Does reciprocity affect willingness to contribute?
An empirical study on crowdsourcing organizations

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Abstract

Purpose – The aim of this thesis is to explain the factors that influence consumers’ willingness to contribute to crowdsourcing organizations, by applying the reciprocity theory.

Design/methodology/approach – This is a quantitative research which used a cross sectional research design with an explanatory approach. The data was collected with a questionnaire survey that was distributed using face-to-face and online methods.

Findings – The findings of this research revealed that social proof is positively influencing willingness to contribute, either direct or indirect, through reciprocity. In addition, trust, commitment and identification were not directly influencing willingness to contribute, however they have an indirect positive impact on willingness to contribute through reciprocity.

Research limitations/implications – This study has created a research model by the use of relevant literature in regards to reciprocity and willingness to contribute. Moreover, the limitations of this study are related to the chosen sample, since the generalization of the results is done based on three countries.

Practical implications – The study provides some valuable insights for crowdsourcing organizations managers who aim to increase the amount of contributions through their online communities by the use of the reciprocity theory. Detailed explanation goes in the managerial implications section.

Originality/value – This research is unique in that it presents a new model that shows reciprocity as a mediating factor for improving online communities’ users attitudes towards contributing to crowdsourcing organizations.

Keywords: crowdsourcing, online communities, reciprocity, trust, commitment, identification, social proof, willingness to contribute.
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This research paper was written as our Master thesis at Linnaeus University in 2014. Working on this thesis has been a very interesting and formative experience since we have applied our theoretical knowledge as well as achieved valuable knowledge. This will not only expand our educational background but will go a long way to help us in our professional career. We would like to take this opportunity to acknowledge the efforts of some people who in one way or another, made this a success.

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1. Introduction

This chapter provides an overall presentation of crowdsourcing and the reciprocity theory. It presents a background of how organizations have adapted crowdsourcing in their business model and how collective intelligence builds knowledge into those organizations. This section ends with the purpose and research questions of this study.

1.1 Background

The traditional way of doing business has been dictated by few people and organizations over the centuries. These people and organizations were in charge of generating and producing content such as news, photography, articles, or encyclopedic knowledge for the public to consume (Huberman et al., 2009). It was not until recent decades that this traditional way got inversed. With the availability of prevailing Internet, there are millions of consumers creating content, including the knowledge, passion, creativity, and insight, in the form of blogs, journals, videos, music, etc. whereas few can reach to them all (Kleemann, 2008; Huberman et al., 2009). These contents merge together on the Internet to build collective intelligence (Alsever, 2007). Various companies have been benefited by the collective intelligence. There are companies such as YouTube, Wikipedia, Reddit and Threadless Kickstarter who have witnessed the advantages of applying this collective intelligence into business by outsourcing their business-related tasks to the online crowd (Howe, 2006; Kleemann et al., 2008; Li and Bernoff, 2011). This phenomenon is defined as crowdsourcing and those organizations which rely their business on it are called crowdsourcing organizations (Ibid). In addition, online crowd who contribute to crowdsourcing organizations, often do it for free or significantly less than their contributions are worth to the companies (Kleemann et al., 2008). Therefore, organizations could be benefited by using the online crowd to improve productivity and creativity while lowering the cost of labor and research expenses (Ibid).

Crowdsourcing organizations use platforms, for example, online communities, to get to the online crowd (Lietsala and Sikkunen, 2008; Ind et al., 2013). Online communities are of high use for crowdsourcing organizations since it enables the creation and share of content (Hsu and Lin, 2008). By having a look at some numbers, there were more than 200 million registered users who are answering questions for other users on Yahoo Answers (Shah and Pomerantz, 2009), more than 1 million apps have been uploaded to App Store (Jones, 2013). There are approximately 100 hours of video uploaded to YouTube every minute (Youtube, 2014) and more than 20 million registered editors for Wikipedia (Wikipedia, 2014). It can be seen that crowdsourcing is a very popular
phenomenon, which attracts researchers to investigate the topic further.

1.2 Problem discussion

Contributions for crowdsourcing organizations are of high importance since they enable the prosperity of the business (Hsu and Lin, 2008). However, even though crowdsourcing is a popular phenomenon for companies to apply to their business model, the crowd is not always willing to contribute (Tapscott and Williams, 2008). One example of this lack of interest to contribute is the decline of editors that Wikipedia is facing nowadays (Wikimedia Foundation, 2014). Another example is the statements in the study of Huberman et al. (2009) on YouTube, they presented that it was rational for individuals not to contribute and free ride on the uploaded products of others. The reason was the non-contributor user, thinks that his consumption does not affect the amounts that other users can use (Huberman et al., 2009).

According to Tapscott and Williams (2008), the main reason for people to contribute is receiving rewards. Without it, the crowd is reluctant to dedicate their time and effort on crowdsourcing contributions. Tapscott and Williams (2008) have as well classified rewards into two categories: extrinsic rewards (such as money and material goods) and intrinsic rewards (such as the satisfaction of solving a problem and sense of meaningfulness). Li (2010) argued that the extrinsic rewards are not a significant factor for people to make contributions in online communities. Individuals contribute as they mainly seek for intrinsic motivation which is one of the most important kinds of rewards (Ryan and Deci, 2000; Tapscott and Williams, 2008). Accordingly, contributions in online communities are seen as a positive and satisfactory result of behavior among the members of communities (Chiu et al., 2006). Contributions can be as well described as the result of a reciprocal behavior where not only people in the community are doing something beneficial for the community, but they also obtain reward by participating. In line with this, the theory of reciprocity presents reciprocity as behavior that explains how a positive actions leads to other positive actions (Perugini et al., 2003; Cialdini, 2014).

Scholars have applied of the reciprocity theory to understand people’s willingness to contribute in many areas. Kahan (2003) used the reciprocity theory in public goods and activities such as tax compilation or street crimes. Besides, he suggested that the theory can also be used in other contexts such as fraud and corruption or information and technology. Another example is by Regner (2009), who utilized the reciprocity theory in order to explain why consumers pay for music in online service. However, there are no researches applying the reciprocity theory to influence the online communities users’ willingness to contribute in the context of crowdsourcing organizations.
Based on the literature review, there are factors influence reciprocity, the most cited ones are, trust (Kahan, 2003; Malhotra 2004; Wu et al., 2008), commitment (Parzefall, 2008), social proof (Cialdini, 2014) and identification (Nahapiet and Ghoshal, 1998). Additionally, those factors and reciprocity have been used in various studies separately to explain willingness to collaborate in different situations (Hars and Ou, 2001; Chiu et al., 2006; Hsu and Lin, 2008; Chai et al., 2011). However, those factors have not all been used in a single study with a clear emphasis on reciprocity in order to explain willingness to contribute in online communities.

Therefore, this research built a research model that utilizes reciprocity as a mediator between trust, commitment, social proof, identification and willingness to contribute in order to understand consumers’ willingness to contribute and to suggest some applicable strategies for those crowdsourcing organizations aiming to increase the amount of contributions.

1.3 Purpose

The aim of this thesis is to explain the factors that influence consumers' willingness to contribute to crowdsourcing organizations, by applying the reciprocity theory.

1.4 Research Question

What are the factors that influence willingness to contribute?
What are the factors that influence reciprocity?
What is the relationship between reciprocity and willingness to contribute?

1.5 Delimitations

The delimitation of this study is that only the crowdsourcing organization’s online community part will be focused in this paper due to the reason that online community is most popular way for crowdsourcing organizations to target their consumers.

1.6 Report structure

The following chapter is theoretical framework which aims to review relevant concepts from previous researches and literature. The chapter finalizes with a conceptual model. Afterwards, research methods and strategies are argued and selected with the aim of meeting the purpose of the study. The paper will continue with the analysis and results chapter which presents the numerical results of this study. This leads to the next chapter, the discussion chapter where the results are
discussed based on the theoretical framework chapter. Later, the conclusion chapter aims to answer the research questions of this study and meet the purpose. Finally, managerial implications, limitations and further research are presented.

2. Theoretical Framework

The previous chapter discussed the crowdsourcing phenomenon and the research gap of this research. This chapter presents a review of the existing literature regarding crowdsourcing and willingness to contribute as well as the reciprocity theory and the factors that influence reciprocity.

2.1 Crowdsourcing

Howe (2006) was the first person who coined the term crowdsourcing in the year 2006. In that article, Howe proposed a new way of outsourcing organizations’ tasks to an undefined, generally large group of people instead of sending the tasks out to cheap labor countries. He explained that with the Internet, the online crowd could use their spare time to create content, solve problems or even do corporate Research and Development for companies' open call, in this way, they would become the new free/cheap labor. Additionally, the advantage of using this kind of labors is that companies can work worldwide as long as they are connected to the network (Ibid).

Before the term of crowdsourcing was coined, a wide variety of names such as: peer production, collaborative systems or crowd wisdom, had been used to describe this phenomenon (Estellés-Arolas and González, 2012). Since Howe (2006), many researchers such as Brabham (2008) and Estellés-Arolas and González (2012) have been investigating the concept in order to build a common theoretical background. Kleemann et al. (2008) and Wexler (2011) further presented that crowdsourcing is an explicit form and a successful business mode of integrating the online crowd in internal processes of value creation. It turns users (or consumers) into employees. Therefore, companies that use crowdsourcing as their business model seek the latent collective intelligence from the online community (Brabham, 2008; 2009).

Collective Intelligence

Collective intelligence, according to Lévy (1997, p.13), is “the form of universally distributed intelligence, constantly enhanced, coordinated in real time, and resulting in the effective mobilization of skills”. Surowiecki (2004) argued that under the right circumstances, crowd is
noteworthy intelligent and is often smarter than the smartest individual amongst them. Collective intelligence allows crowdsourcing companies to cast as wide a net as possible to bring in more creative input with the use of online communities (Brabham, 2008). With the collective intelligence and networks, problem solving has the capability to address a large amount of issues, including those of global concerns (Brabham, 2009).

Value Creation through Contributions

According to Lévy (1997), Kleemann et al. (2008) and Brabham (2008; 2009), when the crowd contribute their collective intelligence to the crowdsourcing companies, the crowd becomes part of the companies’ value creation process. In other words, they are creating values for those companies. Contributions can boost the value of the crowdsourcing company since the more contributions, the more valuable the crowdsourcing company. Furthermore, more value is created for the other consumers in the crowd (Füller et al., 2011). A good example is Wikipedia, the collective intelligence from the crowd build up the value of Wikipedia, which is also of great value for their consumers, the more contributions that Wikipedia receives, the more valuable Wikipedia will be (Alsever, 2007).

2.2 Willingness to contribute

Willingness to contribute can be described as an attitude towards contributing. According to Bock et al. (2005), customers’ believes in rewards and contributions have an impact on their behavior towards sharing, or in this case, contributing to the online communities. Contributions can be described as the outcome of the collective intelligence. It can be in the form of a wide variety of tasks such as creating new content when uploading pictures on Flickr, uploading videos on YouTube or reviewing products in Amazon (Doan et al., 2011; Estellés-Arolas and González 2012). Moreover, in the field of online communities, willingness to contribute is created by members of the same community (Bock et al., 2005; Holste and Fields, 2010).

Measurements of willingness to contribute

According to Holste and Fields (2010), when it comes to measuring willingness to contribute there is a lack of previous tested measures. However, Holste and Fields (2010) developed and tested a couple of questions which are related to the attitude towards contribution. The results stated that the measurement was valid and reliable. The authors of this paper will use those questions as the base for their research measurements.
2.3 Trust

According to Malhotra (2004), trust has been a significant concept in the marketing area for decades. Morgan and Hunt (1994) described trust as a state when one party has confidence and relies on an exchange partner. Therefore, in order to achieve trust, there must be vulnerability which is based on positive expectations of intentions or behavior of the other party (Malhotra, 2004). The concept of trust can be applied in many disciplines (e.g. economics or sociology) and perspectives (e.g. individual point-of-view, company point-of view), yet the definition is valid and equal for any of them (Ganesan and Hess, 1995). In regard with online communities where members share public goods, trust is found to be strongly effective. The effect that trust brings in those communities is that it increases the level of participation sharing (Chiu et al., 2006). Besides, Cremer et al. (2001) found that people with high trust are more willing to contribute than those who are in a lower trust condition. Therefore, the following hypothesis is proposed:

**H1: Trust has a positive impact on willingness to contribute.**

*Measurements of trust*

Regarding dimensions affecting trust, researchers have found to differ between many different levels that may conceptualize trust. Firstly, it depends on which parties are being investigated or analyzed. Trust can be analyzed via individuals, called interpersonal trust (e.g. salesperson) or be investigated via organizations, called organizational trust (e.g. brand) (Ganesan and Hess, 1995). When it comes to trust in online communities and therefore in individuals, the optimal dimension is related to interpersonal trust and integrity. This refers to an individual’s expectation that the members in an online community are going to follow commonly accepted set of values, principles and norms (Chiu et al., 2006).

2.4 Commitment

Over the years, the concept of commitment has been described as an enduring desire to maintain a relationship which provides some functional or emotional benefits (Morgan and Hunt, 1994; Hur et al., 2010; Randall et al., 2011) as well as an exchange process where an individual evolve loyalty to other individual or organization (Kim et al., 2008). Moreover, commitment is attributed to the pride of belonging and it is concerned with the long-term success (Morgan and Hunt, 1994). In regards to online communities, commitment can be used as an explanation of how online communities evolve. Commitment is of high importance in online environments since there are many alternatives available when it comes to commit to a specific online community. It is argued that strongly committed members are more willing to interact with others and participate to the community as they
feel they that share common beliefs with the community itself (Kim et al., 2008). Therefore, 
Hypothesis 2 is formulated as:

**H2. Commitment has a positive impact on willingness to contribute.**

**Measurements of commitment**

There is a discussion between those who argue that commitment is multi-dimensional and those 
who believe it is one-dimensional. On one side, those who argue it is multidimensional have found 
two variables that stand out among others; those are affective and calculative commitment (Wu et 
al., 2012; Hur et al., 2010). In contrast, those who believe it is one-dimensional have agreed that its 
dimension is affective commitment since this has a much bigger impact than other variables 
(Garbarino and Johnson, 1999; Hur et al., 2010). Affective commitment is defined as a positive 
emotional factor that is found to result in strong trusting relationships based on personal 
involvement and reciprocity (Hur et al., 2010).

**2.5 Identification**

Identification has been defined as the process in which individuals see themselves as a unit with 
other persons or groups (Nahapiet and Ghoshal, 1998). Identification is as well being interpreted as a 
positive feeling towards a group or community which falls to be a preliminary step for commitment 
(Chiu et al., 2006). As a consequence, once an individual is attached to a group, he/she will take the 
values and norms from this group and use them as comparative values (Nahapiet and Ghoshal, 1998; 
Ellemers et al., 1999). In regard with online communities, it is known that identification is an 
important piece (Hars and Ou, 2001; Chiu et al., 2006; Hsu and Lin, 2008). A community offers 
individuals the resources and motivations to combine and exchange knowledge (Nahapiet and 
Ghoshal, 1998). Hence, members in online communities are connected to each other by their 
specific shared problems or areas of interest, this relationship is an influential factor for the members 
of a community to share and participate (Hars and Ou, 2001; Chiu et al., 2006; Hsu and Lin, 2008). 
Therefore, the researchers offer hypothesis 3 as:

**H3. Identification has a positive impact on willingness to contribute.**

**Measurements of identification**

According to Ellemers et al. (1999) three dimensions existed that determined identification; 
cognitive dimension (self-categorisation), evaluative dimension (self-esteem) and emotional 
dimension (emotional involvement). However, identification is known as being one-dimensional 
since multi-dimensional studies of identification have obtained inter-correlation among the
dimensions (Ellemers, 1999). Therefore, emotional dimension has been found to be the explanation to why people decide to commit to a group and so to online communities (Chiu et al., 2006). The emotional dimension of identification is achieved by asking questions that reflect individuals’ sense of belonging, feeling of togetherness and positive emotions to online communities (Chiu et al., 2006; Hsu and Lin, 2008).

### 2.6 Social proof

When individuals’ decision making is uncertainty, they tend to seek the actions of others for clues (Cialdini, 2014). Besides, if there is a great number of people who perform the same behavior, they will perform accordingly. The greater the number of people, the more they will perceive the way that they behave is correct, this principle is called social proof (Ibid). Social proof is very influential when decision makers are uncertain about the value of a course of an action and when they are able to observe the actions of similar others, they will imitate the others even when it is against their own interests (Rao et al., 2001). When it comes to online communities, social proof is an increasingly important source of signal for online consumers, where individuals rely on the collaboratively shared information and experiences of others to deduce from a course of action (Amblee and Bui, 2012). Besides, Cheshire (2007) conducted a series of controlled laboratory experiments and found that when individuals were told that a great number of users liked their contributions, it had a strong, significant impact on continued contributions and vise versa. The favorable responses from the users gave the contributor intrinsic satisfaction which was likely to encourage more contributions in the future (Cheshire, 2007; Li, 2011). Thence, the hypothesis 4 could be:

**H4. Social proof has a positive impact on willingness to contribute.**

*Measurements of social proof*

According to Rao et al. (2001) and Amblee and Bui (2012), there are three dimensions to test social proof, namely: regular consumers, friends and human experts. To be more specific, firstly, the more consumers made the same choice, the more likely the more others will do the same. Secondly, the more your friends made the choice, the more likely you will copy the choice. Finally, the more the experts make a certain choice, the more consumers will follow after.

### 2.7 Reciprocity theory

The most influential author for the definition of reciprocity is Gouldner (1960). According to Gouldner (1960), the norm dictates that individuals need to help those who have helped them in a
previous experience and reject to help those who have disturbed their interests. In accordance, as stated in Kahan (2003) and Hansen (2004), the reciprocity theory describes individuals as reciprocators of emotions and morality. This indicates that an individual behaves in a positive manner by sharing things such as ideas and knowledge with other individuals (Hansen, 2004; Chiu et al., 2006). Moreover, individuals want to be understood by others as cooperative and trustworthy and are thus willing to contribute their fair share to securing collective goods (Kahan, 2003). As well, they can take advantage of it, wherefore, if they feel that other individuals are holding back to reciprocate, they will do the same in order to prevent to feel exploited (Ibid). Consequently, reciprocity can be referred to as a mutual exchange of knowledge which is perceived by the parties involved as fair (Chiu et al., 2006). The use of the reciprocity theory is of high importance since it is highly effective for gaining people compliance (Cialdini, 2014).

As stated in the introduction, trust, commitment, identification, and social proof are influential factors for reciprocity. Kahan (2003) and Malhotra (2004) claimed that individuals need to believe that others are willing to contribute so they can contribute in turn, even when there are no resources to incentive these contributions. Thus, trust can be used to magnify the effect of reciprocity. Therefore, hypothesis 5 is formulated:

**H5: Trust has a positive impact on reciprocity.**

According to Cialdini et al. (1999) and Parzefall (2008), once an individual is committed to something, he/she tend to be more reciprocal. In addition, this situation will still be repeating even when the individual does not have any obligation to it (Parzefall, 2008; Cialdini et al., 1999; 2014). This is due to that once the individual is committed, there will exist a natural tendency to behave in a consistent way (Ibid). Hence, the Hypothesis 6 is established:

**H6: Commitment has a positive impact on reciprocity.**

It is argued that contributions of any kind would not exist unless a person that is willing to do so is recognized by other members and his/her contribution is seen as welfare for the community (Nahapiet and Ghoshal, 1998). Therefore, the more unity among members, the more contributions are shared within the community (Chiu et al., 2006; Hars and Ou, 2001; Hsu and Lin, 2008). Therefore, it is hypothesized that:

**H7: Identification has a positive impact on reciprocity.**
Cialdini (2014) explained that when individuals perceive that members of the community are contributing in it, they as well perceive that they are obtaining a benefit from the work or contributions of others. As a consequence, individuals in the community who have been receiving benefit tend to evoke the obligation to make contributions. Hence, hypothesis 8 is established as:

\[ H8: \text{Social proof has a positive impact on reciprocity.} \]

In regard to online communities, Chiu et al. (2006) proposed that participants in online communities expect reciprocal behavior from other members that justifies their time and effort when contributing. Therefore, it could be perceived that reciprocity in online communities is of high interest to increase willingness to contribute. Thus, hypothesis 9 is proposed as:

\[ H9. \text{Reciprocity has a positive impact on willingness to contribute.} \]

**Measurements of reciprocity**

Cialdini (2014) suggests two dimensions for reciprocity. The first dimension is descriptive, which is related to the behavior of an individual and more specifically conditional behavior. The second dimension is injunctive dimension, which is related to the norms and the approval of a particular behavior by the group. However, according to Perugini et al. (2003) and Cialdini (2014), the descriptive dimension appears to be more effective since this aims to express conditional behavior and to emphasize the existing cost in reciprocating.

2.8 Conceptual model

The conceptual model below presents all the hypothesized relationships in this research in the context of online community.
3. Methodology

The earlier chapters discussed the critical factors which increase willingness to contribute and presented the research model based as well as hypotheses. This chapter argues and explains the chosen approaches and methodology for this thesis. Further, it justifies why a quantitative research approach is chosen as well as gives an explanation to how will be analyzed.

3.1 Research approach

Research approach refers to the choices that researchers make in order to approach specific research problems (Bryman and Bell, 2011). In a research approach two choices have to be made: first, a inductive or deductive research and second, a quantitative or qualitative research, (Ibid).

*Inductive approach* is a research method which aims to generate new theories (Bryman and Bell, 2007; Greener, 2008). It starts with the study of a situation which could be a business problem or an economic issue, collecting data, finding the patterns, formulating and testing hypotheses and eventually drawing conclusions and developing the theories (Ibid). *Deductive research approach*, on the contrary, is based on the existing theories in order to investigate research hypotheses, the result will verify or reject the theory with the aim of applying it to a new context (Ibid).
Qualitative and quantitative researches are different approaches chosen based upon the purpose of the study (Bryman and Bell, 2011). *Quantitative research* relies primarily on the collection of numerical data (Hussey and Hussey, 1997; Johnson and Christensen, 2012). Its main focus is to detect, identify and measure the relationships between different variables, or testing theories (Bryman and Bell, 2011). Quantitative data is often collected in forms of surveys, interviews or from archives (Ibid). *Qualitative research*, on the other hand, focuses on gathering in-depth data, such as words and pictures (Ibid). Qualitative data collecting is often done verbally by interactions with individuals, organizations or through observations (Gray, 2009).

In order to meet the purpose of this paper, there was a need to apply an already existing theory for all the concepts to test a new series of relationships, therefore a deductive research method was applied. Moreover, this study aimed to explain the relationships between the chosen factors and willingness to contribute, in order to have generalized answers, this research needed to collect as many responds as possible. Therefore, quantitative research method was more suitable than qualitative.

### 3.2 Research Design

A research design is mainly used to lead the researchers from one point to the other and to make sure that the empirical data collected is related to the research questions (Yin, 2002; Maxwell, 2005). There are three types of research design: exploratory, descriptive, and explanatory (Brown and Suter, 2011). *Exploratory research design* aims to give a better perception of an existing situation and therefore, search for patterns or trends (Greener, 2008; Gray, 2009). Moreover, according to Brown and Suter (2011) exploratory investigations are commonly carried out at early stages of a project to clarify the research problem and to produce hypotheses. A *descriptive research design* is appropriate when the focus lays on finding facts about a specific subject of interest with an important concern on relevant variables (Brown and Suter, 2011). Moreover, descriptive studies are commonly used to describe characteristics, opinions and behaviors of certain groups (Gray, 2009). An *explanatory research design* is used to explain and account descriptive information (Gray, 2009). Therefore, explanatory studies pursue to answer "why" and "how" (Gray, 2009). Moreover, explanatory investigations examine how one variable determines or influence the value of another variable (Brown and Suter, 2011).

Due to the purpose of this study, explanatory research design was used for this study since this aims to explain how variables influence other variables. Further, this research created a model that has
never been used or tested, which needed hypotheses in order validate or reject them. Consequently, this research was certainly explanatory. Finally, the delimitations of the study were to apply the research into a single specific target group (Generation Y), therefore this research was as well multi cross-sectional since it took place in Sweden, China and Spain.

3.3 Data source

Broadly, data sources could be classified into two categories which are primary and secondary data (Bryman and Bell, 2007). Secondary data is already available data. For secondary data, researchers do not collect for themselves, rather, it was collected for another project to solve another research problem (Ibid). A major advantage of secondary data is that the variety of sources which could include governmental bodies, literatures, newspapers, electronically stored information (Cowton, 1998). However, researchers usually need more or other types of data than the existing information and therefore needs to induce new data (Christensen, 2010). *Primary data* is newly induced data, it is the information freshly collected by the researchers specifically for the actual research with the mean to resolve the research questions (Saunders et al., 2009; Christensen, 2010). Therefore one of the obvious advantages of using primary data is that the data is up-to-date (Ibid). In addition to that, primary data is tailor-collected for particular research questions, the relevance of data is high as well (Ibid).

This research aimed to test a series of relationships that have never been tested before, primary data, a more up-to-date data will be beneficial for this research to reach its aim. In addition, in order to test the relationships primary data are favorable since its tailor-collected feature.

3.4 Research strategy

It is of high importance to determine the research strategy since this defines the general path of data collecting processes for a study (Yin, 2002; Gray, 2009). According to Yin (2002), there are five research strategies that can be chosen in order to conduct a research. The first strategy is called *experiment strategy* and is used where the purpose of a study achieve causal findings with a high level of internal validity (Bryman and Bell, 2005). The second is called *survey strategy*, this can be described as a system for collecting information with purpose to describe, compare, or explain knowledge, attitudes and behaviors (Bryman and Bell, 2005). Most surveys are conducted using questionnaire and these can be either analytical or descriptive. The third possible research strategy is the *archival strategy*, the idea behind archival strategy is to observe a scenario which is independent of the researchers and measure the outcomes of it. Those observations can be translated
to the use of documents and archives. The next kind of research strategy is *historical strategy* which aims to explore the historical context of a field (Gray, 2009). The last strategy is called *case study*, this undertakes in depth investigation of specific elements which can be for example, an organization or a website (Parasuraman et al., 2007).

Considering the purpose of this study, survey, archival analysis and case studies were the three strategy options for this research. However, since there was as well a need for learning about people beliefs and report their behavior, survey was the most suitable strategy for this research. Furthermore, the available time scale also determines the choice (Gray, 2009) since this study was of short-term and intended to collect data at one point in time, survey strategy was shown to be the most appropriate choice.

### 3.5 Data collection method

Before collecting data, a researcher has to decide between a large assortment of collection methods. Although, there seems to be some data collection methods that are more use than others and those are; questionnaires, interviews, focus groups and secondary data (Yin, 2002; Bryman and Bell, 2005). When it comes to quantitative studies, questionnaire instrument tends to be the first choice when applying a survey strategy since it is the most effective way to gather data from a large sample (Saunders et al., 2009). The use of questionnaire has also negative consequences, there exist a main issue when choosing questionnaire as data collection method and it has to do with accuracy since the researcher does not have the option to go back in time and collect the data once it has been already collected (Bryman and Bell, 2005; Saunders et al., 2009).

For the current research, questionnaire is the data collection method utilized since, according to Saunders et al. (2009), questionnaire is usually use in quantitative explanatory research. Additionally, the main reason for choosing questionnaire was that the purpose of this study required a big amount of data collected.

### 3.6 Data collection instrument: Operationalization

Operationalization is the process to connect theories to reality (Bryman and Bell, 2007). In order to measure a concept it is crucial to identify it in connection to the real world scenario (Schensul et al., 1999). One way to do this is to formulate questions accordingly to the measurable definitions that
the respondents will be able to understand (Saunders et al., 2009). Operationalization increases transparency and clarity of the process, it makes a study more coherent for the reader as well as the other researchers (Schensul et al., 1999). As previously stated when selecting deductive approach, operationalization is crucial in order to provide measurable concepts accordingly with the theories (Saunders et al., 2009). There are four steps included in an operationalization, namely, (1) defining key concepts based on identified literature, (2) providing operational definition of key variables (3) finding and listing potential measures for key variables (4) develop measures for the particular concepts (Amo and Cousins, 2007). The operationalized concepts of this research are shown in the table below.
<table>
<thead>
<tr>
<th>Concept</th>
<th>Operationalization</th>
<th>Measure</th>
<th>Questions for the same concept in previous studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudinal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness</td>
<td>I would willingly share with this individual the latest information of the organization I have learned (Holste, 2010).</td>
<td>(1) Yes, I agree to that. (2) No, I disagree.</td>
<td>1. I find my participation in blogs can be advantageous to me and others. 2. I would willingly share with this individual the latest information of the organization I have learned (Holste and Fields, 2010). 3. I think that participating in blogs can improve reciprocal benefits. 4. I find that writing and commenting on blogs can be mutually exclusive.</td>
</tr>
<tr>
<td>Reciprocity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification</td>
<td>I have the feeling of togetherness or closeness in the BlueShop virtual community (Chiu et al., 2006).</td>
<td>(1) Strongly agree (2) Agree (3) Neither agree nor disagree (4) Disagree (5) Strongly disagree</td>
<td>1. Members in the BlueShop virtual community will always keep their promises they make to one another. 2. Members in the BlueShop virtual community will not take advantage of others even when the opportunity arises. 3. Members in the BlueShop virtual community are going to follow commonly accepted codes of conduct. 4. Members on blogs keep close ties with each other, which is a set of values, principles and norms.</td>
</tr>
<tr>
<td>Social</td>
<td>Members in the BlueShop virtual community behave in a consistent manner (Chiu et al., 2006).</td>
<td>(1) Strongly agree (2) Agree (3) Neither agree nor disagree (4) Disagree (5) Strongly disagree</td>
<td>1. Members in the BlueShop virtual community show a high level of emotional benefits (Hur et al., 2008). 2. Members in the BlueShop virtual community provide some functional or emotional support to maintain a relationship which is attributed to the pride of belonging, feeling of togetherness and positive emotions to online communities (Chiu et al., 2006; Hsu and Lin, 2008). 3. Members in the BlueShop virtual community are active in organizational rumors, if significant (Holste and Fields, 2010).</td>
</tr>
<tr>
<td>Commitment</td>
<td>Members of the Blue Shop community are members who have common interests (Hsu and Lin, 2008).</td>
<td>(1) Strongly agree (2) Agree (3) Neither agree nor disagree (4) Disagree (5) Strongly disagree</td>
<td>1. I am willing to contribute to the Blue Shop community. 2. I would willingly share with this person rules of thumb, tricks of the trade or behavior of the other party to test social proof, namely: regular consumers, friends, family and personal communities. 3. I find my participation in blogs can be advantageous to me and others. 4. I find that writing and commenting on blogs can be mutually exclusive.</td>
</tr>
<tr>
<td>Trust</td>
<td>Members in the BlueShop virtual community promises they make to one another (Chiu et al., 2006).</td>
<td>(1) Strongly agree (2) Agree (3) Neither agree nor disagree (4) Disagree (5) Strongly disagree</td>
<td>1. I am an actively participating member of the community (Kim et al., 2008). 2. I have the feeling of togetherness or closeness in the BlueShop virtual community (Chiu et al., 2006). 3. Members in the BlueShop virtual community behave in a consistent manner (Chiu et al., 2006). 4. Members in the BlueShop virtual community are going to follow commonly accepted codes of conduct.</td>
</tr>
</tbody>
</table>

Table 1: Operationalization
3.7 Questionnaire design

The purpose of the questionnaire was to collect data which aiming to measure the chosen concepts in regard with online communities. (See appendix 1 for the English version of the questionnaire).

A cover letter is needed in the introduction of the questionnaire to introduce the research topic and purpose (Bryman and Bell, 2005). For this study each of the versions (Chinese, Spanish, and Swedish) included the same cover letter where the purpose of the study was explained as well as the information of some key concepts and information such as anonymous answers or contacts detail.

Structure of the questionnaire

For this study, a standardized questionnaire was used meaning that all the questions were positioned in a certain order and answers were formulated in the same way since it enables an easier analysis (Bryman and Bell, 2005). All of the questions were close-ended questions, meaning that the responder could only choose one of the alternatives (McMurray, 2010). Additionally, the questionnaire was structured into two sections: general questions aiming to identify the target population (Generation Y) and specific questions using a five-point scale aiming to measure the chosen concepts (trust, identification, commitment, social proof, reciprocity and willingness to contribute). Lastly, the questionnaire ended with an open-ended question with a blank box in order for the respondents to write anything they wanted.

Likert scale

When it comes to choosing a scale, it is recommended to choose between three to seven point scale if the aim is to indicate a degree of something (Johnson and Christensen, 2012). For this investigation a five-point scale was used since the some of the previous studies the questions were based on, were using five-point scale. Additionally, nominal and ordinal scales were used in this study. Nominal since the questionnaire had questions regarding gender or age group and ordinal since it also had questions regarding non-numeric concepts such as trust where 1 stand for strongly disagree and 5 for strongly agree (Gray, 2009).

Conduction

For the purpose of this study the questionnaire was posted via google questionnaire in several online groups with Spanish, Swedish and Chinese members. It is known that the advantage of online questionnaires is the fast speed, convenience and low cost (Johnson and Christensen, 2012).
Moreover, in order to increase the amount of Swedish respondents, a self-administered questionnaire was used, meaning that questionnaires were printed out and administered face-to-face (Gray, 2009).

3.7.1 Pre-testing

Before the questions send out for the survey, a pretest is required in order to estimate if the measures equal the questions developed in the interview guide (Bowden et al., 2002). It can be achieved by allowing relevant persons test if the questions are appropriate for the survey in terms of its structure and language (Ibid). The value of a pretest lies in its ability to uncover problems regarding to the questions (Reynolds and Diamantopoulos, 1998). It is suggested that pretesting should continue until it no longer results in changes to the interview questions (Ibid).

The pretest of the questionnaire was done by sending the operationalization and questionnaire to two academics and experts at Linnaeus University. These professors were chosen due to their area of expertise, marketing focus. Moreover a second pretest was done with possible respondents in order to see if the answers were understood correctly.

3.7.2 Data collection procedure

After the pre-test, the questionnaires were both uploaded online as a website and printed. Therefore the data collection procedure consisted of two parts. One was send out the link of the questionnaire online through multiple ways, such as, personal email, personal or group contact on different social medias, On the other part, the printed questionnaires were handed out to the people the authors met in the street, coffee shop or library.

3.8 Sampling

Sampling techniques can be divided into two different categories: random probability sampling and nonrandom sampling (Johnson and Christensen, 2012). Random probability sampling is related to the random selection of a sample in which each member of the population is in equal chance to be selected (Gray, 2009). A nonrandom sampling technique means that there is no chance on knowing the chances that a respondent has for being selected (Johnson and Christensen, 2012). Within nonrandom sampling, it can be found convenient sampling (the selection of a sample which is available to the researcher because of accessibility) and snowball sampling (uses a small group who
are relevant to the topic and then uses these to contact more respondents) (Bryman and Bell, 2005; Gray, 2009)

This study used a non-random sampling approach as the respondents of the sample did not have an equal chance to be chosen. Under non-random sampling, this research applied convenience sampling since the researchers aimed to target the “Generation Y” in countries such as in China, Spain and Sweden which can be easily access for researchers who are belong to the “Generation Y” which makes it easier for them to conduct the survey.

3.8.1 Sampling Frame

The sample for this survey is Generation Y. Generation Y had been chosen because their characteristics match with the features of crowdsourcing companies which have a target of online crowd. It is well known that Generation Y is those people who grow up within a time period where they have had constant access to technology with Internet (computers, mobile phones) (Pinzaru et al., 2013). According to Pinzaru et al. (2013) the age group of Generation Y is between 18 and 38. In accordance to convenient sample there were three countries chosen to conduct the survey which are China, Spain, and Sweden. The reason was that the researchers of this paper are from China and Spain who are currently studying in Sweden.

3.8.2 Sample selection and data collection procedure

After the sampling frame have been established, it is necessary to decide the amount of responders needed. In order to do so, the confidence level needs to be decided. For this study the confidence interval is 0.95% since it is the most common when conducting marketing research (Gray, 2009). This number represents a range in which the population is expected to lie (Ibid). Moreover the standard deviation and the confidence interval need to be decided as well. On one hand standard deviation is related with how far individuals’ responses vary from the mean, for the current study a deviation of 0.5 is taken. On the other hand, confidence interval (or margin error) is needed since it provides that the sample is normally distributed, the chosen number needs to be close to 100%, in this case, 1.96 for 95% confidence level is chosen (Smith, 2013). Therefore, the following formula was used in order to calculate the necessary sample size:

\[
Necessary \ Sample \ Size = (Z\text{-score})^2 - StdDev^2(1-StdDev) / (\text{margin of error})^2
\]

\[
= ((1.96)^2 x .5(.5)) / (.05)^2
\]

\[
= (3.8416 x .25) / .0025
\]
3.9 Data analysis method

According to Bryman and Bell (2007), there are two approaches to analyze quantitative data: computer software or mathematical formula. This study chose to work with a computer software called SPSS. In order to use SPSS, there are four steps required: Data coding, Data entry/transcribing, Data examination and Analysis (Malhotra and Birks, 2003). Since the aim of this research is to explain the various relationships, reliability analysis, correlation analysis, regression analysis are chosen for the analysis methods.

Handling missing data

When doing research with human, it is rare to obtain complete data from every case. Missing data can either reduce the efficiency of statistical inference or render it incorrect. Therefore it is important to inspect the collected data file for missing data (Gray, 2009; Pallant, 2011). For this research, only cases of full data on all of the variables are considered. Even if there is data missing for one piece of information, the whole single case will be totally excluded from all the analyses.

3.9.1 Measurements

When analyzing data, it is important to understand how to interpret the statistical variables and its numbers (Gupta, 2000). Following, a brief explanation of the statistical variables used when analyzing the survey results.

The connection between dependent variable and independent variable is displayed with R Square. It shows how percent of variances in the dependent variable can be explained by the variance in the independent variable (Gupta, 2000; Pallant, 2011). R Square takes value from 0 to 1. At 0, R Square shows there is no correlation between measured variables (Pallant, 2011).

Significance or p-value explains whether tested variables have made significant contribution to the prediction of the dependent variables (Pallant, 2011). When $0.01 < p$-value $< 0.05$, it can be said that the contributions of tested variables are significant. P-value is connected to Beta value (Gupta, 2000). Beta is used to compare the variable’s contribution in the prediction of dependent variables.
Variable with the highest Beta coefficient represent the strongest prediction of the dependent variable (Pallant, 2011).

3.9.2 Descriptive statistics

Descriptive statistics are used to describe and compare variables numerically. It aim to summarize a sample (Gravetter and Wallnau, 2008). According to Saunders et al. (2009) there exist two main uses of descriptive statistics, which are called central tendency and dispersion. Measures of central tendency are commonly including median, mode and mean, while measures of dispersion include standard deviation, the maximum and minimum values of the variables (Saunders et al., 2009).

3.9.3 Correlation analysis

Correlation analysis is used to describe causal relationships between variables and therefore whether the change in one variable is followed with a change in another one (Gravetter and Wallnau, 2008). The changes between variables are illustrated by the use of dependent and independent variables. Dependent variables aim to cause an effect on independent variables (Saunders et al., 2009). Additionally, according to Greener (2008), the correlation analysis is calculated by Pearson’s r number which goes between -1.00 and 1.00. The closer it goes to 1 the strongest relationship and so the other way around (Ibid). However, it is of high interest to highlight that when there correlation is greater than 0.9 the variables become indistinguishable and therefore are measuring the same concept (Pallant, 2011). Lastly, it is known that p-value for the business research field needs to be at a maximum of 0.05 (p<0.05) in order to be accepted in the field (Greener, 2008; Bryman and Bell, 2011).

3.9.4 Regression analysis

Regression analysis is as well used to explore relationships between independent and dependent variables. The difference between correlation and regression analysis is that this last one aims to explore this correlation in a more detail manner (Pallant, 2011). Additionally, regression is used in order to understand whether the chosen set of variables are predicting a particular outcome (Ibid).
3.9.5 Dummy variables

Dummy variables take a value of 0 or 1 in order to indicate membership in any mutually exclusive and exhaustive category. For regression analysis, dummy variables are used to discover whether the dependent variable is influenced not only by quantitative variables such as outcome but also qualitative variables such as gender (Skrivanek, 2009).

3.10 Quality Criteria

Quality in a study is achieved through validity and reliability (Yin, 2002). Gray (2009) argued that the most important validities are content, construct and criterion validity. Content validity is correlated with the accuracy in the measurements utilized for each concept analyzed. It is to create a match between what is theory and what is tested. In order to measure content validity the researchers can contemplate evaluations of their work by experts or third parties (Bryman and Bell, 2005). For the current investigation, content validity was obtained as explained above by the performance of a pre-test with experts and potential respondents who gave recommendations and the approval of running the questionnaire. Construct validity is related to the quality of the operationalization of the chosen concepts Therefore, construct validity establish whether or not the investigation is claiming what it is supposed to be investigating (Gibbert et al., 2008). For the current study, construct validity has been achieved by the use of a correlation test. According to Gibbert et al. (2008) a strong positive correlation between an independent variable and a dependent variable is an indicator for the achievement of validity in a study as well as the use of hypothesis based on established theories. Criterion validity aims to compare new measures with existing and accepted measures for a concept. There needs to be a high correlation between the new measures in order to possess criterion validity (Gray, 2009). In regard with the concepts used for the current research, the vast majority of the measures were well established measures since the utilized questions were adapted from existing previous research.

Reliability is known by being an indicator of consistency between two equal measures. Therefore, reliability aims to let other researchers replicated a same study in another period of time (Gray, 2009). In order to measure reliability, a researcher can use Cronbach alpha to measure reliability. Cronbach alpha calculates internal validity in all possible split-half reliability coefficients, its number can go between 0 and 1 (Saunders et al., 2009). Cronbach alpha needs to be greater than 0.7 for every used construct in order to confirm reliability (Bland and Altman, 1997). If alpha goes between 0.6 and 0.7 it is said to be questionable and when it is lower than 0.6 it becomes invalid.
According to Saunders et al. (2009), when using adapting questions from previous studies, reliability increases since those previous questions have already got the acceptance.

3.11 Summary

<table>
<thead>
<tr>
<th>Research Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research approach</td>
</tr>
<tr>
<td>Research design</td>
</tr>
<tr>
<td>Data sources</td>
</tr>
<tr>
<td>Research strategy</td>
</tr>
<tr>
<td>Data collection instrument</td>
</tr>
<tr>
<td>Sampling</td>
</tr>
<tr>
<td>Data analysis method</td>
</tr>
<tr>
<td>Quality criteria</td>
</tr>
</tbody>
</table>

Table 2: Summary of research methodology

4. Analysis and results

*The previous chapter discussed and explained the chosen methodology for this research. It also described the used method for data gathering and a description of the data analysis. This chapter presents the data survey results with explanations and use of tables. The chapter is first presenting information in general (405 questionnaires with no distinction of countries) and afterwards relevant information regarding each country is presented.*

4.1 Descriptive statistics

*Response examination*

Although 384 responses were required according to the calculation in the method chapter, a total amount of 435 responses were collected. Only 405 of them were valid after eliminating from the study all those responses that did not match with the requirements of the sample frame. Only responses from people with Chinese, Spanish and Swedish nationality were valid, as well as people with ages between 18 and 38 (Generation Y). For the total amount of 405, 155 were from China, 122 from Spain and 127 from Sweden.
Gender, age and level of education

When it comes to gender, a total amount of 237 responses were made by females (58.5%) and 168 by males (41.5%). In regards with the age group, the majority of the respondents were between 18 and 30 (83.5%), followed by the next group 31 to 38 (16.5%). Lastly, the level of education of the respondents varied. 269 respondents had a university degree or similar (66.4%), 86 had a Master degree (21.2%) and the rest was categorized in other groups such as Doctor, secondary school or others.

Average of response rate (mean)

The descriptive statistics represents the average of what the respondents have answered in their questionnaires evaluations. In order to measure all the concepts, this research used a five-point scale. Number 1 was called “strongly disagree” and number 5 was called “strongly agree”. Of a total amount of 405 answers, the result of the respondents’ showed that the average values of trust, commitment, identification, social proof, reciprocity and willingness to contribute were 3.06, 3.22, 3.29, 3.66, 3.56 and 3.73 respectively.

4.2 Quality Criteria

Reliability and Validity

In order to ensure reliability and based on the method chapter, a Cronbach alpha test was done for all the variables. Moreover in order to ensure the validity, a correlation test was performed for all the variables. Table 3 shows the reliability and validity results.
As a result, all the items included in the model showed an appropriate level of reliability. The lowest level was found in identification (0.729 $\alpha$) meaning that all the items had an Alpha above 0.7 which consequently made them reliable. On the other hand, for validity, all the Pearson Correlation Value were <0.9 meaning that there existed correlation. According to Bryman and Bell (2005), if Pearson value goes between 0+ and 0.9 and the r is significant, there will always exist correlations. The higher the number, the higher the correlation.

**Relationship between factors**

Moreover, by having a look at the numbers the highest correlation for reciprocity can be found in identification with a Pearson value of 0.639, meaning that a change of 1 in identification increases reciprocity in 0.639. The second highest for reciprocity is found in social proof with 0.624 and followed by commitment with 0.574. The highest amount for willingness to contribute is found in reciprocity with a Pearson value of 0.681. Followed by social proof with 0.567, identification with 0.495 and commitment with 0.448. Contrary, the lowest correlation is found in trust for both concepts 0.309 for reciprocity and 0.343 for willingness to contribute. The literature states that this numbers are not bad, it is just that there exist a low correlation between them (Bryman and Bell, 2005).

Table 3: Reliability, Validity and Alpha

<table>
<thead>
<tr>
<th>Construct/Concepts</th>
<th>Cronbach $\alpha$</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trust</td>
<td>0.790</td>
<td>3.06</td>
<td>0.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Commitment</td>
<td>0.780</td>
<td>3.22</td>
<td>0.92</td>
<td>.362$^*$</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Identification</td>
<td>0.729</td>
<td>3.29</td>
<td>0.81</td>
<td>.415$^*$</td>
<td>.761$^*$</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Social proof</td>
<td>0.862</td>
<td>3.66</td>
<td>0.95</td>
<td>.306$^*$</td>
<td>.451$^*$</td>
<td>.520$^*$</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Reciprocity</td>
<td>0.850</td>
<td>3.56</td>
<td>0.89</td>
<td>.309$^*$</td>
<td>.574$^*$</td>
<td>.639$^*$</td>
<td>.624$^*$</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Willingness to contribute</td>
<td>0.851</td>
<td>3.73</td>
<td>0.93</td>
<td>.343$^*$</td>
<td>.448$^*$</td>
<td>.495$^*$</td>
<td>.567$^*$</td>
<td>.681$^*$</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pearson</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
4.3 Hypotheses Test

Dummy variables, China, Spain, Sweden, were included in the SPSS analysis, where 0, 1 represented China, and 1, 0 represented Spain. The beta and standard error values are presented in table 4 as well as the significant levels. The results in table 4 showed that country is a control variable. Countries are influential but the independent viable are the main predictors for hypotheses test. The results showed that hypotheses 1, 2, 3 were rejected (p > 0.05). Hypothesis 5 was supported at the p < 0.05 level. Hypotheses 4, 6, 7, 8, 9 were supported at the p < 0.01 level, which means that these independent variables had the most significant impact on their dependent variable.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control variable</strong></td>
<td></td>
<td></td>
<td><strong>Control variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
<td></td>
<td>Country</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>0.648</td>
<td>0.167</td>
<td>China</td>
<td>0.624</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>(0.71)</td>
<td>(0.182)</td>
<td></td>
<td>(0.07)</td>
<td>(0.159)</td>
</tr>
<tr>
<td>Spain</td>
<td>0.533</td>
<td>0.125</td>
<td>Spain</td>
<td>0.537</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td>(0.080)</td>
<td>(0.173)</td>
<td></td>
<td>(0.079)</td>
<td>(0.160)</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.494</td>
<td>0.095</td>
<td>Sweden</td>
<td>0.516</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td>(0.079)</td>
<td>(0.171)</td>
<td></td>
<td>(0.078)</td>
<td>(0.159)</td>
</tr>
<tr>
<td><strong>Dependent variable</strong></td>
<td></td>
<td></td>
<td><strong>Dependent variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness to contribute</td>
<td></td>
<td></td>
<td>Reciprocity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1. Trust has a positive impact on willingness to contribute.</td>
<td>0.046</td>
<td>0.059</td>
<td>0.100*</td>
<td>0.055</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H2. Commitment has a positive impact on willingness to contribute.</td>
<td>0.059</td>
<td>0.066</td>
<td>0.140**</td>
<td>0.055</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H3. Identification has a positive impact on willingness to contribute.</td>
<td>0.188**</td>
<td>0.469**</td>
<td>0.280**</td>
<td>0.067</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H4. Social proof has a positive impact on willingness to contribute.</td>
<td>0.188**</td>
<td>0.469**</td>
<td>0.280**</td>
<td>0.067</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H5. Reciprocity has a positive impact on willingness to contribute.</td>
<td>0.046</td>
<td>0.059</td>
<td>0.100*</td>
<td>0.055</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H6. Commitment has a positive impact on Reciprocity.</td>
<td>0.100*</td>
<td>0.140**</td>
<td>0.280**</td>
<td>0.055</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H7. Identification has a positive impact on Reciprocity.</td>
<td>0.055</td>
<td>0.066</td>
<td>0.140**</td>
<td>0.055</td>
<td>(0.044)</td>
</tr>
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<td>H8. Social proof has a positive impact on Reciprocity.</td>
<td>0.055</td>
<td>0.188**</td>
<td>0.280**</td>
<td>0.067</td>
<td>(0.044)</td>
</tr>
<tr>
<td>H9. Reciprocity has a positive impact on Reciprocity.</td>
<td>0.469**</td>
<td>0.188**</td>
<td>0.280**</td>
<td>0.067</td>
<td>(0.044)</td>
</tr>
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<td>R²</td>
<td>0.082</td>
<td>0.530</td>
<td>R²</td>
<td>0.023</td>
<td>0.548</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.077</td>
<td>0.522</td>
<td>Adjusted R²</td>
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<td>0.541</td>
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<tr>
<td>Change in R²</td>
<td>0.082</td>
<td>0.449</td>
<td>Change in R²</td>
<td>0.023</td>
<td>0.525</td>
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<tr>
<td>n=405</td>
<td>*p&lt;0.05; **p&lt;0.01</td>
<td>n=405</td>
<td>*p&lt;0.05; **p&lt;0.01</td>
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</tr>
</tbody>
</table>

Table 4: Hypotheses results

5. Discussion

The previous chapter presented the results of the questionnaire. This chapter offers a discussion of the data collected based on the earlier literature review. Further, the chapter discusses parallels and similarities between the theory and the findings. Finally, it provides the reader with the authors’ interpretations of what the theory explained and what the collected data revealed.

5.1 Factors that influence willingness to contribute

The results illustrated that, hypotheses 1, 2, 3 were rejected, which means trust, commitment and identification did not have a direct positive impact on willingness to contribute. These results elucidated that individuals that trust, commit or find attachment to identify themselves with the online communities, think that they do not necessarily have to contribute. Hence, the arguments of Cremer et al. (2001) and Chiu et al. (2006) were rejected since trust for this research does not increase the amount of communication sharing. The results also rejected the statements from Kim et al. (2008) which were that committed members were more willing to interact with other and participate into the community since for this research the fact of being a committed individual did not imply that they contribute to the communities. In addition, the theory of Hars and Ou (2001), Chiu et al. (2006) and Hsu and Lin (2008) cannot be confirmed by the results since members who were able to identify themselves in their chosen online community are not necessarily willing to participate and share in a significant extent.

Besides, the result showed that social proof has a positive impact on willingness to contribute, therefore hypothesis 4 was supported. This finding confirmed the argument that social proof was an important factor in the decision to contribute to online community where information was shared among a great number of people and could create a strong social impact (Cheshire, 2007; Amblee and Bui 2012). Moreover, the findings revealed that the more social proof, the higher the attitude towards contributing which was in line with Cheshire (2007) and Li (2011) theories. Lastly, hypothesis 9 was as well supported. Meaning that the results confirmed that participants in online communities expect reciprocal behavior from the other members in order for them to increase their attitudes towards contributing (Chiu et al., 2006).
5.2 Factors that influence reciprocity

When it comes to reciprocity and the factors influencing it, all the chosen predictors have a relationship with reciprocity, meaning that all the hypotheses are supported. For hypothesis 5 and according to the theory by Kahan (2003) and Malhotra (2004), it can be said that trust is a predecessor concept to consider for increasing reciprocity. Although, differing with Chiu et al. (2006), trust is not as strong as expected in online communities since it appears to be other factors that have a higher influence on reciprocity. When it comes to hypothesis 6, the theories of Cialdini et al. (1999) and Parzefall (2008) are supported since once an individual is committed to something, he/she tends to be more reciprocal. Although commitment is positively influencing reciprocity, there are predictors that have a higher influence on it. For hypothesis 7, the theory of Nahapiet and Ghoshal (1998) can as well be supported. There must be identification with the community in order to contribute as it is seen as welfare for the community. Consequently and according to Hars and Ou (2001), Chiu et al. (2006) and Hsu and Lin (2008), the more unity, the more contribution shared. These results are in line with the hypothesis 8. As a consequence, the theory explained by Cialdini (2014) can be supported since social proof increases the attitudes towards contributing within a community, in this case, online communities. Lastly, the importance of hypotheses 8 needs to be highlighted in the field of online communities and especially for increasing reciprocity since according to the results; its impact is the highest among the other factors.

6. Conclusion and contributions

The previous chapter provided the reader with a discussion of the findings which have led to the conclusions. This chapter presents the conclusion of the study as well as its theoretical contributions.

6.1 Conclusions

The purpose of this study was to explain the factors that influence consumers’ willingness to contribute to crowdsourcing organizations, by applying the reciprocity theory. The purpose was met by answering of the following three research questions.

What are the factors that influence willingness to contribute?

The findings of this research broaden appreciation of how the concepts of trust, commitment, identification, social proof and reciprocity determine willingness to contribute in some extent. In the general results, social proof and reciprocity were directly influencing factors of willingness to contribute.
contribute. Additionally, reciprocity tended to be more influential than social proof. This means that by improving social proof and reciprocity, the attitude of the online crowd towards contributing in online communities can increase significantly. Moreover, this research has also found that trust, commitment and identification were indirectly influencing willingness to contribute through reciprocity. Therefore, crowdsourcing organizations that aim to increase the amount of contributions and participation in their online communities need to focus on applying reciprocity.

What are the factors that influence reciprocity?
All the factors investigated in this research (trust, commitment, identification, social proof) were influential factors of reciprocity. Amongst these factors, social proof was the most influential, closely followed by identification. Besides, commitment and trust were found to be influential, although their influence was far less significant. Hence, crowdsourcing organizations should consider those factors in order to increase the level of reciprocity.

What is the relationship between reciprocity and willingness to contribute?
The findings revealed that reciprocity was playing the mediating role between trust, commitment, identification, social proof and willingness to contribute. This indicates that each of the factors indirectly influence willingness to contribute through reciprocity. Thus, crowdsourcing organizations that aim to increase the amount of contributions by the online crowd, should contemplate the creation of strategies that utilize the reciprocity theory.

6.2 Theoretical contributions
This investigation was inspired by the identified research gap. First of all, this study has considered the reciprocity concept as a mediator role between willingness to contribute, trust, commitment, identification and social proof. The reason was that reciprocity was considered as the mediating role for further purchase intentions in the research of Wu et al. (2008), this inspired the researchers of this paper to use reciprocity as a mediating factor for willingness to contribute in the context of crowdsourcing organizations. In this way, this study has contributed by investigating the mediating role of reciprocity in a new context which is crowdsourcing organizations that use online communities to target the online crowd.

Moreover, there were various studies focusing on trust (Wu et al., 2008; Kahan, 2003; Malhotra, 2004), commitment (Parzefall, 2008), social proof (Cialdini, 2014) and identification (Nahapiet and
Ghoshal, 1998) and their influence on reciprocity. However, there was not any research investigating these factors together in an integrated research. Therefore, this study contributes by the creation of a model where reciprocity plays the mediating role between these four factors and willingness to contribute.

Lastly, as demonstrated in the analysis chapter, some of the theories were supported while it also became evident that some were opposed, the findings of this research revealed that social proof had a positive impact on the online crowd’s willingness to contribute, either directly or indirectly, through reciprocity. The other three factors, trust, commitment, identification were indirectly influencing the online crowd’s willingness to contribute through reciprocity. This means that reciprocity plays a major role to explain willingness to contribute in the context of this study.

7. Managerial implications and further research

The previous chapter discussed the conclusions of this research as well as its theoretical implications. This chapter presents the limitations of this research managerial implications and further research suggestions.

7.1 Limitations

The limitations this research encounter have been first, the use of a sample which contained only three countries (Sweden, Spain and China), therefore, the general results might vary depending on how many countries there are in the study. Second, another limitation is related with the fact that the respondents had different online communities in mind since the aim of this research was to generalize the results.

7.2 Managerial implications

This research indicates that managers of crowdsourcing organizations should create a marketing strategy with the use of the reciprocity theory in order to increase the intentions of knowledge exchange through online communities’ users. Managers should apply the theory to the web pages aiming to create an effect where individuals feel that they own the organization the favor of contributing. An example could be to create some kind of rating points for the contribution users from the receiver users. The rating points that each user gets not only could be interpreted as a
matter of reputation but could also be beneficial for other things such as discounts in the organization. This could enhance individuals to reciprocate in order to receive those benefits.

Additionally, managers should also consider the determiners of reciprocity that this research has found especially social proof and identification. The higher these two variables are the higher reciprocity will be and the higher the attitude towards contributing will be since they are not only indirectly but also directly affecting willingness to contribute. Therefore, to create a strategy that aims to increase social proof and identification among their users is advisable. This can be done by offering web tools and web design support (user-friendly interface, harmonious web design, etc.) with the aim of improving the community’s interaction. A community with high frequency and volumes of interactions will also have stronger connection between members. Moreover, organizations should promote and encourage users to share (knowledge, content, etc.), this can be done by letting the organization being part of the community and by participating in it. This will in turn, create a strong sense of identity and increase the levels of social proof. At the end it is know that the more contributions from users, the more the online community is alive and appealing for other users.

7.3 Further research
First of all, this study only explained the relationship between chosen factors and reciprocity that influence online crowd’s willingness to contribute, therefore different factors should be investigated in the same context in order to find if there is any other factors that influence reciprocity or willingness to contribute. Secondly, this research found that trust, commitment and identification were not directly influencing willingness to contribute. Since this research did not cover the reason for that, it could be interesting to investigate it further. Thirdly, a further research could be as well to change the age target or choose another kind of control variable. Moreover, since the model varies from country to country, a further research could be to conduct the research for other countries and compare the results. In addition, a further research could investigate the culture differences between countries since this study suggests that there might be differences. Lastly, a research suggestion is to apply the same model to a different context and compare the results with this research.
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Youtube, (2014), “Statistics”, [online] Available at:
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London.
Dear participant,

We are two students from Linnaeus University in Växjö (Sweden) who are writing our master thesis, which is about online communities such as Wikipedia, Youtube, Linux. The main purpose of our study is to find out what makes members of online communities participate and contribute. The questionnaire consists of 21 questions and will take you 3-5 minutes to complete. Your answers will remain anonymous and only be used for research purpose. There is no right or wrong answers; it is your opinion what matters! You are welcome to contact us for more information: Ran Chan (rc222ag@student.lnu.se) or Angelica Rodriguez (ar222kt@student.lnu.se) Thank you very much! Your participation is of great value to us!

In the first part of this questionnaire, we would like to ask some general questions

1. Which is your gender? (Please select one)

   ○ (01) Female   ○ (02) Male

2. In which is your nationality? (Please select one)

   ○ (01) Chinese   ○ (03) Swedish
   ○ (02) Spanish   ○ (04) Other _______

3. To which of the following age group do you belong? (Please select one)

   ○ (01) -18   ○ (02) 18 to 30
   ○ (03) 31 to 38   ○ (04) 39+

4. Please select your highest level of education. (Please select one)

   ○ (01) Primary school   ○ (04) Master level
   ○ (02) Secondary school   ○ (05) Doctoral level
In the following part of this questionnaire we would like you to evaluate your attitude towards online communities (Youtube, Baidu Zhidao, Wikipedia, Lastfm, Pinterest, Flickr, Linux, Yahoo Answers…) and contributions (knowledge sharing, content creation, sharing of pictures, videos). Imagine you are answering questions based on the specific online community that you are familiar with. Your choices are between 1 and 5, 1 stands for strongly disagree and 5 for strongly agree. Please mark the number that corresponds with your opinion.

5. Specific questions

01(TRU1) Members in your chosen online community will not take advantage of others even when the opportunity arises.

(strongly disagree) 1 2 3 4 5 (strongly agree)

02(TRU2) Members in your chosen online community will always keep the promises they make to one another.

(strongly disagree) 1 2 3 4 5 (strongly agree)

03(TRU3) Members in your chosen online community would not knowingly do anything to disrupt the atmosphere in the community.

(strongly disagree) 1 2 3 4 5 (strongly agree)

04 (COM1) I have a sense of belonging to the chosen online community.

(strongly disagree) 1 2 3 4 5 (strongly agree)

05(COM2) I have psychological attachment to the members of the chosen online community.

(strongly disagree) 1 2 3 4 5 (strongly agree)

06(COM3) I think that exchanging opinion with other members of the chosen online community is important.

(strongly disagree) 1 2 3 4 5 (strongly agree)
07(COM4) I am an actively participating member of the chosen online community.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

08[ID1] I have the feeling of togetherness or closeness in the chosen online community.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

09[ID2] I have a strong positive feeling towards the chosen online community.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

10[ID3] Participating in the chosen online community would enhance my chance to meet members who have common interests.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

11[ID4] Members of the chosen online community keep close ties with each other, which is a communication channel to share social lives and information.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

12(SOC1) I am willing to contribute (knowledge sharing, content creation, sharing of pictures, videos) if I see other members in the chosen online community contributing.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

13(SOC2) I am willing to contribute if I see the experts of the chosen online community contribute.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

14(SOC 3) I am willing to contribute if I see my friends in the chosen online community contribute.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

15(REC1) I find that writing and commenting on the chosen online community can be mutually helpful.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)

16(REC2) I find that my participation in the chosen online community can be advantageous to me and other members of the community.

(Strongly disagree) 1  2  3  4  5 (Strongly agree)
I think that participating in the chosen online community can improve win-win benefits.

(strongly disagree) 1 2 3 4 5 (strongly agree)

I believe that members in the chosen online community would help me if I need it.

(strongly disagree) 1 2 3 4 5 (strongly agree)

I am willing to share my knowledge with anybody that asks for it in the chosen online community.

(strongly disagree) 1 2 3 4 5 (strongly agree)

I am willing to share my new ideas with other individuals of the chosen online community.

(strongly disagree) 1 2 3 4 5 (strongly agree)

I am willing to share with other individuals the latest news on the chosen online community, if they are significant.

(strongly disagree) 1 2 3 4 5 (strongly agree)

Thank you for your cooperation.

If there is anything that you would like to share with us, please use the space below:

Appendix 2: Further results

Comparison between countries

Tables 5, 6, 7 present the Cronbach Alpha value of all the concepts in all countries, China, Spain and Sweden. The majority Cronbach Alpha value were between 0.7 and 0.8, which means that they are reliable concepts. Only identification for Spain and Sweden showed a value above 0.6 and trust measured in Sweden had a 0.678. However, according to Bland and Altman (1997), when alpha value is between 0.6 and 0.7 it is said that the reliability is accepted. Therefore, all the concepts tested in the questionnaire are reliable. Regarding to the validity, the Pearson correlation value
showed that all the questions asked for each concept were valid since all the Pearson correlation value were lower than 0.9.

<table>
<thead>
<tr>
<th>Construct/Concepts for China</th>
<th>Cronbach α</th>
<th>Mean</th>
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<th>3</th>
<th>4</th>
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<td>3. Identification</td>
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| **. Correlation is significant at the 0.01 level (2-tailed).**

Table 5: Reliability, Validity and Alpha for China

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<th>Construct/Concepts for Spain</th>
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<td>1. Trust</td>
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| **. Correlation is significant at the 0.01 level (2-tailed).**

Table 6: Reliability, Validity and Alpha for Spain
### Table 7: Reliability, Validity and Alpha for Sweden

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<th>Construct/Concepts for Sweden</th>
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<td>5. Reciprocity</td>
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**. Correlation is significant at the 0.01 level (2-tailed).
* (Cronbach α) the measurement of the concept is only "acceptable"

### Relationship between factors

The highest correlation for reciprocity in China was social proof with 0.682 and the highest for willingness to contribute was reciprocity with 0.681. Meanwhile, the lowest correlation for reciprocity and willingness to contribute was trust with 0.440 and 0.332 respectively. Moreover, the highest correlation value for reciprocity in Spain was identification with 0.624, and the highest for willingness to contribute was reciprocity with 0.704. The lowest correlation values in Spain for reciprocity and willingness to contribute was trust with 0.417 and 0.390 respectively. Additionally, the highest correlation for reciprocity in Sweden was found in commitment with 0.638 and the highest in willingness to contribute was reciprocity with 0.636. On the other hand, the lowest value was found to be the same for reciprocity and willingness to contribute which is trust with 0.280 and 0.220 respectively.

### Hypotheses test for each country

As the results showed in table 8, for China, hypotheses 1, 2, 3, 5, 6 were rejected (p > 0.05); hypothesis 7 was supported at p < 0.01 level; besides, hypotheses 4, 8, 9 were supported at p < 0.001 level, meaning that these independent variables had the strongest impact on their dependent variables. In the case of Spain, hypotheses 1, 2, 3, 4, 5, 6 were all rejected (p > 0.05). Hypothesis 7 was supported at p < 0.01 level. Moreover, hypotheses 8 and 9 were supported at p < 0.001 level.
For Sweden, only hypotheses 8 and 9 were supported at $p < 0.001$ level, the rest hypotheses were all rejected ($p > 0.05$).

<table>
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<tr>
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<th>China</th>
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<th>Spain</th>
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<td>0.983</td>
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Table 8: Hypotheses results for each country

By seeing at the results, social proof in each country has a positive impact on willingness to contribute, either directly (for hypothesis 8 in all countries) or indirectly (for hypothesis 4 in China), through reciprocity. In addition, this research also found that social proof, in the case of China, was a very important factor (even more important than reciprocity) as its Beta values was higher than reciprocity. Finally, the hypotheses status presented that reciprocity played a significant role on willingness to contribute, since hypothesis 9 was accepted on a high level for all the countries.

Final overall results for comparison between countries

As the outcome showed, there are some differences and similarities between the countries (China, Spain and Sweden). First of all, reliability in all the countries appeared to be different since alpha in each variable varies for each country. Secondly, by seeing at the correlation analysis and by doing a regression analysis, every country has a different variable that makes the highest contribution to reciprocity (See table 5, 6 and 7). Moreover, another difference is that the model changes between countries, meaning that hypotheses are rejected and supported in a different way depending on the tested country. This could mean that country is a control variable and therefore,
country and culture make the model vary. Lastly, Reciprocity for each country seems to be a clear previous step for willingness to contribute.