. You need to be modest, humorous, and show them respect. Everything became easier when they became your friends.



Figure 16. The Amount of Stakeholders that Shared Ideas during the First Part of the Project in the Case of the Education Advisory

Moreover, through analysing and discussing collected ideas, team members extracted useful information, generated new thoughts and acquired new knowledge. For example, team members got to know some new mobile phone applications. They downloaded them, learned

to use them, tried to capture any major features, and analysed pros and cons. We captured value which was generated through resource exchange and sharing, and learning.

One interesting issue we captured was that the platform, in one respect, negatively influenced interactions between the focal firm and stakeholders. Chris and Vanessa found that when they replied to some stakeholders' posts, no feedback was received. When they realized this was happening with several stakeholders who had submitted very high-quality posts, team members felt it was abnormal and decided to investigate. They found that there was, in certain instances, limited access to the platform. When a stakeholder's account was not verified through a current mobile phone number or by another valid method, full access permission was not granted by the platform. As a result, the replies from the focal firm were not visible to some of the stakeholders whose accounts had not been verified. Although team members had recognized the potential problem, they were powerless to make any change. As Alex explained:

The problem was that some of our replies were not visible to some participants. We searched the platform and discovered that many platform users had experienced the same problem. The platform explained that it was because some accounts were not verified through mobile phone binding or identity authentication. These accounts were labelled as having safety issues, and had limitations in reply visibility. Although this was good attitude in terms of management, it brought us inconveniences. We did not know which participants had not verified. Even if we had known, it was impossible for us to let them conduct a safety upgrade. On account of this issue, we realized that some participants might not be unwilling to reply us. It might be that our replies were not visible to them. This was a big issue in terms of interaction.

In summary, during the chatting, from the perspective of the focal firm, we captured perceived value which was generated through resource exchange and sharing, learning, relationship building and collective governance.

5.3 The Analysis

The *analysis* was the conclusion of the first part of the project. The focal firm reviewed and analysed the collected information. Crowd members were not involved in this. Team members firstly reviewed all the collected ideas, conducted statistical analysis, and produced management reports (three management reports respectively investigated the three proposed project themes). The stakeholders that shared ideas were categorized into groups according to the quality of their contributions and their attitude towards participating. Team members prepared interview questions and questionnaires, based on the produced management reports for the second part of the project. Moreover, project indices (e.g. the number of ideas, reposts and increases of followers) from the first part of the project were collected online.

From the Perspective of the Focal Firm

Team members did not wait until the end of the online ideation. They started summarizing the collected ideas from 12th April 2016 (about one week before the deadline of the first part of the project). Chris and Vanessa reviewed all the collected ideas again and extracted valid information. Then, Chris conducted statistical analysis and produced the management reports regarding the crowd's opinions of online learning, popular sources of information, and preferences regarding mobile applications. Team members were able to formulate practical implications for future business operations. As Chris stated:

There were massive conversations which consisted of a mixture of valid and invalid information. I reviewed them again and picked out valid information. Statistical analysis was time consuming. We captured the key information we wanted to know, including consumers' opinions of the online learning environment, their favourite sources of information, and preferences regarding mobile phone application usage. Managerial implications were based on fresh primary data. This would guide our future moves.

When reviewing the collected information, Chris and Vanessa also labelled stakeholders in one of three ways. Stakeholders who were perceived to have given excellent satisfactory contributions, and with attitudes to match, were marked Label I or Label II (respectively). Stakeholders who were perceived to have given limited contributions were marked Label III.

The team was eager to further communicate with stakeholders marked Label I and Label II to gain additional information in the second part of the project. Through analysing historical conversations and management reports, team members conceived additional questions which they would like to discuss with the targeted group of stakeholders. We captured value which was generated from resource exchange and sharing, and learning.

During the last few days of the first part of the project, Chris collected project indices online. The platform provided the record of indices and a brief analysis. Team members perceived the platform's analysis to be professional, user-friendly and effective. Based on the records provided, page views on the online learning platform increased by 5073; followers on the platform increased by 837; there were in total 1509 participations; 115 crowd members shared their ideas. Team members felt satisfied with these indices and the quality of collected information. We captured value which was generated through the governance of the platform. As Alex explained:

We captured a majority of indices directly from the platform. It was the service package that tracked the progress. I think it was professional and convenient...Our project's indices are very good, beyond our expectations. We collected plenty of insightful information. We achieved great success.

In conclusion, during the *analysis*, the focal firm processed collected data, came up with managerial implications, and prepared for the second part of the project. We captured value which was generated through resource exchange and sharing, learning and collective governance.

5.4 The Invitation

During the second part of the project, the focal firm initiated in-depth interactions with targeted stakeholders. The *invitation* was the initial interaction which consisted of two steps: 1) the focal firm sent invitations and drawn-up questions to targeted stakeholders; 2) stakeholders became aware of invitations, and some of them accepted, agreeing to take part. In the following paragraphs, we will explain the invitation in details.

From the Perspective of the Focal Firm

After several rounds of group discussions, team members prepared the additional questions they wanted to ask their selected stakeholders. Compared to the freestyle conversations of the first part of the project, the questions now were more systematic, focused, and in-depth. As planned, invitations and questionnaires were sent to stakeholders, marked as Label I and Label II via private channels on the platform. Team members commended the platform for offering communication channels and privacy protection. We captured value which was generated through the governance of the platform. As Vanessa highlighted:

The platform offered us communication channels, which made it possible for us to get access to them [stakeholders]. More importantly, we expected to send invitations in person through private channels, not visible to the public.

From the Perspective of the Stakeholders

There were in total twelve stakeholders who accepted invitations and took part in the second part of the project. The stakeholders perceived that they were being trusted and valued, when they received their invitations. In addition, they believed that the focal firm was concerned about them and felt a degree of friendship. This greatly facilitated their willingness to participate. We captured value which was generated through relationship building. For example, Beautiful Shoulder and Feng (stakeholders) recalled:

I felt surprised. I guess they were interested in what I said. I must be one of the few participants who got invited. Of course I was glad to tell them more.

We previously had very good communication on the platform. The invitation was a confirmation of our relationship building. I felt that I was highly valued by them.

In addition, through reviewing the questionnaire, the stakeholders were able to understand what information the focal firm wished to know. Therefore, they could provide abundant and accurate information. We captured value which was generated through resource exchange and sharing. Baby Dragon (a stakeholder) described this, saying:

The questionnaire was well structured. It was not hard to understand their [the focal firm's] purposes. No doubt they intended to inspire me to share more information about mobile phone applications. We had discussed the relevant issues previously. This time, the questions were more challenging to answer.

Moreover, we found that the majority of stakeholders indicated that they were motivated by winning a reward. Receiving an invitation was deemed as a signal of potential winning, which also greatly facilitated their participation. We captured value which was generated from potential resource exchange and sharing. As Dessert (a stakeholder) stated:

I thought I was going to win a rewards. Otherwise, it was not necessary for the company to contact me. I just needed to follow what they [the focal firm] asked for and to be active. It was the motivation for me to finish the questionnaire.

In conclusion, during the invitation, targeted stakeholders received invitations and questionnaires from the focal firm. Stakeholders were motivated by an enhanced mutual relationship and the potential of winning of rewards. We captured value which was generated through resource exchange and sharing, relationship building, and potential resource exchange and sharing.

5.5 The Research

The *research* comprised of two steps: 1) stakeholders provided the required information and sent answered questionnaires back to the focal firm; 2) the focal firm collected the questionnaires and conducted further analysis. In the following paragraphs, we describe what we captured.

From the Perspective of the Stakeholders

It was not difficult for the stakeholders to fill in the questionnaires. Each questionnaire contained about 20 questions, mainly about personal opinions and experience. The stakeholders usually took less than an hour to answer the questions. They tried their best to offer detailed information, expressing great willingness, patience and sincerity. It was found that the stakeholders were greatly motivated by their enhanced relationship with the focal firm and the potential to win rewards. We captured value which was generated through

relationship building and expected resource exchange and sharing. Baby Dragon, Totoro and Feng (stakeholders) said:

It was approaching the end of the activity. I don't think everyone got a chance to answer the questionnaire. I got the opportunity, which meant that I had got the initiative. I needed to provide as much as possible, making myself outstanding. At the same time, we were no longer strangers. I was glad to lend a hand.

I am interested in and familiar with the relevant information they [the focal firm] asked for. I wanted to say what I knew, especially as we had established a mutual trust. Sincerity will be rewarded.

It was not difficult to answer [the questionnaire]. However, it was time consuming. I was making the effort in order to win a prize. At the same time I felt commitment. Therefore, I spent a substantial time answering the questions patiently.

The stakeholders also noticed that private channels were used when they sent back their answered questionnaires. Such a practice ensured that their efforts were directly and privately delivered to the focal firm. Privacy protection was highly valued. We captured value which was generated through the governance of the focal firm and the platform.

In conclusion, from the perspective of the stakeholders, we captured value which was generated through relationship building, expected resources exchange and sharing, and collective governance during the research.

From the Perspective of the Focal Firm

In one week, the focal firm collected 12 answered questionnaires from the stakeholders. Alex, Chris and Vanessa reviewed all of them and felt satisfied with the quantity and quality. According to Vanessa, the questionnaires were based on information from the management reports produced in the first part of the project. In this way, they were able to capture substantial additional information, to supplement what they had already captured in the first part of the project. We captured value which was generated through resource exchange and sharing. Vanessa commented:

As you can see, the data collection in the first part was open and arbitrary. We set fairly broad topics and a loose threshold. Basically, we captured what participants told us. In the second part, our primary purpose was to acquire additional information. We prepared questions according to our research purposes and their [the stakeholders'] preferences. Therefore, we could acquire abundant additional information.

Later on, Chris conducted further analyses. The first step was to extract valid information from the questionnaires. Then, Chris conducted statistical analysis and interpreted the results. Conclusions and managerial implications were added to management reports, which were further discussed at another team meeting. Team members obtained fruitful information and implications for future business operations. We captured value which was generated through resource exchange and sharing, and learning. Alex said:

We were more intentional in the second phase. According to Chris' analysis, we got extra implications, for example, what functions were likely to appear in a learning application, and what should be avoided. Moreover, there were questions asking about participants' experiences of our project...We received direct feedback and reflected on areas for improvements. All implications as such were concluded in our management reports, which offered us references and confidence to implement our business ambitions.

In the meantime, team members expressed a sense of gratitude, trust and friendship. They believed that mutual relationships acted as important roles in the success of the second part of the project. Vanessa indicated that their strategy of relationship building was effective. We captured value which was generated through relationship building. As Vanessa explained:

The final 12 people were very active. They were knowledgeable and easy going. I could recall that I had very nice communications with the majority of them in the first phase, which might be one of the key reasons for their active participation. I felt grateful.

In summary, during the research, the focal firm collected, reviewed, and analysed the answered questionnaires. Team members obtained additional information and summarized the extra managerial implications, which would guide the implementation of their business ambitions. Meanwhile, mutual relationships were felt to facilitate the success of the second part of the project. We captured value which was generated through resource exchange and sharing, learning, and relationship building.

5.6 The Rewarding

The *rewarding*, which was the final interaction, consisted of two steps: 1) the focal firm decided to reward all the stakeholders that took part in the second phase of the project; they issued the promised rewards, and authorized the random lucky draw on the platform; 2) the stakeholders who participated in the second part of the project and some of the reposters received their rewards. In the following part of this section, we will elaborate on the details of the rewarding.

From the Perspective of the Focal Firm

As stated in the project specifications, team members originally planned to offer ten rewards for the best ideas. However, in reality, all 12 key stakeholders were rewarded. According to Alex, the team members were satisfied with all the collected questionnaires and it was difficult for them to pick ten out of the 12 stakeholders. In addition, the team members indicated that they were willing to issue extra rewards for sincerity and friendship. Therefore, the focal firm announced their decision on the platform and gave out the promised rewards. We captured value which was generated through relationship building. As Alex clarified:

We decided to reward all of them. It was not easy to tell who were better than the others. Actually, we were satisfied with all of them. There was no significant difference. In addition, we would like to let everyone feel happy. Offering an additional two rewards was not a big deal. Their efforts, sincerity and friendship with us deserved winning the rewards.

In addition, Vanessa authorized the lucky random draw on the platform. The platform offered necessary guidance and dedicated services, and strictly governed the random draw. Team members perceived that the credibility of their project was greatly enhanced, as the reawards and random draw were made transparent to the crowd and guaranteed by the platform. We perceived value which was generated by the governance of the platform. As Vanessa confirmed:

The random draw actually was conducted by the platform. The platform represented fairness, transparency and credibility. Our rewarding process also followed its instructions and used the dedicated services. This made us credible.

In conclusion, from the perspective of the focal firm, we captured value which was generated through relationship building and the governance of the platform.

From the Perspective of the Stakeholders

All 12 stakeholders that participated in the second part of the project and five reposters received messages from the platform, which informed them that they had won a prize. A few days later, they received their reward posted by the focal firm. Stakeholders expressed a sense of excitement, of loyalty, and of feeling valued. These positive feelings were mainly ascribed to winning a reward and the enhanced relationship. We captured value which was generated through resource exchange and relationship building. Feng, Madam Curie Likes Wandering and Totoro (stakeholders) said:

I was confident of winning a prize. When I was notified, I still felt excited. It was a good feeling to win something I really liked.

The reward was just part of it. I enjoyed the fun process ... I became a loyal follower of the company. No doubt, next time I will join them.

I was so lucky. Being valued out of thousands of people is worth celebrating for days. I'd like to thanks them [the team members]. They are really nice guys.

The stakeholders also commended the focal firm for carrying out their promises. They understood that they were protected by the platform. Any violation could be appealed. The governance role of the platform was highly valued. We captured value which was generated through the governance of the focal firm and the platform.

In conclusion, during the rewarding, the stakeholders perceived value which was generated through resource exchange and sharing, relationship building and collective governance.

6. The Follow-up

A few months later at an investor conference, Alex confidently introduced his business plan to the audience. The business plan involved the development of an English language learning application in iOS and the Android system. Primary data collected from the crowdsourcing project was used to explain market demands and the concepts of the development. The speech was fruitful and persuasive. Alex and his team engaged with a couple of investors who were interested in their business plan. Recently, there was the good news that the business plan had been funded. Alex and investors recruited a professional application development team. In the near future, their mobile phone application will be released.



Figure 17. Interface Designs of the Mobile Phone Application

CHAPTER 5 CASE STUDY OF THE GAMES COMPANY

1. Introduction

The project initiated by the Games Company was a tournament crowdsourcing project with R&D purposes. The nature of tasks were knowledge-intensive. The focal firm created a competitive environment to call for contributions from crowd members on a broker platform with guaranteed rewards for winners. The project had two phases with fixed milestones, during which time crowd members voluntarily made contributions through submitting solutions individually.

During the first phase of the project, the focal firm involved crowd members in its R&D processes. During the second phase of the project, the focal firm involved selected crowd members in its R&D processes. Intensive interactions were captured during the second phase of the project when the focal firm cooperated with selected crowd members to further develop their game designs. Through diversified interactions between the focal firm and crowd members online and offline, a variety of value was created and perceived by the focal firm and crowd members. According to our definition of value co-creation, the features of value co-creation in the project initiated by the Games Company were evident.

2. Background of the Local Takagism Market

Takagism, or alternatively *room escape* is a relatively young but fast-growing field in the local entertainment industry in China. Takagism gaming houses emerged around 2013, at a time when puzzle-solving games, novels and films were increasingly popular among young consumers. The word *Takagism* comes from the name of the Japanese game designer Toshimitsu Takagi, who is famous for producing classic puzzle-solving games. In essence, a Takagism gaming house in a physical store is a locked-up adytum with series of well-designed puzzles and tricks. The basic game principle is that a group of players follow the storylines and solve puzzles and tricks in order to get out of the room.

3. Background of the Games Company

3.1 An Overview

Established in 2013, the Games Company¹ is one of the most successful entertainment companies in the local Takagism market in China. As a pioneer in the Chinese market, the Games Company was the first to bring in advanced technology and concepts by purchasing copyrights from an American entertainment company. It invested more than 1,000,000 CNY (approximately £116,000) in game designs, room designs, facilities and constructions. This investment translated not just into economic benefits but also to gaining the leading position in the local market very quickly. At present² the Games Company has three stores, 15 different gaming rooms, and an annual revenue of more than 3,000,000 CNY (approximately £350,000).

As an early entrant to the field, the Games Company had evident advantages over its competitors in terms of investments, game design, professional human resources, and brand awareness. Today, each store of the Games Company offers a large leisure zone where there are free table games (e.g. card games, puzzles, desktop football), and beverages and food are available. This is a unique feature that distinguishes the Games Company from its competitors. Owing to these competitive advantages, the Games Company is ranked the No.1 Takagism gaming house by local consumers and has accumulated very positive feedback on mainstream consumer-oriented commentator websites³. However, as the market grows, more competitors have emerged, bringing in huge investments, advanced technologies and creative ideas. Although the Games Company still holds its leading position, the comparative advantages are no longer as obvious.

¹ The real name of the company is not mentioned for confidentiality reasons.

² This data refer to Autumn 2016.

³ For example, www.dianping.com, www.meituan.com.

3.2 Organizational Structure

Two co-investors, Vincent and Max, who contributed to the main investments, on behalf of all co-investors, took charge of the top manager roles in the company (see Figure 18). Their major management responsibilities include strategic planning (e.g. searching for opportunities, defining goals, establishing strategies, and developing plans) and organizing (e.g. determining what tasks should be accomplished, who should do them, and how many resources should be allocated). Each of the three stores has a dedicated manager. These three middle managers are responsible for implementing the company's strategies and plans, as well as running the stores on a daily basis. Their work content is mainly associated with leading (e.g. motivating personnel), on-going management (e.g., workload allocation) and monitoring performance (e.g. performance appraisal, bonuses and disciplining). In total there are about 45 first-line employees, 15 at each store, who are responsible for daily operations.

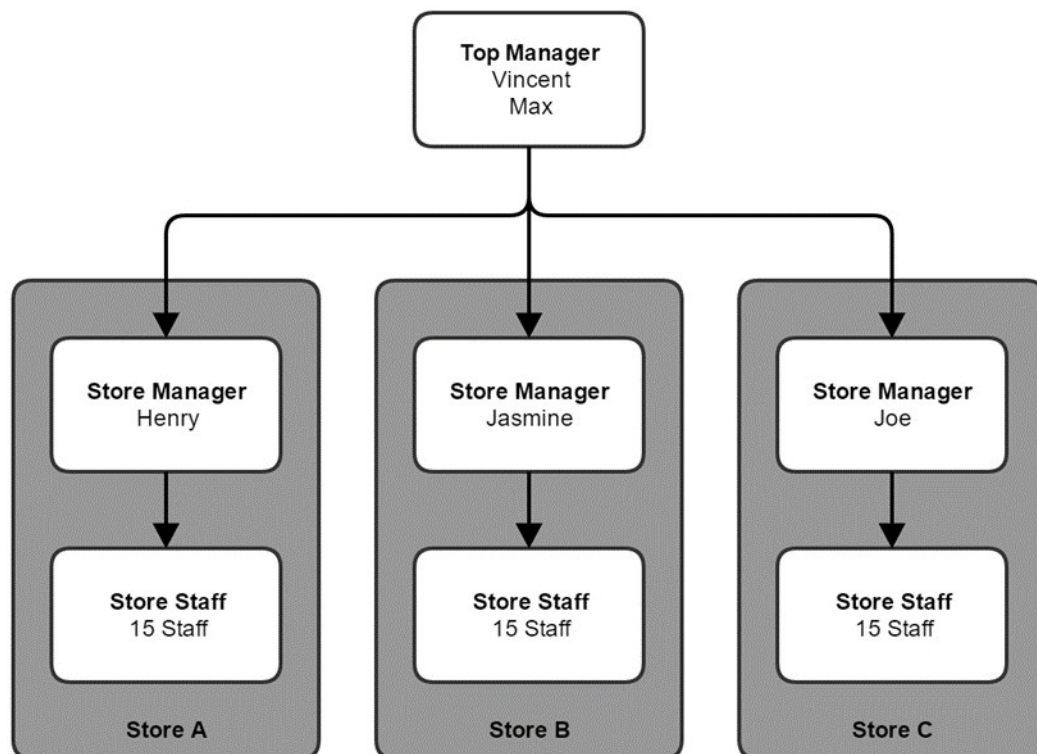


Figure 18. Organization Structure of the Games Company

3.3 Core Business of the Games Company: the Game Design

According to Vincent, game design is the soul of Takagism. The Games Company has an internal design team which consists of professional game designers, market researchers and engineers (see Figure 19). The elite team is specialized in industry analysis, marketing, consumer research, game design, interior design and game-room construction. It is able to conduct an entire game design process, including market research, theme and storyline design, puzzles and tricks design, and gaming room construction planning. Apart from its own game designs, the Games Company has purchased copyrights from an American entertainment company, which is an additional source of game designs. The American company sells packages, each containing a unique theme (usually up-to-date popular patterns e.g. films, video games, TV series, and novels) with a series of storylines, embedded puzzles and tricks, and plans for physical constructions. Out of the existing 15 gaming rooms, eight were designed by the internal team, the remaining seven were modified from purchased packages.

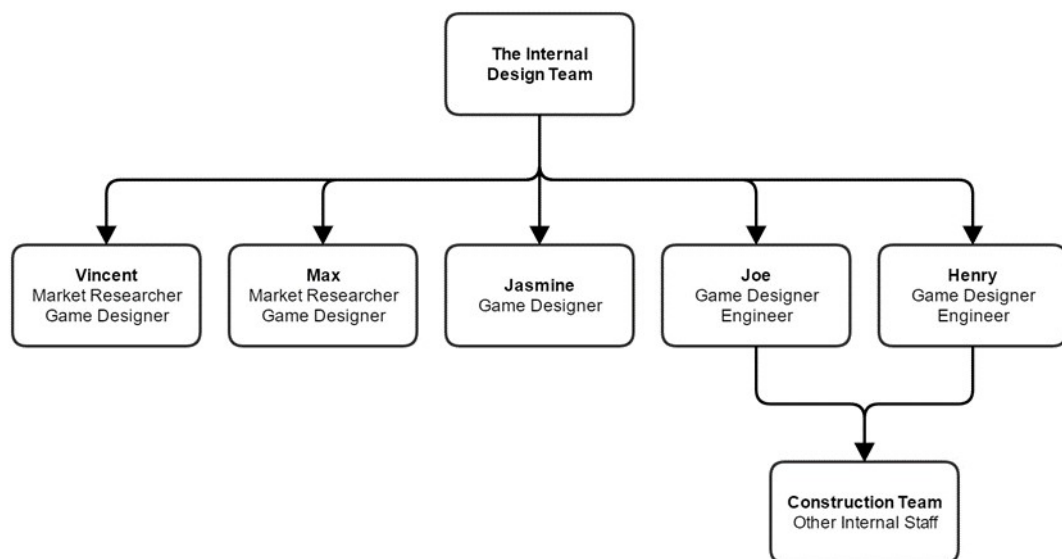


Figure 19. Structure of the Internal Design Team

Good game designs require professional planning and construction. Advanced technologies (e.g. 3D effects, artificial intelligence and virtual reality) and facilities (e.g. lighting systems, acoustic effects and operational machineries) are crucial to enhance consumer experience. As team members are fully involved in the game design process, and some of them have engineering backgrounds, they are able to develop designs by themselves.

4. Background of the Crowdsourcing Project

4.1 The Challenge: Business Expansion

The latest business strategy of the Games Company was expansion. It planned to open two more stores in 2017: the fourth was to be another local store, and the fifth to be in another city. This strategy aimed at strengthening the company's local competitiveness and exploring the market in adjacent cities. As the top managers executed the strategy of expansion, game design was deemed to be the most crucial part in early preparations.

The top managers decided to duplicate five existing game designs for the fifth store (thus adopting a replication strategy in the new city by reusing the designs of existing game rooms), and fit the fourth local store with five new designs (thus making sure that it complemented the other three local stores, rather than duplicating what was already available). After consulting the American partner, three packages were purchased. Initially, the Games Company intended to design the remaining two internally. However, during a design team meeting, Max came up with the idea of crowdsourcing. Team members agreed with the suggestion, realizing that some interesting new game designs might be found at a relatively low cost. So, the crowdsourcing of Takagism game designs was placed on the agenda.

4.2 Description of the Crowdsourcing Project

The major purpose of the crowdsourcing project was to collect ideas for Takagism game designs from the crowd. A complete game design consists of one theme with storylines, ten to 15 puzzles and tricks, and a construction plan (see Figure 20). The creation of an interesting story theme with storylines and designing embedded puzzles and tricks are the most creative and challenging parts of a game design. A good theme, with its accompanying storylines, has to be stunning, in order to trigger consumers' interest. Usually, the Games Company selected up-to-date popular story themes. Storylines, as containers of puzzles and tricks, elaborate how the story unfolds. About ten to 15 puzzles and tricks with increasing levels of difficulty are embedded into the storylines. Well-designed puzzles and tricks are gripping, logical, highly playable and with appropriate levels of difficulty (not so simple as to reduce playability, and not so difficult as to affect the consumers' experience). Construction plans consider the

practical issues of building the game design and attempt to maximize the consumers' experience.

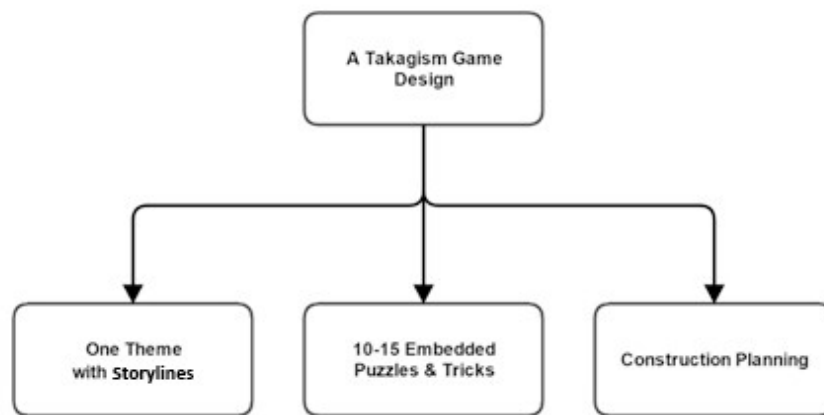


Figure 20. Contents of a Takagism Game Design

As Vincent explained, “The starting point is the most difficult [...] A promising idea is all we need.” When looking for promising ideas, the team also took knowledge protection issues into consideration. It was expected that, on the selected crowdsourcing platform, winning ideas would be made public as evidence of fairness and transparency. It was possible, therefore, for industry competitors to see and take advantage of these ideas. After several rounds of discussions, the internal design team clarified that they should not expect complete game designs from the crowd, but promising ideas worth further development. With this in mind, the focal firm advertised on the crowdsourcing platform and specified the call for Takagism game designs with interesting themes, storylines, and three to five embedded puzzles and tricks. It was agreed that, after the winning ideas were chosen, the internal team would further develop promising ideas offline with the winning participants of the crowdsourcing project. It was explicitly specified that creativity and originality would be highly valued; slight imitations might also be accepted (for example, using characters from a popular film and modifying an existing puzzle); however plagiarism was strictly prohibited. The focal firm set a three-week period during which time it accepted bids from the crowd.

4.3 The Project Management Team

The management team of the crowdsourcing project consisted of three members: Vincent, Max and Joe. All three members took part in all previous 15 game designs and room constructions. They also played decisive roles in the internal game design team. These three individuals decided not to specify each member's role or responsibility in this crowdsourcing project. Instead, they agreed to share ideas and make collective (i.e. joint) decisions during weekly meetings.

4.4 Background of the Selected Platform

The selected platform for crowdsourcing was a well-known, ten-year-old dedicated crowdsourcing platform in China. From the perspective of the focal firm, it was believed credible and trustworthy, so that it was suitable for crowdsourcing the project. In particular, Max had positive experiences (e.g. quality of deliverables and ease of use) of crowdsourcing a logo design on this platform in the past. This significantly increased the management team's confidence. In addition, the management team highly valued the privacy and intellectual property protection practices of the platform. All the deliverables would only be visible to the project initiator during the project, and only the winning entries would be made public at the end. Potential issues relating to knowledge and patent protection were secured by the platform. These practices were commended by the Games Company for facilitating a fair and transparent competition.

4.5 The Timeline of the Project

We make a distinction between the online and offline parts of the project (see Figure 21). The online part started on 13th June 2016, when the Games Company initiated the project online. As required by the platform, the project management team input basic project information (e.g. the project title, requirements, the schedule, rewards and the number of winners) and made a pre-payment to the platform. From the initiation until 4th July 2016 (the deadline), stakeholders (from the crowd) were able to review project specifications, work on deliverables and submit their entries. During this period of time, the project management team collected and reviewed deliverables as they were submitted. Between 4th July and 7th

July, the project management team decided on the winning entries and authorized payment to the three winning stakeholders: “the Gamer”, “the Historian” and “the Musician”.

The offline part of the project took place from 7th to 24th July 2016. First, the project management team sent invitations to the two (out of three) winning stakeholders: the Gamer and the Musician. Then the team and selected stakeholders worked together (referred to as “co-worked” in Figure 21) to further develop their winning deliverables into full game designs. After several rounds of co-working, the Games Company was satisfied with the game designs and the two stakeholders received extra rewards.

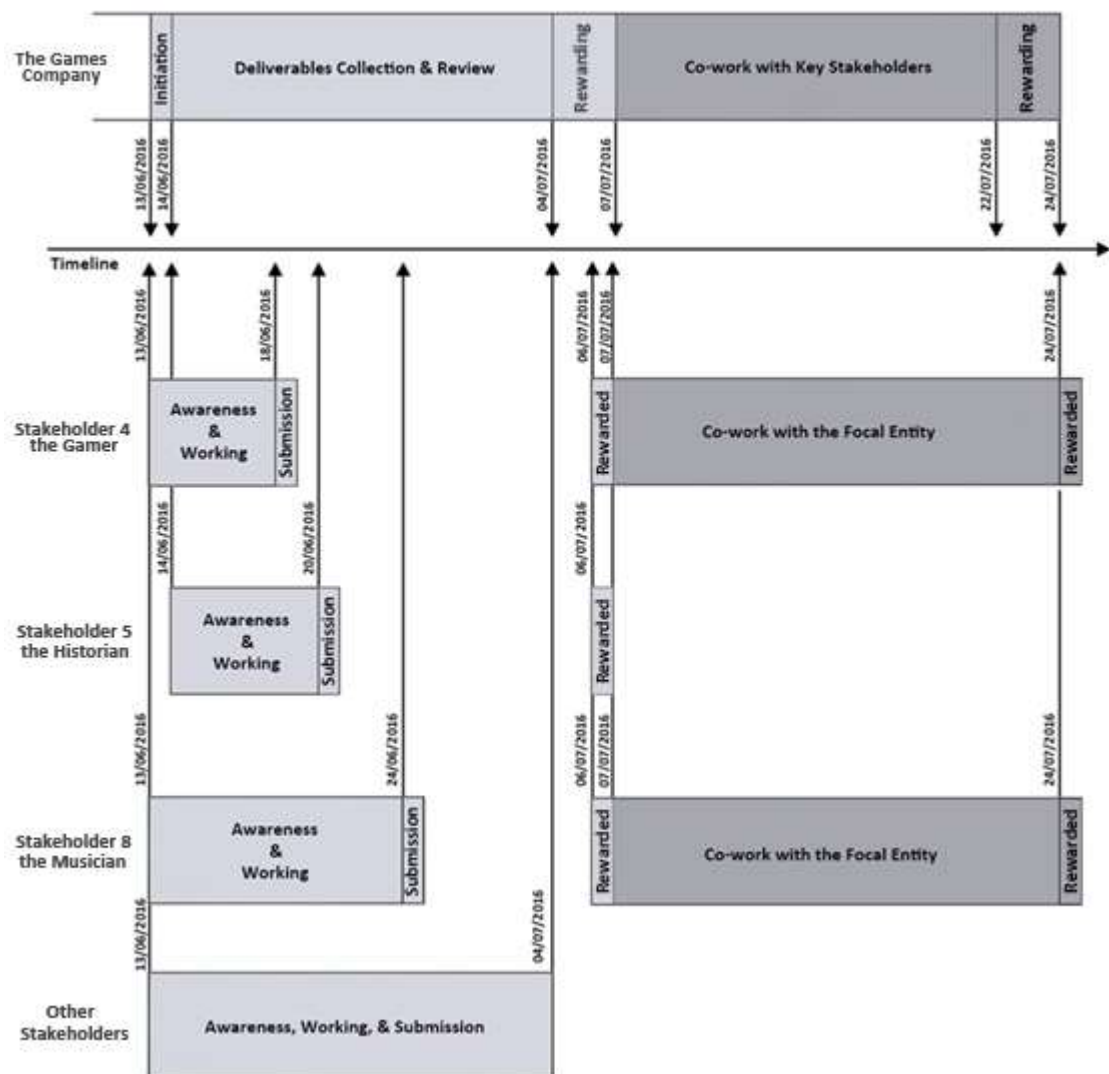


Figure 21. Timeline of the Crowdsourcing Project Initiated by the Games Company

4.6 Rewarding Strategy

The amount of prize money to be given in rewarding the winning entrants was decided by the management team after searching for similar projects on the selected platform and other crowdsourcing platforms. The prizes were believed to be much higher than the market average level (in an attempt to attract more people to provide high-quality deliverables). For the online part of the project, each of the three winners would get a prize of 1,500 CNY (approximately 170 GBP). The offline part of the project offered another 1,500 CNY for each stakeholder. The quality of the deliverables were to be judged by the project management team members through examining the story themes, storylines, tricks and puzzles designs, estimated construction difficulties, estimated budgets, and other concerns.

4.7 Project Management and Expected Outcome

The management team perceived that the project management would not be very difficult. At the beginning of the project, they followed the platform's instructions and processes. During the online part of the competition, when there was a newly submitted deliverable, all three team members reviewed it individually. Then, in the following team meeting, they would discuss all the deliverables collected in that past week. In total, there were three team meetings arranged during the online part of the crowdsourcing project. The final decision regarding the winning stakeholders was made in the last team meeting.

The offline part of the project required the selected stakeholders to become involved in the game designs. The team members perceived limited risks associated with the possibility that the selected winning stakeholders might not want to be involved, or might quit, in the offline part of the project. As Joe stated: "In the worst case, we would be able to finish the semi-designed designs by ourselves; but we do feel that we would benefit from having some external vision". The project management team expected to find at least two high-standard deliverables from the online part of the competition, hoping that they would then be developed into two sophisticated game designs through offline cooperation.

5. Collected Data

Data for our research was collected from multiple sources: 1) interviews; 2) internal company documents and online documents (e.g. history of operations online); 3) direct observations (e.g. daily operations and weekly team meetings); 4) informal conversations with members of the project management team. Table 11 summarizes the interviewees involved, their roles, the major content and notes of the interviews, and dates when the interviews were conducted during the project timeline.

INTERVIEWEE	ROLE	INTERVIEW CONTENTS AND NOTES	PROJECT TIMELINE
Vincent	<ul style="list-style-type: none"> - Top manager at the Games Company. - Game designer and market researcher on the internal design team. - Member of the project management team. 	<ul style="list-style-type: none"> - Project preparation, initiation. - Supplemented by Max and Joe. 	13/06/2016. Project Initiation.
		<ul style="list-style-type: none"> - Deliverable review 1st week. 	20/06/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Deliverable review 2nd week. 	27/06/2016. Online part 2 nd week.
		<ul style="list-style-type: none"> - Deliverable review 3rd week. 	04/07/2016. Online part 3 rd week.
		<ul style="list-style-type: none"> - Online part of the project. - Supplemented by Max and Joe. 	04/07/2016. End of the online part.
		<ul style="list-style-type: none"> - Offline part of the project. - Supplemented by Max and Joe. 	18/07/2016. End of the offline part.
Max	<ul style="list-style-type: none"> - Top manager at the Games Company. - Game designer and market researcher on the internal design team. - Member of the project management team. 	<ul style="list-style-type: none"> - Deliverable review 1st week. 	20/06/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Deliverable review 2nd week. 	27/06/2016. Online part 2 nd week.
		<ul style="list-style-type: none"> - Deliverable review 3rd week. 	04/07/2016. Online part 3 rd week.
Joe	<ul style="list-style-type: none"> - Store manager at the Games Company. - Game designer and engineer on the internal design team. - Member of the project management team. 	<ul style="list-style-type: none"> - Deliverable review 1st week. 	20/06/2016. Online part 1 st week.
		<ul style="list-style-type: none"> - Deliverable review 2nd week. 	27/06/2016. Online part 2 nd week.
		<ul style="list-style-type: none"> - Deliverable review 3rd week. 	04/07/2016. Online part 3 rd week.

“The Gamer”	<ul style="list-style-type: none"> - The fourth stakeholder. - One of the online winning stakeholders. - One of the offline stakeholders. 	<ul style="list-style-type: none"> - Online part of the project. - Offline part of the project. 	19/07/2016. End of the offline part.
“The Historian”	<ul style="list-style-type: none"> - The fifth stakeholder. - One of the online winning stakeholders. 	<ul style="list-style-type: none"> - Online part of the project. 	12/08/2016. End of the offline part.
“The Musician”	<ul style="list-style-type: none"> - The eighth stakeholder. - One of the online winning stakeholders. - One of the offline stakeholders. 	<ul style="list-style-type: none"> - Online part of the project. - Offline part of the project. 	25/08/2016. End of the offline part.

Table 11. The List of Interviewees in the Case of the Games Company

6. The Crowdsourcing Project Initiated by the Games Company

In analysing the crowdsourcing project initiated by the Games Company, we distinguished between the perspective of the Games Company and that of the stakeholders. We aimed to capture how the different dimensions of value emerged as the crowdsourcing project unfolded, and how the value was co-created through interactions between the focal company and the stakeholders. The case study follows the first round of data analysis (Appendix D). Specifically, we firstly integrated and organized the collected data in line with the timeline of the project. Then, through reviewing the collected data, we identified events, practices, actions, interactions, and the perceived value. We interpreted the collected data through the research lens that we concluded to be most pertinent from reviewing the existing literature on value co-creation. Analysis was organized and presented in a chronological order.

To make our narrative reader-friendly, we clarified the social actors involved in the case of the Games Company (see Table 12). Firstly, Vincent, Max and Joe, who are project management team members of the Games Project, represent the focal firm. Secondly, the term “stakeholders” refers to the 15 crowd members that submitted deliverables during the online part of the project. The winning stakeholders chosen at the end of the online competition were Stakeholders 4, 5 and 8. We named them “the Gamer” (Stakeholder 4 used a video game as the story theme in the game design), “the Historian” (Stakeholder 5 applied a historical context as the story theme), and “the Musician” (Stakeholder 8 employed a musical context). We interviewed these three stakeholders regarding their experiences of the project and the value propositions they perceived they had gained. Two of them – the Gamer and the Musician participated in the offline part of the project, co-working with the Games Company to further develop their designs.

	THE 1 st PART OF THE PROJECT	THE 2 nd PART OF THE PROJECT
The Focal firm	Vincent, Max and Joe.	
The Crowd	- 15 stakeholders from the crowd: the Gamer, the Musician, the Historian and 12 other stakeholders.	- Two of the winning stakeholders: the Gamer and the Musician.

Table 12. The Social Actors Involved in the Case of the Games Company

6.1 The Acquaintance

The *acquaintance*, which was the initial interaction between the focal firm and the crowd, consisted of two steps: 1) the focal firm initiated the project online; 2) crowd members became aware of the project. We characterize it as an open, open-ended and informative interaction. Openness is the fundamental nature of crowdsourcing. The initiation of the project was visible to any crowd member using the selected crowdsourcing platform. Open-ended interaction means that, at the time of initiating the project, the focal firm did not know who would review the project specifications or who would actually take part in the project. Crowd members could voluntarily take part if they wanted to. The acquaintance was also an informative interaction, since its fundamental purpose was to bridge connections between the focal firm and crowd members. In the following paragraphs, we will elaborate what actually happened between the focal firm and stakeholders during the acquaintance.

From the Perspective of the Focal Firm

After several weeks of preparation, the project management team decided to initiate the crowdsourcing project on 13th June 2017. On the selected platform, team members were required to input basic project information and make a pre-payment to start the project. Required information included the project category, the project title, the project model, the project specification, contact methods, rewards, the duration, the selection of guaranteed payment and extra services for promotion. Then, the agreement had to be signed.

The crowdsourcing project was categorized as “script writing” under the option of “planning and writing”. Team members wanted to make the project title both succinct and appealing, so used short phrases and key words. They wanted to convey the information to potential stakeholders that: 1) intellectual input was required; 2) the deliverable should be clear and concise; 3) rewards were attractive. Therefore, the project title was set as “Creating Takagism game designs, creativity, simplicity, and attractive rewards”.

In terms of the project model, the platform offered two options. The first option was an arbitrator model (discussed in Section 1.4, Chapter 2). In this model, the stakeholders would submit their deliverables first, and then the focal firm would select the winning entries. The second model was a facilitator model (discussed in Section 1.4, Chapter 2). In this model, the project management team would select the stakeholders they hoped to work with first, and then the selected stakeholders would submit their deliverables for the focal firm to choose from. The team members believed that the key purpose of their project was to gain inspiration from external stakeholders; therefore, the more stakeholders the better and the first option was selected.

The project management team regarded the project specification section as the most important section in the project initiation. This section was used to clarify their reasons for holding the crowdsourced competition and to deliver the right information to potential stakeholders. The team input four sections including: project descriptions, project requirements, project rewards, and about us, using very concise and clear language.

“Project Description:

Interesting story themes, challenging puzzles and tricks, an immersive experience, requiring united teamwork, and with unpredictable endings: this is Takagism. If you have the interest, imagination and passion, join us!

Project Requirement:

- 1. Create a package of Takagism game designs with one story theme, three to five storylines and relevant puzzles and tricks.*
- 2. The story theme should be current, fresh and aimed at young people. Storylines should be logical and continuous. Puzzles and tricks should be ingenious and moderately difficult.*
- 3. Please be imaginative. Creativity is the core. Consider how the game would work in reality.*
- 4. Originality will be highly valued, while plagiarism is prohibited. Slight imitation is acceptable, but please notify us.*
- 5. There are no restrictions in terms of word count and forms of display. Descriptions should be clear.*

Project Rewards:

- 1. We will select three winners based on our assessment. Each winner will be rewarded 1,500 CNY.*
- 2. We would like to work with the winners to co-develop their game designs. Each winner will be rewarded an extra 1,500 CNY.*

About Us

We are a young team, with abundant industry experience. We are honest, credible, passionate and genuine!"

Contact information was an option, by which the project management team would be able to be notified by the platform of any project updates. The team selected to receive updates through short messaging services. The next step was to allocate the amount of prize money and decide on the duration of the competition. The team offered a budget of 4,500 CNY (approximately 507 GBP), which would be shared by the three winners. The project duration was set at 21 days. The selection of guaranteed payment was made by ticking an optional box. By ticking this box, the project team agreed to select winners from all the stakeholders when the online part of the project was over. This meant the prize money was secure: even if the team were unhappy with all the submitted deliverables, winners would still be selected and given prize money. The management team believed that, while not ticking this box would save money if no suitable winners were found, it would discourage stakeholders from participating.

The platform also offered extra services (to be paid for separately) for promoting the project, for example: a banner announcing the start of the competition, a better ranking position, and hiding the project from external search engines. However, the management team did not purchase any of these. Then, they clicked to agree to project publication regulations and proceeded to the payment site. After completing the pre-payment, the crowdsourcing project was, then, officially online and active.

Through initiating the project, the focal firm specified detailed information that it wished to deliver to the crowd. The whole process was guided by the platform, which comprehensively requested all essential project information. The governance of the platform

meant that the management team covered everything they had prepared in advance, and also supplemented some aspects of information that had not been fully considered. As Vincent described:

We had already gained a clear understanding of our project during preparation. However, we were not perfect in all the details. There were some aspects we had not covered. When we initiated our project online, through inputting different required entries, we set down those previously ignored issues.

In addition, the platform also provided clear explanations and guidance to assist the running of the project. This was commended for usefulness, ease of use, and convenience. In summary, the focal firm perceived value which was generated through the governance of the platform during the acquaintance.

From the Perspective of the Stakeholders

After the project was initiated online, it was visible to all crowd members on the platform. Any crowd member could review the competition and make a decision to take part in or not. The crowd members that actually submitted deliverables later on became stakeholders. Participation was driven by extrinsic motivations, such as monetary rewards and the extra work opportunities, and intrinsic motivations, such as enjoyment, learning and self-improvement. The Musician gave his reasons:

Monetary rewards, of course, mattered. I am an online worker, looking for feasible projects. I make a better living through this way. However, I did like this project. I did it for fun, learning and altruism.

During the early stage of the project, stakeholders perceived that the platform made it possible for them to become aware of the project (perceived value generated through the governance of the platform). Moreover, the reputation of the platform and the guaranteed payment to winners increased the project's credibility and the stakeholders' willingness to participate. Such perceived value was ascribed to the governance of the platform. In addition, the stakeholders indicated that the project was concisely and clearly explained, and the

rewards were attractive. Through reviewing the specifications, they gained a thorough understanding of the project. The perceived value, therefore, was generated through resource exchange and sharing. In summary, the stakeholders perceived value which was generated through the governance of the platform and resource exchange and sharing during the acquaintance.

6.2 The Bidding

The *bidding*, which was the next interaction between the focal firm and multiple stakeholders, involved two steps: 1) the stakeholders individually worked on the project and submitted their deliverables; 2) the focal firm collected and reviewed the deliverables. We characterize this as a focused, one-to-many, rich interaction. Unlike the openness of the *acquaintance*, only a specific group of crowd members (those who submitted their deliverables to be reviewed by the focal firm) became involved in the interaction. Any deliverable is only visible to the focal firm. Hence, it is an umbrella-shaped one-to-many interaction. A rich interaction means that the interaction contents (deliverables) were diversified and abundant, and might contain value desired by the focal firm. In following paragraphs, we will describe what happened between the stakeholders and the focal firm during the bidding.

From the Perspective of the Stakeholders

There were a total of 15 stakeholders that submitted their deliverables during the three-week online part of the project. After developing a thorough understanding of the project, the crowd stakeholders started working on their deliverables. First, they conducted research about any essentials of the Takagism game design, existing cases, and potential story themes. The Game, the Historian and the Musician explained their approaches:

As an amateur, I began with research. I reviewed some instructions and cases online... This helped me better understand how it [the game] worked. It was extremely difficult to find existing cases of a high quality. I only reviewed few old cases, but felt inspired in terms of the design logic and strategies.

Honestly, I did not know exactly what a Takagism game design looked like. To make my deliverable professional, I conducted research on the essential elements that should be covered in the design.

Through visiting websites of five to six Takagism companies, I discovered that the majority of story themes were similar. Thrillers and science fiction were commonly used. At that moment, I decided to do something different.

Then, the stakeholders devoted themselves to creating their game designs. The process was described as mentally challenging and time consuming. Selecting a unique story theme, conceiving logical story lines, and designing appropriate puzzles and tricks were all creative tasks which required substantial intellectual input. Stakeholders also constantly conducted research and became involved in self-learning. For example, the Musician devised a music-related game design in which the embedded puzzles and tricks were about musicians, musical instruments and music theories. To accomplish the design, the stakeholder spent a great amount of time learning about music to obtain the relevant knowledge. After days of hard work, the stakeholders submitted their deliverables to the focal firm via the platform.

Our data analysis revealed that, as crowd stakeholders engaged in the game design, they perceived intrinsic value such as self-improvement, a sense of enjoyment, and a sense of accomplishment. The challenging work facilitated constant information searching and learning, which was associated with the generation of intrinsic value. We captured value which was generated through resource exchange and sharing, and learning. In addition, as any submitted deliverable was only visible to the submitter and the initiator of the project (i.e. the focal firm), this platform-enabled feature protected the stakeholders' privacy and intellectual property, which was also perceived valuable. This perceived value was generated through the governance of the platform. In summary, during the bidding, the stakeholders perceived value which was generated through resource exchange and sharing, learning and the governance of the platform.

From the Perspective of the Focal Firm

During the online part of the project, the project management team collected 15 deliverables submitted by 15 stakeholders. Of these, four deliverables were received during the first week, seven during the second week, and the remaining four deliverables in the third week. When a new deliverable was received, it was initially reviewed individually by each team member. In the weekly team meeting, the team members extensively discussed all the deliverables collected during the previous week. Criteria for assessment included the novelty of the story theme and storylines, the feasibility of puzzles and tricks, package compatibility, and operability.

When there was a newly submitted deliverable, Vincent was immediately notified by the platform via a short message. This was perceived convenient and user-friendly. The focal firm also commended the platform for its privacy and intellectual property protection. We captured value which was generated through the governance of the platform.

Members of the project management team identified and distinguished value when reviewing the collected deliverables. For example, the core value was perceived when team members felt satisfied with a particular deliverable. Usually, in order to fulfil the team members' requirements the deliverable had to have a good overall design. A side value was perceived when team members identified some interesting aspects in a particular deliverable, even though the design as a whole was not good enough. We also discovered that another value was perceived by the team members to be the activity of learning such as: being inspired, acquiring new knowledge and self-reflection. Perceived value captured during the assessment was generated through resource exchange and sharing, and learning. Vincent, Max and Joe commented on the some deliverables:

Among all four deliverables, I think this one is the best. This design is excellent in terms of story theme, storyline, and puzzle design... As I have been in this industry for a long time, logic becomes fixed. We have been overly concerned with scary, thrilling, and suspenseful themes, while ignoring other possibilities. This deliverable inspired me a lot in terms of its logic breakthrough. It also made me rethink the direction of Takagism game designs... I think this is an outstanding design. It is not only about reviewing a Takagism design, it is a learning experience and an enjoyable journey.

The ninth deliverable has evident flaws: no story lines... It will not be chosen as one of the winners. But it is not absolutely without value. Some of the puzzle designs are inspiring...

It seems that there is a lack of creativity. I am not inspired. I was unable to find any sparkling aspect; I could hardly even finish reviewing it.

An additional practice carried out by the focal firm was a plagiarism check. Max was responsible for looking up some summarized key words from each deliverable online. The governance carried by the focal firm was believed necessary and valuable to secure the quality of value co-creation. We captured value which was generated through the governance of the focal firm.

To conclude, during the bidding, the focal firm perceived value which was generated through the governance of the platform, resource exchange and sharing, learning, and their own governance.

6.3 The Rewarding

The *rewarding* was the last interaction of the online part of the project, and consisted of two steps: 1) the focal firm selected winning stakeholders and authorized payment via the online platform; and 2) the winning stakeholders received payment. We categorize it as a decisive, elite, and friendship-expressing interaction. At the final stage of the online part, the focal firm decided on the winners and with whom it would work in the offline part. Therefore, only the chosen stakeholders were involved. The focal firm planned to establish close relationships with some of the winning stakeholders and further develop their deliverables. At the same time, the winning stakeholders were highly motivated, expressing their willingness to be involved in the offline part of the project. In the following paragraphs, we will provide details of the rewarding.

From the Perspective of the Focal Firm

After reviewing 15 deliverables, it was time for the project management team to select the winners. Through discussions, the Gamer, the Historian and the Musician were chosen. All the team members perceived that the deliverables from the Gamer and the Musician were outstanding. The Historian's deliverable was perceived not to be as good as the other two, but much better than the rest of the entries. This stakeholder was added to the winning list because of the regulations and policies of the platform: the team had guaranteed rewards to three winners at the outset of the project, so there had to be a third winner. So, the team authorized payments to go to the winners via the online platform. It further planned to co-work with the Gamer and the Musician in the offline part. Vincent explained:

Actually, we did not have any disagreement when we selected the fourth and eighth deliverables. We all believed that they were excellent deliverables, which we were looking for. The problem was that selecting the third winning deliverable was not easy. As we had ticked the option "guarantee to select winners from deliverables" for our project, we were obliged to choose a third winner. The fifth deliverable was not as excellent as the other two [winning deliverables]. However, compared with the rest, it was much better.

The focal firm's actions were strictly governed by the platform during the rewarding. The promised payments must be issued according to agreed regulations. In addition, the selected winning deliverables were made public on the platform to ensure fairness and transparency. The team members regarded these practices as necessary and valuable to enhance credibility of the project. In summary, we captured value which was generated through the governance of the platform during the rewarding. Max commented on the platform:

We did spend extra money on an unwanted design. There were also potential risks associated with making the winning designs public. However, we had to take the stakeholders' perspective regarding project governance. If a stakeholder had a good understanding of our practices, then he or she would have less uncertainty, less of a sense of risk, and feel less hesitant. For this reason, the governance of the platform was very valuable.

From the Perspective of the Stakeholders

After waiting for days, the stakeholders were notified of the final results by the platform. The Gamer, the Historian and the Musician were announced as the winners. As promised by the focal firm, each of them received an instant payment of 1,500 CNY released from the platform. At that point, the online part of the project was over.

In a similar vein to the focal firm, the stakeholders perceived that platform-oriented governance was valuable in enhancing project credibility and in protecting their interest. We captured value generated through the governance of the platform. Additionally, we captured feelings of excitement, self-achievement, commitment, being highly valued, trust, loyalty, and a sense of enhanced interpersonal relationships from the winning stakeholders. They also expressed their willingness to continue working with the focal firm offline. These values were ascribed to both resource exchange and sharing (rewards and potential work opportunities), and relationship building. The Gamer, the Historian and the Musician stated:

Not only did I win the reward, but also my design was recognized and valued by a professional firm. That was awesome... At that time, I felt that our relationship became closer. I perceived the firm to be professional and trustworthy. Therefore, I was willing to further co-operate with it.

I made money from it, which was exciting... I was just like a loyal customer. Once rewarded, my mind was open to embrace the company. I felt a sense of commitment, to be honest. If I could co-operate further, I would try my best.

It was great to know the results. I was happy with the reward... I think we had established a decent foundation of our relationship to further develop the game design.

In conclusion, the stakeholders perceived value which was generated through the governance of the platform, resource exchange and sharing, and relationship building during the rewarding.

6.4 The Personal Engagement

The *personal engagement*, which was the first interaction of the offline part of the project, consisted of two steps: 1) the focal firm sent invitations to the selected stakeholders and initiated real-time conversations via webcam; 2) the selected stakeholders agreed to take part in the offline project and join the conversations. We characterize it as a one-on-one, interactive, and in-depth interaction. Only two of the winning stakeholders were invited. Each selected stakeholder was given a one-on-one webcam meeting with the focal firm. Unlike previous interactions, the personal engagement was highly interactive. Both the focal firm and the stakeholders gave feedback and expressed their opinions on the game's design in a real-time manner. It was also an in-depth interaction, in terms of information exchange, learning and relationship building. The following paragraphs will describe what happened between the focal firm and selected stakeholders during the *personal engagement*.

From the Perspective of the Focal Firm

Although three winning stakeholders were selected at the end of the online part, the team planned to co-work only with the Gamer" and the Musician in the offline part of the project. Vincent arranged two webcam meetings. At each meeting, the team members and the stakeholder started with introductions and general conversations. After the official invitation was accepted by the stakeholder, the team members gave feedback on the submitted deliverable, discussing pros and cons in details and putting forward further requirements. Then, the stakeholder expressed thoughts and planning about the game design. At the end of the meeting, the team and the stakeholder agreed a flexible working plan that guided their collaboration during in following weeks.

Through real-time conversations, team members were able to gain a better understanding of the game designs, as the stakeholder precisely addressed their concerns. At the same time, they learned useful information from the stakeholder. We captured value which was generated through resource exchange and sharing, and learning. Regarding meeting the Musician, Joe said:

There were great points raised in the meeting; for example, using a unique story theme. His [the Musician's] idea is forward thinking and inspiring. Compared with his pre-design research, it seems that we are too conservative. What we have learned from an external designer is to think out of the box. It is time to rethink our in-house game design processes and get rid of routines.

Team members also perceived value related to relationship building; for example, positive attitudes and personalities, mutual trust and inter-personal relationships. It was believed that relationship building played a crucial role in the governance of the offline part of the project. The focal firm did not set up any contract or fixed agreement. Instead, only flexible work plans were co-developed with the selected stakeholders. Enhanced mutual relationship greatly facilitated the efficiency and effectiveness of co-working. We captured value which was generated through collective governance. Max and Vincent commented:

The conversation was delightful. He is a lovely guy. He knows how to communicate with people. During the meeting, he was very active and informative... After talking with him, we formed a mutual trust. He is the right person to deliver our game design.

Well, there was the online platform as the third party to govern the online part. When it came to the offline part of the project, we believed in the relationship [between us]. The growing relationship started working. We chose to trust our candidates; therefore, we did not set any formal contract or fixed agreement. Instead, we offered great flexibility, which encouraged them [the selected stakeholders] to innovate and to produce better game designs.

In summary, the focal firm perceived value which was generated from resource exchange and sharing, learning, relationship building, and collective governance during the personal engagement.

From the Perspective of the Stakeholders

On 7th July, the Gamer took part in the first webcam meeting. Later that day, the Musician had his webcam meeting with the project management team. During their meetings, the stakeholders accepted invitations to participate in the offline process. After receiving feedback and further requirements from the focal firm, they gave more details about their game design and ideas for future developments. At the end of meetings, the stakeholders and the focal firm

agreed a flexible working plan.

It was through information exchange that the selected stakeholders gained a better understanding of the preferences of the focal firm and further requirements. Both the selected stakeholders indicated that they acquired new knowledge of game design. We captured value which was generated through resource exchange and sharing, and learning. The Musician, for example stated:

Talking with professional designers was great. I leaned something new about the differences between design and operations. When they criticized one of my puzzle designs, I realized that operability also needed to be considered.

The stakeholders also mentioned that their relationships with the focal firm grew closer, which made their conversations easier and more effective. In a similar way to the value perception of the focal firm, the selected stakeholders also perceived value which was generated from relationship-oriented collective governance. The working plan was commended for flexibility. When being asked about risks associated with potential fraud (e.g. issues related to payment), the stakeholders did not express any concern because they trusted the focal firm. We captured value which was generated through relationship building and collective governance. As the Musician explained:

They [the team members] are nice people. I was encouraged to express my ideas and they respected me. This made me comfortable... I think at that time our relationship became closer. It was valuable in facilitating the effectiveness of our communication.

In summary, the selected stakeholders perceived value which was generated from resource exchange and sharing, learning, relationship building, and collective governance during the personal engagement.

6.5 The Collaborative Working

The *collaborative working* was the interaction when the focal firm and the selected stakeholders co-worked to further develop game designs. It consisted of two steps: 1) the selected stakeholders further developed their deliverables and submitted revised versions to the focal firm; 2) the focal firm reviewed revised deliverables and gave feedback. According to the working plan, the selected stakeholders were required to further develop their deliverables. The focal team gave feedback. Then the selected stakeholders kept revising their deliverables until the focal firm was satisfied. Therefore, it was a circular interaction which involved multiple rounds of submission and revision. The following paragraphs will provide details of the collaborative working.

From the Perspective of the Stakeholders

As planned, the Gamer and the Musician firstly further developed their original deliverables by designing another ten storylines with puzzles and tricks. Similar to the *bidding*, the selected stakeholders also engaged in learning activities (e.g. intellectual input, research and analysis) in order to accomplish new designs. After receiving feedback over phone from the focal firm, the stakeholders continued revising their deliverables. After another two rounds of revisions, they finally got their designs accepted by the focal firm.

According to the selected stakeholders, the offline part of the game design was far more challenging than the online part. Apart from spending a great deal of time in crafting storylines, puzzles and tricks, they constantly conducted learning activities to acquire useful information, reassemble knowledge and logics, and refresh their minds. The working experience was perceived as challenging but valuable in developing new knowledge and skills. Meanwhile, feedback from the focal firm was perceived valuable in guiding the game designs. We captured value which was generated through resource exchange and sharing, and learning. The Gamer recalled:

Another ten [storylines with puzzles and tricks] doubled the workload, it was more challenging. Although I could follow the design logic and style of the original design, at one point I felt my own limitations... The only way to continue was constant learning... I think learning under pressure was a valuable experience. I acquired new knowledge, improved my skills and, most importantly, I did it. That is something to be proud of.

The stakeholders also expressed how the mutual relationship motivated them and how they enjoyed the flexibility offered by the working plan. We captured value which was generated from relationship building and collective governance. For example, the Musician and the Gamer claimed:

I would say I was motivated by our relationship. It was a kind of payback. They [the team members] trusted me and offered me great opportunities. I really wanted to deliver better designs and, therefore, worked very hard with great patience.

I enjoyed the way they [the team members] managed the project. They did not set any limits to the game design, leaving great room for me to be creative. They trusted me. At the same time, they offered appropriate guidance at the right time.

In conclusion, the selected stakeholders perceived value which was generated through resource exchange and sharing, learning, relationship building, and collective governance during the collaborative working.

From the Perspective of the Focal Firm

Every time there was any update from the stakeholders, the team members came together to review and discuss what was good about the designs and potential areas of improvement. Feedback was summarized and communicated to the selected stakeholders over the phone. After three rounds of co-work, the team members felt satisfied with the submitted game designs.

Compared to the *bidding*, the team members were more demanding, cautious and strict. Good aspects of the designs were usually perceived to be creative, amusing and to have inspiring peculiarities. Reviewing the deliverables also triggered the team members' motivations of learning, such as refreshing their design logics, acquiring new knowledge and conducting further research and analysis. We captured value generated from resource

exchange and sharing, and learning. Max explained:

As the project progressed, we got more surprises from them. We followed their design logics and joined them on their Takagism journeys. Sometimes they were inspiring. Sometimes they were funny. Good designs could quickly grip me... Their job was to create novel blueprints. Our job was to help them create blueprints and consider whether they could be made into reality... After all, it was for business purposes. We conducted brainstorming, further research and analysis to examine feasibility and operability. It was a necessary and crucial process which will serve future operations.

In addition, team members believed that the enhanced relationships increased the efficiency of collaboration. Relationship-based collective governance was effective, since revised deliverables were submitted on time and at a high quality. We captured value which was generated through relationship building and collective governance.

In conclusion, the focal firm perceived value which was generated through resource exchange and sharing, learning, relationship building, and collective governance during the collaborative working.

6.6 The Celebration

The *celebration* was the final interaction of the offline part of the project. It comprised of two steps: 1) the focal firm made its promised payment and expressed its thanks to the selected stakeholders; 2) the selected stakeholders received payment.

From the Perspective of the Focal Firm

After co-working with the selected stakeholders, the focal firm made immediate payments to both of the selected stakeholders. During short conversations over the phone, Vincent, on behalf of the Games Company, commended the selected stakeholders for their contributions. The relationships with the selected stakeholders were deemed valuable. We captured value which was generated through relationship building. Vincent stated:

I felt emotions of gratitude, a closer personal relationship, and trust [towards the selected stakeholders].

From the Perspective of the Stakeholders

The stakeholders confirmed receipt of the promised remuneration. The focal firm was commended for timely payment. We captured value which was generated through the governance of the focal firm. We also captured intrinsic value, such as feelings of excitement, self-achievement, commitment, and of personal relationships. These can be ascribed to resource exchange and sharing, and relationship building.

In summary, the selected stakeholders perceived value which was generated from collective governance, resource exchange and sharing, and relationship building during the celebration.

7. The Follow-up

After half a year of preparation, the Games Company opened its fourth store. The Gamer's design was further developed and used for one of the gaming rooms. During the opening ceremony, the Gamer was invited as a special guest. Vincent gave him a "special contribution" card, by which the Gamer is able to play in all the stores for free. Recently, the Games Company has been preparing for the fifth store. As well as using existing game designs, Vincent is considering using the game design co-created with the Musician.



Figure 22. The Fourth Store of the Games Company

CHAPTER 6 CASE STUDY OF THE INSPIRATION SCHOOL

1. Introduction

The project initiated by the Inspiration School was a tournament crowdsourcing project with R&D, marketing and recruitment purposes. The nature of tasks were knowledge-intensive and marketing-intensive. The focal firm created a competitive environment to call for course designs from crowd members on a social media platform with guaranteed rewards for winners. The project had two phases with fixed milestones, during which time crowd members voluntarily made contributions through submitting solutions individually. Meanwhile, socialization among crowd members were enabled, which created a collaborative environment.

During the first phase of the project, the focal firm involved a large number of crowd members in its R&D and marketing processes. During the second phase of the project, the focal firm involved a large number of crowd members in its R&D and marketing processes, and selected crowd members in its recruitment processes. Intensive interactions happened during the late period of the second phase when the focal school discussed recruitment issues with selected crowd members. Through diversified interactions between the focal firm and crowd members, and among crowd members, a variety of value was created and perceived by the focal firm and crowd members. According to our definition of value co-creation, the features of value co-creation in the project initiated by the Inspiration School were evident.

2. Background of the Inspiration School, Peace Branch

2.1 An Overview

Established in 2014, the Inspiration School¹ is a well-known brand specializing in children's and teenagers' education in China. It has schools in more than 60 cities across the country. The Inspiration School offers extra choices of learning experiences than those generally provided in traditional education. The core business of the Inspiration School focuses on offering unique, inspiring and creative learning to children from three to 18. Unlike traditional teaching approaches being used by local education institutions, the Inspiration School fully takes into consideration children's psychological, physical and imagination needs. It combines creative teaching content and methods, diversified learning methods, and advanced technologies, offering more than 100 courses in six subjects, including science, technology, engineering, mathematics, art and culture.

2.2 The Peace Branch

The Inspiration School employs a franchise chain model to run branches: investors make financial investments and the headquarters offers services packages (e.g. trademark authorization, teaching materials, and staff training). To sustain standardized services and management, a branch is usually managed by investors under the supervision of the headquarters or directly managed by managers assigned by the head office. The Peace Branch, which was established in 2015, is one of its new schools located in Northeast China. It is managed by William and Helen, who are the major co-investors under direction of the head office.

2.3 Organizational Structure

The Peace Branch has approximately 30 registered staff (Figure 23). The top managers are William and Helen, who are responsible for developing business strategies, governing operations, and coordinating with the head office. Ann, Jackson and Cherry are middle managers. They are responsible for advising on teaching and governance, leading about 20

¹ The real name of the school is not mentioned for confidentiality reasons.

teaching staff and three assistants. Roughly half of the teaching staff are expatriates directly assigned by the head office, while the rest staff were locally recruited. All staff, including the top and middle managers were systematically trained by the headquarters, and had passed relevant examinations before taking their positions.

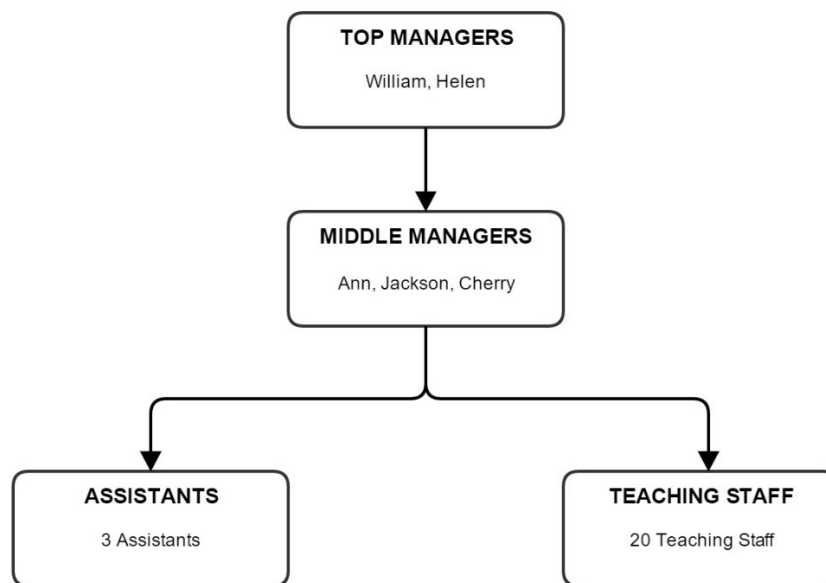


Figure 23. Organizational Structure of the Inspiration School Peace Branch

2.4 Collective Governance and Autonomy

The Peace Branch is governed by investors under the supervision of the head office. According to signed contracts, top managers are required to follow a series of regulations and policies enacted by the head office. Any staff acting contrary to his or her contract would likely face disciplinary action. At the same time, the Peace Branch is granted with a certain autonomy and privilege. For example, while teaching staff must use materials developed and authorized by the head office, they are encouraged to develop new teaching content and materials. Moreover, the Peace Branch is permitted to initiate its own marketing activities. This, however, must be registered and approved by the head office in advance. Top managers also have the privilege of being able to recommend people for recruitment. Nominated candidates must be trained by the head office and pass all required examinations to start their careers in the organization.

3. Background of the Project

3.1 Business Purposes

The top managers of the Peace Branch had three purposes when they undertook the crowdsourcing project. The first purpose was to collect creative ideas from the crowd to be used in developing new teaching materials. All branches of the Inspiration School were using a unified collection of teaching materials and course designs co-developed by the development team at the head office and internal staff at branches. Teaching staff were encouraged to create new contents and submit them to the development team. Once accepted, new contents would be added to the collection. Contributors together with the school would be financially rewarded by the head office. The initiation of a crowdsourcing project could possibly facilitate a better environment to facilitate the internal design.

The second purpose, according to William, was to recruit talents from the crowd. Managers of the Peace Branch were able to nominate potential new staff to go on to teacher training, which could strengthen team building. In addition, there were financial benefits. If a recruitment is successful, the school receives a financial bonus from the head office.

An additional purpose the top managers considered was regarding seasonal marketing. The Inspiration School held their crowdsourcing project around the time of the winter vacation. This was a crucial period of time to advertise and promote itself. With these business purposes in mind, William and Helen planned to hold a crowdsourcing project online.

3.2 An Overview of the Crowdsourcing Project

The crowdsourcing project consisted of two part. The first part was designed to collect course designs from the crowd. Crowd members were required to design and submit full course designs and abstracts. A full course design was explained as detailed instructions of a 35- to 45-minute curriculum planning, including specifications of ideas, core contents, the course structure, the experiment process and equipment (if applicable), the teaching method, and the expected outcome. An abstract was described as a summary of the key contents of a

course design. As planned, the first part would be advertised in multiple channels to boost project awareness. In consideration of intellectual property protection, deliverables would be collected via private channels (e.g. private communication channels on social media and email). The project management team would review all the collected deliverables and select the best ones.

In the second part of the project, the management team planned to initiate a crowd vote on a social media platform. Abstracts of the selected deliverables would be shown to the crowd for the crowd members to vote for their favourites. Results of the crowd voting would determine the final winners. The project management team guaranteed to reward winners and some of the crowd voters. In addition, top managers would invite some of the candidates to discuss potential recruitment.

3.3 The Project Management Team

William and Helen organized the project management team, which included themselves plus two middle managers, Ann and Cherry. Ann and Cherry were appointed as team leaders who were responsible for the project's implementation. William and Helen were mainly responsible for strategic planning, advising, and directing. In preparation for the project, William and Helen organized several team meetings to discuss and determine the details of their plans. As a compulsory procedure, the final version had to be submitted to the head office for approval prior to initiation. In the first part of the project, Ann and Cherry were responsible for advertising the project, collecting deliverables, reviewing and filtering the deliverables, and reporting to William and Helen. The four team members then made group decisions to determine the best deliverables and potential candidates for recruitment. In the second part, Ann and Cherry were assigned to handle the crowd voting on the selected social media platform and to deal with issuing the rewards. The follow-up interviews with potential recruitments were to be conducted by William and Helen.

3.4 The Project Timeline

The crowdsourcing project started on 26th December 2016 and completed on 17th February 2017 (see Table 13). The first part lasted for 37 days, from 26th December 2016 to 31st January 2017. During this period of time, the project management team advertised the project on multiple channels, and collected and reviewed the deliverables submitted by stakeholders. Crowd members became aware of the project, worked on deliverables and submitted deliverables to the focal school.

The second part of the project lasted for 17 days, from 1st February 2017 to 17th February 2017. During this period of time, the abstracts of the shortlisted deliverables submitted by stakeholders were made public on the platform for crowd voting. Crowd members voted for the best ideas. Winners and some of the crowd voters were rewarded. Later on, the project management team invited some of the selected stakeholders to discuss potential recruitment.

PROJECT TIMELINE	THE FIRST PART 26 st Dec 2016 to 31 st Jan 2017	THE SECOND PART 1 st Feb 2017 to 17 th Feb 2017
The Focal School	- The project management team: William, Helen, Ann and Cherry.	
The Crowd	- 82 stakeholders who submitted deliverables.	- 9 stakeholders whose deliverables were perceived to be the best and were shortlisted. - 2875 stakeholders who voted for best designs.

Table 13. The Timeline of the Crowdsourcing Project Initiated by the Inspiration School

3.5 Rewarding Strategies

The project management team promised to reward those who submitted the best course designs, offering one first prize worth 2,000 CNY (approximately 225 GBP), two second prizes each worth 1,000 CNY (approximately 112 GBP), and three third prizes each worth 500 CNY (approximately 56 GBP). Nominations for crowd voting were decided by the project management team, while the winners were decided by the results of crowd voting. To facilitate

participation in the crowd voting and project awareness, the project management team promised to reward some of the crowd voters through a random draw, offering five prizes each worth 200 CNY (approximately 22 GBP). Moreover, the project offered opportunities for recruitment. Team members made the decisions regarding which candidates to select.

3.6 Expected Outcome

In order to assess the project's achievements, specific goals were set by the project management team. In terms of idea collection, they expected to collect at least ten good-quality designs. For the purpose of recruitment, they expected to have three to five suitable candidates. With regards to marketing, they wanted to get at least 2,000 crowd votes.

4. Collected Data

Data was collected from multiple sources: 1) interviews; 2) company documentations and online records (e.g. operation history on the social-media platform); 3) direct observations (including team member conversations, team meetings, direct inquiries); 4) informal conversations with members of the project management team. Table 14 summarizes the interviewees involved, their roles, the major content of the interviews and notes, and dates when the interviews were conducted.

INTERVIEWEE	ROLE	CONTENTS AND NOTES	PROJECT TIMELINE
William	<ul style="list-style-type: none"> - Top manager at the Inspiration School, Peace Branch. - Member of the project management team. 	- Project preparation, project initiation.	23/12/2016. Before the project initiation.
		- Review of the first part of the project.	31/01/2017. End of the first part.
		- Review of the second part of the project.	17/02/2017. End of the second part.
Helen	<ul style="list-style-type: none"> - Top manager at the Inspiration School, Peace Branch. - Member of the project management team. 	- Project preparation, project initiation.	23/12/2016. Before the project initiation.
		- Review of the first part of the project	31/01/2017. End of the first part.
		- Review of the second part of the project.	17/02/2017. End of the second part.
Ann	<ul style="list-style-type: none"> - Middle manager, teaching adviser at the Inspiration School, Peace Branch. - Project team leader. 	- Project preparation, project initiation.	26/12/2016. Project Initiation.
		- Review of the first part of the project.	18/01/2017. During the first part.
		<ul style="list-style-type: none"> - Review of the first part of the project. - Planning of the second part of the project. 	01/02/2017. End of the first part.
		- Review of the second part of the project.	17/02/2017. End of the second part.
Cherry	<ul style="list-style-type: none"> - Middle manager, teaching advisor and marketing director at the Inspiration School, Peace Branch. - Project team leader 	- Project preparation, project initiation.	26/12/2016. Project Initiation.
		- Review of the first part the project.	06/01/2017. During the first part.
		- Review of the first part of the project.	01/02/2017.

		- Planning of the second part of the project.	End of the first part.
		- Review of the second part.	17/02/2017. End of the second part.
Chen	- A selected stakeholder, winner of the crowd voting, participated in a recruitment interview.	- Review of personal experience.	23/02/2017. End of the second part.
Liu	- A selected stakeholder, winner of the crowd voting, participated in a recruitment interview.	- Review of personal experience.	24/02/2017. End of the second part.
Kang	- A selected stakeholder, winner of the crowd voting, participated in a recruitment interview.	- Review of personal experience.	24/02/2017. End of the second part.
Lin	- A selected stakeholder, winner of the crowd voting.	- Review of personal experience.	20/02/2017. End of the second part.
Sheng	- A selected stakeholder, winner of the crowd voting.	- Review of personal experience.	21/02/2017. End of the second part.
Gong	- A selected stakeholder, winner of the crowd voting.	- Review of personal experience.	21/02/2017. End of the second part.

Table 14. The List of Interviewees in the Case of the Inspiration School

5. The Crowdsourcing Project Initiated by the Inspiration School

In analysing the process of value co-creation in the crowdsourcing project initiated by the Inspiration School, we have distinguished between the perspective of the Inspiration School, Peace Branch and the perspective of the stakeholders from the crowd, aiming to capture how different dimensions of the value emerged as the crowdsourcing project unfolded, and how the value was co-created through interactions between the focal school and stakeholders. The case study follows the first round of data analysis (Appendix E). Specifically, first we integrated and organized the collected data in line with the timeline of the project. Then, through reviewing the collected data, we identified events, practices, actions, interactions, and the perceived value. We interpreted the collected data through the research lens that we concluded to be most pertinent from reviewing the existing literature on value co-creation. Analysis was organized and presented in a chronological order.

To make the text reader-friendly, we clarify the roles involved in the project (Table 15). On the focal school side, there was the project management team which consisted of four members: William, Helen, Ann and Cherry. All the crowd members that participated in the project are termed stakeholders. During the first part of the project, there were 82 stakeholders (including Chen, Liu, Kang, Lin, Sheng and Gong, and other 76 crowd members) who submitted deliverables to the focal school. In the second part of the project, there were nine stakeholders (including Chen, Liu, Kang, Lin, Sheng, Gong, and another three participants) whose deliverables were selected for the crowd vote. There were also 2,875 stakeholders who voted for the best designs.

THE FIRST PART		THE SECOND PART
The Focal school	Alex, Chris and Vanessa.	
The Crowd	<ul style="list-style-type: none"> - 82 stakeholders who submitted deliverables, including Chen, Liu, Kang, Lin, Sheng, Gong, and other 76 stakeholders. 	<ul style="list-style-type: none"> - Nine stakeholders whose deliverables were selected for the crowd vote, including Chen, Liu, Kang, Lin, Sheng, Gong, and another three stakeholders. - 2,875 stakeholder who voted for best designs.

Table 15. Social Actors Involved in the Case of the Inspiration School

5.1 The Advertising

The *advertising* was the initial interaction between the focal school and crowd members. It consisted of two steps: 1) the Inspiration School, Peace Branch advertised the crowdsourcing project via multiple channels; 2) crowd members became aware of the project. In the following part of this section, we will present what we captured.

From the Perspective of the Focal School

William and Helen appointed their experienced colleagues, Cherry and Ann, as leaders of the crowdsourcing project. It was expected that the two middle managers, who were also experts in teaching material development and marketing, would be able to run the project to a high standard. After preparing for days, Cherry and Ann finalized the project plan. William and Helen were satisfied and submitted it to the head office, where the project was approved. On 26th December, Cherry and Ann initiated the project.

As planned, Ann and Cherry advertised the project on multiple channels, including the organizational social-media accounts of the Inspiration School, Peace Branch, the personal social media accounts of the top and middle managers, seasonal posters and brochures. They expected to boost the awareness of the project effectively among the crowd at an early stage. Cherry explained:

All we needed to do was to try our best to promote the competition at an early stage. The more participants, the higher the possibility of getting good designs.

With good customer-relationship management practices in place, the school's social media account and the managers' personal social media accounts had accumulated a large number of followers before the initiation of the crowdsourcing project. This made it possible for the focal school to reach a great number of crowd members in a short period of time after the initiation of the crowdsourcing project. Moreover, making seasonal posters and brochures was a routine marketing practice. In fact, the focal school did not invest any extra resources in marketing at this time. According to Cherry, it was to "leverage existing resources to generate massive awareness". The marketing director was also experienced and knowledgeable in managing marketing activities. This made the project initiation easy and smooth. For example, Ann and Cherry drafted two versions of advertisements. The first draft version was concise with a fascinating graphic design, attempting to attract the crowd's attention. The second draft version was comprehensive with detailed project information, aimed at the crowd members that were likely to be interested in participating. Then, Cherry discussed their ideas with a graphic designer, someone they had worked with previously. The designer was, therefore, able to understand what was required and produced high-standard designs. We witnessed the importance given by the focal school to using existing resources and marketing practices to support the initiation of the project. We captured value which was generated through the governance of the focal school.

In the comprehensive version advertisement, the focal school specified the title of the project, the profile of the organization, deliverable requirements, the schedule, rewards, privacy and intellectual property protections, the recruitment information, and contact details. When both of the advertisements were released online, the crowdsourcing project was officially initiated.

*"The Inspiration School Curriculum Competition
We Need You!"*

Who are we?

Just like you, we are a group of people passionate about education for the young generations. For more information about us please visit our website.

What do we expect from you?

We are looking for fresh, interesting and creative ideas for course designs in science, technology, engineering, mathematics, art, and culture for three to 18 year-old children. Please include a completed course design with an abstract. For the completed course design, we require detailed instructions for a 35- to 45-minute curriculum plan, including specifications of ideas, the core content, the course structure, the experiment process and equipment, teaching methods, and expected outcomes. The abstract should cover a summary of your design, including ideas, key contents, targeted age groups and expected outcomes. We sincerely hope you will join our competition.

When and how to participate?

Please submit your design by 31st January 2017 via our email address or private channels on social media. We will select the best designs which will be nominated for public crowd voting. The crowd voting will begin on 1st February and end 12th February 2017.

What will you expect us to offer?

We promise to offer one first prize worth 2,000 CNY, two second prizes each worth 1,000 CNY, and three third prizes each worth 500 CNY. We will nominate excellent designs for crowd voting (using abstracts instead of the detailed design, therefore please also pay attention to your abstracts). The rewards will be determined by the results of crowd voting. In addition, most importantly, we also offer recruitment opportunities if you are the talents!

Will your designs be protected?

Yes, of course. We highly value your contributions; therefore, we will try our best to protect your intellectual property and privacy. Once you have submitted your designs to us through private channels, we acquire the copyright. Abstracts of your designs will be used for this activity, and all course designs will only be used within the organization.

May I know more about recruitment opportunities?

Yes, we are glad that you are interested. We will judge your course design. If you are truly talented, we are happy to invite you to join our organization (even if you are not the final winner). For more detailed recruitment information, please visit our website.

How can you get in touch with us?

You can reach us via a number of channels. Our email, social-media accounts, websites, and telephone numbers are all listed. If you wish to visit our school, you are more than welcome."

In summary, during the advertising, the focal school initiated the project through releasing advertisements on multiple channels. The existing resources and capabilities of the focal school were perceived valuable in boosting project awareness among the crowd. We captured value which was generated through the governance of the focal school.

From the Perspective of the Stakeholders

Advertisements of the crowdsourcing project drew substantial attention among crowd members in a short period of time. At the same time, crowd members' reviews, comments and reposts also facilitated information dissemination. More and more crowd members became aware of the project and reviewed the project specifications. Project advertisements were deemed as an effective way of information exchange. The focal school was commended for offering clear and helpful guidance. We captured perceived value which was generated through resource exchange and sharing. Lin (a stakeholder) commented on the advertisement:

It was a well-designed poster. I mean in terms of both graphic design and contents. It looked smart with great designs. It was easy to attract my attention... I would say they [the focal school] made everything clear. I could find everything I needed to know.

According to our investigation, stakeholders' motivations for participation included self-interest, specialty relevance, monetary rewards, and recruitment opportunities. Out of these, self-interest and monetary rewards were the common motivations mentioned by almost all stakeholders. We captured stakeholders' expected value. For example, Chen (a stakeholder) stated:

It [participating] was because of self-interest and specialty relevance. Everything fitted me so well. I am a university student, majoring in education-related subjects. My focus is to deliver inspiring education to children. Therefore, I had the advantage of being able to deliver what they [the focal school] needed. Well, winning the prize money and having a job opportunity were also appealing. If I could be recruited a few months after I graduated from the university, it would be fantastic.

In conclusion, during the advertising, crowd members became aware of the crowdsourcing project. Some of them reviewed project specifications and gained a better understanding of the project. Advertisements delivered the requirements and expectations of the focal school to the crowd. Some crowd members were motivated by intrinsic value, potential rewards, and recruitment opportunities, and then decided to take part in the project. We captured perceived value which was generated through resource exchange and sharing, and expected value.

5.2 The Design

The *design* was the next interaction between the focal school and participants. Two steps were involved: 1) participants completed their designs and abstracts, and submitted them to the focal school; 2) the focal school collected and review all the deliverables. The details are given in the following paragraphs.

From the Perspective of the Stakeholders

After carefully reviewing the project specifications, some stakeholders started working on deliverables. Stakeholders indicated that they did some preparation first. For example, Chen reviewed her own collection of designs for inspirations; Kang searched for information on the Inspiration School website to look for the organizations' preferences; Gong consulted his teacher friend and asked for design tips and templates; all the interviewees (including Chen, Liu, Kang, Lin, Sheng, and Gong) searched for information online. According to the stakeholders, preparation was necessary for them to complete their designs. We captured perceived value which was generated through resource exchange and sharing, and learning.

During the process of creating their course design, the stakeholders searched for relevant information, learned new knowledge, and worked on their deliverables. A substantial amount of intellectual input and time was required in order to accomplish the designs. Stakeholders described their experience of working as fruitful journeys, giving them feelings of enjoyment, self-achievement, self-improvement and pride. We captured perceived value which was

generated through resource exchange and sharing, and learning. Sheng, Chen, and Gong stated:

Completing the course design was more difficult than I expected. It was obvious that existing content and a mundane design would never win such a competition. I spend a substantial amount of time searching, thinking and revising. Regardless of the final results, I am proud of my final design. I enjoyed the process.

I feel that I did something meaningful. Although I was familiar with the task, it was the first time I had designed a high-standard curriculum plan in such a tight schedule. Working under pressure always improves personal capabilities. I nailed it.

Previously, I thought that being a teacher is a piece of cake. Everything changed when I passed my design plan to my teacher friend. He picked out some unsuitable areas and explained what was wrong with them, which convinced me that being a teacher is not easy. For example, the original schedule and arrangements were not practical, which my friend criticized for being distracting and confusing. Following suggestions from my friend, it looked much more logical. I have learned a lot.

After finishing their designs, the participants submitted them to the focal school via private channels. The practice of using private channels was commonly perceived professional, in terms of preserving privacy and intellectual property. We captured value which was generated through the governance of the focal school. Liu, for example, commented:

It was a professional way to avoid unfairness. No one would know each other's design before the crowd voting. There was no way to copy others' original thoughts. It was good.

After successful submission, the participants received thank you notes from the focal school, which was perceived as friendly and polite. The majority of interviewed stakeholders indicated that they gained a good impression of the focal school. We captured value which was generated through the governance of the focal school and relationship building. Gong stated:

I don't think it was an automatic reply, since my name and the title of my design were in the message. It is always good to receive feedback after working so hard for a long time. They did not ignore this tiny thing, and this made me feel good.

To conclude, in the design, participants searched for information, learned from multiple sources, and accomplished their designs. They felt positive when private channels were used for deliverable submission and after receiving thank you notes from the focal school. We captured value which was generated through resource exchange and sharing, learning, relationship building, and the governance of the focal school.

From the Perspective of the Focal school

The focal school received messages from the crowd as soon as advertisements were released online. There were some enquiries about participation, while the majority were general comments (for example, “Good luck!”, “I am looking forward to it”). Ann and Cherry were busy responding to messages, since they believed that it was always right to maintain a good relationship with the crowd. They answered questions in a patient, timely and friendly manner. At the beginning, they also responded to the general comments. However, as the number of messages increased rapidly, they realized that it was impossible to respond to everyone. From then on, they only replied to crowd members asking questions. A few days after project initiation, the focal school started receiving deliverables from the stakeholders. “Thank you” messages were sent back as quick responses. Ann and Cherry indicated that their experience and capabilities of managing good relationships with the crowd were crucial. Enhanced relationships led to more reposts and comments, which facilitated the dissemination of the project to the crowd and potentially encouraged stakeholders to participate. We captured value which was generated through the governance of the focal school. According to Cherry:

After all, we had abundant experience dealing with it [communicating with the crowd]. At the very beginning, it was necessary to respond as much as possible, as fast as possible, being as friendly as possible. Although the majority of messages did not make much sense, we need their [crowd members’] positive impressions, reposts, and willingness to participate. I believe that this time we were successful. You could see explosive reposts at a very early stage.

Team members did not review deliverables immediately. When it was nearing the last week before the deadline, Ann and Cherry started going through the submissions. A total of 82 design courses were submitted (71 until the beginning of the last week and 11 more during the last week). Workload was equally distributed. When reviewing a deliverable, Cherry and Ann first went through the abstract to decide whether to read the full course design or not. If the abstract was satisfactory, they would review the design in detail and assess its quality. In terms of criteria for assessment, Ann and Cherry explained that there were no strict guidelines. They were more interested in fresh ideas. Ann pointed out:

It was not sensible to assume that participants would be able to deliver perfectly professional designs. We were more interested in fresh ideas; for example, new themes and interesting experiments. The standard is only used as a reference rather than a criteria.

After the first round of reviewing, 12 deliverables were picked out. These deliverables were then passed to William and Helen to read. All the team members then sat together and discussed their opinions on each of the 12 deliverables. A team decision was finally made after an exciting brainstorming session, which lasted for nearly three hours. They picked out the nine deliverables which would be nominated for the crowd voting and five potential candidates for recruitment. The team members claimed the importance of their governance over the project during the design phase. The main project goals were almost accomplished as they had collected high-quality designs, selected potential candidates for recruitment, and, to some extent, had promoted its brand among the crowd. We captured value which was generated through the governance of the focal school. William spoke highly of the team, saying:

We did a good job. Special thanks are given to our middle managers. They deserve bonuses. Well, I think our management practices in the first part were extremely important. From relationship management to submission reviewing, my colleagues worked so well, which guaranteed a successful achievement of our goals.

In addition, when the team members reviewed deliverables and brainstormed as a group, we captured their perceptions of acquiring new knowledge and fresh ideas, self-reflection, and sense of enjoyment. These values were ascribed to resource exchange and sharing, and learning. Helen, Ann and William commented:

It was a good idea to have external voices. It seems that they could offer me something unexpected, adding fresh ideas to my mind.

It was time consuming, but I did feel that it was worth doing. Never underestimate amateurs. They taught me some interesting things.

I enjoyed the procedure as I read more course designs from different participants. They offered me something out of the box, very different from the routine.

In summary, during the design, the focal school leveraged its own experience and capabilities, and successfully managed the crowdsourcing project. Proper practices of relationship management facilitated the dissemination of the project. Moreover, deliverables of a high standard and candidates for recruitment were selected from the review process. The team members also captured value when they read and discussed the deliverables. We captured value which was generated through the governance of the focal school, information exchange and sharing, and learning.

5.3 The Crowd Voting

The *crowd voting* was the initial interaction between the focal school and the crowd members during the second part of the project. It comprised of two steps: 1) the focal school initiated the crowd voting on the selected social media platform; 2) the crowd members became aware of the voting and chose their favourite designs.

From the Perspective of the Focal Firm

Ann explained that the focal school expected to promote brand awareness during the winter holidays through initiating a crowd voting activity with attractive random-draw prizes. Marketing was the major purpose of this exercise. In addition, as a follow-up to the first part of the project, the team members were interested to know which designs were popular with the crowd. In terms of who would win the prizes, the team members expressed limited interest, since, during the first phase of the project, they had already selected the deliverables they were interested in and talented candidates for recruitment.

On 1st February, Ann and Cherry prepared to launch the crowd voting online. The selected platform offered a service package, including the crowd voting service, promotions and data analysis. Ann and Cherry followed the platform's instructions and input the required information (e.g. the title, a brief introduction, the prizes, and the schedule). After uploading the nine abstracts of the selected deliverables, the voting was opened to the crowd. Two weeks later, the competition was closed and the platform produced a report which statistically analysed indices of the crowd voting. In total, there were 2,875 votes, which exceeded the figure of 2,000 which the team members had originally expected. Cherry confirmed that the total number of votes reflected satisfactory social influences among the crowd. The crowd voting was, therefore, regarded as successful marketing. The governance of the platform was commended for facilitating the success of the crowd voting. We captured value which was generated through the governance of the platform. Cherry commented:

The platform made it easy. It was an all-in-one service package. The only thing we needed to consider was contents. All the technical and promotion stuff were outsourced to the platform. Based on the results, I think it [the platform] was efficient and effective.

The results of the crowd voting provided useful information about which deliverables were the most popular with the crowd. Overall, the crowd's opinions were similar to the focal school, which confirmed the team members' decisions. The results were used as a reliable reference for rewarding the prizes. We captured value which was generated through resource

exchange and sharing. As Ann explained:

I do not think that crowd voting is hundred-percent reliable. However, through reviewing the results, we could find some general implications. Let's say, this time, their opinions converged with ours. This confirmed our decisions, and made them reliable.

In summary, during the crowd voting, the focal school achieved its marketing purposes with the support of the platform. In addition, opinions from the crowd were collected and used as a reference for rewarding the prizes. We captured value which was generated through the governance of the platform and resource exchange and sharing.

From the Perspective of the Stakeholders

The nine stakeholders that qualified for the crowd voting expressed positive feelings when they found out they were nominated. They believed that they had a good chance of winning the competition and felt enhanced relationships with the focal school, which greatly motivated their willingness to participate in the second part of the project (expected value and perceived value generated through relationship building). According to our investigation, in fact, the majority of these stakeholders not only voted for themselves but also invited their friends to vote for them. In addition, they reviewed other stakeholders' abstracts and evaluated the possibilities of winning (perceived value generated through resource exchange and sharing). At the same time, the crowd voting drew crowd members' attention very soon, right after the competition opened. Crowd members were keen to take part and voted for their favourite designs, as there was a random draw offering prizes (expected value). We captured expected value and perceived value which was generated through relationship building and resource exchange and sharing. Kang, Sheng, and Lin stated:

It was great to know that my design was recognized. I immediately reviewed the other participants' abstracts and checked whether there was something interesting. I thought I could win a second prize, simply because there were two designs that seemed better than mine.

I was not surprised because I had invested a lot in my design. I felt good. My work was recognized and I felt that we [the stakeholder and the focal school] had the same vision. This greatly strengthened my positive feelings towards the company... It was necessary to know about the competitors. I reviewed their abstracts. I was confident I could win.

It was the first time I had got so far in a competition. I am thankful to the company. I am really grateful that they confirmed my capabilities. I did not care about how far I could go. It was such a happy moment.

5.4 The Rewarding

The *rewarding* was the conclusion of the crowdsourcing project. There were two steps involved in the interaction between the focal school and the crowd: 1) the focal school issued the guaranteed prizes to the winners of the competition and the random draw; 2) the winners and the lucky voters received their prizes.

From the Perspective of the Focal school

Cherry, on behalf of the focal school, issued the prizes promised to the winners of the competition and the lucky random draw. This milestone meant that the crowdsourcing project was successfully completed. All the team members, together with other staff, went for dinner to celebrate the success after work that day. The dinner was called “the dinner reward” and was a very lively event. During the dinner, William, Helen, Ann and Cherry recalled the project and discussed good practices and areas for improvements (perceived value information exchange and learning). They also felt grateful to the crowd, particularly to the stakeholders that submitted deliverables, for their passion and efforts (perceived value generated through relationship building). We captured perceived value which was generated through resource exchange and sharing, and relationship building.

From the Perspective of the Stakeholders

When the winners and lucky crowd voters received the promised rewards, it was time to enjoy themselves (perceived value generated through resource exchange and sharing). The focal school was commended for timely payment and good management practices (perceived value generated through the governance of the focal school). The selected stakeholders felt

enhanced relationships with the focal school and looked forward to communicating with the focal school (perceived value generated through relationship building). We captured perceived value which was generated through resource exchange and sharing, the governance of the focal school, and relationship building. Chen said:

I posted the good news on my social media to share with my friends. It was so exciting. I am willing to join them [the Inspiration School], if they offered me an opportunity. But I don't know whether that will come true or not. From my perspective, they are a professional team with good management skills and professional capabilities. I am looking forward to speaking to them.

6. The Follow-up

A few days after the project was completed, William and Helen contacted five of the stakeholders and discussed potential recruitment. Three of the stakeholders, Chen, Liu and Kang, expressed their willingness to join the organization. So, the top managers arranged face-to-face and online interviews. Two months later, Liu and Kang went to the headquarters to take part in the training. Chen was also offered an opportunity after her graduation. Some deliverables of the selected stakeholders were further developed by the focal school and accepted by the headquarters. The Inspiration School, Peace Branch received a financial bonus and free tourism packages as rewards.

CHAPTER 7 FINDINGS PART 1

THE PROCESS OF TOURNAMENT CROWDSOURCING: THE VALUE CO-CREATION PERSPECTIVE

1. Introduction

Through analysing the collected data, we map out the process of tournament crowdsourcing in each case through the lens of value co-creation. We regard tournament crowdsourcing as a process which consists of a series of *value-generating phases*. We identify *expected value*, *emerging value*, and *recognized value* alongside the crowdsourcing process. We also distinguish between the perspective of the focal firm and the perspective of stakeholders. In the following sections, we will respectively examine each case.

2. The Crowdsourcing Process in the Case of the Education Advisor

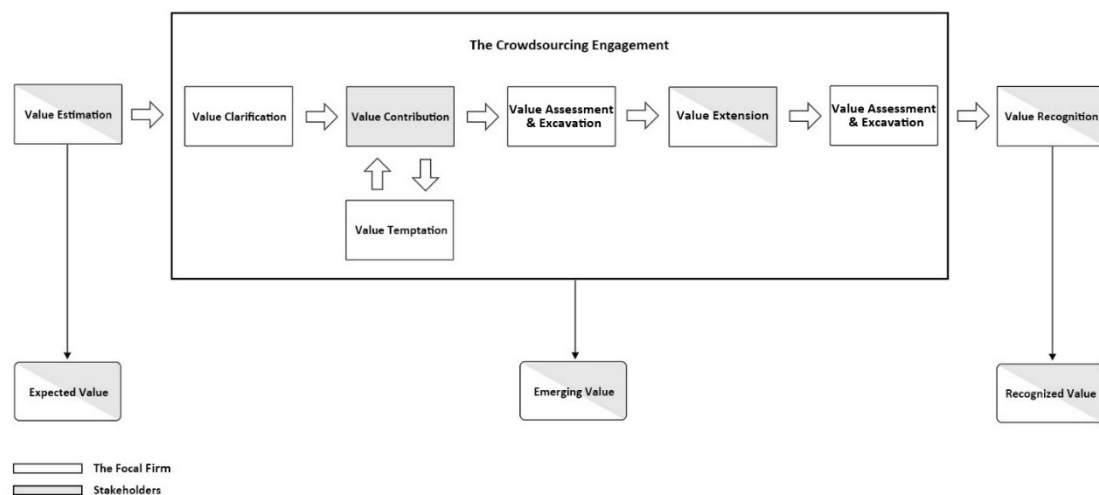


Figure 24. The Crowdsourcing Process in the Case of the Education Advisory

2.1 Value Estimation and Expected Value

Value estimation refers to the phase when the focal firm and the stakeholders estimate the anticipated value prior to initiating, or participating in, the crowdsourcing project. In essence, value estimation considers motivations. In the case of the Education Advisory, we investigated and captured the business purposes and expectations of the focal firm and the stakeholders' motivations for participation.

Expected value refers to the anticipated benefits and achievements estimated by the focal firm and stakeholders prior to initiating, or participating in, the project. In the case of the Education Advisory, the project management team revealed business purposes including: promoting brand awareness on a cooperated online platform, conducting research in preparation for mobile application development, and exploring online marketing. Accordingly, there were expected project indices, for example 3,000- to 5,000-page view increases, 100 valid ideas, and 100 follower increases. Through investigating stakeholders' motivations, we captured expected value including winning rewards, self-interest, perceived easiness, and being familiar with project themes.

VALUE ESTIMATION		
	The Focal Firm	Stakeholders
Expected Value	<ul style="list-style-type: none"> - Promoting brand awareness, expecting 3,000-5000 webpage visits. - Conducting consumer research, expecting to collect at least 100 ideas from the first part of the project and involve ten stakeholders in the second part of the project. - Exploring online marketing, expecting 1,000 participations (repost plus idea sharing) and 100 follower increases. 	<ul style="list-style-type: none"> - Perceived easiness. - Winning rewards. - Self-interest. - Being familiar with project themes.

Table 16. Expected Value Captured in the Case of the Education Advisory

2.2 The Crowdsourcing Engagement and Emerging Value

The *crowdsourcing engagement* comprised of six value-generating phases, namely: *value clarification*, *value contribution*, *value temptation*, *value assessment and excavation*, *value extension*, and another *value assessment and excavation*. We use the term *emerging value* to refer to the benefits, achievements, and positive experience perceived by the focal firm and stakeholders during the crowdsourcing engagement.

Value Clarification

Value clarification is defined as the phase when the focal firm clarifies details of the project to the crowd. In essence, when initiating the project, the focal firm specifies requirements and explains the expected value to crowd members. In the studied case, the focal firm initiated the project and released posters online. Since the platform-sponsored crowdsourcing service was employed, project registration was compulsory. The focal firm specified the project type, basic information, rewards, and other project instructions. Moreover, posters were attached, which contained essential information including: project topic, slogan, themes, schedule, methods of participation, rewards, and a QR (quick response) code.

As we investigated, captured *emerging value* during value clarification mainly came from the governance and support of the platform. The focal firm indicated that strict and effective governance enhanced project credibility. In addition, instructions, tools, and services were perceived useful and convenient.

VALUE CLARIFICATION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none">- Platform governance enhanced project credibility.- Platform instructions, tools, and services were perceived useful and convenient.	

**Table 17. Emerging Value Captured during Value Clarification
in the Case of the Education Advisory**

Value Contribution and Emerging Value

Value contribution refers to the phase when multiple stakeholders attempt to create value for the focal firm. In the case of the Education Advisory, there were 115 stakeholders involved in value contribution. These stakeholders reviewed project specifications, shared ideas, and some of them communicated with the focal firm online.

We captured multiple *emerging value* associated with value contribution. Stakeholders indicated that project specifications effectively helped them to understand the project. Moreover, the platform was commended for enhancing project credibility and offering convenient tools. It was also found that some stakeholders acquired useful information through reviewing others' ideas. This was recognized as the key achievement (recognized value) by two stakeholders. Besides, stakeholders' perceived value emerged from communicating with the focal firm. Through communication they established closer relationship with the focal firm, which motivated their willingness of participation.

VALUE CONTRIBUTION		
	The Focal Firm	Stakeholders
Emerging Value		<ul style="list-style-type: none"> - Project specifications helped them to understand the project. - The platform enhanced project credibility. - The platform offered convenient tools. - Acquiring useful information through reviewing other stakeholders' posts. - Establishing a relationship with the focal firm through online communication, which motivated willingness to participate.

**Table 18. Emerging Value Captured During Value Contribution
in the Case of the Education Advisory**

Value Temptation and Emerging Value

We define *value temptation* as the phase when the focal firm attempts to get more crowd members involved in the project, and tempts existing stakeholders to get even more involved. In the investigated case, we witnessed that the focal firm encouraged reposting, used social media accounts (personal and organizational) to promote the project, and purchased platform-sponsored promotions. Moreover, team members employed proactive communicating strategies during the first part of the project. They deliberately communicated with stakeholders who shared ideas, in an encouraging manner to chase for additional information.

To illustrate *emerging value* captured in value temptation, firstly we found that the focal firm perceived positive impacts of reposting and sponsored promotions on boosting project awareness. Increased awareness led to further increases in webpage visits (crowd members visited the webpage of the focal firm by scanning the QR code), which promoted brand awareness. When the online part of the project was completed, collected project indices, which were regarded as references for evaluating the effectiveness of the brand awareness promotion and online marketing, were perceived successful. Marketing-related value (in expected value and recognized value) was mainly achieved with efforts to boost project awareness. In addition, online communication yielded more valid ideas, and enhanced the mutual relationship between the focal firm and stakeholders. It was captured that the focal firm actually acquired more than 200 ideas from 115 stakeholders. Meanwhile, the focal firm commended the technical supports and governance of the platform.

VALUE TEMPTATION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Sponsored promotions boosted project awareness. - Reposts boosted project awareness. - Webpage increases boosted brand awareness. - Good project indices: 5073 page views, 837 followers, 1509 participations, and 115 ideas, proving successful marketing and brand awareness promotion. - Online communication facilitated more idea sharing. - Online communication enhanced relationships with stakeholders. - The platform provided helpful technical supports. 	

**Table 19. Emerging Value Captured During Value Temptation
in the Case of the Education Advisory**

Value Assessment and Excavation and Emerging Value

Value assessment and excavation refers to the phase when the focal firm assesses contributions delivered by stakeholders (value assessment), and excavates deeper value through analysing valid contributions (value excavation). In the case of the Education Advisory, during the late period of the first phase, the focal firm collected, reviewed, filtered, and sorted all the contributions from stakeholders. One team member summarized project indices, conducted statistical analysis, and produced management reports.

During the phase of value assessment and excavation, the major captured *emerging value* was associated with conducting consumer research (stated in both expected value and recognized value). Through statistically analysing collected ideas, the focal firm was able to come up with insightful managerial implications. Meanwhile, the platform was commended for offering appropriate supports, for example: technical tools, services, and governance for idea collection, project indices analysis, and plagiarism check.

VALUE ASSESSMENT AND EXCAVATION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none">- Conducted statistical analysis with collected information, and produced management reports.- The platform offered useful technical supports and governance.	

Table 20. Emerging Value Captured During Value Assessment and Excavation in the Case of the Education Advisory

Value Extension and Emerging Value

We use the term *value extension* to refer to the phase when the focal firm further interacts with selected stakeholders, and becomes involved in intensive value creation. In the case of the Education Advisory, the focal firm categorized stakeholders by the quality of contribution and attitude, selected stakeholders with whom team members desired to work, designed questionnaires, and sent invitations with questionnaires to selected stakeholders. In

total there were 12 stakeholders that took part in value extension.

Compared with value contribution (stakeholders could share anything), the focal firm was more intentional. The questionnaire design was based on management reports produced in the first phase. Selected stakeholders were perceived as having higher potential to provide the desired information since they were active and informative in value contribution. Therefore, the focal firm was able to collect additional high-quality information. Moreover, the focal firm believed that relationship building generated positive impacts on stakeholders' participations. This was also confirmed by stakeholders. Another perceived *emerging value* was the technical supports of the platform. From the stakeholders' perspective, we captured emerging value generated from the governance of the focal firm, as private channels were used for privacy and intellectual property protection. Additionally, stakeholders perceived a sense of involvement and being valued.

VALUE EXTENSION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Collected additional information from selected stakeholders. - Mutual relationship facilitated work efficiency. - The platform offered useful technical supports. 	<ul style="list-style-type: none"> - The focal firm was commended for protecting privacy and intellectual property. - Mutual relationship facilitated work efficiency. - The platform offered useful technical supports. - Perceived sense of involvement and being valued.

**Table 21. Emerging Value Captured During Value Extension
in the Case of the Education Advisory**

Value Assessment and Excavation and Emerging Value

There was another *value assessment and excavation* after value extension. Similar to the previous phase, the focal firm collected, reviewed, and analysed answered questionnaires, produced management reports, and gave out the promised rewards. All stakeholders that answered questionnaires and random draw winners received rewards.

The key *emerging value* perceived by the focal firm included generating a thorough understanding of potential consumers and receiving online marketing-related feedback. This was consistent with the business purposes of the consumer research and the exploring online marketing as stated in expected value, and also recognized as key achievements when the project was completed (recognized value). Additionally, the platform was commended for its technical supports in conducting the random draw. In regard to emerging value perceived by the stakeholders, we captured a variety of positive emotions associated with winning rewards.

VALUE ASSESSMENT AND VALUE EXCAVATION (THE SECOND)		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Conducted statistical analysis with collected information, and produced management reports. - Received online marketing related feedbacks. - Platform supported random draw. 	<ul style="list-style-type: none"> - Winning rewards, positive feelings.

Table 22. Emerging Value Captured During Value Assessment and Excavation (the Second) in the Case of the Education Advisory

2.3 Value Recognition and Recognized Value

Value recognition refers to the phase when the focal firm and stakeholders summarize their major achievements after the crowdsourcing project is completed. *Recognized value*, therefore, refers to major achievements perceived by the focal firm and stakeholders through taking part in the crowdsourcing project.

VALUE RECOGNITION		
	The Focal Firm	Stakeholders
Recognized Value	<ul style="list-style-type: none"> - Brand awareness was well promoted. - Conducted consumer research with sufficient valid information. - Explored online marketing with good project indices. 	<ul style="list-style-type: none"> - Winning rewards. - Enjoying the experience of participation. - Acquired useful information. - Established commitment to the focal firm.

Table 23. Recognized Value Captured during Value Recognition in the Case of the Education Advisory

Through investigating recognized value, we found that, firstly, not all emerging value was recognized as being key achievements. Emerging value that was recognized by the focal firm included: successfully promoting brand awareness, conducting valuable consumer research, and gaining precious experience of exploring online marketing. Emerging value that was recognized by stakeholders included: winning rewards, enjoyment of participation, acquired useful information and established commitment to the focal firm.

Secondly, we found that from the perspective of the focal firm, recognized value completely matched expected value. All the business goals stated in expected value were achieved, and recognized as key achievements. However, from the stakeholders' perspective, recognized value was different from expected value. Except for winning rewards, which was clearly stated, other recognized value was not specifically mentioned in expected value. Most stakeholders seemed to achieve more than they expected.

Thirdly, not all recognized value could be traced back to specific phases. We found that the recognized value perceived by the focal firm was achieved during twice value assessment and excavation. We could also associate some recognized value from the stakeholders' perspective with specific phases, for example, winning rewards during the second value assessment and excavation, and acquiring useful information during value contribution. Nevertheless, enjoying the experience of participation, as the common recognized value of

stakeholders, could not be traced back to a specific phase. It applied to the whole crowdsourcing engagement.

2.4 Value Co-creation during the Crowdsourcing Engagement

In Section 2.4 of Chapter 2, in attempt to define value co-creation, we discussed about three crucial aspects of value co-creation, including: who is being involved, how value is co-created and value propositions. Then value co-creation is defined as the process where the focal entity involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value. Based on this definition of value co-creation, we further examine value co-creation during the crowdsourcing engagement in the case of the Education Advisory.

Value clarification is the initial phase of the crowdsourcing engagement. During this phase, the focal firm initiated the project and clarified project details on the platform without involving any crowd member. Value perceived by the focal firm was relevant to governance, which was created by the platform. Hence, there was no value co-creation during this phase.

Then, during value contribution, crowd members got aware of the project, reposted the project, contributed by submitting required information and reviewed other crowd members' contributions. The awareness of the project involved information exchange between the crowd members and the focal firm via project specifications. Reposting the project and reviewing others' contribution involved information exchange and learning among crowd members. However, these interactions were either inactive, one-off, or discontinuous. Therefore, associated value was created rather than co-created. With respect to the crowd members' initial contribution making, since they contributed individually without any interaction with the focal firm, it is also regarded as value creation.

In fact, value co-creation happened when the focal firm generated influences on value contribution during value temptation. The Education Advisory actively communicated with selected crowd members to chase for more information. According to our observation, there

were multiple active, bilateral and continuous information exchange and relationship building between the Education Advisory and some crowd members. These intensive interactions were extended to value extension. Building on established relationship, the focal firm further exchanged information with selected crowd members via questionnaires. From perspective of the focal firm, we captured relevant value including collecting sufficient valid information and enhanced relationship. From perspective of crowd members, we captured value relevant to enhanced willingness of participation, enhanced relationship, sense of involvement and being valued.

Except directly communicating with crowd members, the Education Advisory did not involve crowd members in other promotion related activities during value temptation. Similarly, during the first and the second value assessment and excavation, crowd members were not involved. Therefore, associated value was not co-created. Conclusions are summarized in Table 24.

THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Contribution	Value creation and co-creation.
Value Temptation	Value creation and co-creation.
Value Assessment and Value Excavation	Value creation.
Value Extension	Value co-creation.
Value Assessment and Value Excavation	Value creation.

Table 24. Value Co-creation and Value Creation during the Crowdsourcing Engagement in the Case of the Education Advisory.

PHASE		CAPTURED VALUE	
	The Focal Firm	Stakeholders	
Value Estimation	<ul style="list-style-type: none"> - Promoting brand awareness, expecting 3,000-5,000 webpage visits. - Conducting consumer research, expecting to collect at least 100 ideas from the first part and involve ten stakeholders in the second. - Exploring online marketing, expecting 1,000 participations (repost plus idea sharing) and 100 follower increases. 	<ul style="list-style-type: none"> - Perceived easiness. - Winning rewards. - Self-interest. - Being familiar with project themes. 	
Value Clarification	<ul style="list-style-type: none"> - Platform governance enhanced project credibility. - Platform instructions, tools, and services were perceived useful and convenient. 		
Value Contribution		<ul style="list-style-type: none"> - Project specifications helped stakeholders to understand the project. - The platform enhanced project credibility. - The platform offered convenient tools. - Acquiring useful information through reviewing other stakeholders' posts. (E) - Establishing a relationship with the focal firm through online communication, which motivated their willingness to participate. 	

Value Temptation	<ul style="list-style-type: none"> - Sponsored promotions boosted project awareness. (M) - Reposts boosted project awareness. (M) - Webpage increases boosted brand awareness. (M) - Good project indices: 5073 page views, 837 followers, 1509 participations, and 115 ideas, proving successful marketing and brand awareness promotion. (M) - Online communication facilitated more idea sharing. - Online communication enhanced relationships with stakeholders. - The platform provided helpful technical supports. 	
Value Assessment and Excavation	<ul style="list-style-type: none"> - Conducted statistical analysis with collected information, and produced management reports. (C) - The platform offered useful technical supports and governance. 	
Value Extension	<ul style="list-style-type: none"> - Collected additional information from selected stakeholders. - Mutual relationship facilitated work efficiency. - The platform offered useful technical supports. 	<ul style="list-style-type: none"> - The focal firm protected privacy and intellectual property. - Mutual relationship facilitated work efficiency. - The platform offered useful technical supports. - Perceived senses of involvement and being valued. (E)
Value Assessment and Excavation	<ul style="list-style-type: none"> - Conducted statistical analysis with collected information, and produced management reports. (C) - Received online marketing-related feedback. (M) - Platform supported random draw. 	<ul style="list-style-type: none"> - Winning rewards, positive feelings. (A,E)

Value Recognition	<ul style="list-style-type: none"> - Brand awareness was well promoted. (M) - Conducted consumer research with sufficient valid information. (C) - Explored online marketing with good project indices. (M) 	<ul style="list-style-type: none"> - Winning rewards. (A) - Enjoying the experience of participation. (E) - Acquired useful information. (E) - Established commitment to the focal firm. (E)
<p>M refers to marketing-related recognized value. C refers to contribution-related recognized value. E refers to experience-related recognized value. A refers to reward-related recognized value.</p>		

Table 25. Value Captured in the Case of the Education Advisory

3 The Crowdsourcing Process in the Case of the Games Company

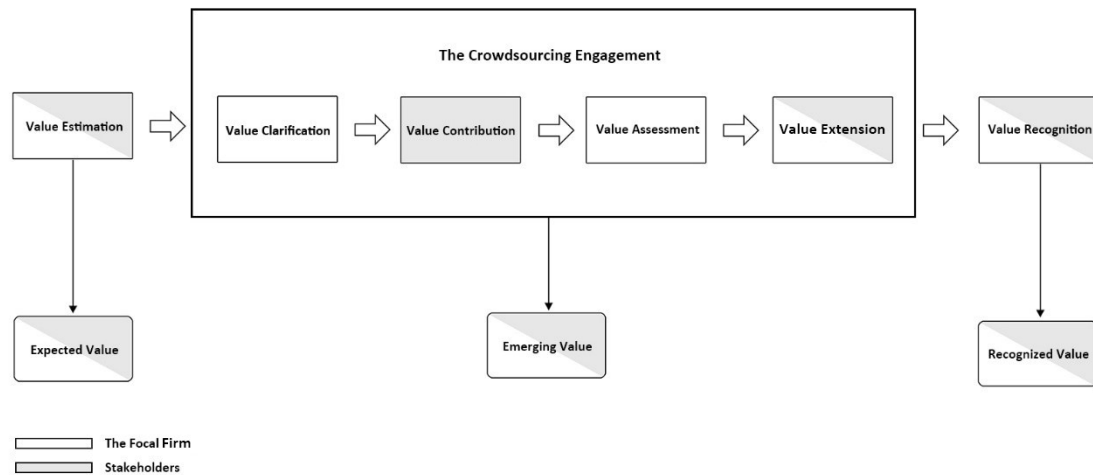


Figure 25. The Crowdsourcing Process in the Case of the Games Company

3.1 Value Estimation and Expected Value

We use the term *value estimation* to refer to the phase when the focal firm and the stakeholders estimate the anticipated value prior to initiating, or participating in, the crowdsourcing project. In essence, both parties are considering the potential benefits of pursuing the project. In the case of the Games Company, we captured business purposes, specific goals, and expected achievements related to initiating the project. In addition, we investigated the stakeholders' motivations for participation.

Expected value refers to the anticipated benefits estimated by the focal firm and stakeholders prior to initiating, or participating in, the project. We captured that the focal firm was driven by business expansion and sought inspiration and promising "Takagism" game designs to be further developed from the crowd. Meanwhile, stakeholders envisioned benefits including monetary rewards, further cooperation opportunities, self-interest, and self-improvement.

VALUE ESTIMATION		
	The Focal Firm	Stakeholders
Expected Value	<ul style="list-style-type: none"> - Seeking for inspiration from the crowd. - Collecting two promising game designs from the crowd. - Further developing promising game designs. 	<ul style="list-style-type: none"> - Winning rewards. - Further cooperation opportunities. - Self-interest (self-improvement, learning, altruism).

Table 26. Expected Value Captured in the Case of the Games Company

3.2 The Crowdsourcing Engagement and Emerging Value

The crowdsourcing engagement comprised of four value-generating phases, namely: *value clarification*, *value contribution*, *value assessment*, and *value extension*. We term *emerging value* as benefits, achievements, and positive experience perceived by the focal firm and stakeholders during the crowdsourcing engagement.

Value Clarification and Emerging Value

Value clarification is defined as the phase when the focal firm clarifies details of the project to the crowd. During this phase, it is important for the focal firm to make known both clarifications about the project and expectations to crowd members. In the studied case, the focal firm input necessary information required by the platform, including: project category, project title, project model, project specification, contact method, project rewards and duration, project promise, extra services, and the signed agreement. All information was visible to the crowd.

Based on our investigation, *emerging value* perceived by the focal firm came from platform governance and support. Through inputting required fields, the focal firm found some areas which were not fully considered and therefore polished project specifications. Moreover, instructions and technical supports were perceived easy to use, effective and convenient.

VALUE CLARIFICATION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Platform was commended for effective governance. - Instructions and technical supports of the platform were perceived easy to use, effective and convenient. 	

Table 27. Emerging Value Captured during Value Clarification in the Case of the Games Company

Value Contribution and Emerging Value

Value contribution is defined as the phase when multiple stakeholders attempt to create value for the focal firm. In the case of the Games Company, there were 15 stakeholders involved in value contribution. These stakeholders estimated potential risks, reviewed project specifications, searched relevant information, learned necessary skills and knowledge, created game designs, and submitted game designs to the focal firm.

During the phase of value contribution, we captured a bundle of *emerging value*. Stakeholders perceived value generated by the platform since its credibility and governance enhanced project credibility and reduced risks. They also perceived value generated by the focal firm, for example: providing clear project specifications in support of understanding the project, offering appealing rewards to strengthen motivations, and using private channels for deliverable submission in order to protect privacy and intellectual property. In addition, it was found that the stakeholders enjoyed their experience of working on deliverables. We captured a sense of enjoyment, self-improvement, overcoming challenges, interest, pride, and accomplishment. Such emerging value was not specifically mentioned in expected value; yet it was noticeably recognized as major achievements when the project was accomplished (recognized value).

VALUE CONTRIBUTION		
	The Focal Firm	Stakeholders
Emerging Value		<ul style="list-style-type: none"> - Governance of the platform increased project credibility. - Project specifications were perceived helpful in order to understand the project. - Appealing rewards motivated participation. - Private channels were employed for privacy and intellectual property protection. - Enjoyed the experience of working for deliverables (enjoyment, self-improvement, achievement of overcoming challenges, interest, pride, and accomplishment).

Table 28. Emerging Value Captured during Value Contribution in the Case of the Games Company

Value Assessment and Emerging Value

Value assessment is the term used as the phase when the focal firm assesses contributions delivered by the stakeholders. In the case of the Games Company, the project management team collected in total 15 game designs from stakeholders. Each design was reviewed and assessed by three team members. Three game designs (two were excellent, one was satisfying) were picked out and issued rewards from all the deliverables.

During value assessment, the key *emerging value* perceived by the focal firm was picking out value from the contributions (stated in both expected value and emerging value). Through assessing the collected deliverables, the project management team captured two promising designs and decided to further develop them. Team members also indicated that they gained inspiration from reviewing the deliverables. In addition, the governance of the platform and the managerial practices of the focal firm facilitated work efficiency. For instance, the platform offered useful technical supports in the collection of deliverables. Team members' expertise and experience were critical to facilitate efficiency when identifying value from the deliverables. As an outcome of value assessment, the focal firm selected three winners.

Rewarded stakeholders perceived emerging value associated with winning, which was recognized as a key achievement when the project was completed (recognized value).

VALUE ASSESSMENT		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Collected two promising designs (out of three winning designs) to be further developed. - Gained inspiration from reviewing deliverables. - The platform offered useful technical supports. - Experience and capabilities of team members were critical in assessing deliverables. 	<ul style="list-style-type: none"> - Winning rewards, positive feelings.

Table 29. Emerging Value Captured during Value Assessment in the Case of the Games Company

Value Extension and Emerging Value

We define *value extension* as the phase when the focal firm further interacts with selected stakeholders, and becomes involved in intensive value creation. In the case of the Games Company, the focal firm selected two stakeholders to collaborate with. After holding webcam meetings, the focal firm co-worked with the chosen stakeholders to accomplish the game designs. The stakeholders were rewarded as promised.

With respect to *emerging value*, both the focal firm and the selected stakeholders indicated that, through attending webcam meetings, they established closer relationships, generated a better understanding of the game designs, and agreed the planning of co-development. From the perspective of both sides, the governance of value creation, which was built on established relationships, greatly facilitated work efficiency. Moreover, the focal firm gained substantial inspiration and excellent game designs, which were recognized as key achievements when the project was completed (recognized value). Similar to value contribution, the stakeholders enjoyed the experience of co-working with the focal firm. We

captured: a sense of pride, self-improvement, being valued by professional experts, and self-achievement. Such emerging value together with winning extra rewards were recognized as key achievements when the project was accomplished (recognized value).

VALUE EXTENSION		
	The Focal Firm	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Established close relationships with the selected stakeholders. - Generated a better understanding of the game designs. - Agreed the planning of co-development. - Mutual relationship facilitated work efficiency. - Co-developed and accomplished two promising game designs. - Gained inspiration from co-work. 	<ul style="list-style-type: none"> - Established close relationships with the focal firm. - Generated a better understanding of the game designs. - Agreed the planning of co-development. - Mutual relationship facilitated work efficiency. - Enjoyed the experience of co-working (sense of pride, self-improvement, being valued by professional experts, and self-achievement). - Winning extra rewards, positive feelings.

**Table 30. Emerging Value Captured during Value Extension
in the Case of the Games Company**

3.3 Value Recognition

Value recognition is the phase when the focal firm and stakeholders summarize their major achievements after the crowdsourcing project is completed. Accordingly, recognized value refers to the major achievements as perceived by the focal firm and the stakeholders through taking part in the crowdsourcing project.

VALUE RECOGNITION		
	The Focal Firm	Stakeholders
Recognized Value	<ul style="list-style-type: none"> - Collected two promising game designs. - Gained inspiration from reviewing deliverables and co-working. - Further developed and accomplished two game designs with the selected stakeholders. 	<ul style="list-style-type: none"> - Winning rewards. - Enjoyed the experience of working on deliverables. - Enjoyed the experience of co-working with the focal firm. - Enjoyed the experience of participating in the project.

Table 31. Recognized Value Captured in the Case of the Games Company

Based on our analysis, we found that not all emerging value was recognized as being major achievements. From the perspective of the focal firm, emerging value that was recognized included: gaining inspiration, acquiring promising designs, and further developing promising designs. From the stakeholders' perspective, emerging value was recognized as including: winning rewards, and enjoyment of working on deliverables.

Moreover, we compared recognized value with expected value. The recognized value of the focal firm was consistent with expected value. All expectations were realized, and the project was believed successful. The recognized value of the stakeholders exceeded their expected value. Only winning rewards was clearly stated in both expected and recognized value. Enjoyment of the working experience and enjoyment of participating in the project were not specifically mentioned in the expected value. The stakeholders achieved more than they expected.

We also found that not all recognized value could be traced back to specific phases. With respect to recognized value perceived by the focal firm, it could be traced in value assessment and value extension. The stakeholders' recognized value, including winning rewards and enjoyment of work experience, could be found in value assessment, value contribution, and value extension. Nevertheless, enjoyment of the participation experience was not specifically mentioned during any phase. It applied to all phases of the whole crowdsourcing experience.

3.4 Value Co-creation during the Crowdsourcing Engagement

The crowdsourcing engagement started with the phase value clarification. The Games Company initiated the crowdsourcing project on the selected platform and clarified project specifications. There was no crowd member involved in this phase. Captured value from the focal firm's perspective was relevant to governance created by the platform. There was no clear feature of value co-creation during value clarification.

During value contribution, crowd members got aware of the project through reviewing project specifications. It was indirect, one-off and one sided information exchange from the Games Company to crowd members. Captured value relevant to such interaction included perceived usefulness of project specifications and appealing rewards, which was value creation by the focal firm. Then, crowd members worked on the project individually, spending physical resources to acquire useful information from external resources (e.g. a variety of websites searched and reviewed by crowd members), learn relevant knowledge, and complete their designs. During the working procedure, crowd members perceived a variety of intrinsic value which was actually value creation by crowd members themselves. When submitting accomplished designs, crowd members perceived value relevant to intellectual property and privacy protection. This was created by the Games Company. In conclusion, there was no evident value co-creation during value contribution.

During value assessment the focal firm did not directly involve any crowd member in assessing contributions. Although there were information and resource exchange and learning, those interactions were indirect via submitted contributions, one sided and discontinuous. Associated value therefore was not co-created. At the end of value assessment, the winners were involved in rewarding. It was one-off and one sided resource exchange via the platform, which was value creation.

Value co-creation happened during value extension during which phase the focal firm co-worked with selected crowd members. There were massive active, bilateral and continuous information exchange, learning, relationship building and collective governance between the

Games Company and each of the two selected crowd members. From perspective of the focal firm and crowd members, intensive interactions resulted in co-creation of value, including generating better understanding about the designs, enhanced relationship, effective collective governance and achieving expected value. Discussions of value co-creation and value creation during the crowdsourcing engagement in the case of the Games Company are summarized in Table 32.

THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Contribution	Value creation
Value Assessment	Value creation.
Value Extension	Value co-creation.

**Table 32. Value Co-creation and Value Creation during the Crowdsourcing Engagement
in the Case of the Games Company**

PHASE		CAPTURED VALUE
	The Focal Firm	Stakeholders
Value Estimation	<ul style="list-style-type: none"> - Seeking inspiration from the crowd. - Collecting two sought-for game designs from the crowd. - Further developing promising game designs. 	<ul style="list-style-type: none"> - Winning rewards. - Further cooperation opportunities. - Self-interest (self-improvement, learning, altruism).
Value Clarification	<ul style="list-style-type: none"> - Platform was commended for effective governance. - Instructions and technical supports of the platform were perceived easy to use, effective, and convenient. 	
Value Contribution		<ul style="list-style-type: none"> - Governance of the platform increased project credibility. - Project specifications were perceived helpful to understand the project. - Appealing rewards motivated participation. - Private channels were employed for privacy and intellectual property protection. - Enjoyed the experience of working on deliverables (enjoyment, self-improvement, achievements of overcoming challenges, interest, pride, and accomplishment). (E)
Value Assessment	<ul style="list-style-type: none"> - Collected two promising designs to be further developed. (C) - Gained inspiration from reviewing deliverables. (C) - The platform offered useful technical supports. - Experience and capabilities of team members were critical in assessing deliverables. 	<ul style="list-style-type: none"> - Winning rewards, positive feelings. (A,E)

Value Extension	<ul style="list-style-type: none"> - Established close relationships with selected stakeholders. - Generated a better understanding of the game designs. - Agreed the planning of co-development. - Mutual relationships facilitated work efficiency. - Co-developed and accomplished two promising game designs. (C) - Gained inspiration from co-working. (C) 	<ul style="list-style-type: none"> - Established close relationships with the focal firm. - Generated a better understanding of the game designs. - Agreed the planning of co-development. - Mutual relationships facilitated work efficiency. - Enjoyed the experience of co-working (sense of pride, self-improvement, being valued by professional experts, and self-achievement). (E) - Winning extra rewards. (A,E)
Value Recognition	<ul style="list-style-type: none"> - Collected two promising game designs. (C) - Gained inspiration from reviewing deliverables and co-working. (C) - Further developed and accomplished two game designs with selected stakeholders. (C) 	<ul style="list-style-type: none"> - Winning rewards. (A) - Enjoyed the experience of working on deliverables. (E) - Enjoyed the experience of co-working with the focal firm. (E) - Enjoyed the experience of participating in the project. (E)
<p>C refers to contribution-related recognized value. E refers to experience-related recognized value. A refers to reward-related recognized value.</p>		

Table 33. Value Captured in the Case of the Games Company

4. The Crowdsourcing Process in the Case of the Inspiration School

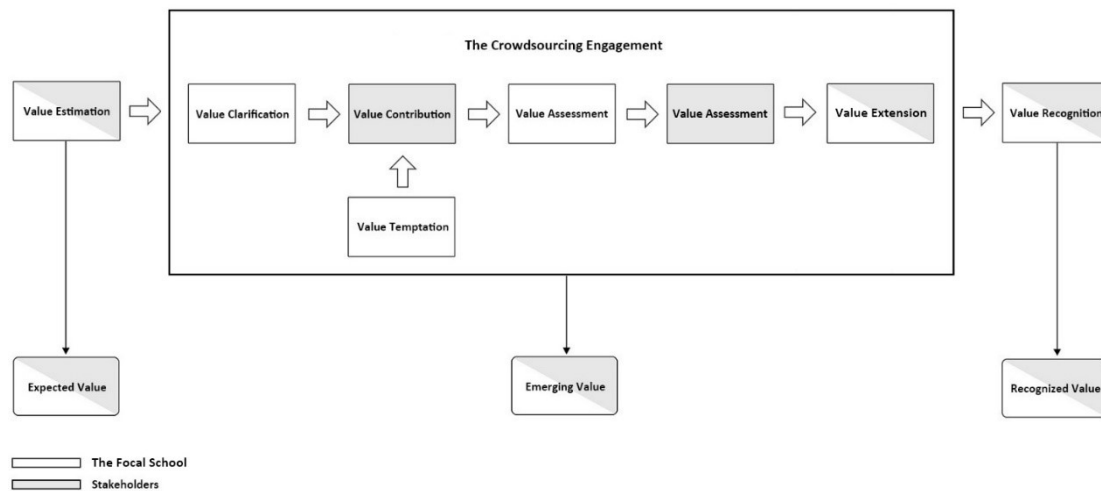


Figure 26. The Crowdsourcing Process in the Case of the Inspiration School

4.1 Value Estimation and Expected Value

We define *value estimation* as the phase when the focal school and the stakeholders estimate the anticipated value prior to initiating, or participating in, the crowdsourcing project. In essence, in value estimation, both parties consider the potential benefits of pursuing the project. In the case of the Inspiration School, we examined and captured the business purposes and expectations of the focal firm. We also investigated the stakeholders' motivations for taking part in the project.

Expected value refers to anticipated benefits estimated by the focal school and the stakeholders prior to initiating, or participating in, the project. Our investigation revealed that the focal firm expected to acquire creative course designs, nominate talents for recruitment, and promote its brand. Specific goals of the crowdsourcing project included: collecting ten creative designs, nominating three to five candidates for recruitment, and accumulating at least 2,000 votes. From the stakeholders' perspective, they commonly expected to win rewards. In addition, we captured other motivations, for example: self-interest, a sense of altruism, and potential job opportunities.

VALUE ESTIMATION		
	The Focal School	Stakeholders
Expected Value	<ul style="list-style-type: none"> - Acquiring creative course designs, expecting ten good designs. - Finding talents for recruitment, expecting to nominate three to five talents. - Marketing purposes: expecting to accumulate at least 2,000 votes. 	<ul style="list-style-type: none"> - Winning rewards. - Self-interest, altruism. - Job opportunities.

Table 34. Expected Value Captured in the Case of the Inspiration School

4.2 The Crowdsourcing Engagement and Emerging Value

We identify six value-generating phases in the *crowdsourcing engagement*, including *value clarification*, *value temptation*, *value contribution*, *value assessment*, another *value assessment* and *value extension*. Perceived benefits, achievements, and positive experiences during the crowdsourcing engagement are termed *emerging value*.

Value Clarification and Emerging Value

We use the term *value clarification* to refer to the phase when the focal school clarifies details of the project to the crowd. In the studied case, the focal firm initiated the project through releasing advertisements via multiple channels. Advertisements specified the project name, organizational profile, deliverable requirements, schedule, rewards, privacy and intellectual property protection, recruitment information, and contact details. The aim was to explain the project clearly to the crowd.

Before initiating the project, the focal firm recognized the importance of project specifications and, therefore, carefully designed advertisements. The focal firm believed that its governance was the key factor that facilitated effectiveness and efficiency during value clarification. Particularly, the marketing director's expertise and experience were highly valued by members of the project management team.

VALUE CLARIFICATION		
	The Focal School	Stakeholders
Emerging Value	- Governance of the focal firm greatly facilitated efficiency and effectiveness.	

Table 35. Emerging Value Captured during Value Clarification in the Case of the Inspiration School

Value Temptation and Emerging Value

Value temptation is the phase when the focal school attempts to attract more crowd members to become involved in the project and tempts existing stakeholders to be even more involved. In the investigated case, the focal firm believed that boosting awareness and maintaining good relationships were crucial at the early stage of the project. We found that project advertisements were released via multiple channels; personal and organizational social media accounts were used for promotions; team members spent time communicating with some stakeholders online. All these practices were in support of value temptation.

In terms of *emerging value* captured in value temptation, the focal firm perceived that the project was well promoted. Through comparing project indices with those of projects conducted in the past, marketing practices were perceived successful. This corresponds to the marketing purposes stated in expected value, and also recognized as the key achievement (recognized value) when the project was completed. Resources, experience and capabilities of the focal firm were regarded as critical factors that contributed to the success. In addition, technical support of the platform in measuring project dissemination was regarded helpful.

VALUE TEMPTATION		
	The Focal School	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - The project was well promoted. - Successful marketing practices. - Resources, experience, and capabilities facilitated the success of value temptation. - The platform offered useful technical supports. 	

Table 36. Emerging Value Captured during Value Temptation in the Case of the Inspiration School

Value Contribution and Emerging Value

Value contribution refers to the phase when multiple stakeholders attempt to create value for the focal school. In the studied case, there were 82 stakeholders involved in this phase. These stakeholders reviewed project specifications, conducted necessary research, learned relevant skills, accomplished designs, and submitted their designs to the focal firm.

According to our investigation, the stakeholders perceived that project specifications clearly delivered what was expected from the focal school and offered clear instructions. Moreover, it was found that stakeholders commonly enjoyed their experience of working on deliverables. Captured emerging value included: acquiring new knowledge and skills, spending time with the family, a sense of altruism, and having fun. The *emerging value* was not specifically mentioned in expected value; however, they were noticeably recognized as key achievements (recognized value) when the project was completed. In addition, the governance of the focal school was commended for putting in place both privacy and intellectual protection, and for its relationship management.

VALUE CONTRIBUTION		
	The Focal School	Stakeholders
Emerging Value		<ul style="list-style-type: none"> - Project specifications helped stakeholders to understand the project. - Enjoyed the experience of working on deliverables (acquiring new knowledge and skills, spending time with family, a sense of altruism, and having fun). - Governance of the focal firm protected privacy and intellectual property.

**Table 37. Emerging Value Captured during Value Contribution
in the Case of the Inspiration School**

The First Value Assessment and Emerging Value

We term *value assessment* as the phase when the focal school assesses contributions delivered by stakeholders. In the case of the Inspiration School, the focal firm collected and reviewed submissions, picked out outstanding submissions for the crowd voting, and selected potential candidates for recruitment.

To illustrate the major *emerging value* captured in value assessment, the focal school acquired promising designs and nominated potential candidates for recruitment through assessing deliverables. In addition, team members indicated that they enjoyed the experience of reviewing designs since they acquired inspiration and fresh ideas. Meanwhile, the capabilities and governance of the focal firm were seen as crucial factors that facilitated success during this phase.

THE FIRST VALUE ASSESSMENT		
	The Focal School	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Acquired 12 good designs. - Nominated five candidates for recruitment. - Acquired inspiration and fresh ideas from reviewing deliverables. - Capabilities and governance facilitated the success of this phase. 	

Table 38. Emerging Value Captured during the First Assessment in the Case of the Inspiration School

The Second Value Assessment and Emerging Value

During the second value assessment, the focal firm initiated an online crowd voting, published selected submissions, received results of the crowd voting, and gave out the promised rewards. Crowd members voted for their favourite submissions, and the final results determined winners of the project. Winning stakeholders and some lucky voters were rewarded.

From the perspective of the focal school, the key *emerging value* perceived was achieving marketing-related purposes. More than 2875 accumulated votes were seen as a triumph of marketing. This emerging value was specified in expected value, and also recognized as the key achievement (recognized value) when the project was completed. Furthermore, results of the crowd voting, which reflected crowd members' opinions on exhibited submissions, were perceived useful information. The focal firm also believed that the governance of the platform and its own experience and capabilities facilitated the success. From the stakeholders' perspective, knowing they were being qualified for crowd voting greatly motivated them and enhanced their involvement. Winning rewards at the end of this phase was mentioned in both expected value and recognized value. Other captured emerging value included acquiring some useful information through reviewing other candidates' abstracts and receiving timely payment from the focal firm.

THE SECOND VALUE ASSESSMENT		
	The Focal School	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Achieved marketing purposes, accumulated 2875 votes. - Came to know crowd members' opinions on published designs. - Experience of the focal firm facilitated success of this phase. - Governance of the platform facilitated success of this phase. 	<ul style="list-style-type: none"> - Became motivated when qualified for crowd voting. - Winning rewards, positive emotions. - Acquiring useful information through reviewing others' abstracts. - Received timely payment from the focal firm.

Table 39. Emerging Value Captured during the Second Value Assessment in the Case of the Inspiration School

Value Extension and Emerging Value

Value extension is the phase when the focal firm further interacts with selected stakeholders, and becomes involved in intensive value creation. In the investigated case, the Inspiration School contacted those potential candidates for recruitment (selected from the first value assessment) and discussed about issues related to recruitment. Some stakeholders showed their interest, accepted the offer and went through the recruitment process.

From perspective of the Inspiration School, achieving recruitment related purposes was the major perceived value. In addition, we captured value relevant to strengthened relationship with stakeholders. From perspective of stakeholders, they felt being valued and strengthened relationship. Getting job opportunities were highly valued by those stakeholders who accepted recruitment offers.

VALUE EXTENSION		
	The Focal School	Stakeholders
Emerging Value	<ul style="list-style-type: none"> - Achieved recruitment related purposes. - Perceived strengthened relationship. 	<ul style="list-style-type: none"> - Perceived senses of being valued and strengthened relationship. - Got job opportunities.

Table 40. Emerging Value Captured during Value Extension in the Case of the Inspiration School

4.3 Value Recognition and Recognized Value

Value recognition refers to the phase when the focal school and stakeholders summarize their major achievements after the crowdsourcing project is completed. Accordingly, *recognized value* refers to major achievements perceived by the focal school and the stakeholders through taking part in the crowdsourcing project.

VALUE RECOGNITION		
	The Focal School	Stakeholders
Recognized Value	<ul style="list-style-type: none"> - Acquired plenty of good designs. - Nominated five candidates for recruitment. - Successful marketing. 	<ul style="list-style-type: none"> - Winning rewards. - Enjoyed the experience of working on deliverables. - Enjoyed the experience of participating in the project.

Table 41. Recognized Value Captured in the Case of the Inspiration School

Based on our analysis, we found that only some of the captured emerging value was recognized as being a key achievement when the crowdsourcing project was completed. In the investigated case, emerging value which was recognized by the focal firm included acquiring plenty of good designs, nominating five talents for recruitment, and conducting successful marketing activities. Emerging value which was commonly recognized by the stakeholders included winning rewards and enjoying the experience of accomplishing deliverables (e.g. self-improvement, acquiring new knowledge and skills, spending time with family, and self-achievement).

Through comparing expected value with recognized value, we found that, from the perspective of the focal firm, recognized value was consistent with expected value. However, from the stakeholders' perspective, some recognized value, for example enjoying the experience of accomplishing deliverables and enjoying the experience of participation, was not specifically mentioned in expected value. Stakeholders actually achieved more than expected.

Another finding is that recognized value may not emerge from specific phases, but is part of the whole crowdsourcing engagement. A typical example of this is enjoying the experience of participation. Enjoyment of the experience was commonly recognized by the stakeholders, and came from all the phases during the crowdsourcing engagement. Therefore, it cannot be traced back to a particular phase.

4.4. Value Co-creation during the Crowdsourcing Engagement

In the case of the Inspiration School, value clarification was the initial phase of the crowdsourcing engagement. The focal school initiated the crowdsourcing project online with technical supports and governance offered by the platform. Crowd members were not involved in this phase. Value perceptions captured from the perspective of the focal school was associated with increased effectiveness and efficiency, which was created by the platform.

Value clarification was followed by value temptation. The Inspiration school successfully promoted the crowdsourcing project via multiple channels. Perceived value was contributed by the focal school's own governance. Meanwhile the platform was commended for technical supports. Therefore, it was value creation by the focal school and the platform. Crowd members were not actively involved in this phase.

Crowd members became involved in the project during value contribution. They firstly became aware of the project through reviewing project specifications. This was indirect, one-off and one sided information exchange from the Inspiration School to crowd members. It helped crowd members better understand the project, which was value creation by the focal

school. Then, crowd members worked on their deliverable individually without any interaction with the focal school. They spent considerable time and resources to acquire information, learn relevant knowledge and complete their designs. Captured intrinsic value was created by crowd member themselves. When submitting their deliverables, crowd members believed that the focal firm created value in terms of using private channels for privacy and intellectual property protection.

In the studied case, there were two phases of value assessment. During the first value assessment, the Inspiration School conducted revisions of collected contributions and achieved desired value. As crowd members were not actively involved, information and resource exchange and learning were one sided through submitted deliverables. Therefore, it was value creation. During the second value assessment, a large number of crowd members took part in crowd voting. There were no interactions between crowd members and the focal school but crowd-crowd interactions. Results of the crowd voting created value relevant to marketing and research for the focal firm. At the end of the second value assessment, winners and lucky voters were rewarded. It was one-off and one-sided resource exchange via the platform, which was value creation.

Value co-creation happened during value extension. The Inspiration School contacted selected crowd members and invited them to take part in the recruitment process. Three crowd members accepted recruitment offers and two of them took part in the training programme for recruitment. In fact, there were two months between sending invitations to taking part in the training programme for recruitment. During this period of time we did not directly collect data. However, based on our later investigation (presented in the follow-up section of Chapter 6), there must be intensive interactions (particularly information and resource exchange, relationship building, and collective governance) between the focal school and crowd members that facilitated the success of recruitment. Hence, value captured in value extension was co-created by the Inspiration School and selected crowd members. Discussions of value co-creation and value creation during the crowdsourcing engagement in the case of the Inspiration School are summarized in Table 42.

THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Temptation	Value creation
Value Contribution	Value creation
Value Assessment	Value creation.
Value Assessment	Value creation
Value Extension	Value co-creation.

**Table 42. Value Co-creation and Value Creation during the Crowdsourcing Engagement
in the Case of the Inspiration School**

PHASE	CAPTURED VALUE	
	The Focal School	Stakeholders
Value Estimation	<ul style="list-style-type: none"> - Acquiring creative course designs, expecting ten good designs. - Finding talents for recruitment, expecting to nominate three to five talents. - Marketing purposes: expecting to accumulate at least 2,000 votes. 	<ul style="list-style-type: none"> - Winning rewards. - Self-interest, altruism. - Job opportunities.
Value Clarification	<ul style="list-style-type: none"> - Governance of the focal firm greatly facilitated efficiency and effectiveness. 	
Value Temptation	<ul style="list-style-type: none"> - The project was well promoted. (M) - Successful marketing practices. (M) - Resources, experience, and capabilities of the focal firm facilitated success of value temptation. - The platform offered useful technical supports. 	
Value Contribution		<ul style="list-style-type: none"> - Project specifications helped to understand the project. - Enjoyed the experience of working on deliverables (acquiring new knowledge and skills, spending time with family, a sense of altruism, and having fun). (E) - Governance of the focal firm protected privacy and intellectual property.
The First Value Assessment	<ul style="list-style-type: none"> - Acquired 12 good designs. (C) - Nominated five candidates for recruitment. (C) - Acquired inspiration and fresh ideas from reviewing deliverables. - Capabilities and governance facilitated the success of 	

	this phase.	
The Second Value Assessment	<ul style="list-style-type: none"> - Achieved marketing purposes, accumulated 2,875 votes. (M) - Came to know crowd members' opinions on published designs. - Experience of the focal firm facilitated success of this phase. - Governance of the platform facilitated success of this phase. 	<ul style="list-style-type: none"> - Became motivated when qualified for crowd voting. (E) - Winning rewards, positive emotions. (A, E) - Acquiring useful information through reviewing others' abstracts. (E) - Received timely payment from the focal firm. - Recruitment opportunities. (A)
Value Extension	<ul style="list-style-type: none"> - Achieved recruitment related purposes. (C) - Strengthened relationship. 	<ul style="list-style-type: none"> - Recruitment opportunities. (A) - Strengthened relationship.
Value Recognition	<ul style="list-style-type: none"> - Acquired plenty of good designs. (C) - Nominated five candidates for recruitment. (C) - Successful marketing. (M) 	<ul style="list-style-type: none"> - Winning rewards. (A) - Enjoyed the experience of working on deliverables. (E) - Enjoyed the experience of participating in the project. (E) - Recruitment opportunities. (A)
<p>A refers to reward-related recognized value. C refers to contribution-related recognized value. E refers to experience-related recognized value. M refers to marketing-related recognized value.</p>		

Table 43. Value Captured in the Case of the Case of the Inspiration School

CHAPTER 8 FINDINGS PART 2

FINDING THE RIGHT CROWD

1. Introduction

In a typical tournament crowdsourcing project, the focal entity engages with an undefined crowd and creates a competitive environment to facilitate the creation of the best solutions. Stakeholders compete with each other, and a few of them are selected as winners. Some of the winners might get chances to further co-work with the focal entity. From our investigations into three tournament crowdsourcing projects, we found that, in the case of the Education Advisory, questionnaires were sent to stakeholders marked as Label I and Label II; in the case of the Games Company, two stakeholders were invited to further develop their game designs; in the case of the Inspiration School, five stakeholders received recruitment invitations. It was common that the focal firms (or school) deliberately attempted to select crowd members with the highest potential to deliver value for them.

In this part of the findings, we took the perspective of the focal entity and investigated the process of tournament crowdsourcing, focusing on *finding the right crowd*. We identified relevant interactions, management practices and the actions of the focal firms, and summarized them into sequential phases. We aimed to reveal how the focal firms accessed the crowd and found the right stakeholders from the crowd with which to engage (refers to finding the right crowd). Each case is examined in the following sections.

2. Finding the Right Crowd in the Case of the Education Advisory

2.1 The Need to Find the Right Crowd

In the case of the Education Advisory, one of the main business purposes of the focal firm was to conduct consumer research in preparation for the development of mobile phone applications. Collecting a large amount of valid information from the crowdsourcing project, therefore, became a key issue. As we investigated, the focal firm attempted to engage with stakeholders that were believed to have the highest potential to provide plenty of relevant information. Moreover, the focal firm was required to reward the best contributors. On this basis, there was the need to find the right crowd. We mapped out the process of tournament crowdsourcing process, focusing on finding the right crowd. The process consisted of six phases, namely: *selecting the platform, defining the project, boosting awareness, encouraging contributions, assessing stakeholders and selecting stakeholders.*



Figure 27. Phases of Finding the Right Crowd in the Process of the Tournament Crowdsourcing Project Initiated by the Education Advisory

2.2 Selecting the Platform

The crowdsourcing process starts with *selecting the platform*. Selecting the platform refers to the phase when the focal entity decides where to crowdsource the project. To make this decision the focal entity usually considers multiple factors. In the case of the Education Advisory, the focal firm considered the attributes of the crowd. In essence, users of a crowdsourcing platform are the crowd of that platform. Selecting a particular platform for crowdsourcing means choosing to engage with the crowd on that particular platform. The focal firm believed that it would be easy to establish relationships with crowd members and to convert strangers to active participants on the selected platform. Moreover, the features of the platform and the focal firm's familiarity with the platform were taken into consideration. The focal firm believed that the technical features and governance of the selected platform were suitable for the project. Being familiar with platform made operations easier.

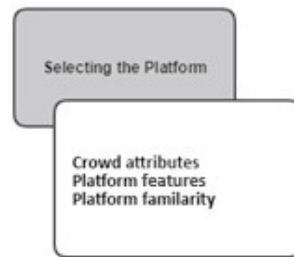


Figure 28. Selecting the Platform in the Case of the Education Advisory

2.3 Defining the Project

We term *defining the project* as the phase when the focal entity clarifies project specifications to crowd members. The fundamental purposes of this phase are grasping crowd members' attention and helping them to understand the project. In the case of the Education Advisory, we found that the focal firm crafted posters with detailed information and fascinating graphic designs. The project was explained by providing: the title of the project, the slogan, themes, the schedule, methods of participation, rewards, and a QR (quick response) code. The focal firm recognized the importance of the project specification and crafted posters carefully.

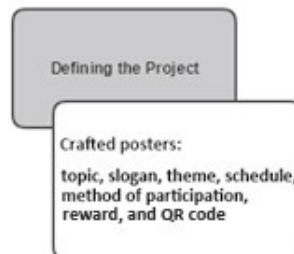


Figure 29. Defining the Project in the Case of the Education Advisory

2.4 Boosting Awareness

We use the term *boosting awareness* to describe the phase when the focal entity attempts to raise awareness among the crowd. The more crowd members that are aware of the project, the more participants might participate in it. In the case of the Education Advisory, the focal firm endeavoured to promote the project in the first part of it. Particularly at the early stages, private channels and platform-sponsored promotions were employed for project

dissemination. The focal firm also highly valued the impact that the crowd members' reposts had on boosting project awareness, and promised lucky random draw prizes to facilitate reposting. At the mid-stage, as the effectiveness of existing dissemination approaches dropped, the focal firm utilized the platform-sponsored promotion again and posted new contents via the organizational account, aiming at gaining more attention from the crowd.

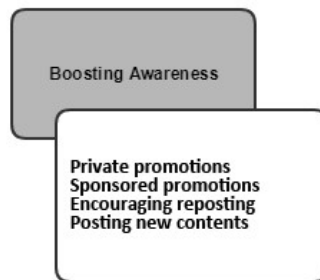


Figure 30. Boosting Awareness in the Case of the Education Advisory

2.5 Encouraging Contributions

Encouraging contributions is the phase when the focal entity stimulates crowd members to become involved in value creation. In essence, the focal firm considers how to trigger crowd members' motivations and how to get existing stakeholders more involved in the project. In the case of the Education Advisory, the focal firm showed a good understanding of crowd members' motivations. It offered appealing rewards and attempted to enhance the experience of participation through making the project challenging, interesting and beneficial. Moreover, during the first phase of the project, the focal firm employed proactive communicating strategies to interact with stakeholders and also attempted to establish mutual relationships with some of the stakeholders. By doing so, stakeholders became more involved in the project.

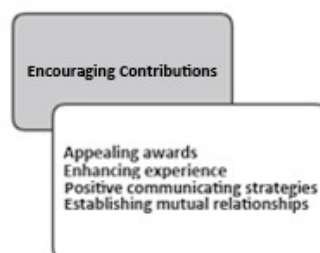


Figure 31. Encouraging Contributions in the Case of the Education Advisory

2.6 Assessing Stakeholders

We use the term *assessing stakeholders* to refer to the phase when the focal entity assesses available stakeholders according to certain criteria. In the case of the Education Advisory, we captured a typical activity during the late stage of the first phase. The focal firm assessed all the stakeholders that shared ideas by examining quality of their contributions and attitude of participating. All the stakeholders were marked with one of three different labels. Stakeholders that were perceived to be excellent with regards to contributions and attitudes were marked as Label I. Stakeholders that were perceived as satisfying with regards to contributions and attitudes were marked as Label II. Stakeholders marked as Label III were perceived as giving limited contributions.



Figure 32. Assessing Stakeholders in the Case of the Education Advisory

2.7 Selecting Stakeholders

Selecting stakeholders is the phase when the focal entity selects the most suitable stakeholders, and completes the remaining value-creation activities with them. In the case of the Education Advisory, the focal firm sent invitations and questionnaires to stakeholders marked as Labels I and II. These stakeholders were perceived as having the highest potential to take part in the second phase and provide the desired information. Finally, 12 stakeholders sent back questionnaires, and all of them were rewarded.



Figure 33. Selecting Stakeholders in the Case of the Education Advisory

2.8 Achieving Business Goals

Through investigating the crowdsourcing process with the focus of finding the right crowd in the case of the Education Advisory, we came to understand how the focal firm accessed the crowd and selected the right crowd to achieve its business goals. According to our investigation, the focal firm collected more than 200 valid ideas from 85 stakeholders, and received 12 answered questionnaires from selected stakeholders. Collected information was used for statistical analysis, which was then utilized in management reports. The crowdsourcing project was confirmed successful.

3. Selecting the Right Crowd in the Case of the Games Company

3.1 The Need to Find the Right Crowd

In a typical tournament crowdsourcing project, the focal entity usually applies the competition mechanism to select a few stakeholders from the crowd through judging the quality of contributions. As a result, stakeholders with better contributions get more chances of being recognized, rewarded, and offered extra opportunities. In the case of the Games Company, the focal firm expected to select promising Takagism game designs, and pick out the most suitable stakeholders from the crowd to co-develop game designs. There was the need to select the most suitable stakeholders to achieve business goals. In analysing the crowdsourcing process with the focus of *finding the right crowd*, we went through the case of the Games Company and identified five relevant phases, including: *selecting the platform*, *defining the project*, *encouraging contributions*, *assessing stakeholders* and *selecting stakeholders*.

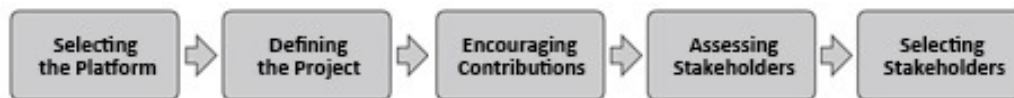


Figure 34. Phases of Finding the Right Crowd in the Process of the Tournament Crowdsourcing Project Initiated by the Games Company

3.2 Selecting the Platform

Selecting the platform simply refers to the phase when the focal entity decides where to crowdsource the project. Since users of a platform constitute the crowd of that platform, selecting a platform, therefore, means selecting to engage with the crowd on that platform. In the case of the Games Company, the focal firm revealed that there were a sufficiently large crowd of potential workers available on the selected platform and the crowd was believed capable of accomplishing the project. Other reasons for the platform selection included: credibility and fame of the platform, governance features, and familiarity with the platform.

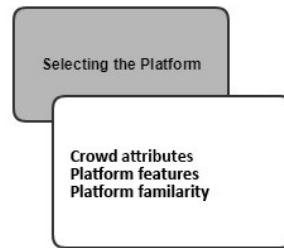


Figure 35. Selecting the Platform in the Case of the Games Company

3.3 Defining the Project

We use the term *defining the project* to refer to the phase when the focal entity clarifies project specifications to crowd members. By doing so, the focal entity is able to generate awareness, explain project details, and deliver expectations to the crowd. In the case of the Games Company, the focal firm created project specifications under the governance of the platform. As required, the focal firm selected the project category, the model, and guaranteed payment, and specified the title, descriptions, rewards and duration, and contact methods. According to the focal firm, project specifications were the most important part of the project initiation. It was expected to clarify motivations and deliver the right information to the crowd.

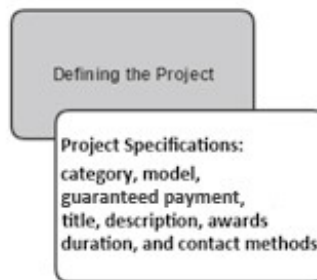


Figure 36. Defining the Project in the Case of the Games Company

3.4 Encouraging Contributions

We define *encouraging contributions* as the phase when the focal entity stimulates crowd members to become involved in value contributions. In practice, the more crowd members that make contributions, the higher the possibility that the focal firm will get high-quality deliverables. Therefore, the focal entity usually attempts to motivate crowd members' willingness to participate. In the case of the Games Company, the focal firm investigated

pricing strategies of similar projects online and offered relatively competitive rewards. Moreover, the platform offered two options when initiating a project online. By ticking the first option, the focal firm was allowed to withdraw promised rewards if no satisfying deliverable was collected. By selecting the second option, the focal firm must issue the promised rewards even if there were no satisfying deliverables. To ensure crowd members' willingness to take part, the second option was selected.



Figure 37. Encouraging Contributions in the Case of the Games Company

3.5 Assessing Stakeholders

Assessing stakeholders is defined as the phase when the focal entity assesses available stakeholders according to certain criteria. In a tournament crowdsourcing project, the most common way to assess stakeholders is to evaluate their contributions. In the case of the Games Company, the focal firm collected 15 submissions from stakeholders. Each submission was reviewed by three members of the project management team. Team members, who are all experienced and professional Takagism game designers, identified the potential value of each game design.

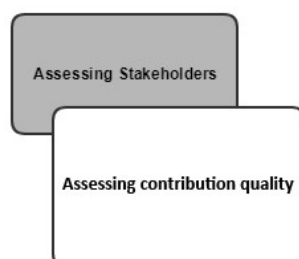


Figure 38. Assessing Stakeholders in the Case of the Games Company

3.6 Selecting Stakeholders

We use the term *selecting stakeholders* to refer to the phase when the focal entity selects the most suitable stakeholders, and completes the remaining value creation activities with them. In the case of the Games Company, the assessment of stakeholders was the key reference for the selection of stakeholders. The project management team members made a team decision and selected three outstanding stakeholders as winners. Moreover, two of the winners were picked out since their contributions were perceived promising for further development. The focal firm then engaged with the selected stakeholders and co-developed game designs.

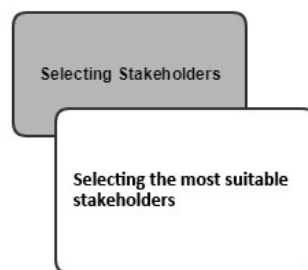


Figure 39. Selecting Stakeholders in the Case of the Games Company

3.7 Achieving Business Goals

Through examining the crowdsourcing process with the focus of finding the right crowd in the case of the Games Company, we were able to see how the focal firm accessed and selected the right crowd to achieve its business goals step by step. Based on our investigations, the focal firm selected three outstanding game designs from stakeholders and further developed two promising designs with selected stakeholders. The focal firm confirmed that business goals were achieved.

4. Selecting the Right Crowd in the Case of the Inspiration School

4.1 The Need to Find the Right Crowd

Tapping into external resources is a typical feature of crowdsourcing. The crowd, which consists of a large number of outsiders with diversified visions, knowledge and skills, could be an available source of solutions for the focal entity in order to deal with certain issues. In the case of the Inspiration School, the focal school sought creative course designs from the crowd and to gain access to talents for potential recruitment. There was the need to find stakeholders with outstanding contributions and, then, to nominate the most suitable stakeholders for recruitment. In analysing the crowdsourcing process with the focus of *finding the right crowd* in the case of the Inspiration School, we went through the case and identified six relevant phases. They are: *selecting the platform, defining the project, boosting awareness, encouraging contributions, assessing stakeholders and selecting stakeholders*.



Figure 40. Phases of Finding the Right Crowd in the Process of the Tournament Crowdsourcing Project Initiated by the Inspiration School

4.2 Selecting the Platform

We use *selecting the platform* as the phase when the focal entity decides where to crowdsource the project. In the case of the Inspiration school, the focal school chose to crowdsource the project on the platform where it had established an official account. The marketing director was familiar with the features of the platform, and had abundant experience of managing marketing practices and customer relationships on it. Services and technical supports of the platform were perceived suitable for initiating the project. Moreover, the focal school indicated that accumulated followers were critical resources that could be leveraged. Existing followers were expected to play active roles in participating in the project.

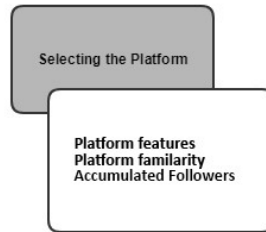


Figure 41. Selecting the Platform in the Case of the Inspiration School

4.3 Defining the Project

Defining the project refers to the phase when the focal entity clarifies project specifications to crowd members. The major purposes associated with this phase include explaining project details and generating awareness among the crowd. According to our investigation into the case of the Inspiration School, the focal school created two versions of advertisements. A concise version with beautiful graphic designs was used for attracting crowd members' attention, whilst a comprehensive version with detailed specifications was used to explain the project. Project specifications were arranged in a reader-friendly way, which specified the project name, the organization's profile, deliverable requirements, the schedule, rewards, the privacy and intellectual property protection, the recruitment information and contact details.

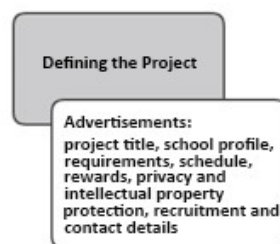


Figure 42. Defining the Project in the Case of the Inspiration School

4.4 Boosting Awareness

Boosting awareness is the term used for the phase when the focal entity attempts to raise awareness among the crowd. The fundamental purpose of this phase is to get more crowd members aware of the project. In the case of the Inspiration School, the focal school initiated the project through releasing advertisements via multiple channels, including the organization's social media accounts, personal social media accounts, and offline advertising approaches (e.g. bus-stop advertisements, brochures and posters). Moreover, reposting was seen as a cost-effective way of dissemination. The focal school, therefore, purposefully communicated with crowd members during the early stage of the project in order to facilitate reposting. It was also found that the focal school regularly posted new contents about the project via their organization's social media accounts. That was to refresh the project, letting crowd members know that the project was ongoing.



Figure 43. Boosting Awareness in the Case of the Inspiration School

4.5 Encouraging Contributions

We define *encouraging contributions* as the phase when the focal entity stimulates crowd members to become involved in value creation. In essence, during this phase, the focal entity facilitates crowd members' willingness to participate. In the case of the Inspiration School, the focal school endeavoured to motivate crowd members through offering appealing rewards and potential recruitment opportunities. According to the focal school, their rewarding strategy was perceived good enough.

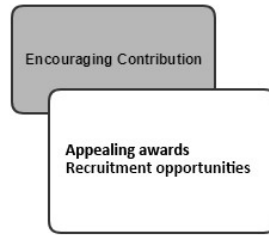


Figure 44. Encouraging Contributions in the Case of the Inspiration School

4.6 Assessing Stakeholders

Assessing stakeholders refers to the phase when the focal entity assesses available stakeholders according to certain criteria. The focal entity usually acts as the gatekeeper, assessing stakeholders by examining their contributions. Crowd members are sometimes also involved in the assessment. Assessing stakeholders in the case of the Inspiration School is such a case which involved both the focal school and crowd members. The focal school firstly conducted two rounds of assessments and selected nine outstanding course designs from 82 submissions. Then an online crowd voting was initiated. Crowd members were encouraged to vote for their favourite course designs from nine selected designs. Results of the crowd voting decided the winners of the competition. In fact, the internal assessment was more important, since it directly related to selecting the right crowd. During this phase, the focal school picked out good course designs and nominated potential talents for recruitment. The major purpose of the online crowd voting was actually marketing.

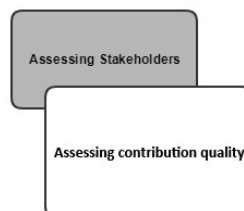


Figure 45. Assessing Stakeholders in the Case of the Inspiration School

4.7 Selecting Stakeholders

Selecting stakeholders is the phase when the focal entity selects the most suitable stakeholders, and completes the remaining value creation activities with them. In the case of the Inspiration School, the focal school selected five stakeholders whose contributions were perceived outstanding. Recruitment invitations were sent to them, and three replied with positive answers.



Figure 46. Selecting Stakeholders in the Case of the Inspiration School

4.8 Achieving Business Goals

Through examining the phases of finding the right crowd in the crowdsourcing process, we were able to understand how the Inspiration School accessed the crowd, picked out the most suitable stakeholders from crowd members, and achieved business goals. The focal school confirmed that all its proposed business goals were achieved. The tournament crowdsourcing project was, therefore, successful.

CHAPTER 9 CROSS-CASE ANALYSIS AND DISCUSSION PART 1

THE PROCESS OF TOURNAMENT CROWDSOURCING: THE VALUE CO-CREATION PERSPECTIVE

1. Introduction

In this chapter, we present and discuss the cross-case analysis of the studied cases. We compare the similarities and differences of the crowdsourcing process through the lens of *value co-creation*. Based on the cross-case analysis, we develop the framework: “The process of tournament crowdsourcing: the value co-creation perspective”. Then, we investigate value co-creation during the process of tournament crowdsourcing. Theoretical contributions are discussed by relating the findings to the literature review.

2. Similarities and Differences Between the Investigated Cases

2.1 Phases Captured in the Crowdsourcing Process

Firstly, we compare the similarities and differences of the captured phases of the crowdsourcing process (see Table 44). In many ways the three investigated cases are similar. *Value estimation*, *value clarification*, *value contribution*, *value assessment*, *value extension*, and *value recognition* were captured in all three studied cases. *Value temptation* was captured in the cases of the Education Advisory and the Inspiration School; however, it was not captured in the case of the Games Company. Unlike the other two cases, the crowdsourcing project of the Games Company did not have any marketing related business purpose. Nor did we capture any actual practices relevant to value temptation.

	EDUCATION ADVISORY	GAMES COMPANY	INSPIRATION SCHOOL
Value Estimation	✓	✓	✓
Value Clarification	✓	✓	✓
Value Temptation	✓		✓
Value Contribution	✓	✓	✓
Value Assessment	✓	✓	✓
Value Excavation	✓		
Value Extension	✓	✓	✓
Value Recognition	✓	✓	✓

**Table 44. Similarities and Differences of the Captured Phases
in the Processes of Studied Tournament Crowdsourcing Projects**

The unique phase is *value excavation*. It was captured only in the case of the Education Advisory. In fact, value excavation was an extension of value assessment. The Education Advisory expected to conduct consumer research and, therefore, conducted further statistical analysis to excavate deeper value with its own capabilities and resources. In comparison, the other two focal firms did not conduct similar in-house activities. Since it was unique to the Education Advisory, we do not regard value excavation as a commonly existing phase in the investigated cases. Instead, we regard it as an extension to value assessment.

2.2 Value Captured in the Crowdsourcing Process

In analysing value captured in the crowdsourcing process, we start with comparing *expected value* and *recognized value* (see Tables 45, 46 and 47. From the perspective of the focal firms, we found that *recognized value* was consistent with *expected value*. All the focal firms clearly envisioned specific benefits from their projects, and also then achieved their business goals. From the stakeholders' perspective, recognized value was different from expected value. In all three investigated cases, we discovered that some of the experience related recognized value (e.g. the experience of working on deliverables and the experience of participating in the project) was not precisely mentioned during value estimation (shaded in Tables 45, 46 and 47). In the stakeholders' statements of expected value, we found some value (e.g. self-interest, self-improvement and altruism) that might be relevant to experience related recognized value. However, such value was vaguely defined. We, therefore, conclude that stakeholders vaguely envisioned prospective benefits, and achieved more than expected.

Then, we analysed during which phases recognized value was achieved (see Table 48). From the perspective of the focal firms, we firstly distinguish between contribution-related and marketing-related recognized value (Table 49). Contribution-related recognized value was commonly achieved during value assessment (in all cases), and also value extension (the Games Company). Marketing-related recognized value was achieved during value temptation (the Education Advisory and the Inspiration School), value assessment (the Education Advisory), and value extension (the Inspiration School).

From the stakeholders' perspective, we distinguish between reward-related and experience-related recognized value (see Table 50). It can be seen that reward-related recognized value was achieved during value assessment (the Education Advisory and the Games Company) and value extension (the Games Company and the Inspiration School). Experience-related recognized value was achieved during value contribution (in all cases), value extension (in all cases), value assessment (the Education Advisory and the Games Company), and the whole crowdsourcing engagement (in all cases). It is worth mentioning that enjoyment of the experience of participating was not achieved solely during any single phase, but accumulated from the entire crowdsourcing engagement (all phases).

THE CASE OF THE EDUCATION ADVISORY		
	Expected value	Recognized value
The Focal Firm	Promoting brand awareness, expecting 3000-5000 webpage visits.	Brand awareness was well promoted.
	Conducting consumer research, expecting to collect at least 100 ideas from the first part and involve ten stakeholders in the second part of the project.	Conducted consumer research and gained sufficient valid information.
	Exploring online marketing, expecting 1000 participations and 100 follower increases.	Explored online marketing with good project indices.
Stakeholders	Winning rewards.	Winning rewards.
	Self-interest (perceived easiness, being familiar with project themes).	Enjoying the experience of participation.
		Acquired useful information.
		Established commitment to the focal firm.
Recognized value which was not precisely mentioned in expected value is shaded in this table.		

Table 45. Comparisons between Recognized Value and Expected Value in the Case of the Education Advisory

The Case of the Games Company		
	Expected value	Recognized value
The Focal Firm	Seeking inspiration from the crowd.	Gained inspiration from reviewing deliverables and co-working.
	Collecting two promising game designs from the crowd.	Collected two promising game designs.
	Further developing promising game designs.	Further developed and accomplished two game designs with selected stakeholders.
Stakeholders	Winning rewards.	Winning rewards.
	Further cooperation opportunities, self-interest, self-improvement, learning, altruism.	Enjoyed the experience of co-working with the focal firm.
		Enjoyed the experience of working on deliverables.
		Enjoyed the experience of participating in the project.
Recognized value which was not precisely mentioned in expected value is shaded in this table.		

Table 46. Comparisons between Recognized Value and Expected Value in the Case of the Games Company

The Case of the Inspiration School		
	Expected value	Recognized value
The Focal School	Acquiring creative course designs, expecting ten good designs.	Acquired plenty of satisfactory designs.
	Finding talents for recruitment, expecting to nominate three to five talents.	Nominated five candidates for recruitment.
	Marketing purposes: expecting to accumulate at least 2000 votes.	Successful marketing.
Stakeholders	Winning rewards.	Winning rewards.
	Recruitment opportunities.	Got recruitment opportunities.
	Self-interest, altruism.	Enjoyed the experience of working on deliverables.
		Enjoyed the experience of participating in the project.
Recognized value which was not precisely mentioned in expected value is shaded in this table.		

Table 47. Comparisons between Recognized Value and Expected Value in the Case of the Inspiration School

THE CASE OF THE EDUCATION ADVISORY		
	The Focal Firm	Stakeholders
Value estimation		
Value clarification		
Value temptation	$v (M)$	
Value contribution		$v (E)$
Value assessment & Excavation	$v (C)$	
Value extension		$v (E)$
Value assessment & Excavation	$v (C,M)$	$v (A,E)$
Crowdsourcing Engagement		$v (E)$
THE CASE OF THE GAMES COMPANY		
	The Focal Firm	Stakeholders
Value estimation		
Value clarification		
Value contribution		$v (E)$
Value assessment	$v (C)$	$v (A,E)$
Value extension	$v (C)$	$v (A,E)$
Crowdsourcing Engagement		$v(E)$
THE CASE OF THE INSPIRATION SCHOOL		
	The Focal School	Stakeholders
Value estimation		
Value clarification		
Value temptation	$v (M)$	
Value contribution		$v (E)$
Value assessment	$v (C)$	
Value extension	$v (M)$	$v (A,E)$
Crowdsourcing Engagement		$v (E)$
M refers to marketing-related recognized value. C refers to contribution-related recognized value. E refers to experience-related recognized value. A refers to reward-related recognized value.		

**Table 48. Recognized Value Achieved during the Phases
of the Studied Tournament Crowdsourcing Projects**

RECOGNIZED VALUE PERCEIVED BY THE EDUCATION ADVISORY	
Contribution-related	Marketing-related
<ul style="list-style-type: none"> - Conducted consumer research, gaining sufficient valid information. 	<ul style="list-style-type: none"> - Brand awareness was well promoted. - Explored online marketing with good project indices.
RECOGNIZED VALUE PERCEIVED BY THE GAMES COMPANY	
Contribution-related	Marketing-related
<ul style="list-style-type: none"> - Gained inspiration from reviewing deliverables and co-working. - Collected two promising game designs. - Further developed and accomplished two game designs with selected stakeholders. 	
RECOGNIZED VALUE PERCEIVED BY THE INSPIRATION SCHOOL	
Contribution-related	Marketing-related
<ul style="list-style-type: none"> - Acquired plenty of good designs. - Nominated five candidates for recruitment. 	<ul style="list-style-type: none"> - Successful marketing.

Table 49. Contribution- and Marketing-related Recognized Value of the Focal Firms in Studied Cases

RECOGNIZED VALUE PERCEIVED BY THE STAKEHOLDERS IN THE CASE OF THE EDUCATION ADVISORY	
Reward-related	Experience-related
<ul style="list-style-type: none"> - Winning rewards. 	<ul style="list-style-type: none"> - Enjoying the experience of participating. - Acquired useful information. - Established commitment to the focal firm.
RECOGNIZED VALUE PERCEIVED BY THE STAKEHOLDERS IN THE CASE OF THE GAMES COMPANY	
Reward-related	Experience-related
<ul style="list-style-type: none"> - Winning rewards. 	<ul style="list-style-type: none"> - Enjoyed the experience of co-working. - Enjoyed the experience of working on deliverables. - Enjoyed the experience of participating in the project.
Recognized Value Perceived by the Stakeholders in the Case of the Inspiration School	
Reward-related	Experience-related
<ul style="list-style-type: none"> - Winning rewards. - Got recruitment opportunities. 	<ul style="list-style-type: none"> - Enjoyed the experience of working on deliverables. - Enjoyed the experience of participating in the project.

Table 50. Experience- and Reward-related Recognized Value of the Stakeholders in Studied Cases

2.3 Value Co-creation During the Crowdsourcing Engagement

We then compare value co-creation during the crowdsourcing engagement in studied cases (Table 51). It can be seen that value co-creation was captured in value extension in all three cases. In the case of the Education Advisory, we also captured value co-creation during value contribution and value temptation.

THE CASE OF THE EDUCATION ADVISORY	
THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Contribution	Value creation and co-creation.
Value Temptation	Value creation and co-creation.
Value Assessment and Value Excavation	Value creation.
Value Extension	Value co-creation.
Value Assessment and Value Excavation	Value creation.
THE CASE OF THE GAMES COMPANY	
THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Contribution	Value creation
Value Assessment	Value creation.
Value Extension	Value co-creation.
THE CASE OF THE INSPIRATION SCHOOL	
THE CROWDSOURCING ENGAGEMENT	VALUE CREATION/CO-CREATION
Value Clarification	Value creation.
Value Temptation	Value creation
Value Contribution	Value creation
Value Assessment	Value creation.
Value Assessment	Value creation
Value Extension	Value co-creation.

Table 51. Value Creation and Value Co-creation during the Crowdsourcing Engagement in Studied Cases

3. The Process of Tournament Crowdsourcing: the Value Co-creation Perspective

Based on the cross-case analysis of phases and value captured in the crowdsourcing process, we develop the process framework “The process of tournament crowdsourcing: the value co-creation perspective”. The framework takes the perspective of both the focal entity and the stakeholders, and reveals how a typical tournament crowdsourcing project unfolds along with the flow of value-generating phases. We identify seven phases, including: *value estimation*, *value contribution*, *value temptation*, *value assessment*, *value extension*, and *value recognition*. We also identify associated value, including *expected value*, *emerging value*, and *recognized value*.

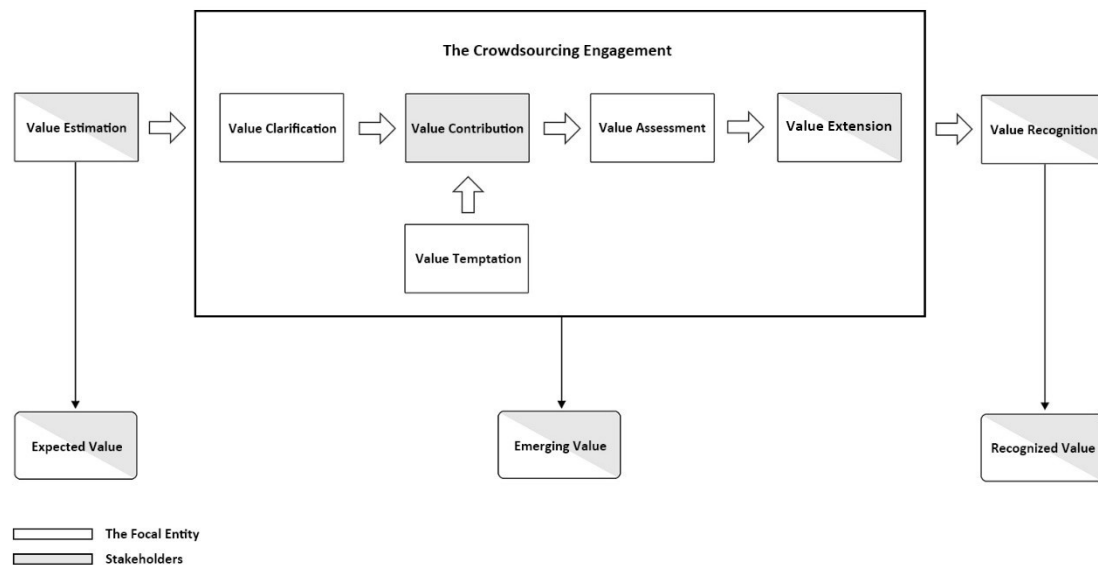


Figure 47. The Process of Tournament Crowdsourcing: the Value Co-creation Perspective

3.1 Value estimation

Value estimation refers to the phase when the focal entity and stakeholders estimate the prospective value prior to initiating or participating in the crowdsourcing project. Accordingly, *expected value* refers to prospective benefits and achievements estimated by the focal entity and the stakeholders prior to initiating or participating in the project. From the perspective of the focal entity, value estimation is the origin of a tournament crowdsourcing project. Essentially the focal entity considers why the project is needed and what is expected. From the perspective of the stakeholders, they also anticipate prospective benefits when they

become aware of the project, and then make the decision to participate or not.

3.2 The Crowdsourcing Engagement

The crowdsourcing engagement covers the phases when the focal entity and stakeholders actually become involved in the crowdsourcing project. As the project unfolds, both parties take part in multiple value-generating phases. We use the term *emerging value* to refer to benefits, achievements and positive experience perceived by the focal entity and the stakeholders during the crowdsourcing engagement.

Value Clarification

Value clarification is the phase when the focal entity clarifies details of the crowdsourcing project to the crowd. In essence, when initiating the project, the focal entity needs to specify *expected value* and other necessary information to help crowd members understand the project. While online crowdsourcing platforms might offer necessary supports, the focal entity has the key role of providing the right information to the crowd. The focal entity is likely to perceive governance-related *emerging value* during this phase.

Value Contribution

We use the term *value contribution* as the phase when the stakeholders attempt to create value for the focal entity. After reviewing the project specifications, crowd members gain an understanding of the project, and some of them (stakeholders) decide to take part. In a typical tournament crowdsourcing project, the nature of value contribution is competitive rather than collaborative. Stakeholders are required to provide outstanding solutions (e.g. designs and ideas) in order to be recognized by the focal entity. Value contribution normally requires time, resources and intellectual input. The major *emerging value* associated with this phase might be experience-related value perceived by the stakeholders.

Value Temptation

We use the term *value temptation* to refer to the phase when the focal entity attempts to get more crowd members involved in the project, and tempts existing stakeholders to become even more involved. This phase is basically about promoting project awareness and building relationships with existing stakeholders. In fact, value temptation and value contribution could be parallel phases. In a dynamic online environment, continuous value temptation is beneficial in order to keep the “heat” on the project. Effective practices for value temptation could translate into a larger number of stakeholders taking part, better solutions being offered, and closer relationships being formed. These are critical to facilitate the efficiency and effectiveness of later phases. Moreover, value temptation is usually supported by marketing practices. The focal entity is, therefore, able to achieve marketing-related *emerging value*.

Value Assessment

Value assessment refers to the phase when the focal entity assesses contributions delivered by the stakeholders. The focal entity as the gatekeeper collects the contributions from the stakeholders, reviews contributions, and picks out value from contributions. Sometimes, value assessment is followed by *value excavation*. As needed, the focal entity looks deeper for value through analysing the collected contributions. During these phases, the focal entity is able to achieve contribution-related *emerging value*. Some stakeholders might have the opportunity to win a rewards.

Value Extension

The term *value extension* is used to describe the phase when the focal entity further interacts with selected stakeholders, and becomes involved in intensive value creation. After assessing the contributions, the focal entity might be interested in specific stakeholders, particularly if certain attributes (e.g. attitude, experience, capability, resources, and the quality of contribution) are perceived appropriate to create additional value. Then, the focal entity and selected stakeholders co-work intensively to create value. During value extension, the focal entity is able to achieve additional contribution-related *emerging value*. The selected

stakeholders are able to achieve both rewards- and experience-related emerging value.

3.3 Value Recognition

We use the term *value recognition* for the phase when the focal entity and stakeholders summarize their major achievements after the crowdsourcing project is completed. *Recognized value*, therefore, describes the major achievements gained through the project as perceived by the focal entity and the stakeholders. Through investigating recognized value, we are able to find out which value is considered significant as the outcome of participation. By going through the flow of the phases in the crowdsourcing process and associated value, we are able to understand how recognized value is achieved as the project unfolds.

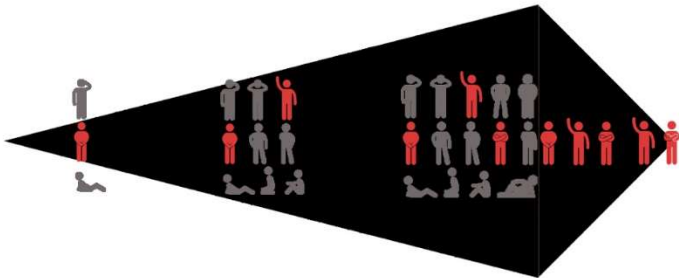
4. Value Co-creation during the Tournament Crowdsourcing Engagement

4.1 A Highly Uncertain and Dynamic Involvement of Crowd Members

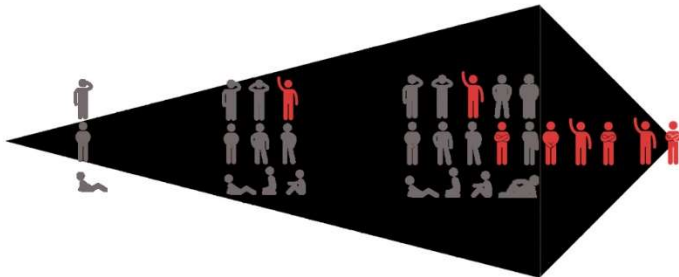
As we have discussed in Section 2.4 of Chapter 2, the involvement of external stakeholders is one of the key features of value co-creation. In the context of tournament crowdsourcing, the focal entity involves crowd members, and such involvement is highly uncertain and dynamic. Initially, the involvement of crowd members is highly uncertain. In studied cases, the focal entities were unable to accurately predict who would take part in the project, how many crowd members would be involved or if engaged crowd members would be qualified to deliver expected contributions. In addition, voluntary participation as one of the characteristics of tournament crowdsourcing might cause extra uncertainties. Since there were no contract or other formal controls that secures the engagement, an individual crowd member might quit at any time.

During the crowdsourcing engagement, the involvement of crowd members is highly dynamic. In Figure 48, we summarize the involvement of crowd members during the crowdsourcing engagement in studied cases. Overall, the patterns are similar. There were increasing trends during the first phases in three cases, indicating that there were more crowd members getting involved as crowdsourcing projects progressed. During the second phases, the involvement of crowd members sharply declined as only selected crowd members

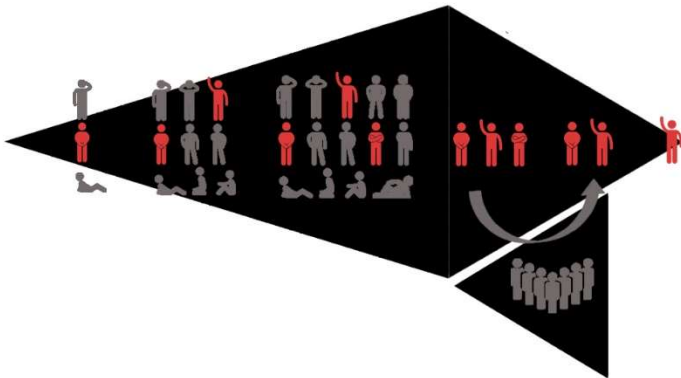
participated. It is worth mentioning that during the second phase in the case of the Inspiration School the focal school employed crowd voting to decide the winners of the tournament. This actually involved an additional crowd of voters.



The Case of the Education Advisory



The Case of the Games Company



The Case of the Inspiration School

**Figure 48. The Involvement of Crowd Members during the Crowdsourcing Engagement
in Studied Cases**

4.2 From Value Creation to Value Co-creation

In regard to our definition of value co-creation, we secondly consider about how value is created. In essence, co-creating value involves intensive interactions between the focal entity and stakeholders, and among stakeholders that generate value. It is highlighted that intensive interactions are active, bilateral/multilateral and continuous, marking the active roles of external stakeholders in involving the focal entity's business processes. This differs from value creation where the roles of stakeholders are passive. Interactions therefore are inactive and discontinuous, for example simple sell-buy transactions. According to our analysis of investigated cases, we found that in the context of tournament crowdsourcing value co-creation and value creation co-existed. In Section 2.3 of this chapter, we have summarized value creation and value co-creation during the crowdsourcing engagement. In all cases, we captured the co-existence of value creation and value co-creation.

It is also found that the crowdsourcing engagement is the process from value creation to value co-creation. In each case, the crowdsourcing engagement started with a series of value creating interactions/practices while value co-creation did not happen abruptly (Figure 49). Initially, the focal entities let crowd members know about their projects via information exchange (I). Then crowd members made decisions to participate or not and exchanged their physical and intellectual resources as contributions with the focal entities (II). The focal entities assessed contributions, and identified potential value (III). The platform and the focal entity collectively governed the crowdsourcing projects with formal controls (IV, e.g. business routines of the focal entities, policy and regulation of the platform). All the above interactions/practices were not intensive. Value captured relevant to these early interactions/practices therefore was created rather than co-created.

Value co-creation commonly happened during further interactions (V). The watershed was that the focal entities further interacted with selected crowd members. It signalled that crowd members took further steps from solely competing with other crowd members to collaborating with the focal entities. Actually the quality of crowd members' initial contributions hugely determined the focal entities' willingness to further interact. The focal

entities therefore selectively interacted with crowd members whom were believed with the highest potential to create desired value. Interactions between the focal entities and selected crowd members were much more intensive, involving active, bilateral and continuous information and resource exchange, learning, relationship building and collective governance. One interaction facilitated one another. In the case of the Education Advisory, the focal firm employed proactive communicating strategies to facilitate the active involvement of selected crowd members in collecting desired information; in the case of the Games Company, the focal firm co-worked with selected designers to co-create game designs; in the case of the Inspiration School, the focal school selected and recruited promising human resources.

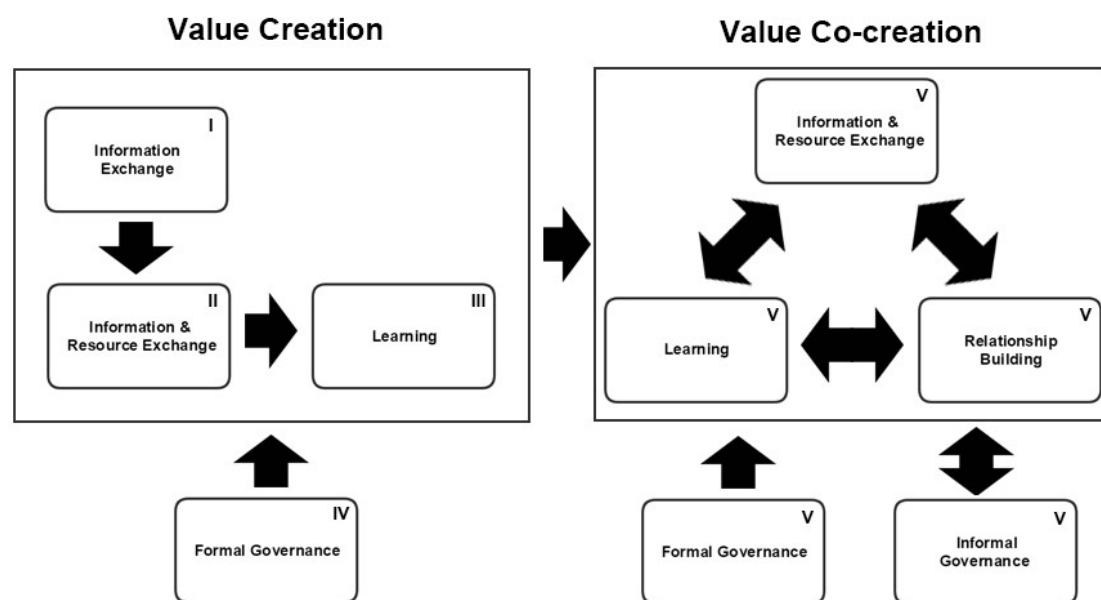


Figure 49. From Value Creation to Value Co-creation in Studied Cases

4.3 A Dynamic Value Stream

Along with the process of tournament crowdsourcing, there is a dynamic stream of expected, emerging and recognized value. From perspective of the focal entities, tournament crowdsourcing projects were initiated for knowledge intensive (all three cases) and marketing related (the cases of the Education Advisory and the Inspiration School) tasks. Expected value therefore was relevant to crowd members' contributions and the efficiency and effectiveness of marketing practices. Emerging value during the crowdsourcing engagement consisted of a variety of created and co-created value which were either relevant to facilitating the

achievement of expected value or achieving expected value. In all studied cases, the focal entities achieved their business purposes. Recognized value matched or exceeded expected value. Meanwhile, recognized value was created by the focal entities or crowd members and co-created by the focal entities and crowd members.

From perspective of crowd members, both extrinsic and intrinsic motivations facilitated their willingness of participation. During the crowdsourcing engagement, only a few crowd members won the rewards while a majority of crowd members received nothing from the reward pools. According to crowd members who intensively interacted with the focal entities, they perceived value created by the focal entities, the platforms, and other crowd members, and also co-created by the focal entities and themselves. Perceived emerging value enhanced their experience of participation. In terms of recognized value, winning rewards and intrinsic value associated with the experience of participation were both highly valued.

5. Contributions to the Literature

This section examines our contributions to the literature. We will further discuss the framework “The process of tournament crowdsourcing: the value co-creation perspective” in relation to the existing literature on crowdsourcing and value co-creation.

5.1 Contributions to the Literature on Crowdsourcing

In the first place, our findings contribute to the literature on tournament crowdsourcing through introducing a process view of the phenomenon with both perspective of the focal entity and the crowd. Scholars’ understanding of crowdsourcing is still in its incipient phase (Deng and Joshi, 2016). Some have suggested a research agenda of investigating the process of crowdsourcing (e.g. Chiu et al., 2014, Zhao and Zhu, 2014, Feller et al., 2012). With this in mind, we summarize previous research on crowdsourcing, and associate these papers with the process of tournament crowdsourcing as described in our research (Table 52). We classify the existing research papers into columns, indicating if research focuses of these papers are before, during or after the crowdsourcing engagement. We also distinguish the perspectives taken, whether the focal entity, the stakeholder or the platform.

Papers in the column “before the crowdsourcing engagement” are related to *value estimation* and *expected value* in our framework. Scholars have investigated acceptances and attitudes (e.g. Fayard et al., 2016, Gleasure, 2015), motivations (e.g. Lu et al., 2015a), and influential factors (e.g. Thuan et al., 2016) of engaging in crowdsourcing projects from the perspective of the focal entity. From the perspective of the stakeholder, existing papers have examined attitudes (e.g. Zheng et al., 2017) and motivations (e.g. Alam and Campbell, 2017, Leimeister et al., 2009, Deng and Joshi, 2016, Ye and Kankanhalli, 2017, Lu et al., 2015a, Heo and Toomey, 2016, Zheng et al., 2011, Sun et al., 2012). Existing literature supports our findings. In investigated cases, a common purpose for the focal entities to engage tournament crowdsourcing was to find solutions to knowledge-intensive tasks. In addition, tournament crowdsourcing was also used for marketing in two cases. From perspective of crowd members, both extrinsic and intrinsic motivations facilitated their willingness of participation.

In analysing “during the crowdsourcing engagement”, we attempt to associate the key findings of existing literature with value-generating phases as described in our research. From the perspective of the focal entity, researchers have studied multiple aspects related to *value assessment* and *value extension*, for example: collecting contributions (e.g. Steelman et al., 2014), assessing contributions (e.g. Blohm et al., 2016, Steelman et al., 2014), making effective use of contributions (e.g. Lukyanenko et al., 2014, Lukyanenko et al., 2017), selecting stakeholders (e.g. Gefen and Carmel, 2013), and organizational learning (e.g. Schlagwein and Bjørn-Andersen, 2014). In addition, Nevo and Kotlarsky (2014) and Dong and Wu (2015) investigated firms’ capabilities of managing crowdsourcing towards value realization, which is relevant to governance of the focal entity during the *crowdsourcing engagement*. Nevertheless, we found very limited papers that focus on investigating *value clarification* or *value temptation*. From the perspective of the stakeholder, existing literature has examined diversified aspects related to *value contribution* and *value extension*, for example: knowledge sharing (e.g. Majchrzak and Malhotra, 2016, Lu et al., 2015b), influential factors of crowd behaviour (e.g. Hutter et al., 2015, Deng et al., 2016, Shen et al., 2014), collaboration among stakeholders (e.g. Dissanayake et al., 2015), and influential factors of the crowd’s experience (e.g. Prestopnik and Tang, 2015, Orlikowski and Scott, 2015).

The focuses of a majority of the existing literature, which commonly examine particular areas during the crowdsourcing engagement, were also observable during our investigations. However, the research focus of this study is different as we investigated the process of tournament crowdsourcing. In the finding sections, we concluded value generating phases during the tournament crowdsourcing engagement by employing the lens of value co-creation. We explained the key purposes of each phase and further revealed the uncertain and dynamic involvement of the crowd, the process from value creation to co-creation, and the dynamic value stream during the tournament crowdsourcing engagement. These findings are the major contributions we make to the existing literature.

In the column of “after the crowdsourcing engagement”, we found very limited papers that have extensively discussed recognized value. Since scholars have not focused on investigating the process of tournament crowdsourcing, value analysis mostly examines expected value (e.g. Fayard et al., 2016, Alam and Campbell, 2017, Leimeister et al., 2009) and part of emerging value during the crowdsourcing engagement (e.g. Lukyanenko et al., 2014, Schlagwein and Bjørn-Andersen, 2014, Majchrzak and Malhotra, 2016). In our framework, recognized value addresses value perceptions after the crowdsourcing engagement. According to our findings, the focal entities were able to find solutions to knowledge-intensive problems and conduct marketing practices via tournament crowdsourcing. From crowd members’ perspective, both reward-related and experience-related value were recognized.

In addition to the perspective of the focal entity and stakeholders, some researchers have studied crowdsourcing platforms. There are mainly two streams of research. The first stream focuses on systems design for crowdsourcing platforms (e.g. Lukyanenko et al., 2017, Majchrzak and Malhotra, 2013, Orlikowski and Scott, 2015, Baba et al., 2014, Geiger and Schader, 2014, Costa et al., 2013, Blohm et al., 2016). The second stream focuses on governance of the platform in crowdsourcing activities (e.g. Bauer et al., 2016, Feller et al., 2012, Ren et al., 2014, Tarasov et al., 2014). In studied cases, platforms were not actively involved in interactions between the focal entity and the crowd or among the crowd. The focal entities chose platforms suitable for their tournament crowdsourcing projects. According to

existing literature, selected platforms employed crowd solving systems (Geiger and Schader, 2014) and technically enabled tournament crowdsourcing (Geiger and Schader, 2014, Lukyanenko et al., 2017, Blohm et al., 2016). Moreover, governance (e.g. instructions for usage, privacy and intellectual property protections) and value added services (e.g. promotion services and tools for statistical analysis) facilitated the success of investigated projects.

Our findings also reveal phenomena which have not been extensively discussed by existing literature. Firstly, contemporary platforms for crowdsourcing are employing multiple systems and mechanisms to cater to platform users' diversified needs. For example, in the case of the Inspiration School, selected platform not only offered crowd solving systems for competition but also crowd rating systems for crowd voting. In the case of the Games Company, the platform employed crowd solving systems but offer two mechanisms respectively for tournament crowdsourcing and micro-sourcing (the arbitrator model and the facilitator model, Section 6.1 of Chapter 5). Secondly, while governance of the platform may generate positive impacts on tournament crowdsourcing projects, there might be potential conflicts. The identity verification issue in the case of the Education Advisory (Section 5.2 of Chapter 4) is such an example. Although verifying user identity was perceived necessary and beneficial governance, the actual practices (limiting the information visibility without letting the focal entity know about it in advance) of the platform negatively influenced interactions between the focal entity and crowd members. In addition, a platform may tend to encourage onsite interactions so that it could maximize its benefits. However, the focal entities and crowd members may have the needs of offsite interactions, which may harm benefits of the platform. In regard to studied cases, especially during the later phases (particularly value extension), there were evident needs of offsite interactions. Such conflicts associated with the governance of the platform in tournament crowdsourcing can be an agenda for future research.

In conclusion, findings of this research firstly contribute to the literature on crowdsourcing by introducing a process view of tournament crowdsourcing. The framework "the process of tournament crowdsourcing: the value co-creation perspective" takes both perspective of the focal entity and the crowd, identifies value generating phases during the

crowdsourcing engagement, and examines value propositions before, during and after the crowdsourcing engagement. Secondly, findings of the research reveal the uncertain and dynamic involvement of crowd members, the process from value creation to co-creation, and the dynamic value stream along with the tournament crowdsourcing process. Thirdly, we also identify the combined employment of multiple systems and mechanisms by contemporary crowdsourcing platforms and potential conflicts related to governance of the platform between the platform and platform users (the focal entities and crowd members).

BEFORE THE CROWDSOURCING ENGAGEMENT	DURING THE CROWDSOURCING ENGAGEMENT	AFTER THE CROWDSOURCING ENGAGEMENT
The Focal Entity		
<ul style="list-style-type: none"> - Acceptance & attitude of employing crowdsourcing (Fayard et al., 2016, Gleasure, 2015). - Motivations of engaging crowdsourcing* (Lu et al., 2015a). - Factors that influence the decision of engaging crowdsourcing* (Thuan et al., 2016). 	<ul style="list-style-type: none"> - Selecting stakeholders (Gefen and Carmel, 2013). - Assessing contributions (Blohm et al., 2016, Steelman et al., 2014). - Making effective use of user generated contents* (Lukyanenko et al., 2014). - Harnessing user generated contents (Lukyanenko et al., 2017). - Organizational learning* (Schlagwein and Bjørn-Andersen, 2014). - Collecting contribution (Steelman et al., 2014). - Firms' capabilities to realize value* (Nevo and Kotlarsky, 2014, Dong and Wu, 2015). - Brand post popularity as a joint probability function of time and number of followers* (Zadeh and Sharda, 2014). 	<ul style="list-style-type: none"> - Impacts of OUIIC (online user innovation communities)-enabled capabilities on value creation* (Dong and Wu, 2015).

Table 52. Mapping Existing Literature on Crowdsourcing into the Crowdsourcing Process

Stakeholders		
<ul style="list-style-type: none"> - Revised loss aversion* (Zheng et al., 2017). - Motivations for participation* (Alam and Campbell, 2017, Leimeister et al., 2009, Deng and Joshi, 2016, Ye and Kankanhalli, 2017, Lu et al., 2015b, Heo and Toomey, 2016, Zheng et al., 2011, Sun et al., 2012). - Impacts of Machiavellian characteristics on incentives of participation (Hutter et al., 2015). 	<ul style="list-style-type: none"> - Knowledge sharing* (Majchrzak and Malhotra, 2016, Lu et al., 2015b) - Impacts of Machiavellian characteristics on crowd behaviour (Hutter et al., 2015). - Social impacts of the leader among the crowd (Dissanayake et al., 2015). - Characteristics of stakeholders, crowdsourcing jobs, and the crowd work environment collectively drive continuous participation (Deng et al., 2016). - Impacts of gamification approaches on crowd's experience of participation* (Prestopnik and Tang, 2015). - Impacts of relationship management on the crowd's behaviour (Shen et al., 2014). 	
The Platform		
<ul style="list-style-type: none"> - System design (Lukyanenko et al., 2017, Majchrzak and Malhotra, 2013, Orlikowski and Scott, 2015) - User-organized intellectual property regulation (Bauer et al., 2016). - Platforms as the value-added service providers (Feller et al., 2012). - Detecting improper tasks (Baba et al., 2014). - Strategically taking advantages of crowd contributions to improve accuracy of recommendation systems (Geiger and Schader, 2014). - Systems that influences the crowd's idea generation (Ren et al., 2014). - Assessing credibility of raters (Tarasov et al., 2014). - Strategically using crowd contributed information to improve classification algorithms (Costa et al., 2013). - Effective and efficient IT-based mechanisms for crowdsourcing (Blohm et al., 2016). - Norms-based IP systems (Bauer et al., 2016). 		
*Indicates that the research focus is relevant to value propositions.		

Table 52. Mapping Existing Literature on Crowdsourcing into the Crowdsourcing Process Continued

5.2 Contributions to the Literature on Value Co-creation

In consideration of the absence of a robust definition of value co-creation, this research firstly contribute to the literature on value co-creation by introducing a thorough definition. Based on previous studies, we identify the key components in defining value co-creation, including the involvement of external stakeholders, intensive interactions that generate value, and the dynamic value stream. On this basis, we conclude that value co-creation is the process where the focal entity involves external stakeholders in its previously in-house performed business processes and interacts intensively with each other to create a stream of value.

Secondly, our findings enrich the content of the most salient components in value co-creation. In Section 2.7 of Chapter 2, based on previous studies we summarize a conceptual taxonomy that identifies the key components in value co-creation (Figure 5). All the identified components were captured during the investigations into tournament crowdsourcing projects.

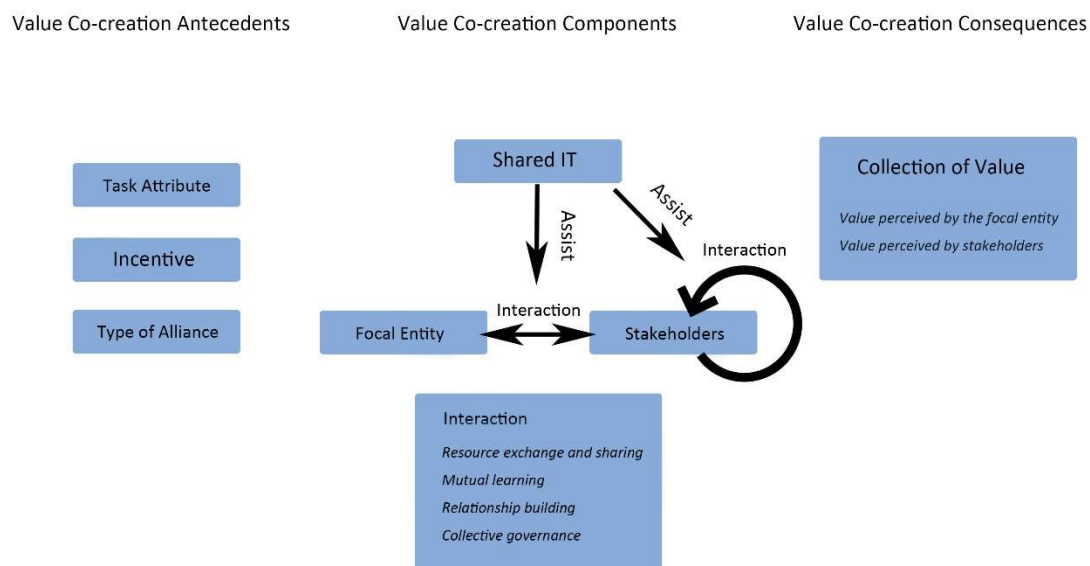


Figure 5. A Taxonomy of Value Co-creation

In addition, findings of this research bring in some new insights of value co-creation. With respect to value co-creation antecedents, the three investigated cases were in the same type of alliance: the focal firm and the crowd. Without exception, value co-creation settings involve multiple actors, and scholars distinguish between the initiator and participants (e.g. Sarker et

al., 2012, Kim et al., 2015, Hadaya and Cassivi, 2012). However, the existing literature on crowdsourcing commonly takes a single perspective (the focal entity, the stakeholder, or the platform) to investigate the phenomenon (e.g. Gefen and Carmel, 2013, Dissanayake et al., 2015, Baba et al., 2014). Recognizing the importance of involving the perspective from multiple social actors, we took both the perspective of the focal entity and the stakeholders to investigate value co-creation in the context of tournament crowdsourcing projects. We conclude that the involvement of crowd members in tournament crowdsourcing is highly uncertain and dynamic. This is different from inter-firm value co-creation where stakeholders are stable and collaboration is secured by contracts (e.g. Sarker et al., 2012, Grover and Kohli, 2012, Rai et al., 2012). Even papers, which investigate SNS context (e.g. Gnyawali et al., 2010, Füller et al., 2009, Chen et al., 2012), seldom discuss the distinct involvement of stakeholders. The unique involvement of stakeholders also reveals the important role of informal governance (e.g. mutual relationship) in securing the long-term and continuous participation of crowd members in tournament crowdsourcing. Another value co-creation antecedent task attributes were associated with knowledge-intensive and marketing-intensive tasks. We investigated and captured the incentives of the focal firms and stakeholders, which were interpreted as expected value during the phase of value estimation.

Value co-creation components consider about interactions between the focal entity and stakeholders, and among stakeholders. Similar with the literature on value co-creation (e.g. Kim et al., 2015, Chen et al., 2012, Luo et al., 2015), in analysing crowdsourcing engagement in each studied case, we captured diversified interactions including information and resource exchange, learning, relationship building and collective governance, and structured them into value-generating phases. As suggested by Grover and Kohli (2012), we take a further step to examine how value co-creation emerges during the crowdsourcing engagement. It is found that value co-creation does not happen abruptly. In studied cases, there was a series of value creating practices and interactions before intensive interactions. The proactive intervention of the focal entity could facilitate value co-creation and bring it forward (e.g. value temptation in the case of the Education Advisory). The crowdsourcing engagement therefore is the process from value creation to value co-creation.

In regard to value co-creation consequences, we identify the dynamic value stream. Our investigations examined value propositions from both perspective of the focal entities and stakeholders before, during and after the crowdsourcing engagements. There are respectively expected, emerging and recognized value along with the process of tournament crowdsourcing. The dynamic value stream supplements a new way to examine value propositions in value co-creation activities.

In conclusion, findings of this research firstly contribute to the literature on value co-creation by elaborating a thorough definition of value co-creation. Secondly, we conceptually and empirically enrich the most salient components in value co-creation. Thirdly, we bring in some new insights of value co-creation, including the uncertain and dynamic involvement of stakeholders, the process from value creation to value co-creation, and the dynamic value stream as a new way to examine value propositions in value co-creation activities.

CHAPTER 10 CROSS-CASE ANALYSIS PART TWO

FINDING THE RIGHT CROWD

1. Introduction

In this chapter, we take the perspective of the focal entity, and analyse finding the right stakeholders from the crowd (hereafter refers to “finding the right crowd”) in the process of crowdsourcing. We firstly compare similarities and differences between the three investigated cases. Then, we put forward and discuss the framework “Finding the right crowd in tournament crowdsourcing projects: the fish catching approach”.

2. Similarities and Differences Between the Investigated Cases

As shown in Table 53, we summarized the relevant phases to finding the right crowd and associated activities in the three studied cases, based on in-case analysis presented in Chapter 9. The table illustrates that, in many ways, the findings are similar. In all cases, we captured phases of *selecting the platform*, *defining the project*, *encouraging contribution*, *assessing stakeholders*, and *selecting stakeholders*. The only distinct phase is *boosting awareness*, which was not evident in the case of the Games Company but captured in the other two cases. As we explained previously, although the Games Company did not proactively take actions to promote its project, the selected crowdsourcing platform actually facilitated its dissemination. Moreover, the Games Company recognized the importance of boosting project awareness, and regarded it as an area for improvement. Taking this into account, *boosting awareness* can also be perceived as a commonly existing phase in the studied cases.

PHASES	EDUCATION ADVISORY	GAMES COMPANY	INSPIRATION SCHOOL
Selecting the Platform			
Crowd attributes.	√	√	√
Platform features.	√	√	√
Platform familiarity.	√	√	√
Accumulated followers.			√
Defining the Project			
Project specifications.	√	√	√
Boosting Awareness			
Promotions via private and organizational social media accounts.	√		√
Employing platform-sponsored promotions.	√		
Encouraging reposting.	√		√
Posting new contents.	√		√
Traditional advertisements.			√
Encouraging Contribution			
Appealing rewards/recruitment opportunities.	√	√	√
Enhancing the experience of participation.	√		
Proactive strategies for communication.	√		
Establishing relationships.	√		
Promising to issue rewards.		√	
Assessing Stakeholders			
Assessing the quality of contributions.	√	√	√
Assessing the attitude of stakeholders.	√		
Selecting Stakeholders			
Selecting the most suitable stakeholders.	√	√	√

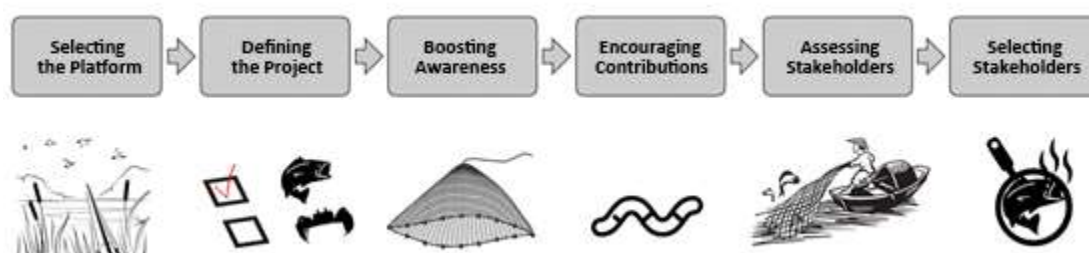
Table 53. Similarities and Differences of Finding the Right Crowd in Studied Cases

3. Finding the Right Crowd in Tournament Crowdsourcing Projects:

The Fish Catching Approach

In a typical tournament crowdsourcing project, the competitive environment is set to allow the focal entity to find the best contributors. As we empirically investigated the three tournament crowdsourcing projects, it was found that the focal firms faced challenges in finding the right stakeholders among the many participating stakeholders from the crowd. Based on the cross-case analysis, we put forward the framework “Finding the right crowd in tournament crowdsourcing projects: the fish-catching approach” (see Figure 50). The metaphor “the fish catching approach” is used to explain how a focal entity finds the right

crowd members in the process of a typical tournament crowdsourcing project. In this metaphor, the need to find the right crowd is compared to the need to catch a tasty fish to cook for dinner. We identify six phases, including: *selecting the platform*, *defining the project*, *boosting awareness*, *encouraging contribution*, *assessing stakeholders*, and *selecting stakeholders*. These phases are respectively compared to *selecting the pond*, *clarifying which fish to catch*, *increasing the size of the net*, *tempting with proper baits*, *drawing the net and filtering the caught fish*, and *selecting the best fish to cook*.



**Figure 50. Finding the Right Crowd in Tournament Crowdsourcing Projects:
the Fish Catching Approach**

3.1 Selecting the Platform

Selecting the platform refers to the phase when the focal entity decides where to crowdsource the project. This is similar to choosing the right pond before going fishing. The right pond should have the desired fish (e.g. the size and characteristics of the crowd) with proper infrastructure (e.g. platform credibility, technical support, and governance). Meanwhile, the fisherman's familiarity with the pond (e.g. past experience) and fish (e.g. accumulated followers) might also be crucial factors in making the decision.

3.2 Defining the Project

We use the term *defining the project* for the phase when the focal entity clarifies project specifications to crowd members. During this phase, the focal entity initiates the project to attract the attention of the crowd and specifies its requirements. At the same time as clarifying the project, it is also important for the focal entity to be clear about the characteristics of the

stakeholders that are essential to meet specified requirements. The accuracy of project specifications influences crowd members' understanding of the project. Using the metaphor for this phase, the fisherman publicly clarifies the particular species of fish he desires to catch.

3.3 Boosting Awareness

Boosting awareness is the phase when the focal entity attempts to raise awareness among the crowd. During this phase, (using the metaphor) the fisherman maximizes the size of the net, aiming at reaching a wider range to increase the possibility of catching the desired fish. In practice, there are multiple choices and combinations available for the focal entity to increase the size of the net: for example, taking advantage of promotions via social media accounts, platform-sponsored services, traditional ways of advertising, reposts of the crowd, and updating the project with new contents. As a tournament crowdsourcing project usually lasts for a period of time, diversified and continuous promotions might generate better effects.

3.4 Encouraging Contribution

We use the term *encouraging contribution* to refer to the phase when the focal entity stimulates crowd members to become involved in the project. We can compare this to casting baits to lure the fish. In the studied cases, we captured practical strategies, including: offering appealing and secure rewards, maintaining close relationships with selected crowd members, proactive communication strategies, and enhancing crowd members' experiences of participation.

3.5 Assessing Stakeholders

Assessing stakeholders refers to the phase when the focal entity assesses available stakeholders according to certain criteria. During this phase, the fisherman draws back the net and filters the caught fish. The focal entity, as the gatekeeper, assesses the quality of collected contributions. Relevant capabilities and the experience of the focal entity, therefore, plays a crucial role in influencing the efficiency and effectiveness of contribution assessment. At the same time, it is also possible to take advantage of the crowd as an additional source of contribution assessment; for example, the crowd voting in the case of the Inspiration School.

3.6 Selecting Stakeholders

Selecting stakeholders is the phase when the focal entity selects the most suitable stakeholders, and engages in additional intensive value-creation activities with them. Through assessing available stakeholders, the focal entity is able to identify the most suitable stakeholders and further co-create value with them. Selecting stakeholders is similar to picking out the best fish to cook.

4. Contributions to Literature

As we previously discussed, the existing literature on crowdsourcing has not extensively investigated the process involved in the phenomenon. Finding the right crowd is a crucial part of the process of tournament crowdsourcing, and it remains a research area with substantial potential. We found a limited amount of papers that examine this area.

In the existing literature, Gefen and Carmel (2013) empirically investigate the low trust culture in OSM (online sourcing market). Based on their findings, the buyer (the focal entity) prioritizes to select the provider (stakeholder) previously contracted with. In terms of the studied context, OSM investigated by Gefen and Carmel (2013) is similar to the facilitator model of crowdsourcing via broker (discussed in Section 1.4, Chapter 2). In essence, the focal entity selects stakeholders by judging their profiles (e.g. accumulated reputation, expertise and experience) and pricing (the value of the bid). In OSM, stakeholder selection is made prior to the deliverable submission. In comparison, tournament crowdsourcing is more similar to the arbitrator model of crowdsourcing via broker. The focal entity selects stakeholders mainly by judging the quality of deliverables. Stakeholder selection is made after the deliverable submission. The findings of Gefen and Carmel (2013), therefore, might not be applicable to tournament crowdsourcing. Nevertheless, the implication of trust formation is definitely meaningful in tournament crowdsourcing. In our framework, practices related to trust formation are identified during the phase of *encouraging contribution*; for example, maintaining relationships with selected crowd members, proactive communicating strategies, and enhancing crowd members' experiences of participation.

Additionally, we found some papers related to specific phases identified in our framework. In particular, scholars have investigated issues relating to the phase of *assessing stakeholders*; for example, contribution collection (Steelman et al., 2014), contribution assessment (Blohm et al., 2016, Steelman et al., 2014), and learning (Schlagwein and Bjørn-Andersen, 2014). However, on account of differences in the studied contexts, the findings of these papers have limited implications towards tournament crowdsourcing.

Taking into account the relative lack of research in this area in the existing literature on crowdsourcing, we make contributions by taking the perspective of the focal entity and identifying phases relevant to finding the right crowd in the process of the tournament crowdsourcing. We also identify relevant practices associated with each phase. We propose a future research agenda that focuses on investigating the phases we identified in our framework.

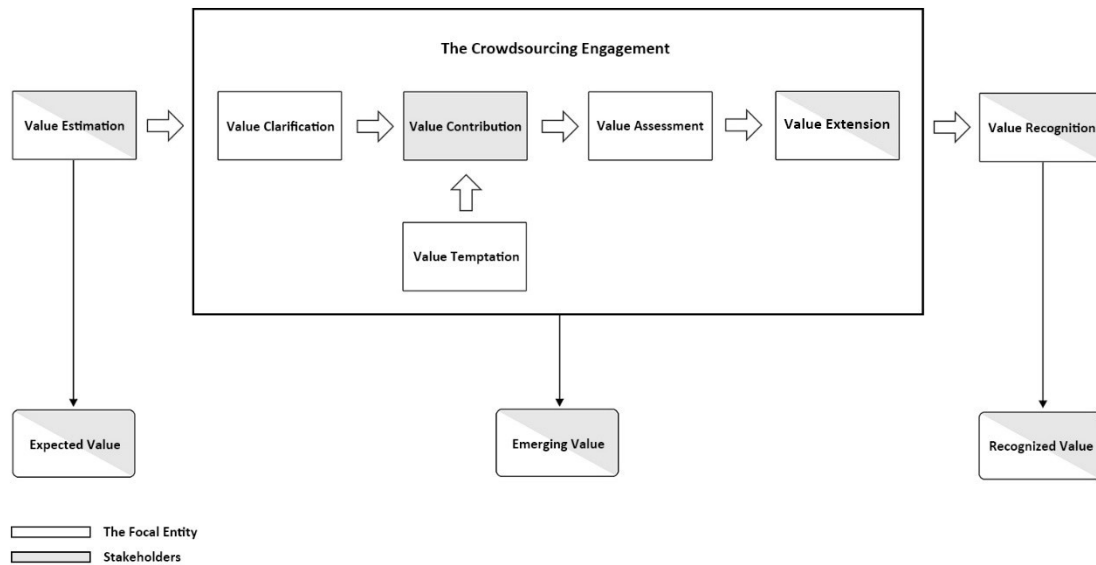
CHAPTER 11 CONCLUSION

1. Introduction

This chapter is the conclusion of this thesis. Section 2 presents the key findings of the research. In Sections 3 and 4, theoretical contributions and managerial implications are respectively summarized. Section 5 elaborates potential limitations. In Section 6, we propose suggestions for the future research.

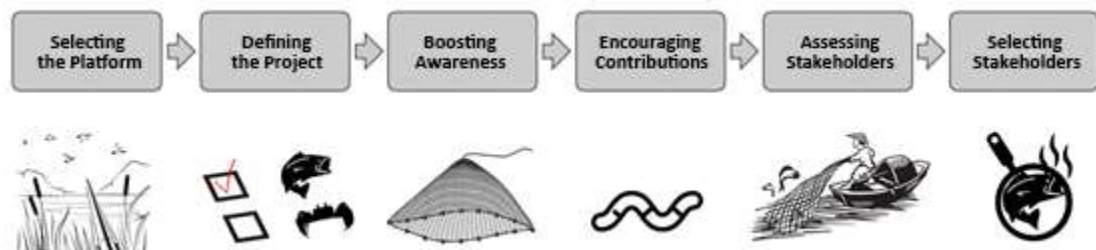
2. The Key Findings

In this research, we take the perspective of both the focal entity and stakeholders and employ the lens of value co-creation to study the process of tournament crowdsourcing. Through empirical investigations into three tournament crowdsourcing projects, we developed the process framework “The process of tournament crowdsourcing: the value co-creation perspective”. The process framework distinguishes the perspective of the focal entity and the stakeholder, identifies value-generating phases during the process of a tournament crowdsourcing engagement, and associates value propositions to identified phases (see Figure 45). Through further analysing captured interactions between the focal entities and stakeholders, and among stakeholders, we reveal the highly uncertain and dynamic involvement of the crowd, the process from value creation to value co-creation, and the dynamic value stream during the tournament crowdsourcing engagement. Moreover, by investigating the systems for tournament crowdsourcing, we identify the combined employment of multiple systems and mechanisms by contemporary crowdsourcing platforms and potential conflicts related to platform governance between the platform and platform users.



**Figure 47. The Process of Tournament Crowdsourcing:
the Value Co-Creation Perspective**

In addition, we also analyse how the focal firm finds the right stakeholders from the crowd during the process of tournament crowdsourcing. Based on our analysis, we put forward the framework “Finding the right crowd in tournament crowdsourcing projects: the fish catching approach”. This framework takes the perspective of the focal entity and identifies the relevant phases (see Figure 46) during the process of tournament crowdsourcing. We then use the metaphor “the fish catching approach” to explain the framework.



**Figure 50. Finding the Right Crowd in Tournament Crowdsourcing Projects:
the Fish Catching Approach**

3. Theoretical Contributions

Our research presented in this thesis has major theoretical contributions to two streams of literature. With regard to contributions to the literature on crowdsourcing, we firstly introduce the process framework which examines value-generating phases and value propositions from both the perspective of the focal entity and stakeholders during the process of tournament crowdsourcing. Secondly, we reveal the phenomenon of the dynamic involvement of the crowd, the process from value creation to value co-creation, and the dynamic value stream. Thirdly, we present the phenomenon of the usage of multiple systems and mechanisms for tournament crowdsourcing by contemporary platforms, and identify potential conflicts related to the platform governance. Fourthly, we put forward the framework which takes the perspective of the focal entity, and identifies phases relevant to finding the right crowd during the process of tournament crowdsourcing.

With respect to contributions to the value co-creation literature, firstly we thoroughly define value co-creation in consideration of the involvement of stakeholders, intensive interactions that generate value and a dynamic value stream. Secondly, findings of this research conceptually and empirically enrich the most salient components in value co-creation. Thirdly, we bring in new insights into the value co-creation phenomenon, including the uncertain and dynamic involvement of stakeholders in the context of tournament crowdsourcing, the process from value creation to value co-creation during the tournament crowdsourcing engagement, and the dynamic value stream as a new way to examine value propositions in analysing value co-creation activities.

4. Managerial Implications

Findings of this research have much relevance to management practice. Crowdsourcing, which offers new ways of conducting business activities, has been increasingly of interest to managers. Generating a thorough understanding of interactions and value propositions from multiple perspectives during the process of tournament crowdsourcing is meaningful for managers. In practical terms, this could facilitate the development of suitable strategies, better decision-making, and the execution of effective managerial practices. As suggested by our

findings, dependent on practical business purposes practitioners could combine multiple systems and mechanisms to initiate tournament crowdsourcing projects. Moreover, the proactive involvement of the focal entity could greatly facilitate the participation of crowd members and encourage better solutions. This however may consume extra resources and cause the risk of information overload. In addition, both the project owner and the platform owner should be vigilant to potential conflicts caused by formal governance. The platform owner should detect and come up with proper solutions to deal with this.

In addition, finding the right crowd in a tournament crowdsourcing project is a crucial concern in practice. Our framework identifies a series of phases and associated activities in the process. These are explained by using the metaphor of “the fish catching approach”, and could be a useful tool for practical management. Through analysing relevant phases, managers would be able to focus on the right phases and activities, invest the right resources, and carry out the right actions at the right time to the right crowd members.

5. Limitations

There are concerns about subjectivity and limitations of generalizability, as this research employed a qualitative design. For example, collected data (especially value propositions) were based on the perceptions of interviewees to a great extent, which might be subjective. To mitigate subjectivity, we followed a set of principles for conducting and evaluating interpretive field studies in information systems (Klein and Myers, 1999) when conducting the data collection and analysis. In each case, we collected data from multiple members of the focal firm and multiple stakeholders from the crowd. In addition, we collected multiple sources of data as evidence, for example, direct observation, documentation and interviews. When conducting the data analysis, we employed the three-order in-case strategy (Gioia et al., 2013) to analyse each case. With respect to the concern about limitations of generalizability, we employed multiple-case designs as suggested by Yin (2013).

Furthermore, in each case, we selected the key stakeholders to represent the perspective of the stakeholders. The key stakeholders had more abundant experience than the rest of the stakeholders, as they took part in both the first and the second part of the project, interacted with the focal firm, and won rewards. However, the stakeholders actually included all the crowd members who took part in the project, including those crowd members who reposted, who submitted deliverables but failed to win rewards, and who won the random draw. Although these stakeholders generated relatively limited influence, including their perspective could have enriched our findings.

Finally, in each studied case, apart from the focal firm and the crowd, there was the platform. Due to limitations in accessibility, resources and time, we did not directly collect data from the perspective of the platform, but indirectly accessed it from the focal firm and the crowd. Therefore, we did not include value propositions from the perspective of the platform. This research could benefit from including the perspective of the platform.

6. Suggestions for the Future Research

Conclusions of this research provide insights into value co-creation in the process of tournament crowdsourcing, which could be further studied in future research. We propose the following research agenda in the IS discipline. In the first place, we suggest supplementing the perspective of the platform. It is worth investigating the role of the platform, its contributions to value co-creation, and potential conflicts with platform users during the process of tournament crowdsourcing.

Secondly, we propose a future research agenda of studying value co-creation in the process of other types of crowdsourcing applications. The theoretical lens and designs of this research can be applicable to examine similarities and differences among different crowdsourcing applications. Conclusions could be compared to enrich the understanding of the crowdsourcing phenomenon.

Finally, we suggest future research investigating value co-creation in other contexts across the IS industry and examine the most salient components in value co-creation. This could bring in new insights into the value co-creation phenomenon.

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APPENDIX A

SELECTED PAPERS ON CROWDSOURCING BY LITERATURE SEARCH

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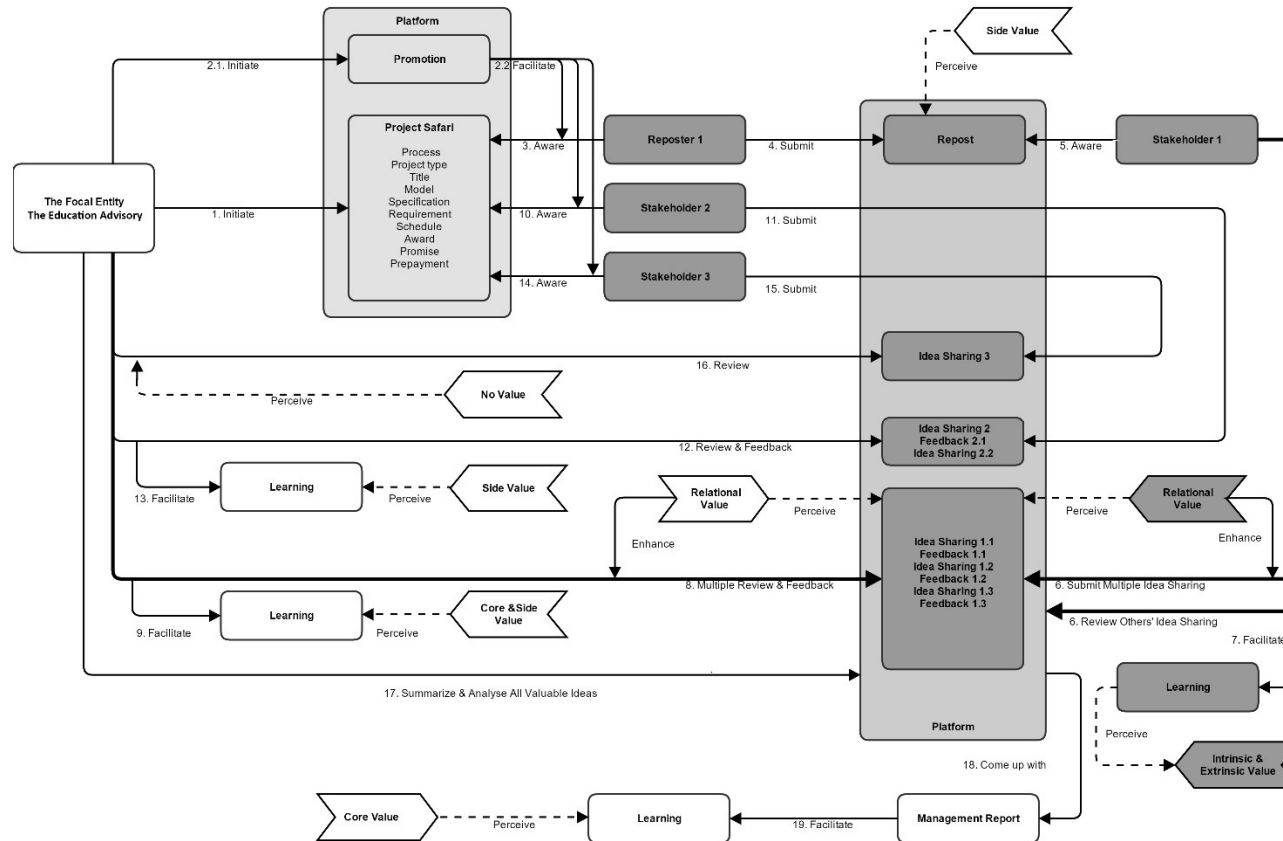
APPENDIX B

SELECTED LITERATURE ON VALUE CO-CREATION BY LITERATURE SEARCH

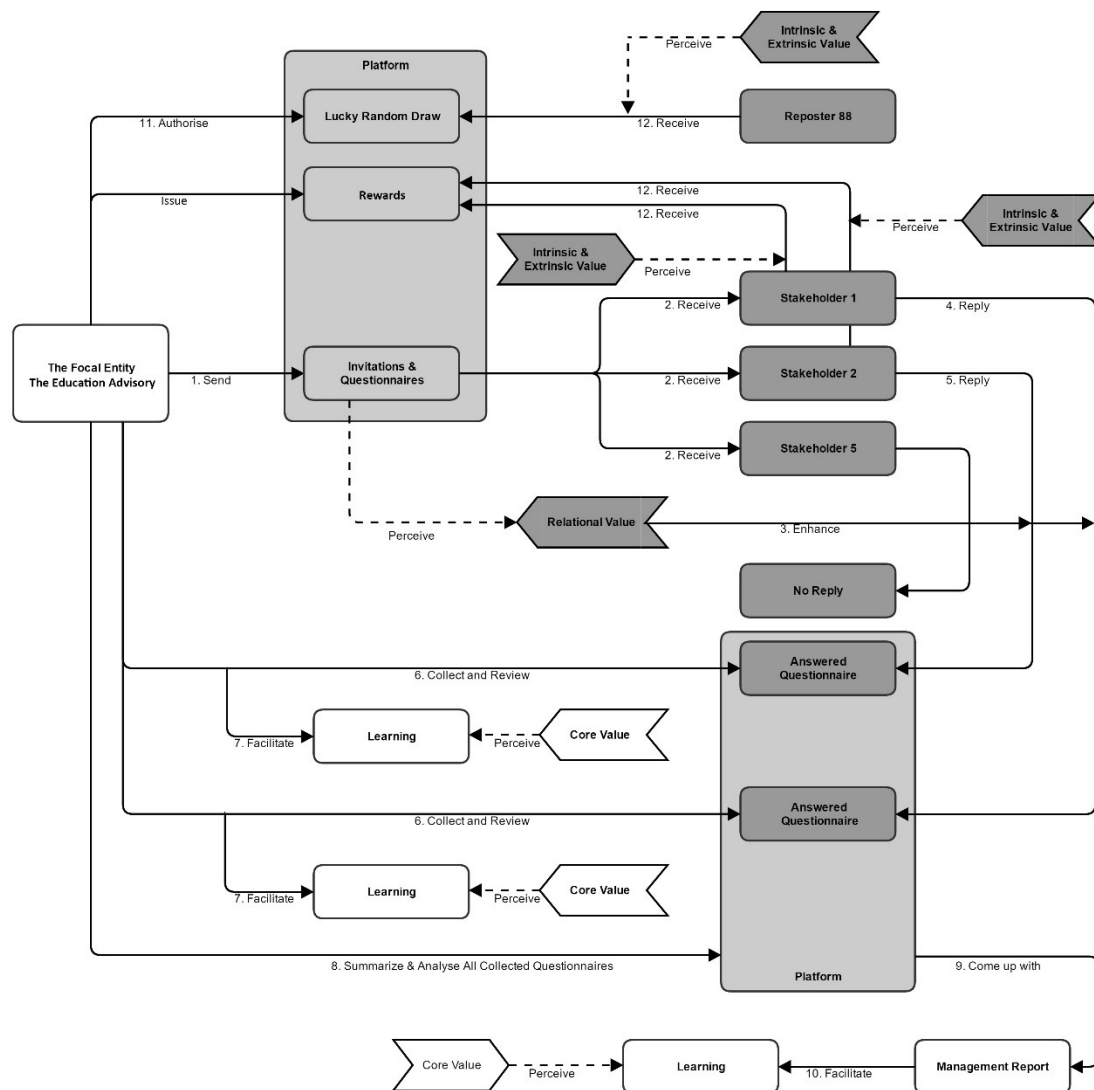
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THE FIRST ROUND DATA ANALYSIS OF THE CASE OF THE EDUCATION ADVISORY



The First Round Data Analysis of the Case of the Education Advisory: Events, Project Flow and Perceived Value (the First Part of the Project)



**The First Round Data Analysis of the Case of the Education Advisory:
Events, Project Flow and Perceived Value (the Second Part of the Project)**

EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE EDUCATION ADVISORY (PART I)			
No.	Step Description	Perceived Value The Focal Firm Perspective	Perceived Value The Stakeholders Perspective
1	Project Initiation. The focal firm initiated the project on the platform.	Value Enabled by Platform-Oriented Collective Governance. The online platform offered dedicated services in support of project initiation. The focal firm perceived usefulness and ease of use.	
2	Promotion. The focal firm promoted the project by using team members' personal social media accounts and platform-sponsored services.	Value Enabled by the Platform-Oriented Collective Governance. Promotions via personal social media accounts were perceived ineffective. Platform-offered promotion services were perceived effective in boosting project awareness. In essence, such promotion largely increased project exposure among the crowd.	
3	Crowd Awareness. Stakeholder 1 became aware of the project and reviewed project specifications.		Value Enabled by Resource Exchange and Sharing, Participation Motivations. The stakeholder gained an understanding of the project and decided to take part. The stakeholder was motivated by the reward and other intrinsic motivations.
4	Repost. Stakeholder 1 reposted project information.	Value Enabled by Resource Exchange and Sharing.	Expected Value Enabled by Expected Resource Exchange and Sharing.

		Reposts were seen as free advertisements, which could promote project awareness among the crowd.	The stakeholder expected to win the lucky random draw.
5	Crowd Awareness. Stakeholder 2 became aware of the project through reviewing a stakeholder's repost.		Value Enabled by Resource Exchange and Sharing and Platform-Oriented Collective Governance, Participation Motivations. The stakeholder gained an understanding of the project through reviewing project details. The project was perceived credible as it was governed by the platform, and rewards were perceived attractive. The stakeholder decided to take part in the project.
6, 7	Idea Sharing, Interaction, and Reviewing Others' Idea Sharing. Stakeholder 2 participated in the project through sharing multiple ideas and interacted with the focal firm. In addition, the stakeholder reviewed other stakeholders' ideas.		Value Enabled by Resource Exchange and Sharing, Learning, Relationship Building, and Platform-Oriented Collective Governance. The stakeholder gained a better understanding of the project and built a closer relationship with the focal firm. This in turn facilitated better interactions and enhanced the stakeholder's participation experience. Through reviewing other stakeholders' ideas, the stakeholder acquired extra information. This was perceived beneficial to improve personal

			knowledge and skills. The platform gave project updates and offered secure communication channels, which were perceived valuable to facilitate mutual interaction.
8	Idea Collection & Review, Interaction. The focal firm collected ideas, attempted to build a close relationship with the stakeholder through interaction, and inspired the stakeholder to share more information.	Value Enabled by Resource Exchange and Sharing, Relationship Building, and Platform-Oriented Collective Governance. The focal firm collected abundant information through resource exchange and sharing. A closer relationship facilitated better interactions and inspired provision of extra information. The platform was commended for offering useful tools and services in support of interaction.	
9	Learning. Through interaction, the focal firm got to know some mobile applications which they were not familiar with. Team members downloaded these applications and analysed them.	Value Enabled by Resource Exchange and Sharing and Learning. Through analysing mobile applications, the focal firm acquired new knowledge and gained better understanding towards users' preferences. It was perceived valuable, especially in terms of preparation of mobile phone application development.	
10	Crowd Awareness. Stakeholder 3 became aware of the project.		Value Enabled by Resource Exchange and Sharing and Platform-Oriented Collective Governance, Participation Motivations.

			The Stakeholder gained an understanding of the project through reviewing project details. The project was perceived credible as it was governed by the platform, and rewards were perceived attractive. The stakeholder decided to take part in the project.
11	Idea Sharing, Interaction. Stakeholder 3 participated in the project through sharing ideas and interacted with the focal firm.		Value Enabled by Resource Exchange and Sharing, Relationship Building, and Platform-Oriented Collective Governance. The stakeholder gained a better understanding towards the project and built a closer relationship with the focal firm. This in turn facilitated better interactions and enhanced the stakeholder's participation experience. The platform gave project updates and offered secure communication channels, which were perceived valuable to facilitate mutual interaction.
12	Idea Collection & Review, Interaction. The focal firm collected ideas, attempted to build a close relationship with the stakeholder through interaction, and inspired the stakeholder to share more information. However, interaction was influenced by regulations and practices of the platform. As the stakeholder's account was	Value Enabled by Resource Exchange and Sharing, Relationship Building, and Platform-Oriented Collective Governance. The focal firm collected some information through resource exchange and sharing and attempted to build a closer relationship with the stakeholder. However, the platform shut	

	not verified (through mobile phone or email), only the initial idea sharing was visible to the focal firm (the second reply was not visible to the focal firm). The focal firm was unable to further interact with the stakeholder.	down further interaction. The focal firm was unable to collect more information or build a closer relationship with the stakeholder. Regardless, the platform was commended for offering some useful tools and services in support of interactions.	
13	Learning. Through reviewing idea sharing, the focal firm got to know some mobile applications which they were unfamiliar with. Team members downloaded these applications and analysed them.	Value Enabled by Resource Exchange and Sharing, and Learning. Through analysing mobile applications, the focal firm acquired new knowledge and gained a better understanding of users' preferences. It was perceived valuable, especially in terms of preparing for the mobile phone application development.	
14	Crowd Awareness. Stakeholder 4 became aware of the project.		Value Enabled by Resource Exchange and Sharing and Platform-Oriented Collective Governance, Participation Motivations. The stakeholder gained an understanding of the project through reviewing project details. The project was perceived credible as it was governed by the platform, and rewards were perceived attractive. The stakeholder decided to take part in the project.
15	Idea Sharing. Stakeholder 4 participated in the project through		Value Enabled by Platform-Oriented Collective Governance.

	sharing ideas.		The platform offered secured communication channels and convenient tools for interaction, which were perceived valuable to facilitate mutual interaction.
16,	Idea Collection & Review. The focal firm collected and reviewed idea sharing. The idea was perceived irrelevant and, therefore, not valuable. The focal firm did not further interact with the stakeholder.	Value Enabled by Platform Oriented Collective Governance. The platform offered some useful tools and services.	
17, 18, 19	Summary & Analysis. The focal firm summarized and analysed all valid ideas, collected project indices online, classified stakeholders by quality of contribution and attitude of participation, and produced management reports.	Value Enabled by Resource Exchange and Sharing, Learning and Platform-Oriented Collective Governance. Through conducting statistical analysis, the focal firm produced fruitful reports. It gained a thorough understanding of consumers' opinions of online learning, their learning habits, and mobile phone application preferences. The platform offered toolkits and services which were perceived helpful in assisting in information collection and analysis.	

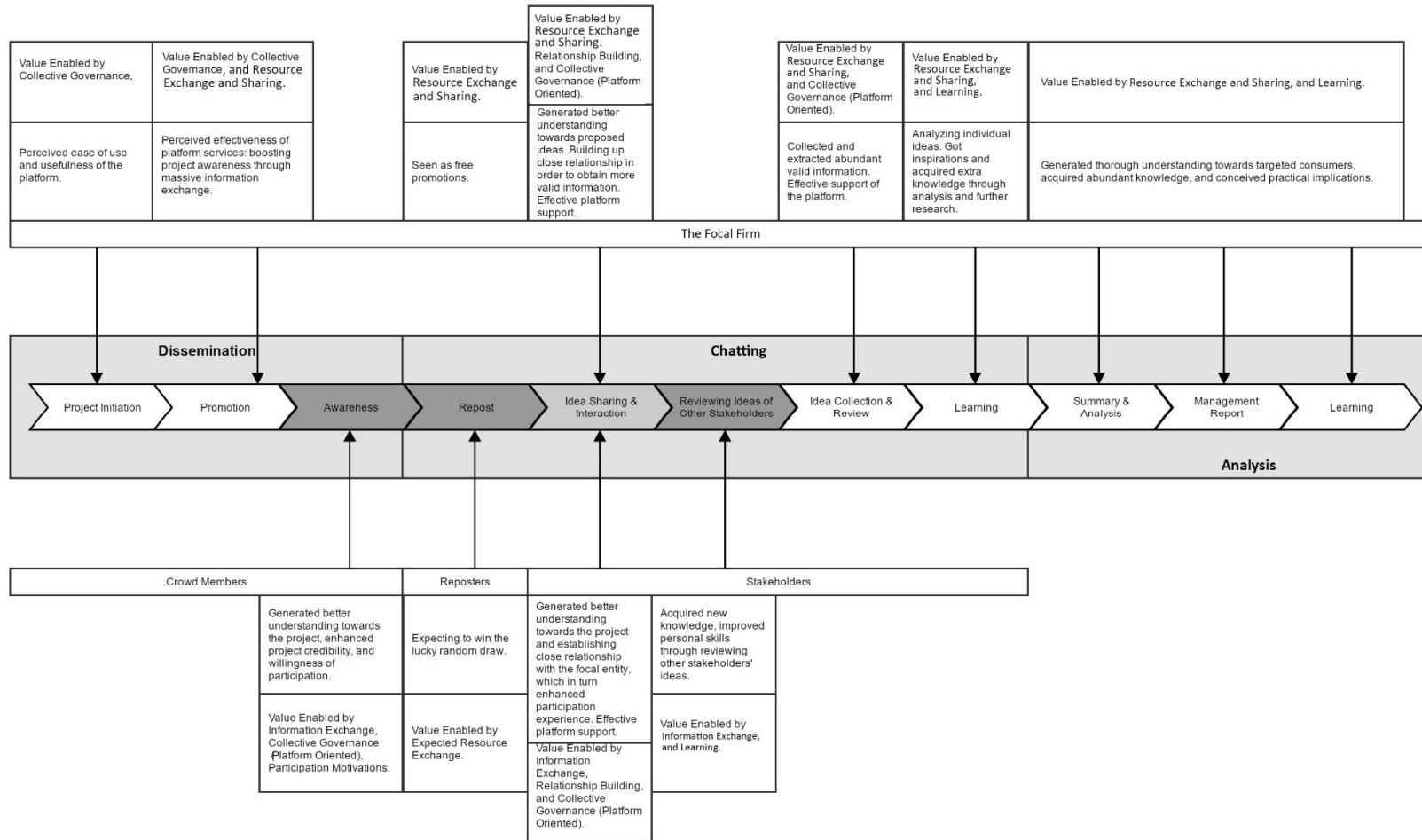
**The First Round Data Analysis of the Case of the Education Advisory:
Explanation of the Project Flow (the First Part of the Project)**

EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE EDUCATION ADVISORY (PART II)			
NO.	Step Description	Perceived Value Focal Firm Perspective	Perceived Value Stakeholder Perspective
1	Sending Invitations & Questionnaires. Through analysing management reports produced in the first part of the project, the team prepared questionnaires. Invitations and questionnaires were sent to stakeholders marked Label I and Label II.	Value Enabled by Platform-Oriented Collective Governance. The online platform enabled the focal firm to gain access to stakeholders through secured private messages. Invitations and questionnaires were delivered to targeted stakeholders.	
2, 3	Receiving Invitations & Questionnaires. Stakeholders received invitations and questionnaires. They made their decisions to take part in the second part, or not.		Value Enabled by Resource Exchange and Sharing & Relationship Building, and Expected Resource Exchange. Stakeholders gained a better understanding of the project and expectations of the focal firm. Invitations were seen as signals of relationship building, which enhanced stakeholders' participation experience and motivated stakeholders to take part in the second part of the project. Moreover, stakeholders were motivated by winning rewards.
4, 5	Sending Back Answered Questionnaires. Stakeholders answered questionnaires and sent them back to the focal firm.		Value Enabled by Platform-Oriented Collective Governance. The platform offered secured private channels. Stakeholders perceived that their

			privacy and intellectual efforts were protected.
6, 7, 8, 9, 10	<p>Collecting & Analysing Answered Questionnaires.</p> <p>The focal firm collected and reviewed answered questionnaires, conducted statistical analysis, and produced management reports. Team members came together to discuss the management reports.</p>	<p>Value enabled by Resource Exchange and Sharing, Learning, Relationship Building, and Platform-Oriented Collective Governance.</p> <p>The focal firm collected the desired information through resource exchange and sharing. Through reviewing collected questionnaires, the focal firm concluded insightful implications, acquired new knowledge, and conducted further research by themselves. Team members also perceived enhanced relationship value, including close inter-personal relationships, mutual trust, and gratitude. The platform was commended for efficient and effective services.</p>	
11	<p>Issuing Promised rewards & Authorising Lucky Random Draw on WB.</p> <p>The focal firm rewarded all stakeholders who took part in the second part, and authorised the lucky random draw on the platform.</p>	<p>Value Enabled by Relationship Building and Platform-Oriented Collective Governance.</p> <p>The focal firm successfully accomplished the project. Team members perceived senses of gratitude, close inter-personal relationships, and trust towards all stakeholders. The rewarding was strictly guided by the platform with a compulsory schedule, strict</p>	

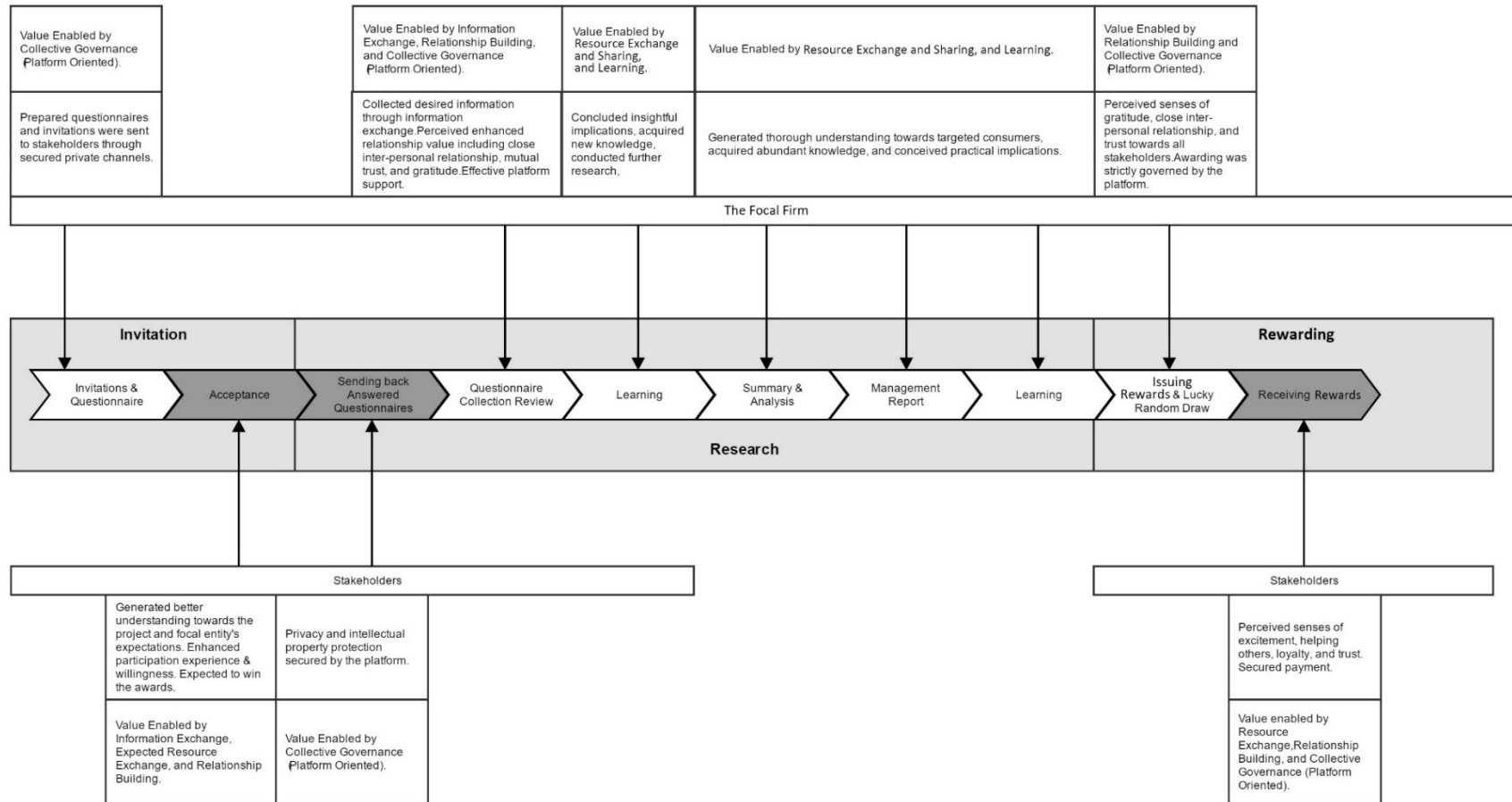
		regulations, and necessary guidelines.	
12	Receiving Rewards Stakeholders who took part in the second part of the project and lucky reposters received promised rewards from the focal firm.		Value Enabled by Resource Exchange and Sharing, Relationship Building, and Platform-Oriented Collective Governance. The key stakeholders perceived senses of excitement, helping others, loyalty, and trust, which were ascribed to winning rewards and enhanced relationships. The rewarding was strictly governed by the platform which was perceived fair and transparent.

**The First Round Data Analysis of the Case of the Education Advisory:
Explanation of the Project Flow (the Second Part of the Project)**



The First Round Data Analysis of the Case of the Education Advisory:

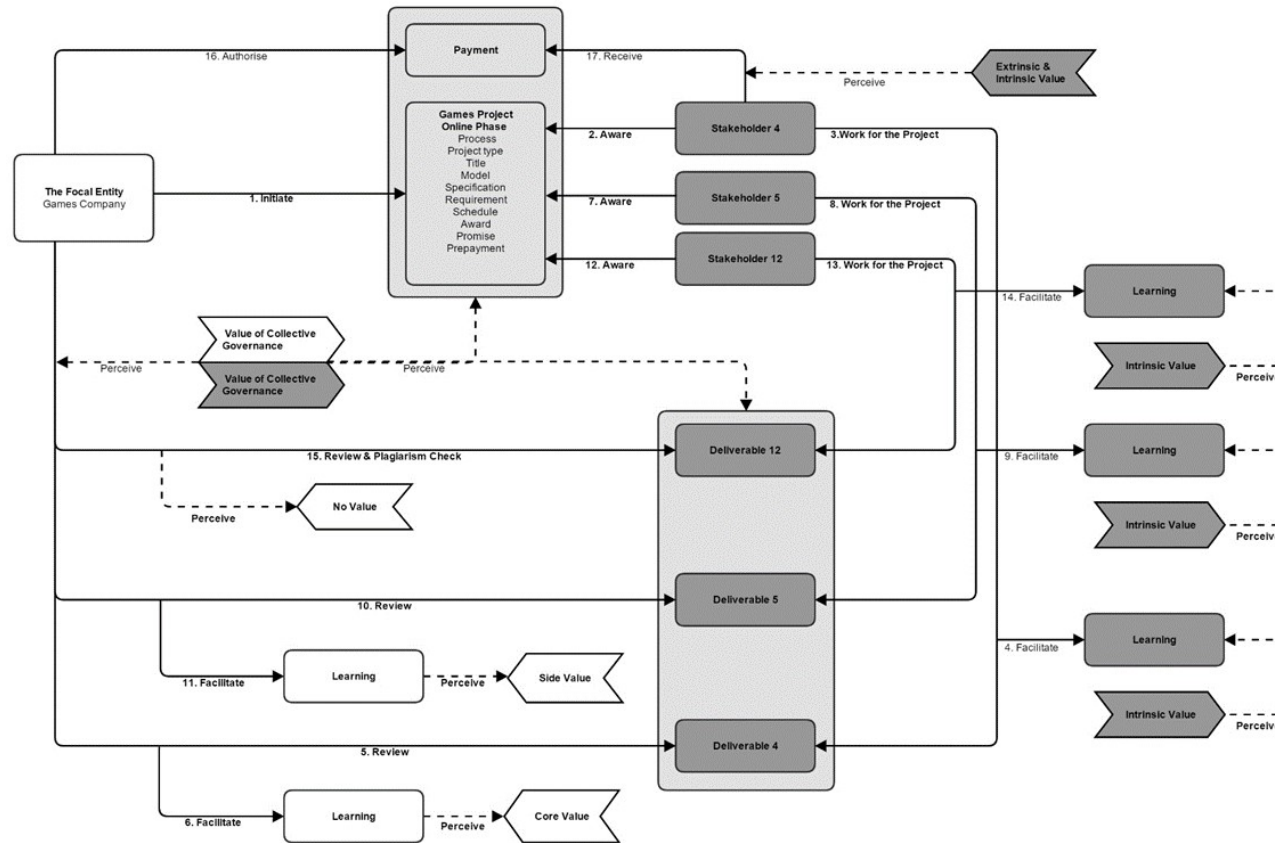
Visualizing Events, Project Flow and Perceived Value (the First Part of the Project)



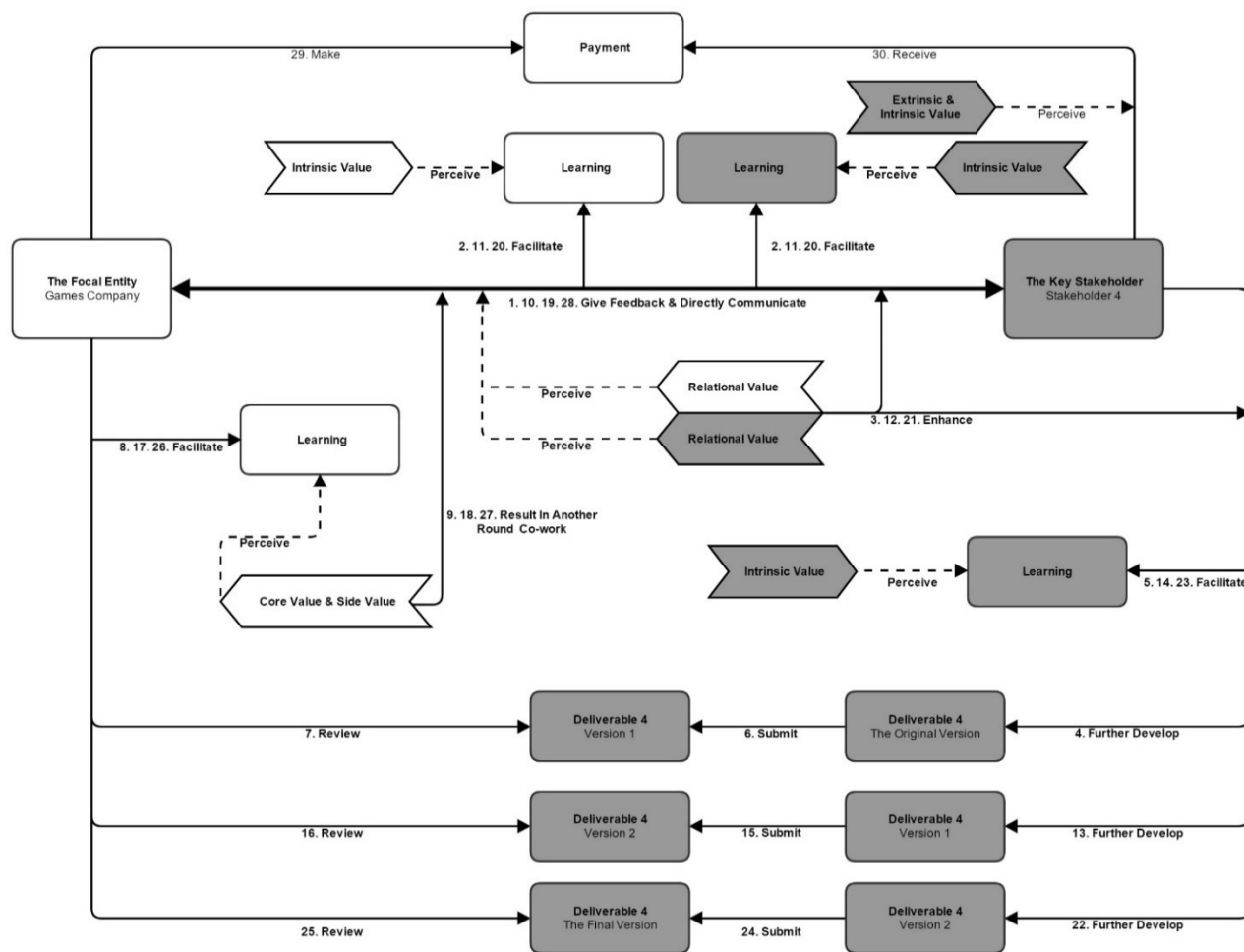
The First Round Data Analysis of the Case of the Education Advisory: Visualizing Events, Project Flow and Perceived Value (the Second Part of the Project)

APPENDIX D

THE FIRST ROUND DATA ANALYSIS OF THE CASE OF THE GAMES COMPANY



**The First Round Data Analysis of the Case of the Games Company:
Events, Project Flow and Perceived Value (the First Part of the Project)**



**The First Round Data Analysis of the Case of the Games Company:
Events, Project Flow and Perceived Value (the Second Part of the Project)**

EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE GAMES COMPANY (PART I)			
No.	Step Description	Perceived Value Focal Firm Perspective	Perceived Value Stakeholder Perspective
1	Project Initiation. The focal firm initiated the project on the platform, input basic information, and prepaid promised rewards.	Value Enabled by the Platform-Oriented Collective Governance. Ease of use, effective guidance and tools, modularized process.	
2	Project Awareness. The fourth stakeholder became aware of the project.		Stakeholder's Motivations. Expected value, intrinsic and extrinsic value. Value Enabled by the Platform-Oriented Collective Governance. Secure reward, project credibility, information dissemination. Value Enabled by Resource exchange and Sharing. Generating a clear understanding of the project.
3	Deliverable Preparation and Submission. The fourth stakeholder worked on the project, and submitted the deliverable online.		Value Enabled by the Platform-Oriented Collective Governance. Knowledge and privacy protection.
4	Learning Facilitated by Deliverable Preparation. The second stakeholder improved deliverable quality through self-learning.		Intrinsic Value Perceived through Learning. Self-improvement, new visions and knowledge.
5	Deliverable Collection, Review and Plagiarism	Value Enabled by the Platform-Oriented	

	Check. The project management team collected the first deliverable and started reviewing it.	Collective Governance. Ease of use, convenience, platform notifications via short messages. Value Enabled by the Focal Firm-Oriented Collective Governance. Secured quality of value co-creation.	
6	Learning Through Deliverable Review. The project team members reviewed and analysed collected deliverables.	Value Enabled by Resource exchange and sharing and Learning. Core Value: Satisfied with quality, became intrigued and inspired, self-reflection.	
7	Project Awareness. The fifth stakeholder became aware of the project.		Stakeholder's Motivations. Expected value, intrinsic and extrinsic value. Value Enabled by the Platform-Oriented Collective Governance. Secure reward, project credibility. Value Enabled by Resource exchange and sharing. Generating a clear understanding of the project.
8	Deliverable Preparation and Submission. The fifth stakeholder worked on the project, and submitted the deliverable online.		Value Enabled by the Platform-Oriented Collective Governance. Knowledge and privacy protection.

9	Learning Facilitated by Deliverable Preparation. The fifth stakeholder improved the deliverable quality through self-learning.		Intrinsic Value Perceived through Learning. Self-improvement, new visions and knowledge.
10	Deliverable Collection, Review and Plagiarism Check The project management team collected the fifth deliverable and started reviewing it.	Value Enabled by the Platform-Oriented Collective Governance. Ease of use, convenience, platform notifications via short messages. Value Enabled by the Focal Firm-Oriented Collective Governance. Secured quality of value co-creation.	
11	Learning through Deliverable Review. The project team members reviewed and analysed the collected deliverable.	Value Enabled by Resource Exchange and Sharing and Learning. Side Value: Some good points; however, not good enough; became intrigued and inspired, self-reflection.	
12	Project Awareness. The twelfth stakeholder became aware of the project.		Stakeholder's Motivations. Expected value, intrinsic and extrinsic value. Value Enabled by the Platform-Oriented Collective Governance. Secure reward, project credibility, information dissemination.

			Value Enabled by Resource Exchange and Sharing. Generating a clear understanding of the project.
13	Deliverable Preparation and Submission. The twelfth stakeholder worked on the project, and submitted the deliverable online.		Value Enabled by Platform-Oriented Collective Governance. Knowledge and privacy protection.
14	Learning Facilitated by Deliverable Preparation. The twelfth stakeholder improved the deliverable quality through self-learning.		Intrinsic Value Perceived through Learning. Self-improvement, new visions and knowledge.
15	Deliverable Collection, Review and Plagiarism Check. The project management team collected the twelfth deliverable and started reviewing it.	Value Enabled by the Platform-Oriented Collective Governance. Ease of use, convenience, platform notifications via short messages. Value Enabled by the Focal Firm Oriented Collective Governance. Secured quality of value co-creation.	
16	Authorizing Payment. The focal firm authorized payment to winners online.	Value Enabled by Platform-Oriented Collective Governance. Ease of use, convenience, secured transaction. Relational Value.	

		The focal firm attempted to build close relationships with key stakeholders. Perceived sense of trust, personal relationships.	
17	Receiving Payment The winners received payment.		Value Enabled by Platform-Oriented Collective Governance. Guaranteed payment. Extrinsic Value and Intrinsic Value Enabled by Resource Exchange and Sharing, and Relationship Building. Monetary rewards, perceived sense of involvement, self-achievement, pride, closer relationship, and trust.

**The First Round Data Analysis of the Case of the Games Company:
Explanation of the Project Flow (the First Part of the Project)**

EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE GAMES COMPANY (PART II)			
No.	Process Description	Perceived Value Focal Firm Perspective	Perceived Value Stakeholder Perspective
1	Feedback and Communication. The focal firm invited the fourth stakeholder to take part in further co-development of his deliverable. The focal firm gave feedback and further requirements. The stakeholder discussed his thoughts on the game design and planning. They came up with a flexible working plan.	Value of Resource Exchange and Sharing. Better understanding of the key stakeholder's design logic and future plan. Value Generated through Relationship Building. Mutual understanding, trust. Value Generated through Relationship-Oriented Collective Governance. Offering flexibility to facilitate the key stakeholder to be creative and productive.	Stakeholder's Motivations. Expected value, intrinsic and extrinsic value. Value of Resource Exchange and Sharing. Better understanding of the focal firm's requirements and preferences. Relational Value through Real-Time Communication. Mutual understanding, trust. Value Generated through Relationship-Oriented Collective Governance. Flexibility offered by the co-developed working plan.
2,	Learning through Mutual Resource exchange and sharing. Interactive communication facilitated mutual learning between the focal firm and the selected stakeholder.	Value Generated from Learning. Extra knowledge, inspirations.	Value Generated from Learning. Extra knowledge, inspirations.
3	Better Co-work Motivations and Communication. Growing relationship facilitated better mutual	Value Generated from Relational Value. Willingness to further communicate, trust.	Value Generated from Relational Value. Willingness to further communicate, trust. Enhanced motivations of collaboration.

	communications and co-work motivations.		
4	Further Developing of the Fourth Deliverable. Based on the focal firm's requirements, the key stakeholder further developed his original deliverable.		Value Generated from Relational Value. Enhanced motivations of co-working.
5	Learning Facilitated by Deliverable Development. Further development required the key stakeholder to conceive more creative ideas, which facilitated more intellectual input and learning from external resources.		Value Enabled by Learning. Self-improvement, new visions and knowledge.
6	Submission of Revised Deliverable. The key stakeholder submitted Fourth deliverable, version one to the focal firm.		Value Generated by Relationship-Oriented Collective Governance. Perceived low risks of potential fraud.
7	Deliverable Collection and Review. The project management team collected the fourth deliverable, version one and started reviewing it.	Value Generated by Relationship-Oriented Collective Governance. Effectiveness of working plan, received the revised version on time.	
8	Learning through Deliverable Review. The project team members reviewed and analysed collected deliverable.	Value Generated through Resource Exchange and Sharing and Learning. Satisfied with quality, became intrigued and inspired, self-reflection, areas for improvement.	
9	Another Round of Co-Work Began.		
10	Feedback and Communication. The focal firm gave feedback and further	Value Generated from Resource Exchange and sharing.	Value of Resource Exchange and Sharing. Better understanding of the focal firm's

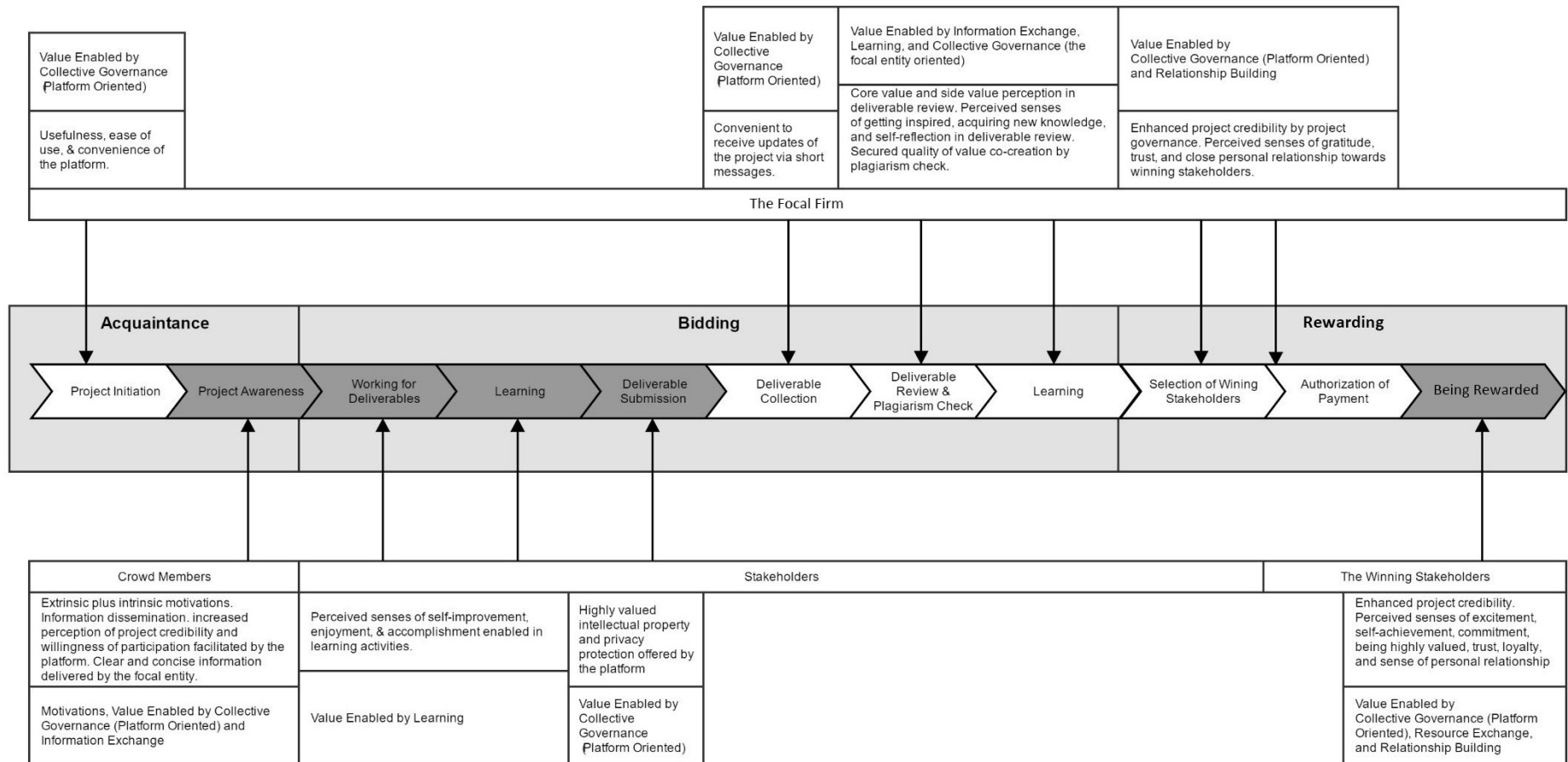
	requirements. The key stakeholder explained his thoughts and planning.	<p>Better understanding of the key stakeholder's design logic and future plan.</p> <p>Value Generated from Relationship-Oriented Collective Governance. Effectiveness of working plan, on time submission with high quality.</p>	<p>requirements.</p> <p>Relational Value through Real-Time Communication. Mutual understanding, trust.</p>
11	<p>Learning through Mutual Resource exchange and sharing. Interactive communication facilitated mutual learning between the focal firm and the selected stake holder.</p>	<p>Value Generated from Learning. Extra knowledge, inspiration.</p>	<p>Value Generated from Learning. Extra knowledge, inspiration.</p>
12	<p>Better Co-Work Motivations and Communication. Growing relationship value facilitated better mutual communications and co-work motivations.</p>	<p>Value Generated from Relational Value. Willingness to further communicate, trust.</p>	<p>Value Generated from Relational Value. Willingness to further communicate, trust. Enhanced motivations of collaboration.</p>
13	<p>Further Developing Fourth Deliverable, Version One. Based on the focal firm's requirements, the key stakeholder further developed the deliverable.</p>		<p>Value Generated from Relational Value. Enhanced motivations of co-working.</p>
14	<p>Learning Facilitated by Deliverable Development. Further development required the key stakeholder to conceive more creative ideas, which facilitated more intellectual input and</p>		<p>Value Enabled by Learning. Self-improvement, new visions and knowledge.</p>

	learning from external resources.		
15	Submission of Revised Deliverable. The key stakeholder submits the fourth deliverable, version two to the focal firm.		Value Generated by Relationship-Oriented Collective Governance. Perceived low risks of potential fraud.
16	Deliverable Collection and Review. The project management team collected the fourth deliverable, version two and started reviewing it.	Value Generated by Relationship-Oriented Collective Governance. Effectiveness of working plan, received the revised version on time.	
17	Learning through Deliverable Review. The project team members reviewed and analysed collected deliverable.	Value Generated through Resource Exchange and Sharing, and Learning. Satisfied with quality, became intrigued and inspired, self-reflection, areas for improvement.	
18	The Final Round of Co-Work Begins.		
19	Feedback and Communication. The focal firm gave feedback and further requirements. The key stakeholder explained his thoughts and planning.	Value Generated from Resource Exchange and Sharing. Better understanding of the key stakeholder's design logic and future plan. Value Generated from Relationship-Oriented Collective Governance Effectiveness of working plan, on time submission with high quality.	Value of Resource Exchange and Sharing. Better understanding of the focal firm's requirements. Relational Value through Real-Time Communication Mutual understanding, trust.
20	Learning through Mutual Resource exchange and sharing. Interactive communication facilitated mutual	Value Generated from Learning. Extra knowledge, inspiration.	Value Generated from Learning. Extra knowledge, inspiration.

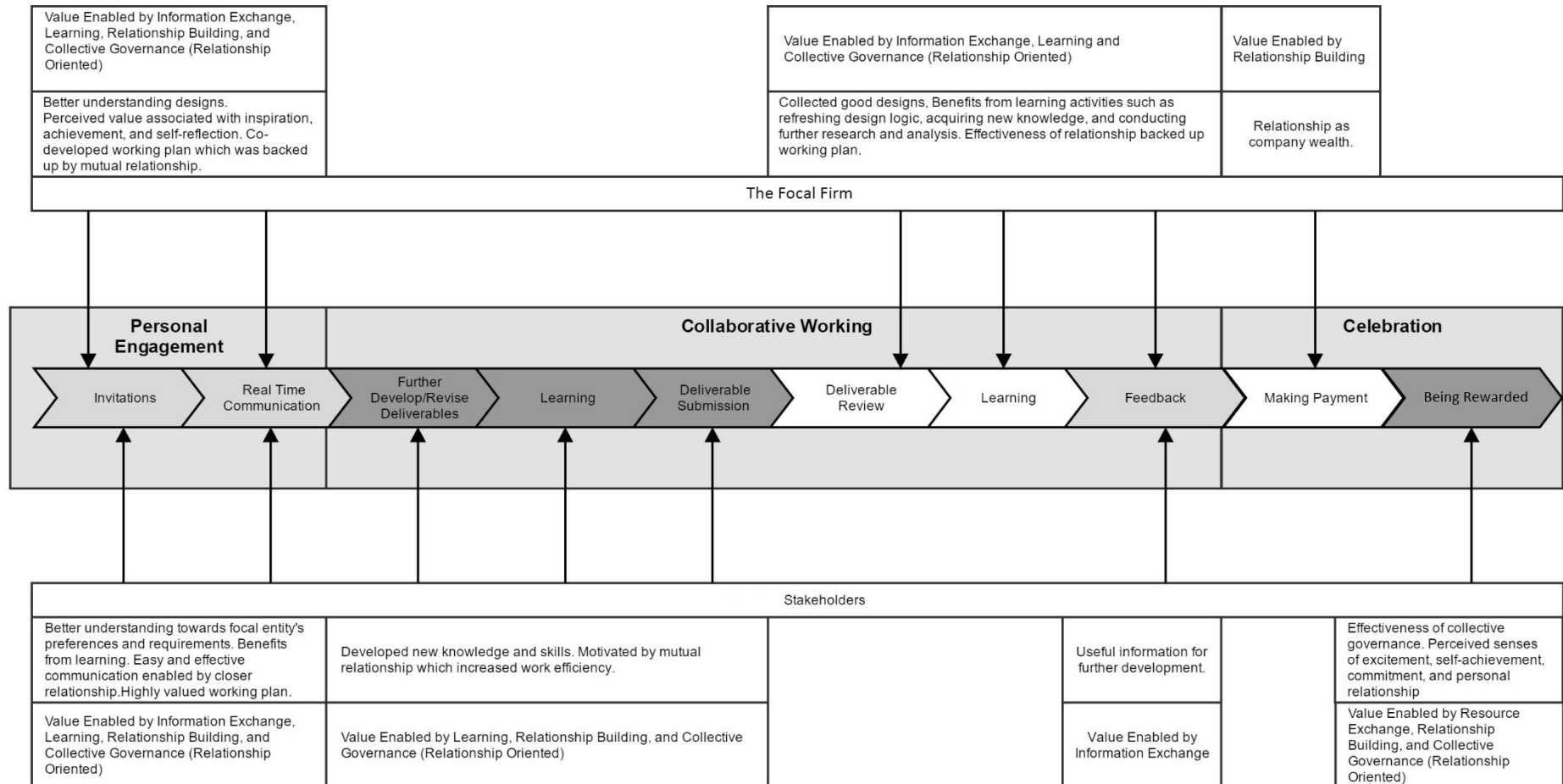
	learning between the focal firm and the key stakeholder.		
21	Better Co-work Motivations and Communication. Growing relationship value facilitated better mutual communications and co-work motivations.	Value Generated from Relational Value. Willingness to further communicate, trust.	Value Generated from Relational Value. Willingness to further communicate, trust. Enhanced motivations of collaboration.
22	Further Developing Fourth Deliverable, Version Two. Based on the focal firm's requirements, the key stakeholder further developed the deliverable.		Value Generated from Relational Value. Enhanced motivations of co-working.
23	Learning Facilitated by Deliverable Development. Further development required the key stakeholder to conceive more creative ideas, which facilitated more intellectual input and learning from external resources.		Value Enabled by Learning. Self-improvement, new visions and knowledge.
24	Submission of Revised Deliverable. The key stakeholder submitted the fourth deliverable, version three to the focal firm.		Value Generated by Relationship-Oriented Collective Governance. Perceived low risks of potential fraud.
25	Deliverable Collection and Review. The project management team collected the fourth deliverable, version three and started reviewing it.	Value Generated by Relationship-Oriented Collective Governance. Effectiveness of working plan, received the revised version on time.	
26	Learning through Deliverable Review. The project team members reviewed and	Value Generated through Resource Exchange and Sharing, and Learning.	

	analysed collected deliverable.	Satisfied with quality, became intrigued inspired, and self-reflected.	
27	The End of Final Round of Co-work.		
28	Feedback and Communication. The focal firm gave feedback and appreciated the key stakeholder's cooperation. The key stakeholder shared his thoughts and gratefulness.	Value Generated from Relationship Building. Mutual understanding, trust, commitment.	Value Generated from Relationship Building. Mutual understanding, trust, commitment.
29	Making Payment. The focal firm made payment to the key stakeholder.	Value Generated from Relationship Building. Close relationship with the key stakeholder, commitment.	
30	Receiving Payment. The key stake holder received the payment.		Value Generated from Resource Exchange and Sharing, and Relationship Building. Perceived sense of excitement, self-achievement, commitment, and personal relationship. Value Generated from Relationship Oriented Collective Governance. Secure payment.

**The First Round Data Analysis of the Case of the Games Company:
Explanation of the Project Flow (the Second Part of the Project)**



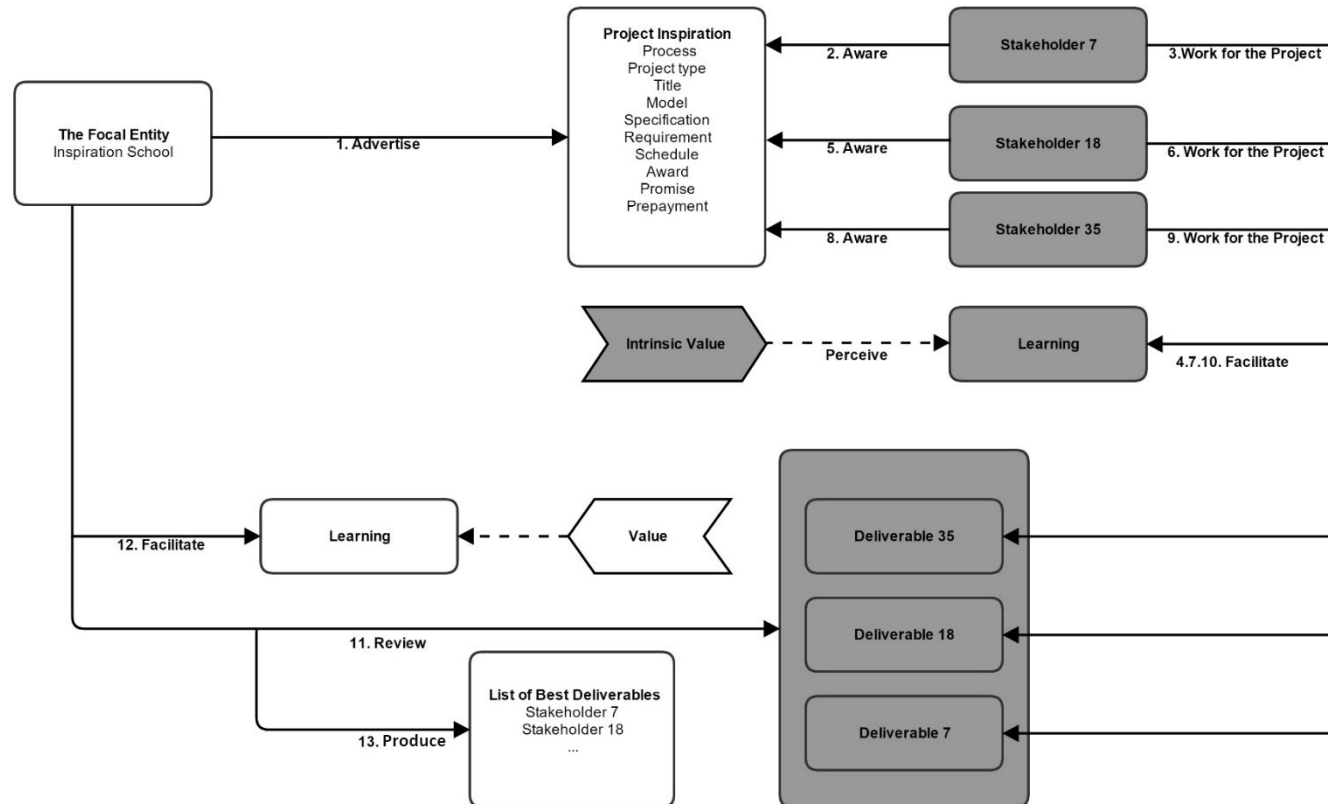
**The First Round Data Analysis of the Case of the Games Company:
Visualizing Events, Project Flow and Perceived Value (the First Part of the Project)**



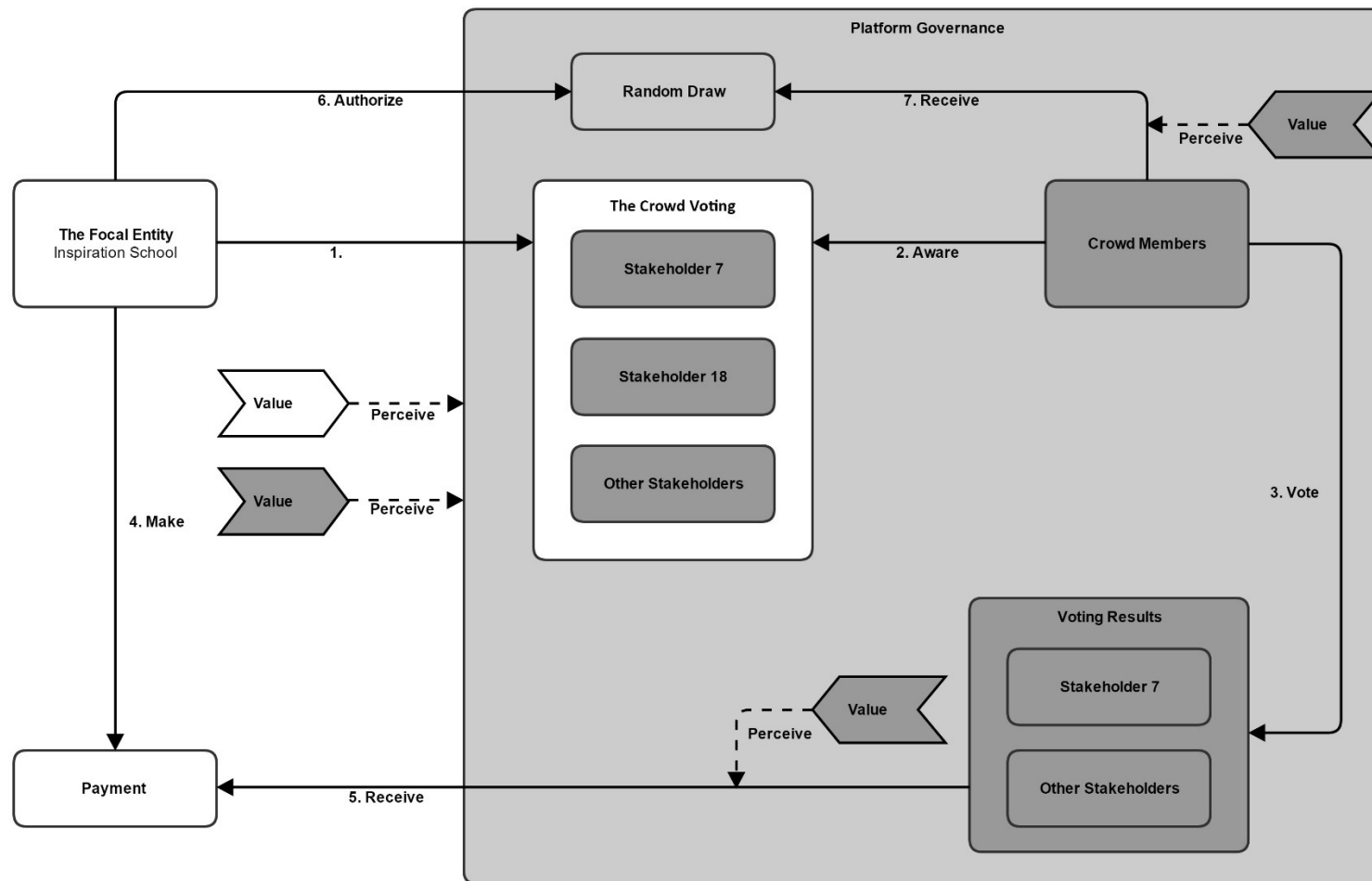
**The First Round Data Analysis of the Case of the Games Company:
Visualizing Events, Project Flow and Perceived Value (the Second Part of the Project)**

APPENDIX E

THE FIRST ROUND DATA ANALYSIS OF THE CASE OF THE INSPIRATION SCHOOL



**The First Round Data Analysis of the Case of the Inspiration School:
Events, Project Flow and Perceived Value (the First Part of the Project)**



**The First Round Data Analysis of the Case of the Inspiration School:
Events, Project Flow and Perceived Value (the Second Part of the Project)**

EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE INSPIRATION SCHOOL (PART I)			
No.	Step Description	Perceived Value Focal School Perspective	Perceived Value Stakeholder Perspective
1	Advertising. The focal school specified project details and advertised the project on multiple channels.		
2. 5. 8.	Crowd Awareness. Stakeholders became aware of the project, reviewed project specifications, and decided whether to participate in the project.		Value Enabled by Resource Exchange and Sharing, and Expected Resource Exchange. Stakeholders worked out the requirements of the project through reviewing the project specifications. They were motivated by winning the rewards, potential job opportunities, and other intrinsic values (e.g. interest, enjoyment, and altruism).
3. 6. 9.	Course Design. Stakeholders started working on deliverables, and submitted deliverables via private channels.		Value Enabled by Focal School-Oriented Collective Governance. Using private channels was commended for privacy protection and intellectual property protection.
4. 7. 10.	Learning. In order to accomplish their designs, the stakeholders looked up learning materials, searched for relevant information, and created their designs.		Value Enabled by Resource Exchange and Sharing and Learning. Stakeholders acquired new information and knowledge, practised their techniques, and enjoyed their experience.

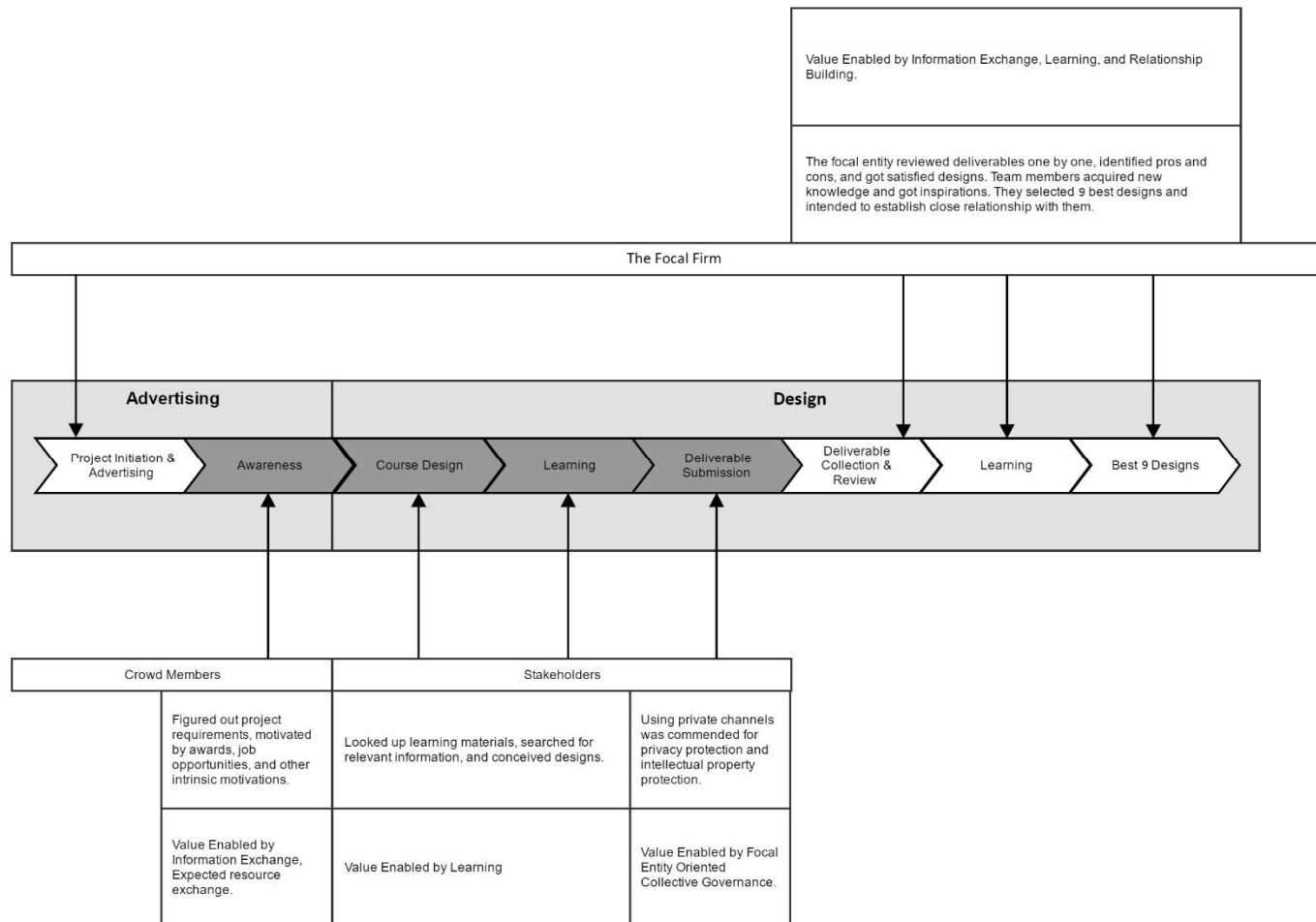
<p>11.</p> <p>12.</p> <p>13.</p>	<p>Deliverable Collection and Review, Nominating the Best Designs.</p> <p>The focal school collected all the deliverables, reviewed them, and picked out the best designs.</p>	<p>Value Enabled by Resource Exchange and Sharing, Learning, and the Governance of the Focal Firm.</p> <p>The focal school reviewed deliverables one by one, identified pros and cons, and chose the best designs. In addition, team members acquired new knowledge and felt inspired. Internal experience and capabilities were highlighted.</p>	
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**The First Round Data Analysis of the Case of the Inspiration School:
Explanation of the Project Flow (the First Part of the Project)**

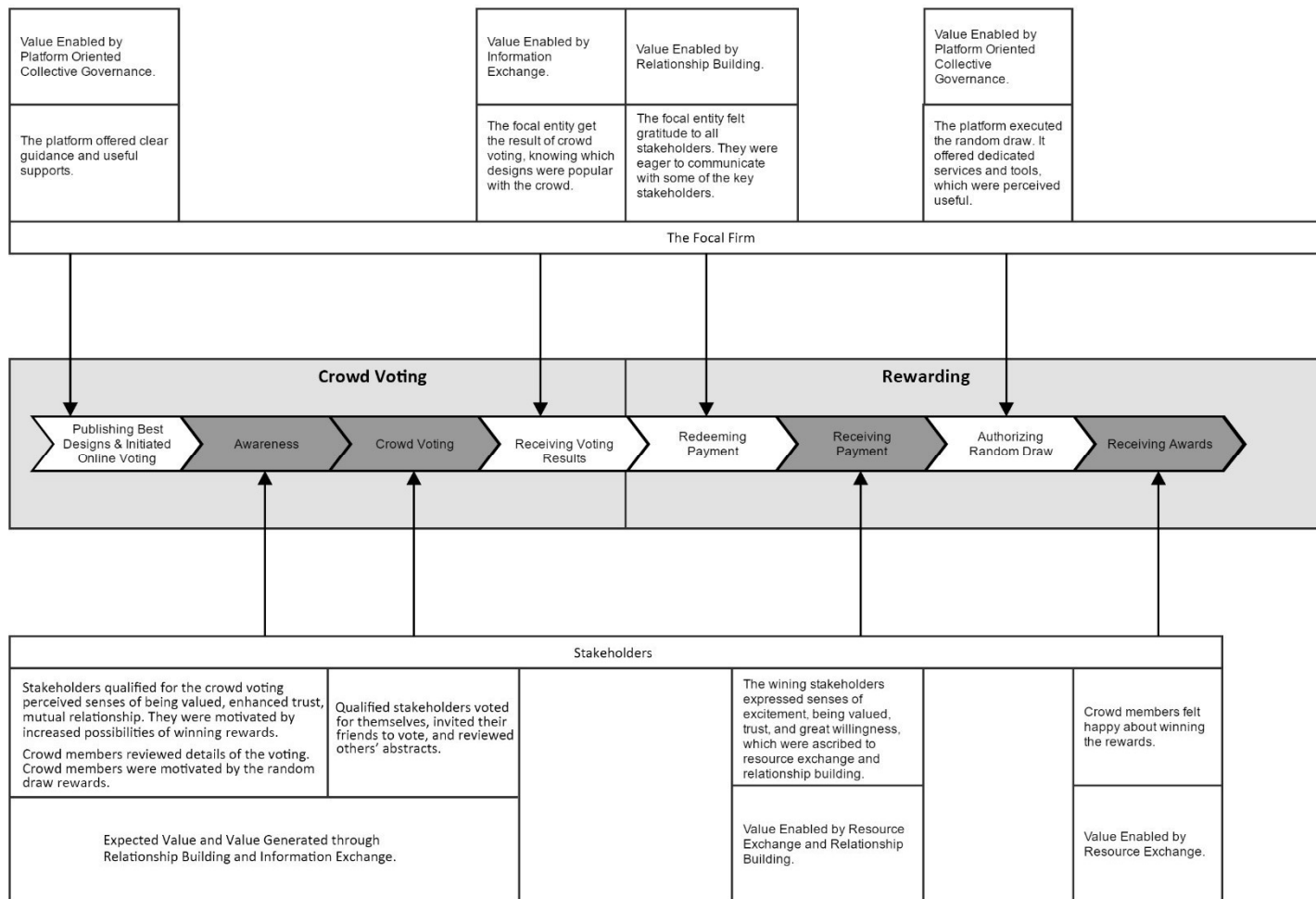
EXPLANATION OF THE PROJECT FLOW OF THE CASE OF THE INSPIRATION SCHOOL (PART II)			
No.	Step Description	Perceived Value Focal School Perspective	Perceived Value Stakeholder Perspective
1	Initiating the Crowd Voting. The focal school initiated the crowd voting online.	Value Enabled by Platform-Oriented Collective Governance. The platform offered clear guidance and useful supports.	Value Enabled by Relationship Building, Expected Value. Stakeholders qualified for the crowd voting perceived senses of being valued, enhanced trust and mutual relationships. They were motivated by increased possibilities of winning rewards.
2.	Crowd Awareness. Crowd members on social media became aware of the voting activity.		Value Enabled by Resource Exchange and Sharing, and Expected Value. Crowd members reviewed details of the voting activity. Crowd members were motivated by the random draw prizes.
3.	Crowd Voting Crowd members voted for their favourite designs. Nominated stakeholders could vote for themselves, and also invited their friends to take part in the crowd voting. Stakeholders reviewed others' abstracts.	Value Enabled by Resource Exchange and Sharing. The focal school received the results of crowd voting, and found out which designs were popular with the crowd.	Value Enabled by Resource Exchange and Sharing Stakeholders reviewed others' abstracts to evaluate the possibilities of winning.
4.	Making Payment and Authorizing the Random	Value Enabled by Relationship Building and	

6.	Draw on the Platform. The focal school issued the guaranteed payments to the winning stakeholders. The focal school authorized the draw on the platform and issued the promised prizes.	the Governance of the Platform. The focal school felt gratitude to stakeholders. The platform offered dedicated services and tools, which were perceived to be convenient and useful.	
5. 7.	Receiving Payment. The winning stakeholders and lucky voters received payment from the focal school.		Value Enabled by Resource Exchange and Sharing, Relationship Building, and the Governance of the Focal school. The winning stakeholders expressed senses of excitement, being valued, trust, and great willingness, which were ascribed to resource exchange and relationship building. The focal school was commended for timely payment.

**The First Round Data Analysis of the Case of the Inspiration School:
Explanation of the Project Flow (the Second Part of the Project)**



**The First Round Data Analysis of the Case of the Inspiration School:
Visualizing Events, Project Flow and Perceived Value (the First Part of the Project)**



**The First Round Data Analysis of the Case of the Inspiration School:
Visualizing Events, Project Flow and Perceived Value (the Second Part of the Project)**