Frank Born

The role of collaborative consumption

Will collaborative consumption develop from a niche into the new status quo?

Master's Thesis

Bibliographic information published by the German National Library:

The German National Library lists this publication in the National Bibliography; detailed bibliographic data are available on the Internet at http://dnb.dnb.de .

Imprint:

Copyright © 2013 GRIN Verlag
ISBN: 9783668177505

This book at GRIN:

https://www.grin.com/document/318593

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THE ROLE OF COLLABORATIVE CONSUMPTION

WILL COLLABORATIVE CONSUMPTION DEVELOP FROM A NICHE INTO THE NEW STATUS QUO?

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León (Spain), May 2013

Abstract

Changes in consumption patterns have always taken place. Never in the history, however, was the impact of humans on their surrounding environment that significant. The base of this impact is industrialization and the post World War II economic boom in the triad. The attitude towards buying changed dramatically with the start of hyper-consumption and the introduction of the credit system. Idealizing haves and admiring ownership impacted people and nations around the globe. The invention of the Internet gives rise to a completely new form of media. It allows the current and new generations to thrive on the developments. The Internet offers new marketplaces and acts as a medium to create new communities. The most recent developments indicate a revival of old virtues and arts of trading. Collaborative consumption is a developing and increasingly observable trend which includes many forms of sharing and trading and defines access as superior to ownership. This trend appears to be manifold and covers numerous traditional and new industries (Botsman, 2010).

The purpose of the thesis is to investigate if this trend can be considered as a phase, a niche, or if it can become a movement that will potentially redefine the way we do business. Will collaborative consumption develop into the new status quo?

The prediction to answer this question is supported by a thorough review of available statistics and articles. Additionally, a questionnaire was prepared and distributed to contacts in three major regions: North America; Europe; and Asia. The data will help to determine the future of collaborative consumption on a global scale. Although, using a small sample size from a limited number of countries is not ideal, it will allow empirical implications of the impact of collaborative consumption.

The reasons for this research are threefold. Firstly, if collaborative consumption becomes a leading form of consumption, it allows companies as well as entrepreneurs to either reposition their businesses or develop new and efficient ways of conducting business. This research can build the foundations for providing business owners with new tools and insights regarding socio-demographics and personality on collaborative consumption drivers, types and usage. Secondly, consumers will be able to better understand new possibilities and activities (e.g. communities, access over ownership). Thirdly, this study gives researches new ideas to identify different behaviors of people in the new digital age, allowing market researchers to gain new understandings of consumer behavior.

List of figures

List of tables

Table of contents

1 Introduction

1.1 Research questions

Consumption patterns are continually changing. With each new development in versatility, there are transformations in the observable consumption patterns. An investigation of recent studies indicates that a major shift is imminent. The main question that this paper will be analyzing is whether collaborative consumption will develop from a niche into a new status quo. The paper will draw conclusions of the impact of collaborative consumption on business, entrepreneurs, consumers, and researches. In order to answer this question, the following research questions will provide an appropriate framework for investigation:

- What is collaborative consumption?
- What are the underlying indicators, systems, and principles of collaborative consumption?
- What are the key drivers of collaborative consumption?
- What led to the emergence of new forms of consumer behaviors?
- What leads to the assumption that collaborative consumption has the potential to turn into a dominant means of conducting business?

These questions will be investigated through a literature review. Furthermore, the following questions will be a part of the empirical study:

- What are current collaborative consumption patterns?
- What are the main types of collaborative consumption that participants use?
- Is there a direct influence from the socio-demographics as well as personality on the different types of collaborative consumption?
- What are the key drivers for participating in a specific type of collaborative consumption?
- What are the reasons for participants not to participate more often in collaborative consumption?
- Is there a direct influence of socio-demographics as well as personality on drivers?

Finally, future trends and managerial implications will be outlined. Chapter 2 is concerned with the definition, forms, principles, and drivers of collaborative consumption. Chapter 3 will define hyper-consumption as the currently dominant form of consumption in North America, Europe, and Asia. The chapter will investigate the impact of hyper-consumption on society, the economy, and the

environment. The empirical study will be analyzed in Chapter 6. Therefore, consumption patterns and attitudes towards collaborative consumption will be part of the exemption. The results will draw conclusions regarding managerial implications, explain limitations, and suggest future research possibilities in Chapter 7.

1.2 Preliminary definitions

Two preliminary concepts of this thesis are collaborative consumption and hyper-consumption. It is first necessary to give a short definition before detailing and analyzing the concepts in the corresponding chapters thoroughly. Collaborative consumption "describes the rapid explosion in traditional sharing, bartering, lending, trading, renting, gifting, and swapping reinvented through network technologies on a scale and in ways never possible before" (Movement, n.d., para. 1). Collaborative consumption provides easier access to products and services, enables the participation in communities, and reduces costs (Botsman & Rogers, 2011, pp. xv-xvi).

Hyper-consumption is currently the dominant form of consumption in North America, Europe, and wide parts of Asia. Hyper-consumption describes the excessive using up of resources and the creation of unsustainable behaviors (Boradkar, 2010).

These two forms are not opposites because their primary fundament is consumption. Nevertheless, it is the different approach towards consumption that creates the contrast.

This research paper will refer to North America and Europe. The North American region encompasses Canada, Mexico and the United States of America. The European region includes all of the countries allocated to Europe by the United Nations in the "Composition of macro geographical (continental) regions" (United Nations, 2013).

The definition of personality refers to the Myers-Briggs Type Indicators (MBTI). The indicators are divided into four dichotomies: favorite world (extraversion or introversion); information (sensing or intuition); decision (thinking or feeling); and structure (judging or perceiving) (The Myers & Briggs Foundation, n.d.). Extraversion (E) and introversion (I) "explain different attitudes people use to direct their energy." Extraverts "like to spend time in the outer world of people and things" and introverts prefer the "inner world of ideas and images" (The Myers & Briggs Foundation, 1997a, para. 1-2). Sensing (S) includes the "attention to

information that comes in through your five senses" and intuition (N) includes the "attention to the patterns and possibilities that you see in the information you receive" (The Myers & Briggs Foundation, 1997b, para. 1). Thinking (T) "put[s] more weight on objective principles and impersonal facts" and feeling (F) "put[s] more weight on personal concerns and the people involved" (The Myers & Briggs Foundation, 1997c, para. 1). Judging (J) refers to people who "prefer a more structured and decided lifestyle" and perceiving (P) to people that prefer "a more flexible and adaptable lifestyle" (The Myers & Briggs Foundation, 1997d, para. 1). These eight types are used to categorize 16 different personalities. In this research, the different dichotomies are compared to see if differences in collaborative consumption can be observed between the eight types.

1.3 Research structure

The research methodology consists of two main parts. The first part (Chapter 2, 3 and 4) is a scholarly research, and the second part (Chapter 5 and 6) consists of an empirical quantitative study.

The scholarly research is based on a literature review of sources from the library as well as online books, journals, academic and newspaper articles, statistics, conference talks and trends on the World Wide Web. The North American, European, and Asian regions alike were the primary focus when analyzing types of collaborative consumptions.

The empirical quantitative study is based on data collected from a survey. The survey was distributed to participants of each of the selected regions. The survey covers topics including participation in collaborative consumption, changes of the consumption pattern, drivers to use collaborative consumption, and the socio-demographic background of the participants.

The nationalities of the participants were clustered and divided into the following regions: North America; Europe; and Asia. Personal and communal networks were utilized to invite participants to the study. SPHINX software was used to design an online questionnaire which was then distributed via email and social media sites (e.g. *facebook.com*, *twitter.com* ...) to the participants. Sphinx was also used to analyze the results of the questionnaire. The software is equipped with all the features needed for a proper statistical analysis of the responses. The online survey includes various scales (e.g. Likert scale), which are based on the results of the theoretical section. The survey consists mainly of closed questions with the option to

include further examples. This benefits the study by providing a broad spectrum of opinions towards collaborative consumption. Global trends will be observable when analyzing responses from three continents.

The last two chapters are reflecting on what has been discovered throughout this analysis. These chapters provide recommendations for businesses and make suggestions for further research.

2 Collaborative consumption

2.1 Definition

The term collaborative consumption went through several changes since its first definition. Felson and Spaeth (1978) defined collaborative consumption as "events in which one or more persons consume economic goods or services in the process of engaging in joint activities with one or more others" (p. 614). This definition included all activities that consumers can do together or separate from one another, e.g. any social or leisure activities. However, Felson and Spaeth focused on routine activities of consumption (e.g. usage of the same car in a household or using a common washing machine for an apartment building) and "community activities [that] will have an important impact upon the extent of collaborative consumption" (p. 617).

Algar (2007) added other components to the definition such as the sharing of information over the Internet. In the center of the analysis is the increase of bargaining power of consumers when it comes to price settings of companies. This developed into crowd-power, which is not only reflected in simple consumer recommendations, but also seen in an increase of online communities.

Meroni (2007), as well as Jégou and Manzini (2008) did not directly use the term collaborative consumption but investigated various options for sustainability through the expansion of innovations in areas such as technology and production. In both cases, the center of attention belongs to the development of systems innovations, the improved efficiency and accessibility in which individuals and communities play a major role. Meroni focuses in this regard on creative communities. Jégou and Manzini continue this research and analyze how these communities are able to positively influence local developments.

Botsman and Rogers (2011) built on the previous definition and developed a combination of ideas to unify the term collaborative consumption. Their definition envelops a large range of applications and makes the size of collaborative consumption manageable. That is why Botsman and Rogers (2011) do not provide one clear definition in their book, but rather sets of sub-definitions, which can be summarized as follows:

"Collaborative Consumption [entails] traditional sharing, bartering, lending, trading, renting, gifting and swapping, redefined through technology and peer communities." In which collaboration "may be local and face-to-face, or it may use

the Internet to connect, combine, form groups, and find something or someone to create 'many to many' peer-to-peer interactions." Important components of collaborative consumptions are "access to products and services over ownership" and "innovative systems based on shared usage" which "provide significant environmental [and social] benefits" (pp. xv-xvi).

In their book, Botsman and Rogers provide drivers, systems, and principles applied to collaborative consumption. With the help of the previous definitions, it is possible to summarize the components that are part of collaborative consumption (Table 1).

Table 1
Components of collaborative consumption

Collaborative Consumption			
Indicators	Key Drivers	Systems	Principles
• Value Shifts • New marketplaces • The new generation	• Peer-to-peer technologies • Community • Environmental concerns • Price consciousness • Experience • Access over ownership • Profits	• Product service systems • Redistribution markets • Collaborative lifestyles	• Critical mass • Idling capacity • Belief in the commons • Trust between strangers

Note. This table gives an overview of key drivers, systems, and principles of collaborative consumption. Adapted from *What's mine is yours: How collaborative consumption is changing the way we live*, by R. Botsman and R. Rogers, 2011, London: HarperCollins Publishers.

In the following chapters, there will be an explanation and an analysis of the indicators, key drivers, systems, and principles of collaborative consumption.

2.2 Indicators

Indicators for collaborative consumption are observable changes that show global impacts, which can potentially alter the way business works nowadays. So far three indicators were extracted that can explain why there is an emergence and shift towards collaborative consumption. Indicators can be value shifts, the new digital generation, and new emerging marketplaces.

2.2.1 Value shifts.

In order to analyze if there are actual changes in values, one has to look from a global perspective. Technology can connect people, but a connection does not necessarily imply sharing values. Culture plays a vital role and defines different regions in the world. The values of the American, European, and south-east Asian culture are fundamentally different. Hofstede (1980) showed wide reaching cultural differences not only between regions, but also between neighboring nations. Individualism is highly dominant in European and American cultures, whereas many Asian cultures tend to be more collectivist. On the one hand, countries like Japan, the U.S., and Germany have masculine values. On the other hand, northern European countries tend to follow a more feminine dimension. In Europe, new studies distinguish between traditional/rational and survival/self-expression values (Beugelsdijk, Schaik, & Arts, 2006).

Adam Smith's idea that was also supported by Milton Friedman led to the assumption that, through the pursuit of self-interest, there will be a benefit for society as a whole (Botsman & Rogers, 2011, p. 42). This concept is neither correct nor wrong. The same applies to an extreme collectivist approach. The balance can be the solution for sustainability, in which everybody is responsible for the collective. Botsman and Rogers (2011) suggest that consumers become more conscious about their consumption and aware that the available resources are finite. Therefore, consumption cannot outweigh relationships which results into an increasing tendency towards communities. It means from an individual perspective that a global engagement is benefiting one's self-interest (p. 44).

Cultural changes occur in different regions at different speeds. Sometimes they tend to be smaller (Guardo, 1982) and at other times faster. For example, in Japan, were value changes observable towards female equality, political apathy, and most interestingly present-oriented goals superseded future-oriented goal settings. That means pleasure and personal relationships became more dominant within 25 years than concerns about society or long term lifestyle planning (Makita & Ida, 2001).

Even though studies were able to show that secularism became globally more dominant (Li & Bond, 2010), there was no consistent evidence. The only conclusion that can be drawn is that when self-expression values increases the critical involvement in democracy grows. Countries with stronger self-expression values are

Northern American and North European countries. Countries with stronger secular-rational values are Eastern European and Confucian countries (Welzel, 2006).

Global value shifts are currently occurring. However, so far every effort to explain a synchronic shift towards collaborative consumption via a worldwide value shift is not possible.

2.2.2 The new generation.

Public literature refers widely to the generation that was born between the 1980s and 2000s as generation-y, millennials or even generation-we. Botsman and Rogers (2011) argue that there is a shift from a me-mind set to a we-mind set. An argument for this reasoning is that, through the increase in information and communication technologies, there is an increase in collectivity. Also, they observed that millennials are often entrepreneurs in these areas. This shows that millennials do not simply want a better life for everybody, but are rather competitive (pp. 51-55).

Similar patterns between millennials can be observed around the world. Chinese millennials, for example, are often well educated and are inclined to criticism (Lynton, 2010). On the other hand, their attitude towards, e.g. mobile marketing is more positive than the attitude of the French or Americans demographics (Wells, Kleshinski, & Lau, 2012). Hence, there is no clear pattern of millennials across the world. Still, information and communication technologies (ICTs) allow millennials to create new marketplaces, which range from social communities to profit making trading places. The foundation for these new places is information sharing. With the Internet as the base for these networks, which can be accessed from almost everywhere in the world (Botsman & Rogers, 2011, pp. 51-55).

Millennials tend to be technologically savvy (Clare, 2009), use the Internet more frequently and are less risk averse than other generations. In other respects, millennials and the previous generation's behavior are equivalent, e.g. in volunteerism (Reisenwitz & Iyer, 2009). It cannot be argued that the Internet is the reason that all millennials are using and seeing the same opportunities. However, the potential to create new networks exists and has never been easier before.

The entrepreneurial spirit cannot be strictly defined to one specific generation. There are people in all generations that use ICTs to create networks and/or collaborate in diverse ways. There is also an increasing desire to be more involved in communities throughout generations (Fox, 2011). One reason

collaborative consumption is practiced across all sorts of demographics (Botsman & Rogers, 2011, pp. 69-70) is that the term collaborative consumption is very broad. Additionally, each participant can play multiple roles. A "peer provider" is a person that provides a collaborative consumption product and/or service, while a "peer user" is someone using the product and/or service. Consequently, everyone can play multiple roles as intensive as one prefers (Botsman & Rogers, 2011, p. 70).

2.2.3 New marketplaces.

There is an emergence of new marketplaces as well as an extension of traditional marketplaces through technology. Hand-made products can be made anywhere in the world and send off to all corners of the globe. Online platforms allow artists and designers to create something new and learn from the community. An example is *etsy.com*. Buyers and sellers are working together to create unique items for themselves and others. The result is a traditional marketplace experience embedded in an online network and a countermovement to mass-production. The number of local farmers' markets in the United States and the UK are increasing. Simplicity, traceability as well as transparency, and participation are the underlying principles that are promoting this trend (Botsman & Rogers, 2011, pp. 47-51).

New marketplaces can be embedded into the three systems of collaborative consumption (Appendix A). Marketplaces within product service systems can range from car sharing, to ride sharing and from toy rental to movie rental. These marketplaces aim to reduce ownership and promote access to products and services. Redistribution markets deal with used goods and to provide access to the ones that need/want them from the ones that do not need them. Markets range from big marketplaces (e.g. eBay), swap sites for books to clothing swaps. Collaborative lifestyles markets are aiming at sharing intangible assets. These can range from peer-to-peer travel, social lending, crowd-funding and skill-sharing marketplaces. New marketplaces are diverse and indicate increasing importance of collaborative consumption.

2.3 Systems

The new marketplaces are divided into three systems. Table 2 shows the definition and the different applications of these collaborative consumption systems. The distinction is made between product service systems, redistribution markets, and collaborative lifestyles.

Table 2
Systems of collaborative consumption

Systems	Definition	Example problem	Example solution
Product service systems	• Companies/peers offer goods as a service • Goods can be shared or rented (company or peer-to-peer) • Users benefit from products without owning them	• 50% of U.S. households own power drills • Used during lifetime: 6-13min	• Peer-to-peer tool rental (e.g. *zilok.com*)
Redistribution markets	• Redistribution of pre-owned goods • Can be free, swapped, or sold	• U.S. - 7 million tons of cardboard per year discarded	• Resell of used cardboard boxes (e.g. *usedcardboard boxes.com*)
Collaborative lifestyles	• People share less tangible assets: time; space; skills; money • Locally: share working spaces; gardens; parking • Globally: peer-to-peer lending; peer-to-peer travel	• Empty houses and spare rooms	• Private and commercial owners rent their extra space (e.g. *airbnb.com*)

Note. This table gives a summary of the collaborative consumption systems, their definition as well as example problems and their solutions. Adapted from "Beyond Zipcar: Collaborative Consumption," by R. Botsman and R. Rogers, 2010, *Harvard Business Review*, p. 30.

2.3.1 Product service systems.

Manzini and Vezzoli (2002) defines product service systems "as the result of an innovation strategy, shifting the business focus from designing and selling physical products only, to selling a system of products and services which are jointly capable of fulfilling specific client demands" (p. 4). For example, instead of buying a product, the product can be rented, or the service to use the product can be bought from a provider. There are three underlying approaches to product service systems. They can add "value to the product life cycle" (e.g. maintenance, repair), provide "final results" (e.g. sharing, renting), and "enabling platforms" to the consumers (e.g. community, collaboration) (p. 7).

Product service systems (PSS) can be offered by companies or private owners. A company can lend multiple products (e.g. cars, bikes, laundry machine) or

transactions can be undertaken peer-to-peer. Extended-life PSSs refers to the extension of the life of a product (e.g. repairs) and usage of PSSs can increase a product's utility (e.g. tool sharing). This can have environmental advantages such as a decrease of resources that are needed for new products and a reduced carbon footprint. Collaboration also cuts down on carbon emissions associated with transportation. Economic advantages of PSSs do not involve the full payments of a product. They reduce ownership liabilities (repair, maintenance), and needs can be satisfied through access, not ownership (Botsman & Rogers, 2011, pp. 71-72). For example, car sharing (e.g. *zipcar.com*) increases a car's utility by the time that it is used per day through multiple users. Also, consumers can reduce the number of cars that they want to buy. Even though resources are still required to manufacture and ship cars, the total amount of cars is being reduced. This is a sustainable approach. The overall benefit is to pass on the car to the next user, without having the hassle to either resell it or to bring the car to a scrap yard.

Product service systems are not new. Rental platforms have been in use for a long time, the key ingredient that makes new PSSs successful is the Internet. Websites and Smartphone apps allow users to conveniently access products and services in a cost efficient manner (pp. 99-101).

Online and offline community activities have another distinct advantage. Feedback can be transmitted faster to the companies and private owners than conventional mailing systems. Consequently, those responsible can adjust their products and services to the customer demands. An example is "My Queue" from the video rental company, *Netflix*. *Netflix* follows what customers like and recommends movies that fall in the similar categories. This also includes peer recommendations of products, which extends the knowledge of a product. The knowledge that is generated in the communities can be shared and accessed by other members. This allows better product as well as service comparisons and increases decision making (pp. 103-106).

2.3.2 Redistribution markets.

The second system of collaborative consumption is redistribution markets. As the name entails, used or owned products are redistributed to other owners. There are three forms of redistribution. Firstly, redistribution can be free (e.g. *freally.com*). Secondly, redistribution products can be exchanged for cash (e.g. *ebay.com*). Thirdly, products can be swapped for similar or equivalently valuable goods (e.g.

paperbackswap.com). The aim for redistribution markets is manifold. Some can make a profit out of a used good, while others may choose to pass on their goods without having to throw them away. Whatever the goals of the participants, there are environmental benefits to product redistribution compared to merely discarding them. Therefore, redistribution is one vital form of sustainable behavior and can additionally be applied to waste management (pp. 72-73).

2.3.3 Collaborative lifestyles.

The third system of collaborative consumption is collaborative lifestyles. Collaborative lifestyles can include tangible assets (e.g. land), but more often intangible services or trades (e.g. time, space, skills). Lifestyle collaboration can occur locally or globally. Locally shared assets are, for example, skill sharing (e.g. *tradeschool.coop*), garden sharing (e.g. *urbangardenshare.org*), or sharing of parking spaces (e.g. *parkcirca.com*). Globally shared assets can include social lending (e.g. *zopa.com*) and peer-to-peer travel (e.g. *couchsurfing.org*). Collaborative lifestyles can also be distinguished between profit making networks and experience sharing networks. Another key ingredient of this system is trust. Personal interactions are often part of the process and involve intangible assets. Networking and collaborating are the intrinsic part of all three collaborative consumption systems. As already mentioned, each platform, community, and member has different reasons o take part in these networks. Reasons range from earning money to exchanging experiences to saving the environment. The two main aspects of collaborative consumption, community and sustainability, are the same in all networks. Both aspects are not necessarily intended, but often result out of the concept of collaborative consumption. Participants have different needs and collaborative consumption offers to fulfill these needs in a sustainable fashion. Even though some projects are more successful than others, collaborative consumption has the potential to prevail (pp. 73-75).

2.4 Principles

Botsman and Rogers (2011) suggest that there are four principles that underlie collaborative consumption. In the following, there will be a summary and an analysis of these principles in order to determine their validity. The four principles are critical mass, idling capacity, belief in the commons, and trust between strangers (Table 3).

Table 3

Principles of collaborative consumption

Principles	Features
Critical mass	• Platform offers choice • Choice attracts repeat customers • Repeat customers social proof service • Social proofing attracts new customers
Idling capacity	• Unused capacity of partially used tangible and intangible assets • Forms of collaborative consumption can connect users with idle capacities and users that need capacities
Belief in the commons	• Commons are able to govern themselves • Through proper communication and sanctioning systems • Collaborative consumption is more successful, if the number of members increases
Trust between strangers	• Role of middlemen substituted through platform • Users can offer/receive products and services • Website offers security • Users can evaluate and rate other users • Feedback systems support reliable users, discourage unreliable users

Note. This table shows the four principles of collaborative consumption (critical mass, idling capacity, belief in the commons, and trust between strangers) and their features. Adapted from *What's mine is yours: How collaborative consumption is changing the way we live*, pp. 75-93, by R. Botsman and R. Rogers, 2011, London: HarperCollins Publishers.

2.4.1 Critical mass.

The first principle of collaborative consumption is adapted from socio-dynamics. Critical mass is defined as "the point at which enough individuals in a system have adopted an innovation so that the innovation's further rate of adoption becomes self-sustaining" (Rogers, 2003, p. 343).

The key features of critical mass that can be applied to collaborative consumptions are choice, attraction of regular users, and social proofing (Botsman & Rogers, 2011, pp. 75-82). Choice, and consequently decision making, implies that "there is more than one course of possible action" which provide the user with "expectations concerning future events" (e.g. products, services) to satisfy their "current goals and personal values" (Hastie & Dawes, 2009, p. 24). Critical mass in collaborative consumption is achieved when enough participants offer and find enough products and services in order to make this platform self-sustainable. Choice attracts repeat customers. This is generated, as Doole and Lowe (2001) mentioned, through problem recognition, information search, evaluation of alternatives, purchase, and post purchase evaluation (as cited in Wagner, 2012b, p. 11). If the post-purchase/swap/lending evaluation is positive, then the consumer experience will be positive, and the participants will repeat consumption. The whole experience and

attraction of repeat customers can be increased through well presented information during the information search stage. This can reduce the opportunity, delay, and psychological costs. During the evaluation of the alternative stage, an increased degree of involvement can also increase the satisfaction. Finally, if the post purchase evaluation is positive, a customer is more likely to repeat using collaborative consumption. For example, if the product arrives as expected or if the communication with the seller went well. Social proof is an essential component of critical mass, because "when an individual encounters a new situation with insufficient information, the individual is more likely to follow the actions of others as a guide to determine how he/she might act" (Pan, Han, Dauber, & Law, 2007, p. 119). Forms of collaborative consumption are often new ways of doing business. Therefore, joining a network entails a degree of uncertainty. Social proof means that a number of people are encouraged to join a particular network if a large group that is similar to oneself is already part of it. People tend to follow others rather than making decisions based on, e.g. beliefs or environmentally sustainable reasons. Therefore, "the Jones-theory", which is a sales technique, often used during hyper-consumption, to convince a customer to buy what your neighbor (Jones) buys, can be applied to collaborative consumption as well (Botsman & Rogers, 2011, pp. 81-82) (compare Figure 1).

Ebay.com as a redistribution marketplace can exemplify critical mass. Firstly, choice is guaranteed through millions of users that buy and sell goods and services. Almost anyone can find something they need. Secondly, when the shopping experience satisfies users, they are encouraged to repeat using this marketplace. Levels of satisfaction can be giving through, for example, easy communication between the seller and the buyer, or because of fast handling, shipping, or paying. Lastly, people that participate on *ebay.com* convince others (friends, family members…) to join the website. This can happen either through direct conversations or simply through the total number of *ebay.com* users, which provides a new user with social proof. The critical mass in the case of *ebay.com* shows that there has to be a certain amount of members that are satisfied with the service and who prove the service works in order to attract new users.

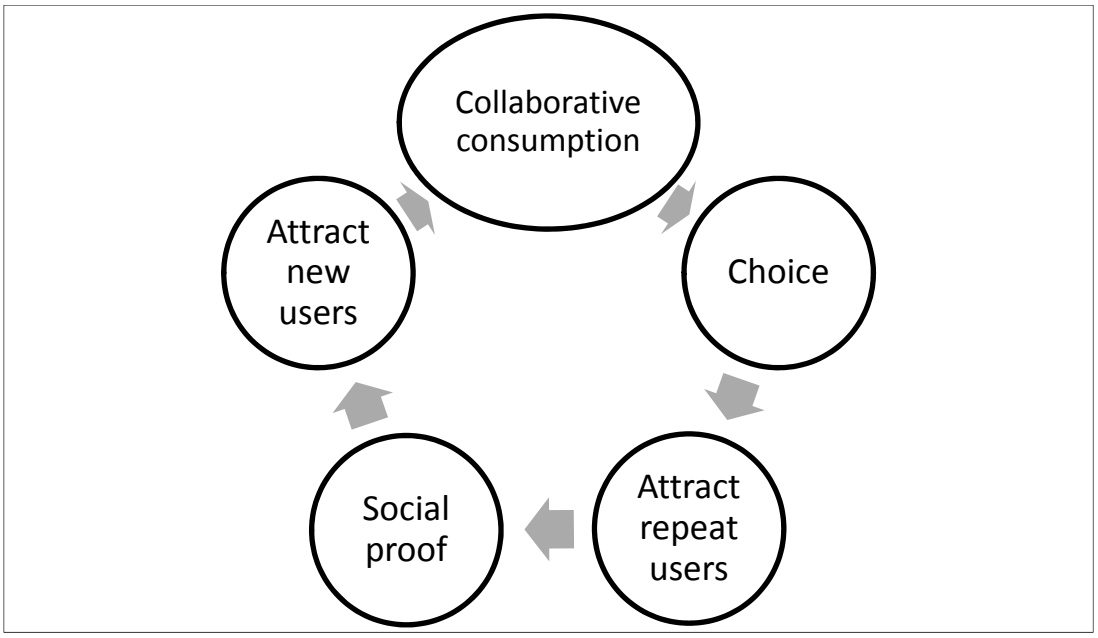


Figure 1. Visualization of critical mass in collaborative consumption platforms. This figure shows the connection between the features of critical mass by indicating that choice attracts repeat users who provide social proof. Social proof attracts a wider range of new users. More users let the collaborative consumption platform grow which then can include more choices. Adapted from *What's mine is yours: How collaborative consumption is changing the way we live*, pp. 75-81, by R. Botsman and R. Rogers, 2011, London: HarperCollins Publishers.

2.4.2 Idling capacity.

The second principle of collaborative consumption is idle capacity. The economic definition of idle capacity is:

> …the unused capacity of partially used facilities. It is the difference between: (a) that which a facility could achieve under 100 percent operating time on a one-shift basis, less operating interruptions resulting from time lost for repairs, setups, unsatisfactory materials, and other normal delays; and (b) the extent to which the facility was actually used to meet demands during the accounting period... (Federal Acquisition Regulation, 2012, p. 135)

Idle capacity can also apply to collaborative consumption. It applies to all unused tangible (e.g. cars, tools) and intangible (e.g. time, space) assets equally. This can include a car that is only used to get to work and back, which can equal a total of 1 or 2 hours a day. The car's idle capacity is more or less 22 hours (minus operating interruptions). The car can be used by someone else during that time. Similar methods can be applied to tools, space, labor, and any other kind of product or service that are partially unused. One difficulty present before the Internet is to locate idle capacities.

Houses or rooms can be promoted via newspapers or magazines. However, utilizing idle capacities were inefficient if something small was needed, e.g. tools. Therefore, the Internet, extended through mobile devices, makes it easier today to locate and access offered capacities. The new technologies make it for the first time economic to access capacities rather than owning them (Botsman & Rogers, 2011, pp. 83-88) (compare Figure 2).

The increasing number of mobile subscriptions shows that idle capacities can be used with increased efficiency. The number of mobile subscriptions in 2012 in Germany, there were more than 114 million (3G/4G mobile Internet subscriptions 53.2 million), in the U.S. more than 321 million (3G/4G mobile Internet subscriptions 256 million), in China more than 1 billion (3G/4G mobile Internet subscriptions 212 million), and globally almost 6 billion (3G/4G mobile Internet subscriptions 1.593 billion) (Global Mobile Statistics, 2012). Examples of how idle capacities can be successfully utilized through web services and mobile Internet devices exist already today. For example, a German ride sharing site, *mitfahrgelegenheit.de* offers an online platform that connects users with a car under idle capacity (e.g. free seats, storage room) with users that need said capacities (e.g. need a seat to get to their destination, room for their luggage). *Mitfahrgelegenheit.de* also has a Smartphone app, which works the same way as the website. One set of users enters details (e.g. leaving time, available space, and destination) and another set of users can search for their preferences. If a match is found, one can book the destination through calling or by booking directly online. These platforms can range from tool sharing (e.g. *mudproject.org*) to labor sharing (e.g. *taskrabbit.com*).

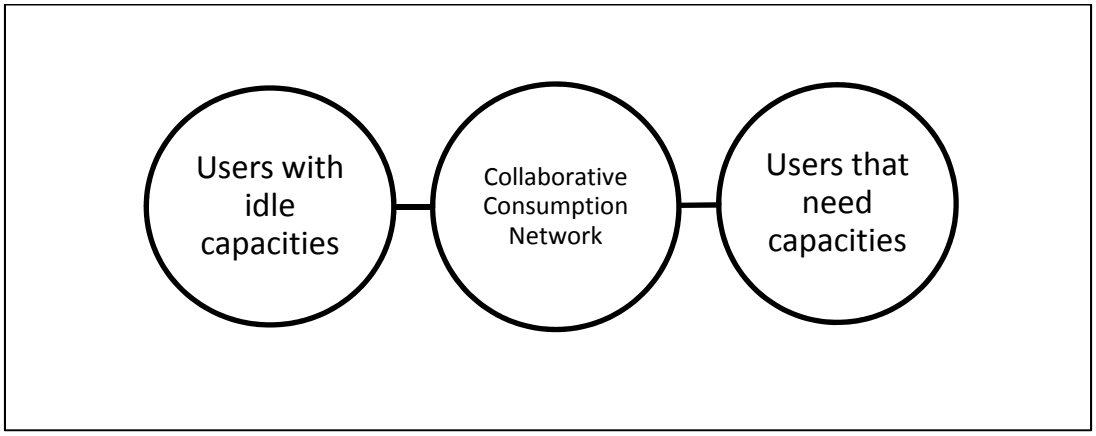


Figure 2. Visualization of idle capacity in collaborative consumption networks. This figure shows the connection between users with idle capacities and users that need these capacities through the use of collaborative consumption networks. Adapted from *What's mine is yours: How collaborative consumption is changing the way we live*, pp. 83-88, by R. Botsman and R. Rogers, 2011, London: HarperCollins Publishers.

2.4.3 Belief in the commons.

The third principle describes the belief in the commons (Botsman & Rogers, 2011, pp. 88-91). Commons are resources that can be used by all members of a society. This includes "natural, physical, social, intellectual, cultural resources" (Nonini, 2007, p. 1). Ostrom (2009) showed that commons are able to govern themselves if certain rules are put in place. Her empirical studies have shown that this can be principally applied to all societies, which includes adaptations. Bollier (2009) extended Ostrom's self-government principles and concluded that the Internet is one of the best examples to prove her studies. Especially, since the success and diversity of collaborative consumption prove Ostrom's results. Both of these findings stand clearly against Hardin's (1968) proposal that if commons are free for all, it will end in a tragedy for everybody. The reason behind this notion was that everybody thrives for the greatest gain from commonly-owned resources, then everyone will do the same and the resources will quickly perish. Ostrom (2009) showed, however, that "simply allowing communication … enables participants to reduce overharvesting and increase joint payoffs, contrary to game-theoretical predictions" (p. 409). The belief in the commons is that "more cooperation occurs than predicted" which is the result of communication processes between the members. This also includes "sanctioning free-riders" and "motivational heterogeneity exists in … contribution decisions as well as decisions on sanctioning" (p. 426). The belief in the commons is an essential factor to create a stable collaborative consumption network. The second factor is the network effect in which "the value of membership to one user is positively affected when another user joins and enlarges the network" (Katz & Shapiro, 1994, p. 94). This also applies to collaborative consumption. A type of collaborative consumption is more successful if the number of members increases. Therefore, the belief in the commons allows an increasing number of members to be part of collaborative consumption in addition to the ability to be self-governed.

Examples are collaborative consumption websites such as landshare.net. The website connects people who own land with people who like to use this land to grow their own food. The ability to access the website as well as to connect to the farmers themselves are the resources which become the commons of this form of collaborative consumption. The resources are jointly governed and there is no need for superordinated control. The members of the community are governing themselves including communication platforms and forms of sanctioning (e.g. negative

feedback). Also, the networks grow stronger the more people join. Therefore, the belief in the commons as Botsman and Rogers (2011) suggested is a key principle of collaborative consumption.

2.4.4 Trust between strangers.

Ostrom (2009) also indicated the importance of trust building in social situations. "The central core of the findings is that when individuals face a social dilemma in a microsetting, they are more likely to cooperate when situational variables increase the likelihood of gaining trust that others will reciprocate" (p. 433). This means for collaborative consumption networks that the imbedded tools allow members of the network to monitor one another. This builds trust which positively affects the members and benefits the network as a whole.

Many forms of collaborative consumption are following this concept, especially the peer-to-peer marketplaces. Instead of using a traditional centralized company hierarchy, a peer-to-peer run platform focuses more on networking and follows a decentralized, feedback-based system. Feedbacks, and consequently trust between strangers, are the key ingredients of these systems. Furthermore, Botsman and Rogers (2011) conclude that in peer-to-peer marketplaces the "role of the middlemen" is reduced. Retailers and dealers are substituted through a direct exchange of goods and services between the seller and buyer. Consequently, the legal system that is built on these traditional forms of trade cannot directly be adapted to these new marketplaces. Therefore, trust has to be guaranteed between the participants of collaborative consumption, otherwise trade is not sustainable. One regulatory factor is peer feedback as a component of trust while another is provided by the platform itself. Most collaborative consumption platforms provide assistance when it comes to trust issues, by offering, trustworthy payment systems. Apart from that the main function of these platforms is to provide users with adequate web space to present their products and services. Therefore, platforms can take over the role of a retailer or dealer much more easily. The evaluations and ratings of the members increase transparency and can eliminate untrustworthy users. These mechanisms are not only restricted to online platforms but also apply to offline marketplaces (pp. 91-93).

For example, the German online property rental platform, *wimdu.de*, offers rooms and apartments for short term stays. Firstly, the role of the middlemen (e.g. travel agency) is substituted through this platform. *Wimdu.de* takes on this role and

charges a fee for the service, but then also has responsibilities. Secondly, members can lend or rent property without the influence of *wimdu.de*. Thirdly, *wimdu.de* provides an online payment system (e.g. *paypal.com*) that provides users with added security in case something goes wrong. Finally, after the stay, the members can evaluate and rate each other, which can increase or decrease the trustworthiness of certain members. The rating and feedback systems support reliable users and discourage unreliable users.

As some security is provided by the platform itself and feedback is a commonly used form of trust, there are three additional trust features which can potentially increase trust between strangers. These features include "user's name and physical address", "user describes him/herself", and "vouching" (Botsman & Rogers, 2011, p. 179). It is necessary in some platforms (e.g. *ebay.com*) to provide one's name and physical address. At many redistribution markets, it is a fundamental feature because otherwise the products do not arrive at its allocated location. Also, *wimdu.de* or *couchsurfing.org* recommends that users describe themselves. Even though, it is not mandatory it increases the chance to connect with people. These two features are supported through peer-to-peer feedback in order to reduce fraudulent behavior. Finally, users can, for example at *couchsurfing.org*, vouch for other users if they physically met them. All these mechanisms lead to trust between strangers.

2.5 Drivers of collaborative consumption

Drivers of collaborative consumption will also be referred to as 'participation drivers.' 'Participation drivers' are key drivers that influence people to participate in collaborative consumption.

Botsman and Rogers (2011) suggest four key drivers of collaborative consumption. The four drivers are peer-to-peer technologies, resurgence of community, environmental concerns, and price consciousness. All four key drivers were adopted and analyzed, apart from resurgence of the community, which was reclassified simply as community. Additionally, three other key drivers were identified. Two of them, experience and access over ownership, were mentioned by Botsman and Rogers, however, not precisely connoted as key drivers. The seventh key driver is profits. In the following, characteristics of these drivers will be analyzed. In the empirical study the importance of each driver will receive further investigation.

2.5.1 Peer-to-peer technologies

The development of the Internet made a giant leap forward in the last 20 years. Pearson (2009) summarizes various reasons that are responsible for this development. These include Moore's law, which states "computing power doubles every 18 months." The law of mass digital storage states "the amount of data being stored each year doubles" (as cited in Molinari, 2011b, p. 11). The network effect and Metcalfe's law show that the "value or power of a network grows exponentially as a function of the number of network members" (p. 17). One main reason for the success of peer-to-peer technologies and that more than "1.5 billion people worldwide have Internet access" due to the "declining communication costs" (p. 18). Peer-to-peer technologies benefit from the "specifications that establish the compatibility of products and the ability to communicate in a network" (p. 20). Not only does the Internet allow people to connect to one another, but also coordinate themselves more efficiently, something most people were unable to do prior to the Internet's invention (Botsman & Rogers, 2011, p. 173). Therefore, peer-to-peer technologies allow people to engage in new forms of consumption.

Various forms of collaborative consumption also benefit from technological advances. As access to the Internet gets easier through portable mobile devices, this allows spreading and accessing collaborative consumption networks at any time in any place. Activities community of members become instantly visible and can be used by anyone (Botsman & Rogers, 2011, p. 212). This way some forms of collaborative consumption prove to be successful and others have to be reinvented. The bottom-line is that new laws will drastically change the societal order by drastically affecting the versatility of collaborative consumption. Pearson (2010) also includes the law of disruption which states that "social, political, and economic systems change incrementally, but technology changes exponentially" (as cited in Molinari, 2011a). That means technology will affect human interactions faster and in a way never experienced before.

A driving part of peer-to-peer technologies is crowd-sourcing. Howe's (2006) definition of crowd-sourcing includes companies and/or institutions that take a "function once performed by employees and outsourcing it to an undefined … network of people in the form of an open call. This can take the form of peer-production … but is also often undertaken by sole individuals" (para. 5). A network of people is usually large and is characterized as collaborative if the production

process is handled as a peer task. Examples for crowd-sourcing services are manifold. *Threadless.com* uses crowd-sourcing to design t-shirts through an online competition. Another crowd-sourcing service is *istockphoto.com* which sells stock photography that is made by amateurs and professionals. Scientific and technical solutions for problems are crowd-sourced through the website *innocentive.com* (Brabham, 2008). The drive of people to collaborate is inherent in many forms. The reasons can diverge from making money to pure interest to contributing scientific content, but only if the technology and the willingness of the people are available. This is what drives collaborative consumption platforms and what makes them so powerful.

"The power of crowds" becomes visible when looking at the large amount of participants on common websites including *wikipedia.org*, *facebook.com*, or any other site that mobilizes people. The "power in numbers" is the reason that enables people to move from being "passive consumers to creators to highly enabled collaborators." The foundation for this is the Internet which "removes the middlemen." Nowadays, new platforms enable even more people to sell their products directly from "peer-to-peer" (Botsman, 2010). Consequently, the Internet enables people to increase collaboration.

2.5.2 Communities.

Botsman and Rogers (2011) suggested that another driver of collaborative consumption is "resurgence of community". The foundation of collaboration is part of childhood experiences and that the need for cooperation is based on self-interest (Tomasello, 2009). This is reflected in online communities in which an individual becomes a 'collaborative individualist', someone with "the need … to work together with others towards a common vision and mission" (Limerick & Cunnington, 1993). There is also the assumption that finally everyone's self-interest can lead to a common 'one' (Turner, 2006).

Botsman and Rogers' last suggestions are too utopian. Also, the idea of resurgence of community is exaggerated. Community thinking is inherent in human evolution. McMillan's (1976) definition of community characterized the features that every community from the past till the present unites. The members of a community have a feeling "of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (as cited in McMillan & George, 1986, p. 9). McMillan and George

(1986) identify four key elements of communities which can also be applied to collaborative consumption. Firstly, membership is a "feeling of belonging or of sharing a sense of personal relatedness." Secondly, influence is "a sense of mattering, of making a difference to a group and of the group mattering to its members." Thirdly, reinforcement is the "integration and fulfillment of needs." Fourthly, shared emotional connection is "the commitment and belief that members have shared and will share history, common places, time together, and similar experiences" (p. 9).

Every culture has a rich variety of communities by being itself united on common grounds. This includes all countries around the world. While some Asian cultures may have stronger collaborative tendencies than Western cultures (Hofstede, 1980), but the core essence is that there is not a resurgence of community. There is a general tendency towards community which can be observed. The same forces that foster communities throughout history are similar as seen on the Internet. The research includes sociology of the Internet (Scaglia, 2011) to anthropology of cyberspace (Budka & Kremser, 2004). The focus of the research is to analyze the impact of technology on human relationships and, therefore, online communities.

Members of communities can see through collaboration "different aspects of a problem". They "can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible" (Gray, 1989, p. 5). The importance of collaboration is directly linked to collaborative consumption. The Internet offers a wide range of application fields (Appendix A).

Botsman and Rogers (2011) relate collaboration in collaborative consumption to mutualism and reciprocity. Mutualism does in this case create the equilibrium between production and labor in the market (Miller, Vandome, & McBrewster, 2010). That means there is an intensive solidarity between members of different communities. Reciprocity is a concept based on performing an action in order to receive a return in the foreseeable future. Connections are based on keeping relationships in order. When applying this concept to collaborative consumption, it means that Person A can perform a task which Person B receives and Person C can provide the return to Person A. This leads to a network reciprocity in which everyone can help each other. Free sharing sites have adopted these mechanisms (e.g. *freecycle.com*) and can also be seen on social network sites such as *flickr.com*. Collaboration is, therefore, not only important in sharing content, but it is also a way of doing business (Botsman & Rogers, 2011, pp. 132-134).

Maslow (1943) created the basis for the hierarchy of needs which is an indicator of the brought impact of collaborative consumption on human psychology. The later developed pyramid shows at the bottom primary psychological needs which must be met before the next level can be fulfilled. Safety needs are satisfied through many collaborative consumption services. For example, *ebay.com* offers (among other things) clothing, *amazon.com*'s repertoire also includes food, and *airbnb.com* offers accommodation. Collaborative consumption can even surpass these primary needs and also attract higher level needs such as belonging, esteem, and self-actualization. Communities, such as *couchsurfing.org*, offer accommodation as well as a network, which creates a sense of belonging and exchange. By finding people that share similar interests or goals, one's esteem can benefit promoting self-actualization (Botsman & Rogers, 2011, p. 199). The interest can vary and include websites such as *ifweranthe world.com* on which one can post ideas as to how to make the world a better place and can invite peers to help one another to achieve this goal. They can also participate and complete micro-tasks for someone else. In conjunction, collaborative consumption offers designers to create their own works of art and sell it online such as on *etsy.com*. This does not mean that other forms of consumption are not able to satisfy the same needs, but through the interconnectivity and the increasing communal online activities is collaborative consumption, more likely to attract new users. A large audience can be reached with ease and completely anonymously or through actively participating in a community. Collaborative consumption can offer every user what they need. Many larger brands, including *Nike*, are following the trend and trying to integrate new collaborative forms of consumption (pp. 200-201). This is why collaborative consumption was able to grow so rapidly over the last century.

Not only are online communities growing, but offline networking has shown improvements as well. "The spatiotemporal structure of community activities will have an important impact upon the extent of collaborative consumption. More precisely, by affecting the timing of collaborative activities, community structure tends to generate circumstances under which particular types of collaborative consumption occur" (Felson & Spaeth, 1978, p. 617). That means that time and space are essential components that will influence communities to use offline forms of collaborative consumption.

The connection of time and space can be exemplified through the co-working website *sandboxsuites.com*. Co-working places offer office space to people that work alone and like to use the space to work, share experiences with other people, and maybe generate novel ideas through this communal meeting point (Botsman & Rogers, 2011, pp. 167-169). This service usually includes a fee, but has proven to be successful. Therefore, one can find through *coworking.de* links to valuable co-working places in various cities in Germany. In South Korea, *co-up.com*, provides similar services to people who prefer sharing time and space and working as a community on individual projects.

Offline communities build additional trust, which is reinforced through solidarity. People can meet face-to-face and can take many advantages from the network they built.

> The same principle applies to successful virtual peer-to-peer communities where there is a simple yet compelling organizing ideal – share photos, share knowledge, share code – that gives lots of diverse people a sense that they fit in and a reason for co-creation. (Botsman & Rogers, 2011, pp. 175-176)

Collaborative consumption offers many online and offline forms, but also mixed forms are increasingly emerging. The principles of traditional offline communities that existed since human beginnings can also apply to online communities. With the growing accessibility of online communities, there is an observable increase in the number of participants in offline communities. A well-known mix-form is *couchsurfing.org*. The website offers members to be a part of diverse communities, but also offers community meet-ups, besides free accommodations to travelers. Members that are in a certain area can, for example, get together in a bar or restaurant and meet new people as well as share experiences (Botsman & Rogers, 2011, p. 176). Denson (n.d.) noted that even established brands such as *Nike* realized "[consumers] want to be part of a community, whether it's a digital community or a virtual community, or whether it's a physical community. They want to feel like they're a part of something. They want to be engaged…" (as cited in Piller, 2007, para. 4). Therefore, online and offline communities are a key driver of collaborative consumption and reshape traditional forms of doing business.

2.5.3 Price consciousness.

Price consciousness is "the degree to which the consumer focuses exclusively on paying low prices" (Lichtenstein, Ridgway, & Netemey, 1993, p. 235). The degree of price consciousness of consumers can vary, but price plays a sufficiently important role (Gabor & Granger, 1961). "Price consciousness is a key consumer trait, interacting with all of the price-matching characteristics studied – refund depth, length, and scope – in influencing consumer price perceptions, price search or store purchase behavior" (Kukar-Kinney, Walters, & MacKenzie, 2007, pp. 218-219). Alford and Biswas (2002) suggest that there is a link between the desire to find low prices and the emotional or entertaining benefit consumers gain from the search intention. This implies that the first desire of a consumer is to find the lowest price and "the judgments of value and buying intention" play only a secondary role (p. 781). Collaborative consumption offers various facets of lower prices and secondly easy to use technology which can satisfy consumers search intentions.

The reason why the price is so important is that it is part of every purchase and "represents to all consumers the amount of economic outlay that must be sacrificed in order to engage in a given purchase transaction" (Lichtenstein, Ridgway, & Netemey, 1993, p. 234). This means customers have to pay money in order to receive a product or service, which is most of the time negatively connoted when the price is increasing. However, Lichtenstein, Ridgway and Netemey (1993) distinguish the complexity of prices and noted that the price can take negative and positive roles. Their research shows prices in a negative role ("value consciousness," "price consciousness," "coupon proneness," "sale proneness," "price mavenism") and the price in a positive role ("price-quality," "prestige sensitivity"). As a result, higher prices in a positive role connoted with product quality can indicate an indirectly positive effect on purchasing behavior (Lichtenstein, Ridgway, & Netemey, 1993, p. 234), whereas, lower prices can increase consumer search intention. Consumers are looking for the best possible product or service, if the same or a similar product or service is available for a lower price, then consumers are intrigued to purchase that product or service for the lower price. Collaborative consumption offers a wide range of platforms to satisfy the consumer's emotional desire for the lowest price or best quality-price ratio for products or services. On the other hand, collaborative consumption does not only offer low priced products and

services, but it offers a broad variety of high and mid-priced products and services which can affect price conscious consumers effectively.

2.5.4 Experience.

Experience catches the interest of more and more consumers. Often this trend goes hand in hand with collaboration and feelings of being a part of a community. Therefore, recommendations made by people that they know are highest with 90 percent of trust. Second ranges peer recommendations with 70 percent together with brand websites. All other forms of recommendations are lower (Nielsen, 2009, p. 3). These are indicators why collaborative consumption becomes more interesting to consumers, but what consumers gain is a special experience.

Experience creates value and is used by companies as well as various types of collaborative consumption "to engage an individual" (Pine & Gilmore, 2011, p. 17). Pine and Gilmore conclude "whereas commodities are fungible, goods tangible, and services intangible, experiences are *memorable* [emphasis in original]." Experiences are not only memorable, but also unique. "Each experience derives from the interaction between the staged event and the individual's prior state of mind and being" (p. 17). Poulsson and Kale (2004) distinguish four elements, which are underlying the value creation through this experience process. The key elements include novelty, surprise, and learning, but also engagement. All of these elements can be found in different forms of collaborative consumption. However, not all forms include all elements. This, however, is not necessarily disadvantageous and can potentially prove to be successful.

Experience goes beyond buying a product, being a part of a community, and creating value. Love for a brand (Alberta, Merunka, & Valette-Florence, 2008) and the ability to participate makes the consumer feel special. These two components can also be influenced through the creation of an experience. This experience is created through giving participants "status, identity, shared interests and ownership" (Botsman & Rogers, 2011, p. 204). The interactions with users as well as integrating new members in the community are essential parts of this process (p. 202). Forms of collaborative consumption increase their popularity and importance through the creation of this special membership status. The trade off for members is that they earn the freedom to contribute content, feedbacks, and especially share their experiences with others (p. 206). Both sites, platforms of collaborative consumption

and consumers, benefit from this interaction. This is why experience is an important driver for collaborative consumption.

2.5.5 Profits.

Making money is an important factor when it comes to collaborative consumption. Not everyone that uses these platforms has a desire to save the environment or meet new people. Collaborative consumption offers the opportunity to make money from used products or one can offer its services.

People of all income levels are motivated to make money. The notion that subjective well-being is an indicator for the pursuit of money is a fragile argument because it is only valid up to a certain point. There are many reasons for people to make money. Firstly, there is the desire for happiness and the belief that people with more money are happier. Secondly, making money is a short-term payoff which people tend to favor. Thirdly, evolutionary systems are influencing our decision making. These evolutionary drives include storing resources, sexual attractiveness and social relationships. Especially, social tendencies influence people's behavior to earn money as well as to purchase items. Therefore, money as a means for social relationships surpasses the desire for happiness (Ahuvia, 2008).

Ahuvia's results give an explanation why so many people take part in collaborative consumption. People join big marketplaces such as *ebay.com* or *craigslist.org* to sell their used items, instead of discarding them. This can even be extended to the point that people or even companies use these pure virtual market spaces and co-operate with these platforms to establish their own online business. *Ebay.com* uses, for example seller shops in which independent sellers can offer their own assortments. The main focus is to make money and not to save the environment. Apart from products, services are offered at *taskrabbit.com*. On this platform, anyone can become a handyman by offering their labor (e.g. assembling a kitchen, buying groceries…) to people who are willing to pay for it. This system works as an option in which everyone can offer their time and labor at a price. The person is chosen whose reputation is the best or whose price is the lowest. Some people join this platform to help people; others join the platform to make money. Either way, profits are drivers of collaborative consumption. The advantages are that anyone can join and participate. One does not have to own its own business or does not have to work for someone else. Collaborative consumption helps to connect people who want to make additional money.

2.5.6 Environmental concerns.

Environmental issues became an increasingly popular topic in science and in the media in the last 20 years. Nowadays, these are growing concerns of people when consuming products. People's concerns can have a wide variety of origins. For some people the climate change and the inherent global warming can be the reason for being more conscious. Other reasons are energy concerns and the utilization of renewable energy or the environmental degradation and the protection of habitats. Some farmers are worried about intensive farming and land degradation, which is promoted through many types of industries including chemical and coal industry. Many urban areas have to deal with overpopulation and ever growing issues such as water shortages. The demands for internationally accepted guidelines, such as the recent extension of the Kyoto Protocol, are concerned with reducing the greenhouse gas emissions and the depletion of the ozone. Pollution in any form, if it is water or land pollution, becomes more inherent and visible. Hyper-consumption facilitates an increasing demand of resources which leads to resource depletion. People are able to see more and more the effects of over-consumption. Waste being the key synonym for polluting and continually destroying the environment. An example of the pollution of the water is the North Pacific central gyre. 5,114 grams of plastic were found per square kilometer and "the mass of plastic was approximately six times that of plankton" (Moore, Moore, Leecaster, & Weisberg, 2001, p. 1297). Fossil fuels are still the major energy source. The average Chinese uses 0.8 tons of fossil fuel per year, which will increase over the next years. The average German uses even more: 2.9 tons per year. This is topped by the average American who uses 5 tons per year (Laszlo, 2010, p. 17). Climate change is only one problem that is affected by it. "Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (Bernstein et al., 2007, p. 31) The reasons can be traced back to that "global GHG [greenhouse gas] emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004" (p. 36).

Collaborative consumption can potentially impact the occurring patterns. Product service systems, like car sharing can reduce the amount of cars and reduce waste that is created through the production and distribution of cars. Redistribution markets extend the life cycle of products. Approximately 24000 items or 700 tons of

material are exchanged through *freecycle.com* per day (Botsman & Rogers, 2011, pp. 129-130).

> Redistribution reduces the waste and the carbon emissions and resources that go along with new production. Even if the reused goods have to be shipped or picked up by car, this transfer creates less impact than the materials and transportation required in the production of every new product or its eventual disposal into landfill. (pp. 129-130)

The main issue is not the product itself and the waste it creates, but the production process of the product. An average product "contains … only 5 percent of the raw materials involved in the process of making and delivering it" (Braungart & McDonough, 2002, p. 28). Therefore, new ways of designing products have to come into play. Cradle-to-cradle is one of these concepts in which the focus is to design products that can entirely be reused. The idea is that all technical and biological nutrients can be reused without losing value and creating waste (McDonough, 2007). This long-term goal can only be supported through using product service system and redistribution markets that become available through collaborative consumption.

Sustainability can, however, only be achieved if social innovation meaning that the "way individuals or communities act to solve a problem or to generate new opportunities" changes (Jégou & Manzini, 2008, p. 29). Firstly, designers have to increase longevity and reduce product obsolescence. Secondly, collaborative consumption systems "are driven by units of usage and not the number of units sold" (Botsman & Rogers, 2011, p. 195). Environmental concerns are on the minds of consumers. This is one aspect why certain forms of collaborative consumption are seemingly successful. Designers noticed the shift towards environmentally conscious purchases and new production methods were developed. Individuals and communities have their own responsibility and self-interest to decrease waste.

2.5.7 Access over ownership.

Ownership is referred to as personal property. It includes mainly movable property (Harry & Palgrave, 2007) or tangible personal property, which includes books, CDs, cars and so on. Obenberger and Brown (1976) defined ownership as "holding of legal title to property," which stays in contrast to access, or "usership," which encompasses "all types of consumption in which the consumer does not possess legal title to the product" (p. 82).

Technological changes tend to influence consumers' ownership behavior in certain areas (e.g. car sharing) (Prettenthalera & Steininger, 1999). The access to products and services becomes more important in everyday life. Collaborative consumption is part of this trend because it makes it easier for people to access products instead of owning them. Especially, product service system including ride and car sharing are profiting from this attitude, but also redistribution markets are benefiting in which used products are resold after the need for access is satisfied. Botsman and Rogers (2011) express it this way:

> We don't want the CD; we want the music it plays. We don't want the disc; we want the storage it holds. We don't want the answering machine; we want the messages it saves. We don't want the DVD; we want the film it carries. (p. 97)

The argument "access trumps possession" (Kelly, 2009, para. 19) is applicable to certain goods or certain people, but does not apply to everyone or every situation. Collaborative consumption offers a platform for those people who prefer access over ownership and as the number of members of these platforms increases the need for access increases as well.

People still have to own online devices including computers and Smartphones to access many collaborative consumption systems. However, the need to own a car is reduced when access to a car is available, or one can swap a book for another. This does not imply that ownership will be reduced to zero (Botsman & Rogers, 2011, p. 98), but simply that there is a platform that connects people that only want access instead of ownership.

The advantages of access are that barriers, such as price, availability and social status, are reduced (p. 108). Also, the idea of ownership may be transferred through marketing techniques. *Zipcar.com*, for example gives its cars names and its members a membership card. Therefore, control and autonomy may substitute ownership (p. 112). Additionally, car sharing increases flexibility, choice and convenience by giving access to different types of cars for different occasions (p. 115). There are several car sharing, bike sharing, and ride sharing examples around the globe, but the trend towards access to ownership can continue in a similar way as the CD turned into an online access point (e.g. iTunes) (p. 119). Many car markets are saturated (e.g. European car market) and factories are closing down.

Prettenthalera and Steininger (1999) investigated the European car market and found that:

> Technological change in consumption…is a process of mutual adjustment between the innovation and its socio-economic environment. The current state of technological change in the urban passenger transport sector points to a future of a further growth potential for car sharing. (p. 452)

Furthermore, it is suggested that this can also be applied to other consumer products. Prettenthalera and Steininger define three "criteria which consumption goods would have to meet to be eligible for service use without ownership" (p. 452). These criteria include "product durability", "significant acquisition value" (p. 452), and the "size of the group" (p. 453). They suggest that bike sharing does not fall into these criteria (pp. 452-453). However, successful bike sharing platforms such as *OV-fiets* in the Netherlands, *Bixi* Montreal in Canada, or bike sharing in Hangzhou, China show that new forms of collaborative consumption (online and offline) thrive through the technological change in consumption.

Scholl (2008) focuses on product service systems and found two key differences. Firstly, he analyzed product service systems from a functional perspective and secondly from a symbolic perspective. The results are that the functional benefits of access (e.g. sharing, renting) are surpassing the concept of ownership if the following three criteria are met. Firstly, that the quality of the service is ensured (e.g. insurance). Secondly, the products have to be secured from improper use (e.g. reduce theft through GPS-tags). Thirdly, transaction costs have to be minimized (e.g. delivery, GPS finders for Smartphones) (p. 259). On the other hand, the functional perspective disregards the symbolic importance of ownership including "personal continuity and coherence, … individual autonomy, … a sense of uniqueness and … social affiliation" (p. 263). However, it is suggested that the symbolic perspective of access can be enhanced through a service experience and a sense of control (p. 267). As previously discussed, some types of collaborative consumption are offering collaboration, service interactions, and participation. Functional and symbolic perspectives have to work together in order to influence consumer behavior, only then can access or "usership" unfold its increase in productivity and supersede ownership.

3 Hyper-consumption

Collaborative consumption stays in contrast to traditional forms of consumption, which usually include the purchase of a product, owning it and discarding the product after using it. Examples include food shopping in supermarkets, cloth shopping in fashion shops, buying a car from a car dealer, or buying a Smartphone from a phone shop. Possessions can be a valuable status symbol. Capitalism and the economic success of the United States after the Second World War, the economic upswing of Europe as well as the boom in Japan led in those countries to a glorification of ownership. Nowadays, we can observe the same behavior pattern in Eastern Europe, South Korea, China and many other countries. This vigorous type of consumption is denoted as hyper-consumption in which ownership and abundance are dominating the way many North Americans, Europeans, and more and more Asians consume.

3.1 The beginning of hyper-consumptions

It appears to be that goods are everywhere and always available, for every need and occasion. One can go into a shoe store in Green Bay, Wisconsin and find shoes for warm and cold weather and everything in between. One can enter a furniture store in Kassel, Germany and find almost any kind of furniture. One can walk into a clothing store in Seoul, South Korea and purchase the latest fashion in all forms and sizes. Regular consumption is part of the daily life of millions of people and appears to be normal to the average person living in these societies.

Fact is, however, that consumption patterns around the world have changed dramatically in the last centuries. The term hyper-consumption becomes increasingly prominent in popular literature. The term is often connoted with excessive consumption and the creation of unsustainable behaviors (Boradkar, 2010). It is essential to dismantle the term hyper-consumption into its core parts, in order to understand the complexity as well as the paradox nature of the concept. Consumption describes the using up of a resource (Oxford Dictionary, 2012) and is essential for sustaining one’s existence. The prefix hyper, on the other hand, means "over" (Bieswanger & Becker, 2010, p. 89) and is nowadays often referred to excessive. Rheaume (2005) summarizes hyper as “an idiom that designates the excessive, the reaching beyond a norm or a framework. It is located in the field of signification of superlatives, with a connotation of constant overreaching, of maximum, of extreme conditions” (as cited in Gottschalk, 2009, p. 309). Consequently, hyper-consumption

can be understood as an excessive using up of resources with a major impact on sustainability.

Hyper-consumption was not an initial occurrence, but rather evolved over time. Veblen (1899) introduced the term conspicuous consumption, which turned out to be the quintessence of hyper-consumption. With the increase of wealth in the upper class, the need increased to demonstrate their social status by spending money on valuable items. The negative implication for hyper-consumption is twofold. Firstly, "in order to be reputable it must be wasteful" (p. 73). Secondly, and the mere reason why this behavior has unsustainable characteristics, is that it attracts imitators through the increase of income in the 20th century. This made conspicuous consumption possible for the majority of people in a society. These two ingredients are key building blocks for hyper-consumption.

Lipovetsky (2011) pointed out "if one must talk of hyperconsumption it is because consumption is now expanding at a hyperbolic rate" (p. 25). He additionally described three ages, which show the evolution of consumer capitalism.

Phase 1 (1880s – End of Second World War): The first age is characterized through the economic developments. The industrial revolution led to mass manufactured goods and standardized products. This way, lower prices were attained, and the first mass marketing strategies were developed. Lipovetsky speaks of three types of appearances: Packaging of products, advertising campaigns, and brand names. The first phase can be seen as an incomplete mass-consumption. He concluded that the first modern consumer was a mere elitist consumer (pp. 25-26). Therefore, phase 1 is part of conspicuous consumption as Veblen (1899) explained it.

Phase 2 (1950s – End of 1970s): After the end of World War II the emergence of the first mass-consumption society can be observed. In this society, consumer goods are accessible to all groups and not only to the elitist. One reason for this is the increase in income. This also led to a phenomenon that Lipovetsky (2011) perceives as buying for pleasure which is basically encouraged by three parts: choice; psychological factors; and individual motivation. Advertising created new desirable images. The main characteristics of phase two are individualism, hedonism, availability of goods, and private happiness (p. 26).

Phase 3 (start 1980s): Lipovetsky labels the third phase as "Hyperindividualism and hyperconsumption". This age is characterized through "hyperindividualistic consumerism", meaning that the individual is in the center of

attention. Two columns build the foundation for the hyper-consumption society. The first foundation is the increase of technology. The second foundation is the increase in multi-equipping (owning more than one of the same devices) (p. 27).

3.2 Features

Lipovetsky (2011) isolates concomitant features of hyper-consumption, which will be summarized in the following.

1. *Erosion of class cultures and deregulated consumerism*: This feature indicates the limits of Veblen's conspicuous consumption because the consumer is free to choose and purchase any good that he/she desires regardless of the social status (p. 27).

2. *The cult of the brand*: Brands managed to be inevitably important to the consumer. The paradox is that even though the consumer's desire for low prices increases, the craving to own, or even be part of a brand is continuously expanding (pp. 28-29).

3. *Emotional Consumerism*: Emotional consumerism is an addition to Veblen's conspicuous consumption. Admiration is only one building block of hyper-consumption. An additional one is experience linked to emotions. Feelings, recreation, imagination, and desires are stimulated through the purchase of new products (pp. 29-30).

3.3 Characteristics

The hyper-consumer has three important characteristics which distinguish him/her from the previous phases. The hyper-consumer is greatly involved in the purchase of goods. He/she purchases products for reasons of pleasure as well as anxiety and wants to create a better life for him/herself (pp. 30-32).

Hyper-consumption has positive and negative facets. It is positive in the sense that needs can be satisfied rapidly which will increase well-being of the single individual. This can also reflect onto other individuals and can result into an overall increase of the well-being in a society. The increase in communication technologies, world trade, and other globalization factors promote the urge to spread hyper-consumption around the world (compare Figure 3).

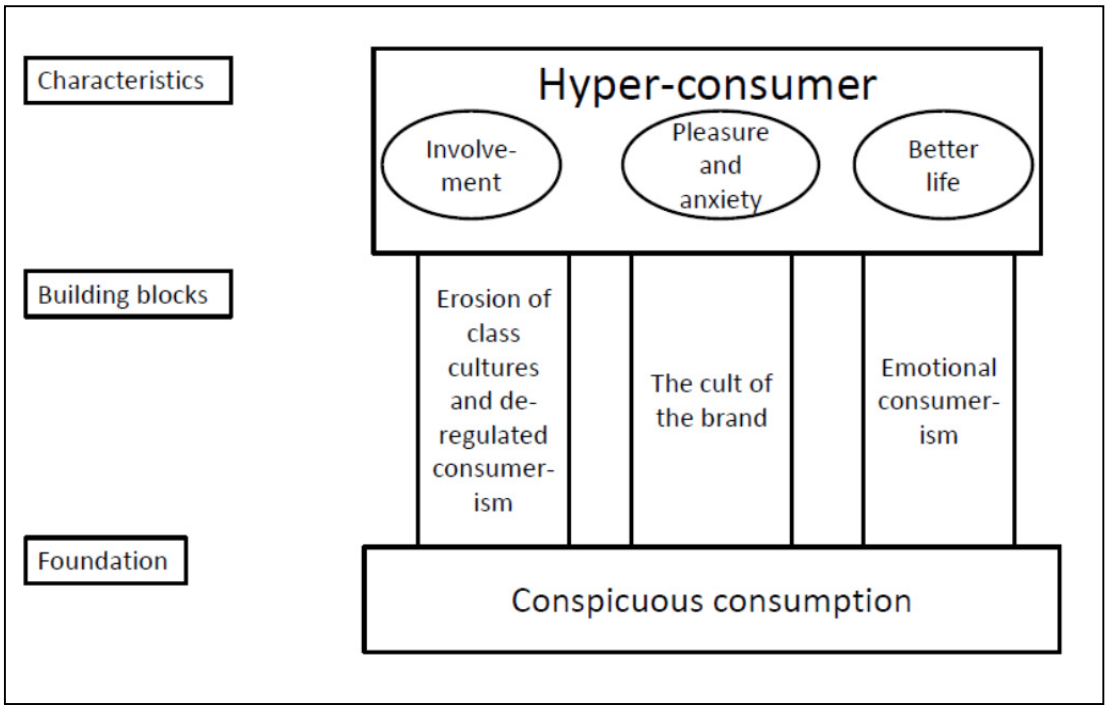


Figure 3. Hyper-consumer model. This figure depicts the foundation, building blocks, and characteristics of hyper-consumption as described by Lipovetsky. Adapted from *The Hyperconsumption Society* (pp. 25-36), by G. Lipovetsky, 2011, In K. M. Ekström and K. Glans, Beyond the Consumption Bubble, New York: Routledge.

3.4 Internal drivers

Well-being, but also happiness is a key driver in this process (Esposti, 2012). These aspects make hyper-consumption so successful around the world. Hyper-consumption, as already mentioned, also has a negative side. Eposti (2012) summarizes the paradoxical characteristics of hyper-consumption proposed by Lipovetsky (2005) and states "it appears to be a hypertrophic and uncontrolled system, a bulimic order that leads to extremes and to chaos, and ultimately to a civilization of paradoxical happiness" (as cited in Esposti, 2012, para. 1). Esposti outweighs the benefits of economic well-being by arguing that the "psychological satisfaction rate keeps falling" (para. 1). Therefore, it can be argued that in addition to the negative effects on the environment as well as unsustainable behaviors, psychological dissatisfaction of the consumer can be added.

Drakulić (2012) interpreted Lipovetsky's "happiness paradox" of the hyper-consumption society as the contradiction between "the idea that the man of today feels self-fulfilled and happy through something extremely 'inhuman' but desirable at the same time: in flaunting idleness, desire for possession, in the pleasure of consumption". Drakulić's use of the term "inhuman" describes the fundamental

problem of hyper-consumption and adds another ballast to the negative side of hyper-consumption. She emphasises that in contrast to "prosperity, luxury and pleasure" there is "an increase of narcissism and indifference of society as well as a greater sense of loneliness and self-doubt" (p. 34).

In addition to a consumer's psychological well-being, hyper-consumption has a negative effect on a society as a whole. The hyper-consumption paradox acts as a vicious circle.

De Gaulejac (2005) provides additional reasons that support this assumption. Not only pleasure and anxiety, but especially differentiation and uniqueness are supporting hyper-consumption. "Individuals are not only expected to be free, responsible, creative, and capable of initiating projects, they must also and simultaneously affirm an irreducible singularity." There is an expectation that people have to fulfill diverse, even at times contradictory roles. On the one hand, people purchase products because they desire an emotional experience. On the other hand, people define themselves less by their "similarities to others than through exception, as if to be like everybody else was to be hopelessly anybody." Therefore, differentiation is to be understood as a driver of hyper-consumption that comes from within the consumer. "One must thus escape the ordinary, reach beyond oneself, evade common categories, and project oneself in the conquest of the grandiose self" (as cited in Gottschalk, 2009, p. 314).

Gottschalk (2009) suggests "that the modern narcissistic consumer has become the hypermodern megalomaniac one" (p. 314). This almost extreme statement can seem too excessive. Interestingly enough, he supports his opinion by providing two internal consumer forces and one external force that stimulate the consumer's need for hyper-consumption. These forces underlining and consequently supporting the previous explained foundation and building blocks of hyper-consumption and additionally introduce the media as an external force. There are:

> elective affinities between (a) a hypermodern project of the self that fosters megalomaniac aspirations, (b) the excessively hedonistic and individualistic motivations underlying turboconsumption, and (c) the superlative rhetoric that seems so frequent in televised and web commercial ads promoting a variety of products, services, and media programs. (pp. 314-315)

Gottschalk has compared to Lipovetsky an increasingly negative attitude towards hyper-consumption. He came to the conclusion "the very drive for

hyperindividualism-through-consumption ends up producing conformity to the sacrosanct consumerist ethos, under the guise of meaningful differences" (Gottschalk, 2009, p. 323). Gottschalk ultimately suggests that individualism is only a superficial aspiration and the bottom line is that it does not matter what one consumes, fact is that consumption makes all consumers equals.

Gabriel and Lang (2006) suggest that the trend of hyper-consumption can even transform to strive and achieve only personal goals: "The consumer becomes an addict capable of inflicting any amount of pain on others in order to obtain what he or she believes will satisfy his or her desires" (as cited in Gottschalk, 2009, pp. 323-324).

The findings of the authors are fairly similar, despite their different attitudes toward hyper-consumption. Feelings and attitudes within the consumer are fueling a person's thrive for consumption. The consequences are psychological dissatisfaction, decrease of the well-being of the society, and unsustainable ecology. Hyper-consumption is not simply a human urge. Gottschalk (2009) already classifies the media as an external force that promotes and fosters hyper-consumption. There are other external factors that influence consumers' decision making.

3.5 External drivers

Botsman and Rogers (2011) classify four external drivers of hyper-consumption.

1. *Power of persuasion*: The power of persuasion lies embedded in the rudimentary level of human sub-consciousness (p. 22). Consumers can be influence through the stimulation of emotions. These emotions entail sexual desires, negative emotions, such as anger, fear, and disgust as well as positive emotions, such as joy, serenity, and gratitude (Fredrickson, 2003, p. 332). Marketing developed strategies by appealing to consumers desires. The development of models, such as Lasswell's (1948) questions and the act of communication (as cited in Lasswell, 2007), created later the base for the linear communication process. Various techniques were used that allowed to increase the affect of messages. Homburg et al. (2009) describe that opinion leaders were often targeted because they "act as multipliers and forward the message to less active receivers" (Wagner, 2012a, p. 14). Instead of promoting products, consumer values were targeted with the help of an increasing media apparatus. Marketing affected "time-honoured social habits" (Botsman & Rogers, 2011, p. 22) respectively. Firat and Venkatesh (1993) point out that the amount of marketing

increases staggeringly and that finally marketing is used only for marketing sake, which can lead to meta-marketing. Products and services are being fragmented, and marketing is used to convey experiences (pp. 231-232), or differently said urges people to consume.

2. *Buy Now, Pay Later*: The introduction of the credit system and credit cards did change the way consumers purchase goods. Feinberg (1986) describes the impact of consumption when using credit cards.

> Four experiments and one study were conducted to test the hypothesis that stimuli associated with spending can elicit spending responses. In all experiments, credit card stimuli were either present or absent in situations in which subjects were given an opportunity to spend. Credit card stimuli directed spending such that the probability, speed, or magnitude of spending was enhanced in the presence of credit card cues. (p. 348)

Prelec and Simester (2001) validate the results by using real-money transactions.

> In studies involving genuine transactions of potentially high value we show that willingness-to-pay can be increased when customers are instructed to use a credit card rather than cash. The effect may be large (up to 100%) and it appears unlikely that it arises due solely to liquidity constraints. (p. 5)

Soman (2001) validate that consumers also have difficulties to recall the amount that they spend after using a credit card.

> Past expenses have been shown to influence future spending behavior by depleting available budgets. However, a prerequisite for this relationship is the accurate recall of past payments and the experiencing of the full aversive impact associated with them. … Specifically, past payments strongly reduce purchase intention when the payment mechanism requires the consumer to write down the amount paid (rehearsal) and when the consumer's wealth is depleted immediately rather than with a delay (immediacy). (p. 460)

The studies show that the introduction of credit cards leads to "decoupling" or "detaching the act of purchase from payment" (Botsman & Rogers, 2011, p. 29). Botsman and Rogers suggest that this behavior has an "unhealthy" impact on "spending habits," which includes "accelerated spending, mindless spending, and latest and greatest spending" (p. 31). Credit cards are especially popular in the United States. 72.2 percent of consumers in the United States have a credit card. The average credit card holder has 3.7 credit cards (Foster, Meijer, Schuh, & Zabek, 2011, p. 13). Therefore, there is the implication that credit cards can positively affect

attitudes toward hyper-consumption in countries in which credit cards are increasingly used. This intuitive observation is, however, not proven and needs to be researched in more detail.

3. *Planned Obsolescence ("Law of life cycles")*: Botsman and Rogers (2011) call the third external driver of hyper-consumption "law of life cycles". This driver can hardly be characterized as a law, but the idea behind this potential driver is useful. The authors describe two aspects. Firstly, the "addiction to novelties" and secondly, there is a reduction of the lifespan of certain products, called "planned obsolescence" (pp. 33-36).

New products enter and leave the market faster than ever before. Typical examples are electronics which have a fast increasing obsolescence rate. New telephones (mobile phones, Smartphones …), laptops, tablets are emerging every 12 to 18 months. Clothes are subject to constantly changing fashion. Jeans for example are purchased and often thrown away after one or two years. Some of these products are artificially damaged (e.g. stone washed, bleached …) which reduces the lifespan of the product. High quality and new jeans were actually developed as working pants and were durable as well as long lasting. Sometimes even the State helps with various programs to stimulate the market and to encourage consumption. The German government introduced in 2009 the *Verschrottungsprämie* ('Car Allowance Rebate System'). When consumers bought a new car they received 2500 Euro from the government for their old car. The main idea is to revive the economy and keep the automotive industry afloat.

These examples show that consumption is favored by many parts of the society. Companies want to thrive and increase their sales. The governments want the industry to flourish. The consumers want new products to prevail in the ever-changing environment. Therefore, the "addiction to novelties" (Botsman & Rogers, 2011, p. 33) seems to be empowered by many parts of a society. The reduction of a product's life has many names, such as "death dating", "planned obsolescence" (p. 36), or even "design for the dump" (p. 37). The idea behind these terms is to "keep the consumer dissatisfied" (p. 35) and increase repetitive consumption.

Bulow (1986) describes that monopolists are tending to promote shorter product life cycles. Oligopolists on the other hand diverge in this prognosis. Depending on the competitors they choose either to promote very long or very short durable goods.

Furthermore, Guiltinan (2009) examines the competitive business market and classified problems, mechanisms, drivers, firm's benefits, and impediments of planned obsolescence (Table 4).

Table 4

Planned obsolescence

Planned Obsolescence Determinants	Characteristics of Determinants
Problems	▪ Innovation ▪ Recyclability
Physical Obsolescence Mechanisms	▪ Limited functional life design ▪ Design for limited repair ▪ Design aesthetics that lead to reduced satisfaction
Technological Obsolescence Mechanisms	▪ Design for fashion ▪ Design for functional enhancement through adding or upgrading product features
Drivers	▪ Businesses want to maintain high rate of sales growth ▪ Durable products lead to lower sales growth ▪ Durable products increase competition between new and used products ▪ Durable products lower the price of new products ▪ Selling decreases the product's value ▪ Selling increases the new product's value
Firm's benefits	▪ Stimulate revenues through faster replacement ▪ Reduce competition from any used goodmarkets ▪ By virtue of making used or owned goods less competitive, increase prices for the replacement product.
Impediments	▪ Competitive pressure for and consumer expectations of frequent upgrades for durable goods ▪ Lack of consumer concern for environmental consequences when contemplating upgrades of durable goods

Note. This table shows the determinants of planned obsolescence and the characteristics of the determinants. Adopted from "Creative Destruction and Destructive Creations: Environmental Ethics and Planned Obsolescence," J. Guiltinan, 2009, *Journal of Business Ethics*, pp. 20-26.

Guiltinan distinguishes two main problems which have, consequently, a negative impact on the environment. Innovation creates replacement products, which help to hold or increase a company's position in the market. Recyclability is tight to continuous improvement. Designers and engineers are not concerned with the environmental impacts, but the product improvement. Therefore, an increase in hyper-consumption is preferred, and a drive for sustainability is manly ignored.

Obsolescence mechanisms are divided into physical and technological obsolescence mechanisms. These mechanisms are almost a summary of what has been said earlier. The drivers, firm's benefits, and impediments are interlinked.

Consumers and businesses are two forces that are pushing towards planned obsolescence. Cooper's (2004) study shows that consumers are undecided when it comes to the question if products should last longer. Consumers want a longer product life because they think that their products become dated, or their current products are too expensive to maintain, but environmental reasons do not play a role. The first changes have to come from the industry, engineers, and marketers before consumers can effectively reduce appliance waste (p. 447).

4. *"Just one more" factor*: Finally, the "just one more" factor describes that happiness and satisfaction can be purchased through choice. After the Second World War, the main goal was to provide people with the essentials. After, the saturation of the markets it was important especially for western countries to create an ongoing demand for their products. A fundamental premise was to create more demand through choice. Choice allows owning more things of the same kind. The examples are manifold and spread from clothes, to TVs and cars. Choice is connoted with positive emotions and allows the consumer to create positive feelings, which can be expressed through, for example individualism.

Fishbach, Ratner and Zhang (2010) describe that people are motivated by choice. However, motivation can be enhanced through various ways including the stimulation of inner needs or convincing other people that one is special. On the other hand, consistency and brand loyalty plays an important role too (p. 38).

Whatever the reasons for consumption are, choice can be seen as a purchasing catalyst and it can create a feeling of asymptotic satisfaction. Choice increases the threshold of satisfaction and can never be achieved, even though it tends to be achieved with every additional purchase (compare Table 5).

Table 5

Drivers and characteristics of hyper-consumption

Hyper-consumption	
Internal Drivers	▪ Urge for happiness ▪ Megalomaniac aspirations ▪ Hedonistic and individualistic motivations
External Drivers	▪ Media ▪ Power of persuasion ▪ Buy Now, Pay Later ▪ Planned Obsolescence ▪ "Just one more" factor
Advantages	▪ Rapidly satisfy needs ▪ Individual well-being ▪ Well-being of society ▪ Luxury and pleasure
Disadvantages	▪ Decrease in psychological satisfaction ▪ Negative environmental impacts ▪ Narcissism ▪ Indifference ▪ Loneliness ▪ Self-doubt

Note. This table summarizes the internal and external drivers as well as the advantages and disadvantages of hyper-consumption.

4 Conclusion of the literature review

The literature review gave a summary of the underlying concepts of collaborative consumption and the currently dominating form of consumption, known as hyper-consumption. Several key drivers as well as the characteristics of both systems were shown. The discussed drivers have the potential to shift consumer behavior away from hyper-consumption and towards collaborative consumption. On the one hand, a lot of new types of collaborative consumption have emerged. On the other hand, hyper-consumption is a rudimentary part of consumer behavior. It was shown that hyper-consumption has disadvantages, but also advantages which bind consumers. Collaborative consumption has a similar setting because of the discussed reasons. The striking factor of collaborative consumption is, however, that collaborative consumption emerged and grew rapidly in a very short period of time. This is often the case with popular, but temporary, trends. The empirical study provides strong evidence supporting the development of collaborative consumption. Various socio-demographics and personality types will be addressed to research the influences on usage, types, and drivers. All these are indicators that can give a first glance at the future of collaborative consumption. Consequently, conclusions and implications can be drawn for startups, established companies, and also for future theoretical research. The empirical study strives to find evidence which gives a first-hand empirical opinion on whether collaborative consumption is a short lived trend, a phenomenon that will turn into a fundamental niche, or a potentially new dominant form of consumption.

5 Empirical study

5.1 Introduction to empirical research

5.1.1 New business opportunities.

Collaborative consumption creates new business opportunities as many cases of startups have shown. The Internet makes the process easier to connect with people and users to engage as well as build these platforms. However, not only new businesses are profiting from these developments, but there are many examples of established firms that are using this new trend to engage with their customers. One aspect that needs further investigation is if collaborative consumption is more profitable for established companies than traditional forms of consumption. Currently, collaborative consumption is in its trial stage for major companies. On the one hand, customers are demanding new ways of consumption. On the other hand, companies can simply offer their customers these new types of consumption in order to satisfy the customer base.

However, this can be seen as self-cannibalization. By offering multiple channels to customers, it can lead to a shift of the same customers from one channel to another. This method of channel hopping does not attract new customers and does not generate profits; it only generates costs (Hünerberg, 2012, p. 78). Nevertheless, failing to establish new systems can lead to the loss of the customer base, if there is an increase of interest of the customers to use new channels such as collaborative consumption is offering it. New players can enter the market and target the customers of established firms by offering new types of collaborative consumption. Innovations continuously disrupt the market and reshape entire business areas, which can ultimately lead to the end of established companies (Monday, 2009). The same occurrence can be imminent when talking about collaborative consumption. Companies have to analyze the potential gains, but even more importantly the potential losses, including sales decrease, customer decline, and “negative image transfer” (Hünerberg, 2012, p. 78). Therefore, it is important to study and research the impact of collaborative consumption.

In the following, product service systems, redistribution markets, and collaborative lifestyles will be investigated. Examples are given of successful startups, failed startups, and types of collaborative consumption of established companies.

5.1.2 Developments of product service systems.

Zipcar.com is a popular example when it comes to car sharing and product service systems. *Zipcar.com* started off a decade ago and increased its success especially in North America (Zipcar.com, n.d.). As other product services systems, it is a good example for startups that vastly made use of the resources that are available. *Zipcar.com* benefits from the Internet, communities, availability, cost savings, and many other factors. This made the success of *zipcar.com* possible. Furthermore, car sharing is not a new invention, but many company started car sharing business around the world based on similar principles.

However, car sharing and other product service systems including rideshare sites, such as *rewardride.com* and *zebigo.com*, have either failed or are only able to serve local clientele. In these examples, both sites were launched two to three years ago. Regardless, web research shows low or no activity in the last six to twelve months of these two companies. This demonstrates how fast the business world is changing, but also provides clues about the key components for success through collaborative consumption.

Established car manufactures also offer car sharing. *BMW* offers premium car sharing via *drive-now.com*. *VW* offers car sharing via *quicar.de*. Both sites follow a similar pattern in a way that users can select their city and the car that they like to drive. Also, both companies use collaborative consumption to try binding customers through an additional channel. The many new car sharing sites are an increasing threat to the car manufacturers, which have to react to the new market forces.

The same counts for other transportation services as well. *Deutsche Bahn* (*DB*), for example, offers in addition to train tickets, car sharing and bicycle sharing services in an increasing number of locations. This way, *DB* tries to cover the customer's journey from their starting point to the final destination, instead of only bringing the customer from one train station to another. *DB* tries to bind its customers on the company instead of losing them to ride sharing sites such as *mitfahrgelegenheit.de*, airline companies, or bus companies.

5.1.3 Developments of redistribution markets.

Similar developments can be observed in redistribution markets. Big marketplaces, such as *craigslist.org* and *ebay.com*, and free/gift exchanges, such as *freecycle.org*, are flourishing. Others (e.g. *givmo.com*) are struggling to increase business.

Especially, the successful collaborative consumption platforms are threatening established businesses. Recently, many bookshops (e.g. *Borders Books and Music*, *Crown Books*, *Encore Books*…) had to close because the business was no longer profitable.

These examples make the need visible for thorough research. One has to understand the drivers that are behind the usage of redistribution markets. The components have to be understood that are responsible for some collaborative consumption businesses' successes and failures. Furthermore, research is important because of the indications for traditional businesses that have to deal with collaborative consumptions. Indicators can be represented in the business models, drivers, types, and usage of collaborative consumption. On the other hand, indicators can suggest new opportunities for businesses to engage in collaborative consumption or change their business structure towards a completely new focus.

5.1.4 Developments of collaborative lifestyles.

Success stories of collaborative lifestyles such as *coachsurfing.org*, for peer-to-peer travel, and *kickstarter.com*, for crowd-funding, show the potentials communities have. Also, this implies that traditional travel agencies and lenders have to deal with changes.

For that reason, research concerning people's reasons for using and not using collaborative consumption is valuable. Additionally, businesses have to understand what impact socio-demographics and even the individual personalities have.

All of these questions play a part in the questionnaire that is designed for this research. In the following section, the components of the questionnaire will be stated, and their importance described. The questionnaire focuses on the usage of collaborative consumption and to what extend certain components will have an impact.

5.1.5 Development of research questions and hypothesis.

The different types of collaborative consumption can increasingly influence the consumption habits of people. The question remains to what extend product service systems, redistribution markets, and collaborative lifestyles become more important.

The objective of the research is to investigate several types, drivers, and usage of collaborative consumption. It is important to understand the relationships between socio-demographics/personality and usages as well as the impact different types have on the drivers.

So far, no theory has tried to explain the impact of collaborative consumption. Therefore, the research was designed to be exploratory. The study is divided into 5 categories socio-demographics, personality, drivers, types, and usage. Figure 4 shows the hypothesis model which unites these fields. The model helps to visualize the creation of the hypothesis.

Usage

Current collaborative consumption patterns: What are current collaborative consumption patterns?

In order to understand people's behavior towards collaborative consumption, the current consumption patterns need to be investigated. This includes the monthly participation in collaborative consumption over the past 10 years, the number of types of collaborative consumption that the participants have taken part in over the last 10 years, and the willingness of the participants to continue using collaborative consumption in the future.

H_1: There is a direct influence of socio-demographics on usage.

H_2: There is a direct influence of personality on usage.

Types

1. Evaluation of outcomes: What are the main types of collaborative consumption that participants use?

This question allows identifying the types of collaborative consumption that have the highest importance for the participants.

2. Influence from socio-demographics on personality: Is there a direct influence of socio-demographics as well as personality on the different types of collaborative consumption?

This question allows for drawing connections if certain personality types and socio-demographics are more heavily influenced than others by specific types of collaborative consumption.

H_3: There is a direct influence of socio-demographics on types.

H_4: There is a direct influence of personality on types.

Drivers

1. Drivers to participate ('participation drivers'): What are the main drivers for participating in a certain type of collaborative consumption?

The different drivers towards participating in a type of collaborative consumption are divided into nine categories: new technologies; community; environmental concerns; price consciousness; experience; access over ownership; profits; recommendation; and selfless deed.

2. Drivers not to participate ('non-participation drivers'): What are the reasons for participants not to participate more often in collaborative consumption?

The main reasons why people do not participate in collaborative consumption are divided into seven categories: waste of time; lack of reliability; availability; ownership; privacy; hyper-consumption; and difficulty.

3. Influence from socio-demographics and personality: Is there a direct influence of socio-demographics as well as personality on the drivers?

This is important in order to understand which groups of people do not participate in collaborative consumption for what reasons. Also, this research question investigates the influence of why people engage in certain types of collaborative consumption.

H_5: There is a direct influence of socio-demographics on 'non-participation drivers.'

H_6: There is a direct influence of personality on 'non-participation drivers.'

H_7: Socio-demographics indirectly influence 'participation drivers' through types.

H_8: Personality indirectly influences 'participation drivers' through types.

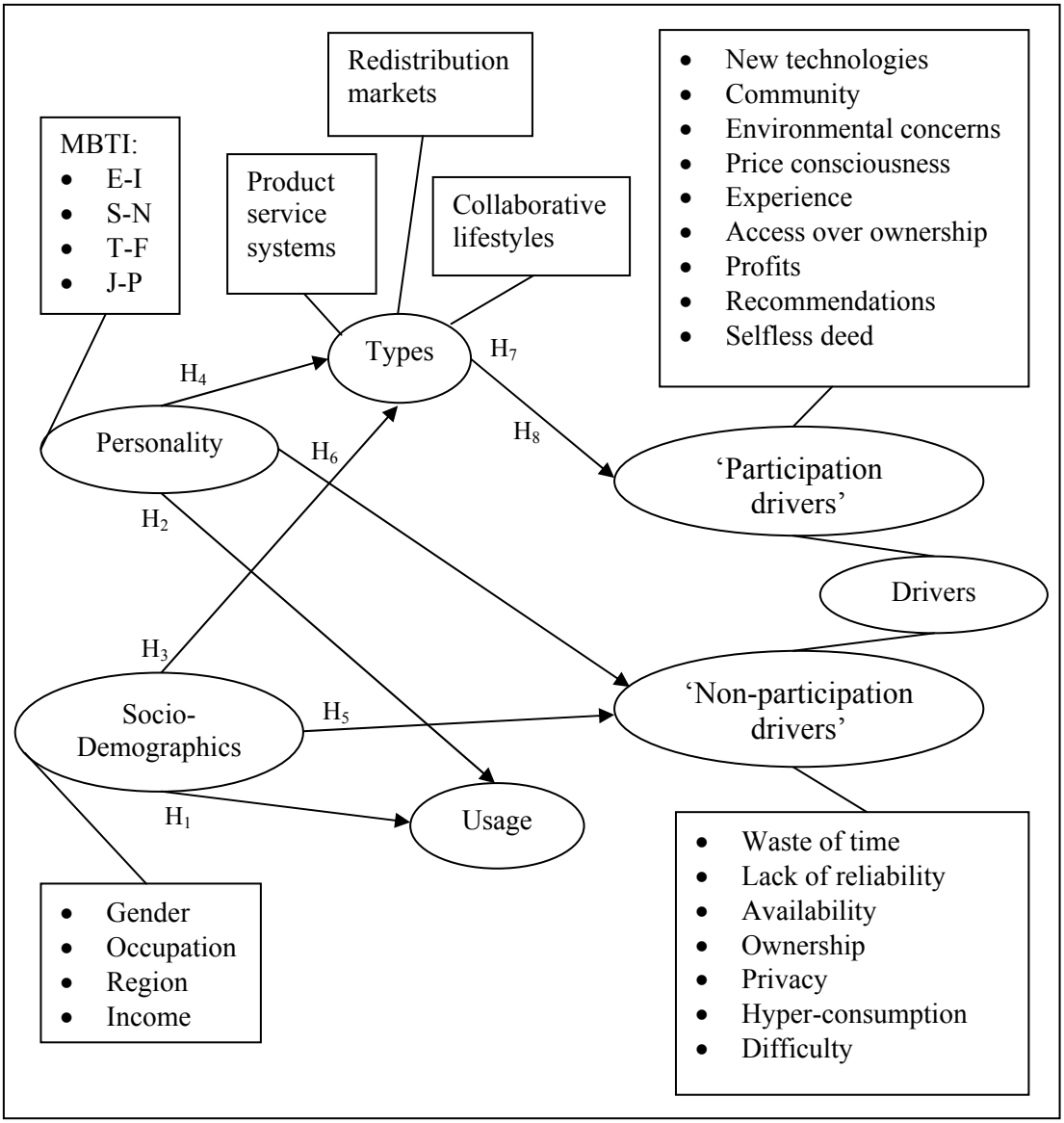


Figure 4. Hypothesis model. This figure shows the four categories: socio-demographics; personality; drivers; types; and usage. The hypothesis model was used to show the relation between the different categories. Drivers are a cluster that combines participating and non-participating factors. Socio-demographics are a cluster that includes gender, occupation, region, and income. The types-cluster includes the three types of collaborative consumption as well as their various sub-categories (Appendix A). The category personality includes the eight different Myers-Briggs Type Indicators (MBTI): extraversion (E) or introversion (I); sensing (S) or intuition (N); thinking (T) or feeling (F); judging (J) or perceiving (P). The arrows indicate the relations and influences of one category to another. These relations allowed it to develop the eight hypotheses.

5.2 Method of empirical work

5.2.1 Exploratory study.

The method of the empirical work is an exploratory study. There is no underlying theory that describes the drivers, types, and usage of collaborative consumption. Even though, authors (Felson and Spaeth, 1978; Botsman & Rogers, 2011) worked on collaborative consumption, so far no theory was developed to

describe the current developments. This supports the decision to follow the approach for an exploratory study. Exploratory research "might be thought of as a perspective … toward approaching and carrying out social inquiry." This research can then be used as a first building block for a new theory. The main aspect is the exploration of developing grounds, in which the "the researcher [acts] as [an] explorer" (Davies, 2006). New insights regarding collaborative consumption can be gained by following an exploratory approach.

This study was designed to better understand three categories of collaborative consumption: drivers; types; and usage. In order to get a better understanding of the groups of people involved in each category, five types of socio-demographics as well as the Myers-Briggs' personality types were included. Additionally, the scope of collaborative consumption was part of the study, which means that the increasing or decreasing importance of collaborative consumption is part of a cross-regional analysis between North-America and Europe. An online survey was created to include all of these criteria (Appendix B).

5.2.2 The instrument.

The exploratory study is built on an online survey, to target the objectives of the research. This method was used to receive responses from a high number of participants, which makes the study more representative.

The survey was created with the software Sphinx. The layout of the survey is structured into six sections: "welcome;" "topic;" "collaborative consumption and you;" "consumption patterns;" "motivation;" and "socio-demographic background." This layout includes 82 questions and sub-questions, which are divided into five categories: drivers; types; usage; personality; and socio-demographics (Appendix B).

The "welcome" section introduced the respondents to the researcher as well as contact details, the purpose of the study, the time frame, confidentiality, and the rough outline of the survey.

The topic section provided the respondents with a definition of collaborative consumption, examples of the three types of collaborative consumption, and an explanation of traditional forms of consumption.

The section "collaborative consumption and you" deals with the category of types. Respondents had to answer questions concerning what types of collaborative consumption they have taken part in. As a reference, a table was provided with the three types of collaborative consumption (product service systems, redistribution

markets, and collaborative lifestyles), their subcategories (car sharing, big marketplaces, co-working spaces…), and examples (*Netflix*, *ebay.com*, *zopa.com*…). The respondents had also the option to include their own examples.

The section "consumption patterns" is directed to gather information regarding the category usage. Three question sets were used to determine the respondents' usage. The first question set focused on the number of the collaborative consumption activities per month. Respondents had to choose the monthly average in three time periods (2001-2004, 2005-2008, and 2009-2012). Then they had to choose between five options: never (0); rarely (1-2); sometimes (3-4); often (5-6); and very often (more than 6). The second question set focused on the number of types per year. The same three time periods (2001-2004, 2005-2008, and 2009-2012) were used. Options were defined as none (0), a few (1-2), some (3-4), many (5-6), and a lot (more than 6). The last question set was a scale consisting of three statements. The scale was a seven point Likert scale ranging from strongly disagree (1) to strongly agree (7). Three questions were concerned with the future usage of collaborative consumption, the likelihood of an increase in usage, and the potential to recommend collaborative consumption to other people.

The fifth section "motivation" was concerned with the drivers of collaborative consumption. Respondents were asked to select their personal most, the personal second most, and the personal third most important type of collaborative consumption. Then, the participants rated statements concerning the reasons for using collaborative consumption (new technologies, community, environmental concerns, price consciousness, experience, access over ownership, profits, recommendations, and selfless deed) on a five point Likert scale (strongly disagree, disagree, undecided, agree, and strongly agree). The respondents were also given the option to provide another reason for taking part in the selected type of collaborative consumption and rate it on the Likert scale. Finally, the last question of the section asked for reasons why the respondents do not participate more often in collaborative consumption. Eight reasons were given (waste of time, lack of reliability, availability, ownership, privacy, hyper-consumption, and difficulty), and the respondents were able to give additional reasons. All of these reasons were also rated on the same five point Likert scale.

The final section was "socio-demographic background." This section united the categories of personality and socio-demographics. The first questions ask for the

respondent's personality type. The eight Myers-Briggs type indicators (MBTI) are used in this section. The respondents were given a description of two personality types (extraversion (E) or introversion (I), sensing (S) or intuition (N), thinking (T) or feeling (F), judging (J) or perceiving (P)). Then, they had to choose one of the two types. Carlson (1985) shows that it is not necessary that all participants take a MBTI assessment test, but that "subjects were generally good at selecting the type description that matched their MBTI preferences and at recognizing that the opposite type was unlike them" (p. 363). The final six questions were addressing the socio-demographic background directly. These questions ask for the age, gender, occupation, region in which the respondents have taken part in collaborative consumption (North America, Europe, Asia, or none), nationality, and the net income of the household per month.

5.2.3 Data collection and descriptive statistics.

The survey was distributed primarily through social media sites. The initial step was the creation of a Facebook event in which an explanation and a link to the survey was provided. The contacted persons were also able to invite additional people to the event. Facebook groups and pages, including university pages and collaborative consumption groups were used to contact potential respondents. Twitter, Google+, and survey forums were also used to contact potential respondents directly. The final step was to hand out printed versions of the survey, to increase the number of respondents from specific regions.

The method for gathering samples was non-probability sampling. Human intervention was used in all of these cases, either through snowball, self-selection, plausibility, purposive or convenience sampling (Bradley, 1999, para. 5).

The initial target samples were directed towards three regions: North America; Europe; and Asia. The nationalities were eventually grouped by regions. The final sample size included 403 responses. 209 of the respondents were grouped as European and 113 as North American (Canada, Mexico, and the United States of America). This left 81 other responses (nationalities from Asia, Africa, South America, Oceania, and None-responses). The responses from Asia and the other regions were too small compared to North America and Europe. Therefore, the study focuses solely on Europe and North America. That is why the 81 other responses do not comply with the scope of the study. Consequently, this reduced the number of total responses to 322.

The convenience sampling method resulted in an unequal distribution of some socio-demographics. However, it was the only way possible to reach this sample size, in regards to time and other resource constraints. Even though the convenience sample cannot be generalized to the whole population, the survey results can be used for the development of future research surveys (Crossman, n.d.). The exploratory study together with the convenience sample creates a first step in understanding collaborative consumption.

The gender distribution in the sample is 39% male and 61% female (fulfillment rate 98.8%). This does not correspond to the normal gender distribution in North America (50.7% females, 49.3% males) and Europe (51.8% females, 48.2% males) (United Nations, 2010). Nevertheless, it will create a first understanding of the gender differences concerning collaborative consumption.

The occupation (fulfillment rate 99.1%) can be directly compared between students and employees. Students are represented with 145 and employees with 137. Students are represented with 45.5% and employees with 42.9% of the total sample size. Unemployed (4.4%), self-employed (5.6%) and retired (1.6%) people will remain in the survey. Yet, the number of unemployed, self-employed, and retired respondents is too small to be used in the comparison. The main focus of the occupation will go to the students and employees. This ratio allows a direct comparison of students and employees in regards to the drivers, types, and usage.

The net income of household per month (fulfillment rate 93.8%) will be regrouped into five categories: “Less than 500 Euros” (20.5%); “500-999 Euros” (21.5%); “1000-1999 Euros” (20.9%); “2000-2999 Euros” (17.9%); and “More than 3000 Euros” (19.2%).

The distribution of the population in Europe is 738.199 million and the population of North America (Canada, Mexico, and the United Sates) is combined 457.824 million (United Nations, 2010). The ratio of the distribution of the population is 1 to 0.62. This explains the uneven distribution in the survey. The ratio of America (35.1%) to Europe (64.9%) is 1 to 0.54.

The MBTI are distributed according to the four concepts: favorite world (extraversion or introversion); information (sensing or intuition); decision (thinking or feeling); and structure (judging or perceiving). The fulfillment rate for favorite world is 98.4%, for structure is 97.5%, for information is 97.8%, and for decision is 98.8%. The distribution according to the survey results is as follows: 50.5%

extraversion (E); 49.5% introversion (I); 39.8% sensing (S); 60.2% intuition (N); 40.6% thinking (T); 59.4% feeling (F); 39.0% judging (J); and 61.0% perceiving (P).

5.2.4 Analysis procedure.

The software Sphinx is used to analyze the data that was collected during the survey. The focus of the analysis is the influence of different socio-demographics and personality types on usage, types and drivers of collaborative consumption.

The first part of the analysis is focusing on usage, to understand the development of collaborative consumption. Firstly, the results are described to see the changes that have occurred over the last few years and to see what awaits collaborative consumption in the future. Secondly, the hypotheses are tested. Cross-tabulations are created between socio-demographics/personality and usage. After crossing the tables, a chi-square test is applied to find out if there are significant differences between certain socio-demographics/personalities and usage. The limits of the chi-square values are applied in Sphinx. A highly significant relationship is defined as ≤ 1%, a significant relationship is defined as ≤ 5%, and a low significant relationship is defined as ≤ 15%. These significances are the same in all parts of the analysis. In this section, the five point Likert scale, that was used in the survey ("Disagree," "Slightly disagree," "Undecided," "Slightly agree," "Agree"), was mainly maintained. In some cases, the five point Likert scale was regrouped to specify certain significant differences ("Disagree," "Undecided," "Agree"). When analyzing the socio-demographics, the order is as follows: gender; occupation; income; and then region. When analyzing the personality types, the order is extraversion-introversion, sensing-intuition, thinking-feeling, and finally judging-perceiving. A hypothesis is rejected, when none of the socio-demographics/personalities show a significant relationship. A hypothesis is partially supported, when at least one, but not all socio-demographics/personalities show a level of significance. A hypothesis is supported, when all of the socio-demographics/personalities show a significant relationship. The total of the participants is deciding if a hypothesis is supported or rejected. Sub-groups are being used to understand deeper differentiations and are used in the managerial implications section. The steps for analyzing the socio-demographics and personality are for all parts of the analysis identical.

In the analysis of types, a similar scheme is followed. Firstly, a description of the most commonly used types of collaborative consumption is given. Secondly, a

chi-square test is applied to determine if there is a significant relationship between socio-demographics/personality and types. The same order of socio-demographics and personality is used as pointed out in the usage section. Additionally, a closer look at sub-groups provides deeper insights.

The third part of the analysis is concerned with 'non-participation drivers.' Firstly, the results for the 'non-participation drivers' are described. For that matter, the five point Likert scale is regrouped into "Disagree," "Undecided," and "Agree." If one of the 'non-participation drivers' exceeds fifty percent in regards to "Disagree" or "Agree" it is highlighted. Secondly, each 'non-participation drivers' is tested through a chi-square analysis for a significant influence of socio-demographics and personality.

The last part of the analysis describes 'participation drivers.' Firstly, the most important types of collaborative consumption are selected. To be used for the analysis, it was decided priorly that each of the types has to have a minimum of thirty respondents. The five point Likert scale is regrouped and includes "Disagree," "Undecided," and "Agree." Secondly, the selected types are being used to analyze the 'participation drivers.' The relationship between 'participation drivers' and socio-demographics/personality is tested through a chi-square analysis. This way, the significance can be determined of the indirect influence of socio-demographics/personality on 'participation drivers' through types.

6 Findings

6.1 Analysis of usage

Usage shows the collaborative consumption pattern over the last 10 years. Firstly, the monthly participation in collaborative consumption over the last 10 years will be investigated (Figure 5). Between 2001 and 2004 the monthly participation in collaborative consumption activities was rather low with 56.5% of the participants selecting “Never” and 28.6% selecting “Rarely.” Between 2005 and 2008 a shift occurred. Even though, more than half selected “Never” (26.4%) and “Rarely” (37.0%), 24.8% of the participants selected “Sometimes” and even “Often” doubled compared to the previous period from 4.0% to 8.4%. The most peculiar shift occurred in the next four years. The percentage of participants selecting “Never” decreased to 4.0%. More interestingly though the percentage of participants that select “Very often” increased to 20.8%. The percentage of respondents that participate in collaborative consumption activities and selected “Sometimes” or more is now greater than fifty percent. This clearly shows the increasing importance of the number of activities of collaborative consumption over the last 10 years.

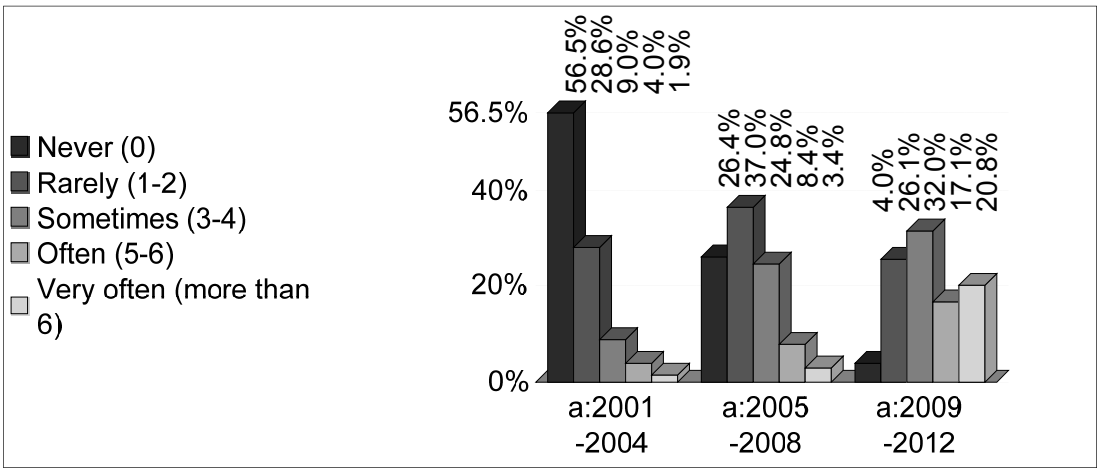


Figure 5. Participation in activities of collaborative consumption between 2001 and 2012. This figure shows the changes in the number of activities (a) per month in the periods 2001-2004, 2005-2008, and 2009-2012. The participants were able to select the following answers: “Never” (0); “Rarely” (1-2); “Sometimes” (3-4); “Often” (5-6); and “Very often” (more than 6). The number of responses is for each period 322.

Secondly, the number of types of collaborative consumption that the participants have taken part in, over the last 10 years, will be investigated (Figure 6). Between 2001 and 2004, 55.3% of the respondents indicated that they participated in no type of collaborative consumption. 34.8% indicated that they participated in “A

Few" types of collaborative consumption. This leaves less than ten percent of the respondents with 3 types of collaborative consumption or more. Between 2005 and 2008 a shift occurred towards an increase of types of collaborative consumption per year. In this period, only 25.5% of the respondents selected "None." The percentage of the once selecting "A Few" grew to 43.8%. Also, the percentages tripled for participants that selected "Some" (23.0%), "Many" (4.7%), and "A Lot" (3.1%). More striking are the changes that occurred in the period 2009-2012. The percentage of the participants that selected "None" decreased to 4.7%. 35.4% used "A Few" types of collaborative consumption and more than fifty percent used "Some" (31.4%), "Many" (17.4%), and "A Lot" (11.2%). This shows that not only the number of activities increased, but also the number of types that are used increased over the last 10 years.

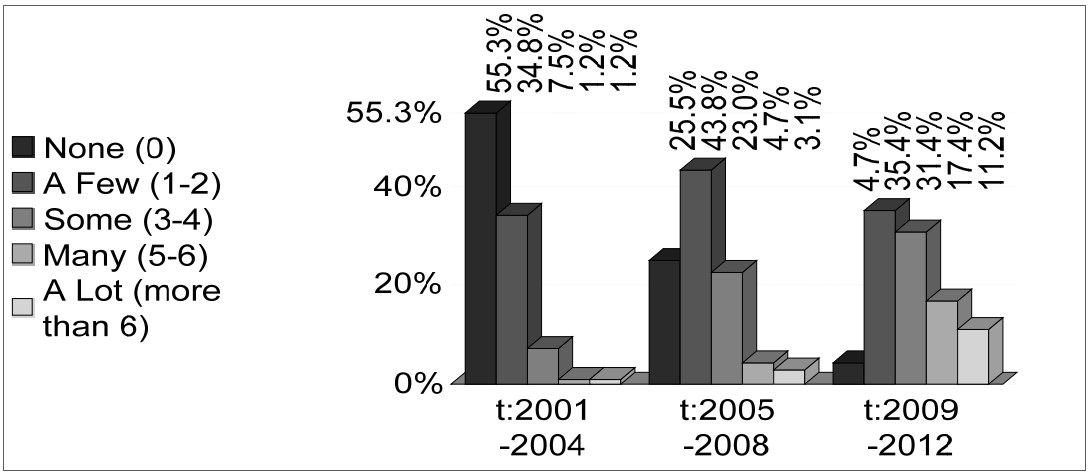


Figure 6. Participation in number of types of collaborative consumption between 2001 and 2012. This figure shows the changes in the number of types (t) per year in the periods 2001-2004, 2005-2008, and 2009-2012. The participants were able to select the following answers: "None" (0); "A Few" (1-2); "Some" (3-4); "Many" (5-6); and "A Lot" (more than 6). The number of responses is for each period 322.

Finally, the willingness of the participants to continue using collaborative consumption in the future will be investigated (Figure 7). A great percentage (71.0%) agrees to continue collaborative consumption in the future compared to only 5.3% that disagree to continue it in the future. More than fifty percent agreed (32.5%) or slightly agreed (24.7%) to increase the types of collaborative consumption. On the other hand, 10.6% slightly disagreed. 11.6% disagreed with the notion to increase the number of types of collaborative consumption. More than sixty percent of the participant agreed (49.4%) or slightly agreed (20.3%) that they will recommend

collaborative consumption to other people. Only 8.4% slightly disagreed and 8.1% disagreed to recommend collaborative consumption to other people. These answers confirm the results of the previous two questions. The usage of collaborative consumption and the types of collaborative consumption increased over the last 10 years. The respondents indicated that they are willing to continue using collaborative consumption, try new types, and recommend it to other people.

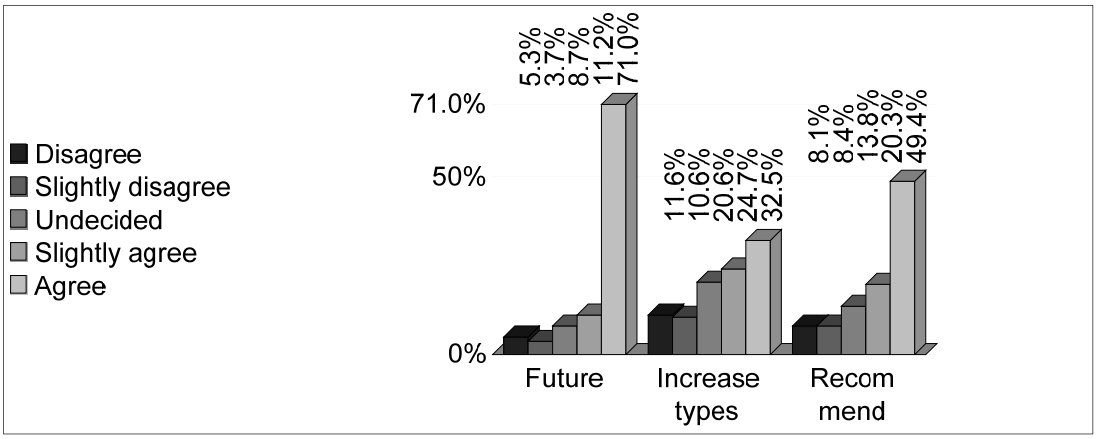


Figure 7. Collaborative consumption in the future. This figure reflects the percentage of the answers of the respondents of their willingness to use collaborative consumption in the future ("Future"), their willingness to increase the number of types of collaborative consumption ("Increase types"), and the willingness to recommend collaborative consumption to other people ("Recommend"). A seven point Likert scale was used. The graph displays only five agreement types. "Strongly disagree" and "Disagree" as well as "Strongly agree" and "Agree" were grouped. The number of responses is for "Future" 320, for "Increase" 321, and for "Recommend" 320.

6.1.1 Socio-demographics and usage.

After analyzing the changes in the usage of collaborative consumption, it was tested if socio-demographics have a direct influence on usage.

Prior to this analysis, it was hypothesized:

H_1: There is a direct influence of socio-demographics on usage.

None of the socio-demographics, including gender, occupation, income, and region showed significance. Consequently, it is concluded that H_1 is rejected.

6.1.2 Personality and usage.

Significance was observed with regards to "Increase types." Introverts (74.3%), in opposite to extraverts (25.7%), disagree significantly when it comes to the willingness to increase the number of types of collaborative consumption in the future, $\chi^2(4, N = 315) = 12.71, p = 1.3$. This is also true for introverts that are students (83.3%) and extraverts that are students (16.7%), $\chi^2(4, N = 143) = 12.28, p = 1.5$. There is also a significant difference between thinkers and feelers.

Especially, when analyzing the European sub-group. 73.7% of European thinkers disagree (including strongly disagree, disagree, and slightly disagree) to continue using collaborative consumption in the future in contrast to 26.3% of European feelers, $\chi^2(2, N = 201) = 14.74$, $p = <0.1$ (Appendix C).

Concerning the influence of personality on usage, it was hypothesized:

H_2: There is a direct influence of personality on usage.

The analysis shows some significance between extraverts and introverts regarding "Increase types" and between European thinkers and feelers regarding "Future." All of the other influences of personality on usage are not significant. Even though, the significance is limited to certain personality types and usages, it cannot be clearly ruled out that there is some influence of personality on usage. Consequently, it is concluded that H_2 is partially supported.

6.2 Analysis of types

As a first step, some of the answers have been regrouped. Respondents were given the option to select "Other" (online, offline redistribution markets) these answers were overlapping with some offered responses. The overlapping answers of "Other" were allocated to the responding options to either product service systems, redistribution markets or collaborative lifestyles. The remaining answers for "Other" were too small to be analyzed. Therefore, the decision was made to disregard the remaining answers of "Other". Also, some participants had the option to choose "None". This also was disregarded to focus on the main types of collaborative consumption.

The main types of the product service systems that were chosen by the total number of the respondents are "Public transport" (77.0%), "Movies" (56.8%), "Textbook rental" (28.9%), "Ride sharing" (27.0%), "Car sharing" (16.8%), and "Bike sharing" (14.6%). The main types of the redistribution markets are "Big marketplaces" (77.0%), "Second hand shops" (67.1%), "Free/Gift exchanges" (18.3%), "Exchange sites for books" (17.1%) and "Clothing exchanges" (9.3%). The main types that were selected by the respondents concerning collaborative lifestyles are "Peer-to-peer travel" (32.0%), "Crowd-funding" (18.0%), "Co-working spaces" (8.7%), and "Social food networks" (8.1%). The mentioned types are the ones with the highest percentage and do not include the types with lower percentages (Appendix D).

These percentages include now respondents that mentioned other types, e.g. “libraries” or other book rentals that were mentioned in the “Other” option were allocated to “Textbook rentals”; examples such as “ebay”, “craigslist”, and “amazon” were added to “Big marketplaces”; “carpooling” was added to “Ride sharing”; and so on. In the following, socio-demographic differences and differences in personality will be investigated in order to draw managerial conclusions.

6.2.1 Socio-demographics and types.

Gender

63.1% of women and 36.9% of men see “Peer-to-peer travel” as the most important type of collaborative lifestyle. 53.4% of men indicated “Crowd-funding” as an important means of collaborative lifestyle. In this regard males and females differ significantly, $\chi^2(7, N = 264) = 15.43, p = 3.1$. It is also significant when it comes to European males (62.5%), $\chi^2(7, N = 151) = 15.01, p = 3.6$; male students (81.8%), $\chi^2(7, N = 87) = 15.84, p = 2.7$; and male intuitors (58.3%), $\chi^2(7, N = 170) = 16.18, p = 2.4$ (Appendix D).

Occupation

The differences between students and employees are minor when it comes to product service systems. The most striking difference is between students and employees that are senors. The percentage of students that are sensors (83.3%) and employees that are sensors (16.7%) differs significantly in “Ride sharing”, $\chi^2(8, N = 247) = 20.39, p = 0.9$ (Appendix D).

Region

In the direct comparison between regions, there is a highly significant difference between North America and Europe. 51.9% North America and 48.1% of Europeans use “Movies” when talking about product service systems. Nevertheless, it is more important for North Americans. The same can be said about “Textbook rental” (North America 52.7%, Europe 47.3%). The opposite is the case for “Ride sharing” and “Bike sharing” in which North America has a significantly lower percentage than Europe (13.8% to 86.2% and 14.9% to 85.1%), $\chi^2(8, N = 738) = 69.74, p = <0.1$. The same pattern can be observed, when analyzing the sub-groups.

North Americans that are males tend to use “Movies” more frequently than any other form of product service systems relative to their European counterparts, $\chi^2(7, N = 266) = 20.01, p = 0.6$. The same is true for North Americans that are female compared to Europeans that are female. Additionally, North American

females use significantly more "Textbook rental" (54.8%) and significantly less "Ride sharing" (10.0%). Whereas, European women tend to use significantly more "Ride sharing" (90.0%), $\chi^2(8, N = 462) = 50.94$, $p = <0.1$. North American students significantly prefer "Movies" as well as "Textbook rentals" and prefer significantly less "Bike sharing," $\chi^2(8, N = 368) = 36.93$, $p = <0.1$. European employees prefer significantly less "Movies" (38.6%), but prefer "Ride sharing" (89.3%) compared to North American employees (61.4% "Movies" and 10.7% "Ride sharing"), $\chi^2(8, N = 280) = 33.60$, $p = <0.1$. American extraverts prefer significantly "Movies," $\chi^2(8, N = 403) = 24.38$, $p = 0.2$. North American introverts prefer "Textbook rental," but also "Movies" (62.2%) compared to European introverts (37.8%). 90.9% of the European introverts prefer "Ride sharing" to 9.1% of North American introverts, $\chi^2(8, N = 325) = 52.45$, $p = <0.1$. North American sensors prefer "Movies" and do not prefer "Ride sharing," $\chi^2(8, N = 279) = 32.49$, $p = <0.1$. North American intuitors prefer "Movies" significantly more in contrast to European intuitors. On the other hand, North American intuitors have a significantly lower interest in "Bike sharing" and "Ride sharing," $\chi^2(8, N = 440) = 39.82$, $p = <0.1$. This is similar to North American thinkers and judgers. They prefer "Movies" and do not prefer "Ride sharing," $\chi^2(8, N = 274) = 26.24$, $p = <0.1$; $\chi^2(8, N = 285) = 26.80$, $p = <0.1$. European feelers and perceivers do not prefer "Movies," whereas, North American feelers and perceivers significantly prefer "Movies." Additionally, North American feelers and perceives like "Textbook rental" and do not prefer "Ride sharing" and "Bike sharing," $\chi^2(8, N = 440) = 46.38$, $p = <0.1$; $\chi^2(8, N = 443) = 47.23$, $p = <0.1$ (Appendix D).

There are also a few significant differences between North America and Europe in regards to collaborative lifestyles. North Americans are significantly less engage in "Peer-to-peer travel" (30.1%), $\chi^2(7, N = 264) = 15.11$, $p = 3.5$. This also includes American intuitors (21.5%), $\chi^2(7, N = 170) = 21.01$, $p = 0.4$. European women (73.8%), on the other hand, compared to North American women (26.2%) engage significantly more in "Peer-to-peer travel," $\chi^2(7, N = 167) = 21.47$, $p = 0.3$. There is a slight significance of North American men that engage in "Social food networks" (87.5%), $\chi^2(6, N = 97) = 10.88$, $p = 9.2$ (Appendix D).

Concerning the influence of socio-demographics on types, it was hypothesized:

H_3: There is a direct influence of socio-demographics on types.

The analysis shows that some socio-demographics show high significance. This includes region and gender. Occupation shows only a significant difference in certain sub-groups. Income did not show a significant influence on types. Consequently, it can be concluded that H_3 is partially supported.

6.2.2 Personality and types.

Testing the influence of personality on types had the following results. Respondents with the personality types extravert/sensor and introvert/sensor show significance in redistribution markets, $\chi^2(7, N = 251) = 15.85$, $p = 2.7$. For example, introvert/sensor types' percentage for "Exchange sites for books" is 80.8%, whereas, extravert/senor types' percentage is 19.2%. Further testing showed also significance of extraverts that are also perceivers and introverts that are perceivers in collaborative lifestyles, $\chi^2(7, N = 149) = 15.87$, $p = 2.6$. Finally, perceiver/introvert types show significance in collaborative lifestyles, this time in comparison to judger/introvert types, $\chi^2(7, N = 114) = 17.57$, $p = 1.4$. Perceiver/introvert types score higher in "Crowd-funding" (76.7%), "Co-working spaces" (88.9%), and "Social lending" (100.0%) (Appendix D). Even though, the results show significance, the direct influence of personality on types has to be considered. Additionally, the number of the participants that were included in the sub-groups was rather small.

Concerning the influence of personality on types, it was hypothesized:

H_4: There is a direct influence of personality on types.

Considering the indirect test through sub-groups it was possible to find some significance. Nonetheless, no direct comparison between the different types showed any significance. Consequently, it has to be concluded that H_4 is rejected.

6.3 Analysis of 'non-participation drivers'

In this section, the main drivers for participants not taking part in collaborative consumption will be analyzed. A five point Likert scale was used to determine if the respondents strongly disagree, disagree, are undecided, agree, or strongly agree with the factors. In a second step, the Likert scale was grouped to include only "Disagree," "Undecided," and "Agree" (Table 6). It shall be pointed out that more than half of the respondents (51.6%) disagreed with the factor "Lack of

reliability," 80.3% disagree with "Availability online", and 53.7% disagreed with "Difficulty." In the following, it will be investigated, if certain socio-demographics have a particular influence on 'non-participation drivers.'

Table 6

Results of 'non-participation drivers'

	Disagree	Undecided	Agree
Waste of time	**35.9%**	**27.5%**	**36.6%**
Lack of reliability	**51.6%**	**29.0%**	**19.4%**
Availability offline	**37.4%**	**32.3%**	**30.3%**
Availibility online	**80.3%**	**12.9%**	**6.8%**
Ownership	**34.8%**	**25.2%**	**40.0%**
Privacy	**41.6%**	**25.5%**	**32.9%**
Hyper-consumption	**34.0%**	**34.6%**	**31.4%**
Difficulty	**53.7%**	**30.4%**	**15.9%**

Note. This table summarizes the 'non-participation drivers' and the corresponding responses of the participants.

6.3.1 Socio-demographics and 'non-participation drivers.'

Income

The first socio-demographic that shows significant results is income, $\chi^2(8, N = 290) = 12.25$, $p = 1.4$. Even though, there is only low significance it led to further investigations of sub-groups. The testing of the sub-group "North America" showed that respondents that earn between 1000 and 1999 Euros per household per month and are North Americans agree significantly that "Ownership" is important to them, $\chi^2(8, N = 94) = 17.95$, $p = 2.2$. The opinions concerning "Privacy" drift apart. 64.3% of the participants that earn between 500 and 999 Euros per household per month and are employed disagree that "Privacy" is an issue for not using collaborative consumption, $\chi^2(8, N = 127) = 12.33$, $p = 13.7$. The opposite is the case for respondents that earn 2000 to 2999 Euros and are judgers. 64.3% agree that "Privacy" in collaborative consumption is an issue for them. This dependence between the sub-group judgers and income between 2000 and 2999 Euros is slightly significant concerning "Privacy," $\chi^2(8, N = 111) = 14.57$, $p = 6.8$. Respondents that earn 500-999 Euros and are North American disagree with the notion that "Hyper-consumption" is important to them (61.1%), $\chi^2(8, N = 94) = 13.47$, $p = 9.7$. Whereas, 50% of the respondents that earn between 1000 and 1999 Euros and are employed

find traditional forms of consumption favorable. The dependence is slightly significant, $\chi^2(8, N = 126) = 13.50$, $p = 9.6$ (Appendix E).

Region

The biggest difference in regards to why participants do not participate in collaborative consumption is "Privacy." There is a significant difference between North Americans and Europeans. North Americans significantly agree that "Privacy" is one main reason why they are not participating in collaborative consumption. The opposite is the case for Europeans, $\chi^2(2, N = 310) = 16.72$, $p = <0.1$. Sub-groups were analyzed to better understand the differences. More than half of North American women (53.1%) compared to European women, North American students compared to European students, and North Americans with an income 1000-1999 Euros compared to Europeans with the same income, agree that "Privacy" is a reason for them not to participate in collaborative consumption. The same issue becomes apparent when looking at the direct comparison with the personality type ENFJ. The significant difference is more than 50% of the North American E (51.2%) N (50.7%) F (57.1%) J (51.4%) personality type compared to the European ENFJ (Appendix E).

Concerning the influence of socio-demographics on 'non-participation drivers,' it was hypothesized:

H_5: There is a direct influence of socio-demographics on 'non-participation drivers.'

The analysis shows that region has high significance. Income has low significance and testing the sub-groups led to similar results. Gender and occupation did not show any significant influence on 'non-participation drivers.' Consequently, it can be concluded that H_5 is partially supported.

6.3.2 Personality and 'non-participation drivers.'

Testing the direct comparison between different personality types did not show any relevant significance.

Before testing the influence of personality on types, it was hypothesized:

H_6: There is a direct influence of personality on 'non-participation drivers.'

Differences were found in the regional comparison between ENFJ, but there was no significance found between extraverts and introverts, sensors and intuitors, thinkers and feelers, or judgers and perceivers. Consequently, it has to be concluded that H_6 is rejected.

6.4 Analysis of 'participation drivers'

To find out the key factors for taking part in collaborative consumption, respondents had to select their most, second most, and third most important types of collaborative consumption. After that the respondents had to choose which of the given 'participation drivers' were applicable to the chosen type. This is necessary because drivers differ from type to type. Not every driver applies to every type. The respondents were also given the option to add other types of collaborative consumption. The other types were added to the given options if they overlapped. The number of the remaining options was too little to be accounted for. Finally, in order to get a representative number of respondents per selected type, it was decided that the minimum number is thirty respondents. The highest scoring types for most important and second most important type were "Public transport," "Big marketplaces," and "Second hand shops." For analytical purposes, the answers for the most important type of collaborative consumption will be used for the analysis. Additionally, these results will be validated by checking the responses of the second most important type. When asked for the most important type of collaborative consumption 24.5% indicated "Public transport" (N = 79), 15.2% said "Big marketplaces" (N = 49), and 9.3% selected "Second hand shops" (N = 30) (Appendix F).

The majority of respondents (87.3%) indicated that they agree that "New technologies" are drivers for them to participate in "Public transport." This is also true for "Community" (46.2%), "Environmental concerns" (89.9%), "Price consciousness" (86.1%), "Experience" (43.0%), "Access over ownership" (58.2%), and "Selfless deed" (60.8%). On the other hand, 79.7% of the respondents disagreed that "Profits" and 59.5% disagreed that "Recommendations" are drivers for them to engage in "Public transport" (Figure 8). Similar results can be observed when comparing it with "Public transport" as a second most important type of collaborative consumption. "Communities" and "Experience" had a slightly higher percentage of respondents indicating "Undecided" (Appendix F).

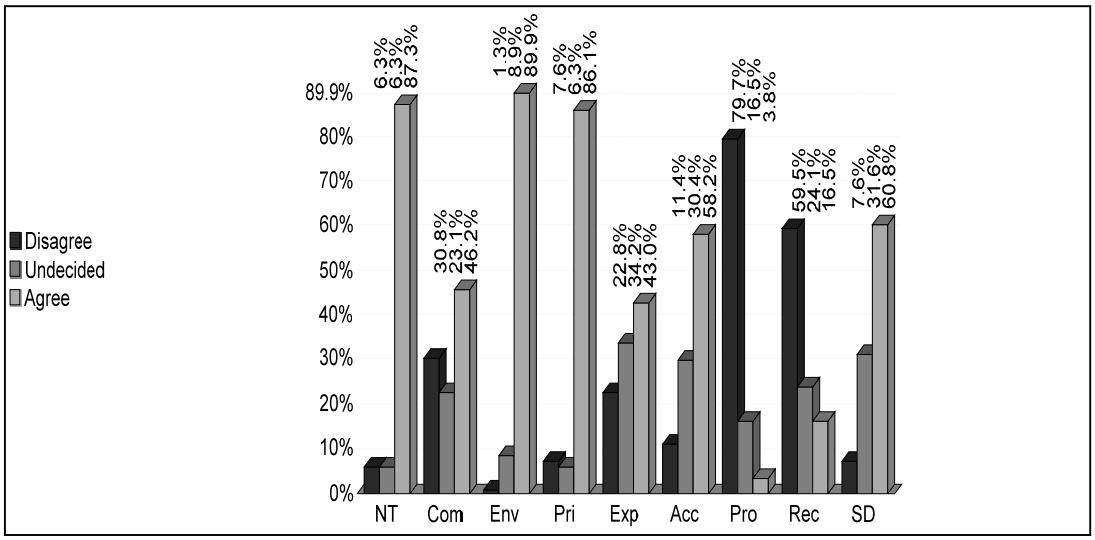


Figure 8. 'Participation drivers' related to "Public transport." This figure shows the percentile distribution of respondents that selected "Public transport" as their most important type of collaborative consumption. On a five point Likert scale respondents had to answer whether they "Strongly disagree," "Disagree," are "Undecided," "Agree," or "Strongly agree" with the following drivers for participating in "Public transport:" "New technologies" (NT); "Community" (Com); "Environmental concerns" (Env); "Price consciousness" (Pri); "Experience" (Exp); "Access over ownership" (Acc); "Profits" (Pro); "Recommendations" (Rec); and "Selfless deed" (SD). The five point Likert scale was then grouped into "Disagree" (including "Strongly disagree" and "Disagree"), "Undecided," and "Agree" (including "Agree" and "Strongly agree").

Respondents that chose "Big marketplaces" as their most important type of collaborative consumption indicated the following drivers as influencing their decision making to participate: "New technologies" (95.9%); "Community" (61.2%); "Environmental concerns" (61.2%); "Price consciousness" (89.8%); "Experience" (71.4%); and "Selfless deed" (62.5%). The respondents disagreed with the drivers "Profits" (51.0%) and "Recommendations" (55.1%). 40.8% of the respondents were undecided when asked if "Access over ownership" influences their decision making (Figure 9). The answers diverged slightly when respondents chose "Big marketplaces" as their second most important type of collaborative consumption. They still agreed that "New technologies" (98.0%) and "Price consciousness (94.0%) were drivers. Respondents were, however, more or less undecided in regards to "Community" (32.0%), "Environmental concerns" (44.0%), "Experience" (50.0%), and "Selfless deed" (50.0%). They disagreed to "Profits" (48.0%) as well as "Recommendations" (49.0%) and additionally to "Access over ownership" (62.0%) (Appendix F).

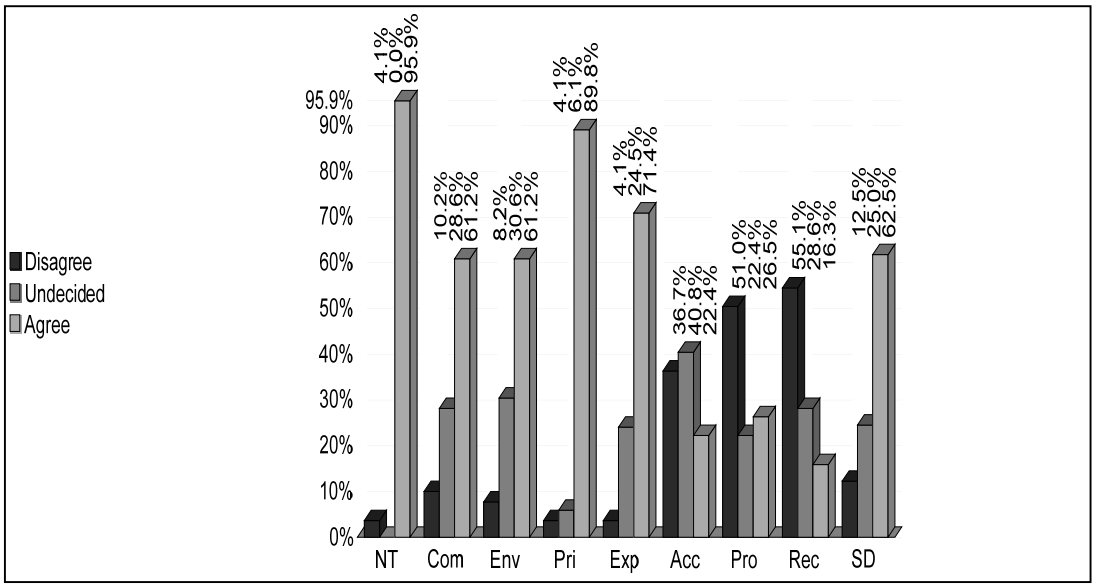


Figure 9. 'Participation drivers' related to "Big marketplaces." This figure shows the percentile distribution of respondents that selected "Big marketplaces" as their most important type of collaborative consumption. On a five point Likert scale respondents had to answer whether they "Strongly disagree," "Disagree," are "Undecided," "Agree," or "Strongly agree" with the following drivers for participating in "Big marketplaces:" "New technologies" (NT); "Community" (Com); "Environmental concerns" (Env); "Price consciousness" (Pri); "Experience" (Exp); "Access over ownership" (Acc); "Profits" (Pro); "Recommendations" (Rec); and "Selfless deed" (SD). The five point Likert scale was then grouped into "Disagree" (including "Strongly disagree" and "Disagree"), "Undecided," and "Agree" (including "Agree" and "Strongly agree").

As far as "Second hand shops" are concerned as the most important type of collaborative consumption, respondents indicated that "New technologies" (60.0%), "Community" (70.0%), "Environmental concerns" (79.3%), "Price consciousness" (96.7%), and "Selfless deed" (80.0%) are the most important drivers. The respondents disagreed that "Access over ownership" (46.7%), "Profits" (56.7%) and "Recommendations" (63.3%) are main drivers to participate in "Second hand shops" (Figure 10). Similar results were also found when comparing "Second hand shops" as the second most important type of collaborative consumption. The only difference is that 41.0% of respondents chose "Agree" and "Disagree" when evaluating "New technologies" (Appendix F).

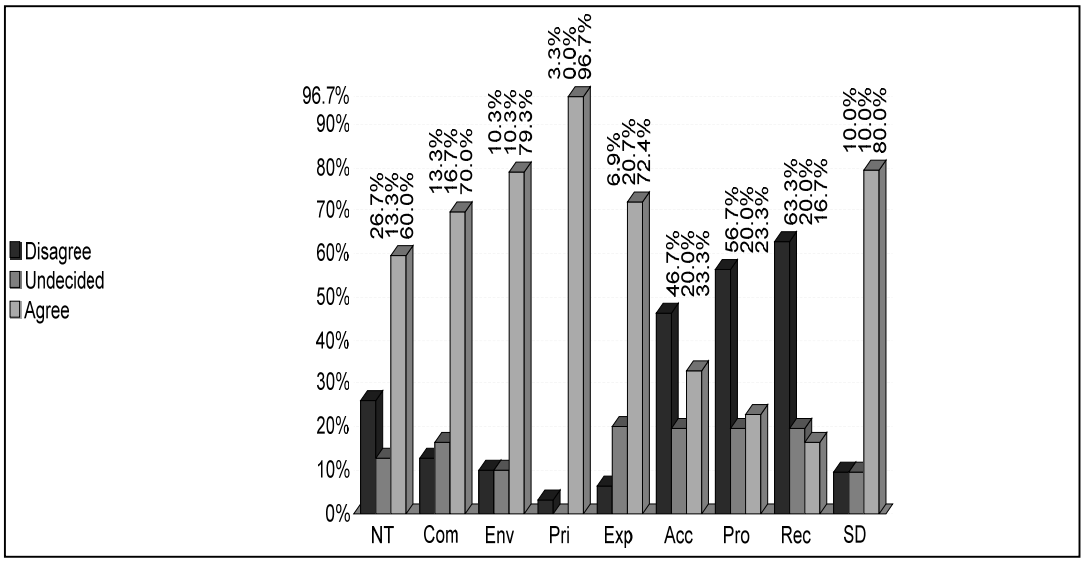


Figure 10. 'Participation drivers' related to "Second hand shops." This figure shows the percentile distribution of respondents that selected "Second hand shops" as their most important type of collaborative consumption. On a five point Likert scale respondents had to answer whether they "Strongly disagree," "Disagree," are "Undecided," "Agree," or "Strongly agree" with the following drivers for participating in "Second hand shops:" "New technologies" (NT); "Community" (Com); "Environmental concerns" (Env); "Price consciousness" (Pri); "Experience" (Exp); "Access over ownership" (Acc); "Profits" (Pro); "Recommendations" (Rec); and "Selfless deed" (SD). The five point Likert scale was then grouped into "Disagree" (including "Strongly disagree" and "Disagree"), "Undecided," and "Agree" (including "Agree" and "Strongly agree").

6.4.1 Socio-demographics and 'participation drivers.'

Occupation

In the following, it was tested if any of the socio-demographics have an influence on 'participation drivers.' In this regard only the types that were chosen as the most important types of collaborative consumption were taken into consideration. Testing the types that were selected as second most important did not show enough significance to be considered. After analyzing occupation, the result shows significant differences between students and employees. 91.3% of the students disagreed that "Community" is a driver for them to participate in "Public transport." Whereas, only 8.7% of employees disagreed with "Community" and even 46.7% agreed that "Community" is a driver, $\chi^2(2, N = 70) = 9.96$, $p = 0.7$. A similar result can be observed when investigating "Experience." 81.3% of the students disagree that "Experience" is a driver to take part in "Public transport" compared to only 18.8% of the employees. 56.7% of the employees agree that "Experience" is a driver for them to take part in "Public transport," $\chi^2(2, N = 71) = 12.17$, $p = 0.2$ (Appendix F).

Region

There is also a significant difference between the two regions of North America and Europe. All North Americans that have taken part in "Big marketplaces" agree that "Selfless deed" is a driver. Europeans are more divided on that matter. Compared to North Americans, Europeans also disagree or are undecided, $\chi^2(2, N = 48) = 13.09$, $p = 0.1$ (Appendix F).

Concerning the influence of socio-demographics on 'participation drivers,' it was hypothesized:

H_7: Socio-demographics indirectly influence 'participation drivers' through types.

The analysis shows that some socio-demographics have significant influence on 'participation drivers.' This includes occupation and region. Occupation indirectly influences "Community" and "Experience" through "Public transport." Region indirectly influences "Selfless deed" through "Big marketplaces." Consequently, it can be concluded that H_7 is partially supported.

6.4.2 Personality and 'participation drivers.'

There is highly significant difference between extraverts and introverts concerning the driver "Communities" in "Public transport." 70.8% of introverts disagree that "Communities" is a driver when talking about "Public transport." That is significantly lower than the 29.2% of extraverts. This means extraverts agree that "Communities" play a role in their decision making to use "Public transport" in contrast to introverts, $\chi^2(2, N = 78) = 14.03$, $p = <0.1$. The same holds true for "Experience." 77.8% of introverts disagree that "Experience" is a driver when using "Public transport." This is highly significant because only 22.2% of extraverts disagree that "Experience" is important, $\chi^2(2, N = 79) = 15.97$, $p = <0.1$ (Appendix F).

Concerning the influence of personality on 'participation drivers,' it was hypothesized:

H_8: Personality indirectly influences 'participation drivers' through types.

The analysis shows that some personality types have significant influence on 'participation drivers.' This includes extraverts and introverts. Extraverts and introverts indirectly influence "Community" and "Experience" through "Public transport." Consequently, it can be concluded that H_8 is partially supported.

7 Discussion

7.1 Managerial implications

7.1.1 Usage.

The analysis of usage provided three important implications. The first implication is that there is a tendency that people increase the number of collaborative consumption activities. Secondly, the numbers of types of collaborative consumption that are being used are increasing. Thirdly, that there is a willingness of the respondents not only to continue using collaborative consumption in the future, but also to try more types as well as recommend them to other people.

This is important for businesses because it describes the need to investigate new ways of conducting business. Companies have to find out if this trend can be harvested for business purposes or if companies will lose customers to competitors that already provide collaborative consumption services. The next step for companies is to screen the changes that occur and if the company can provide services that keeps the customer bound to the company. A first checklist demonstrates what questions companies have to consider before engaging in collaborative consumption (Figure 11). Firstly, companies have to decide if collaborative consumption applies to the company. If yes, they can screen their options to engage in collaborative consumption. If not, companies can research possibilities to either engage in new fields of services that includes collaborative consumption or if collaborative consumption services can be applied in the future. Collaborative consumption does not apply to every company. Therefore, not every company will or has to engage in collaborative consumption.

The analysis of H_1 suggests that there is no influence regarding socio-demographics. This concludes that all socio-demographics are equally following the trend. Also, H_2 suggests similar results, even though the research suggests that introverts are less likely to try out new types of collaborative consumption. Extraverts, on the other hand, are more likely to use new types of collaborative consumption. Therefore, extraverts can be used as first movers for new collaborative consumption services.

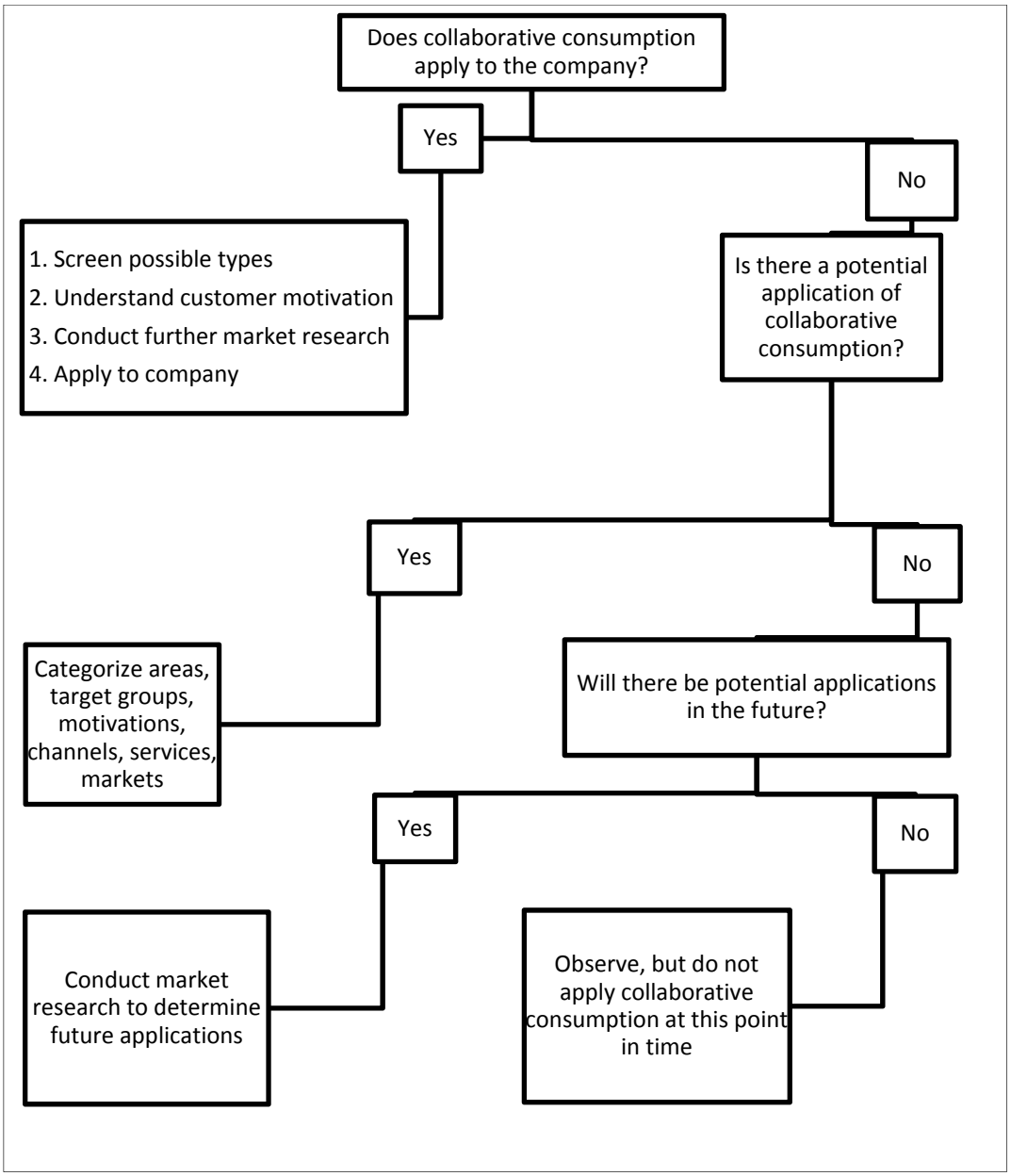


Figure 11. Application of collaborative consumption – company checklist. This figure shows questions and answers that companies have to ask before applying collaborative consumption.

7.1.2 Types.

The types of collaborative consumption that were distinguished are product service systems, redistribution markets, and collaborative lifestyles. The research shows that different socio-demographics have different influences on types of collaborative consumption. There is a gender difference concerning collaborative lifestyles. Significantly more women prefer peer-to-peer travel, whereas, significantly more men are interested in crowd-funding. Two implications can be drawn. Firstly, a company that is engaged in travels can target women for collaborative lifestyle projects. The same counts for men when a company is related to crowd-funding. Secondly, these businesses can target the opposite sex because so

far only a low percentage have engaged in these activities. Therefore, a niche market personalized to gender is an option that the market research department can investigate.

Regional differences are observable in product service systems and collaborative lifestyles. Regarding product service systems, North Americans are more engaged in movie rentals and textbook rentals compared to their European counterparts. Ride sharing and bike sharing are more popular in Europe. The specific drivers behind this divergence have to be analyzed. It is important for companies to understand if there are structural limitations or behavioral barriers that limit North Americans and Europeans to engage in the previous mentioned product service systems. In this research, the necessary number of participants is too small to analyze all the behaviors for these systems. It is suggested, companies that see potential in these systems can conduct further research. The differences can be observed throughout the whole sub-samples between North Americans and Europeans. The same counts for peer-to-peer travel when talking of collaborative lifestyles. Europeans are more likely to engage in peer-to-peer travel than North Americans. It is advised to continue thorough research to gain the most benefits from these differences.

7.1.3 'Non-participation drivers.'

Drivers not to participate in collaborative consumption show that throughout North America and Europe, there is no problem to access multiple types of collaborative consumption online. Also, most respondents said that collaborative consumption is reliable and easy to use. These are good foundations to implement collaborative consumption systems in North America and Europe. Concerning income, there are slight discrepancies when it comes to "Ownership," "Privacy," and "Hyper-consumption." Companies that are operating in North America and try to approach certain income groups can investigate if it is useful to offer "Ownership" and to promote "Hyper-consumption." Another approach is to focus on "Access over ownership." Furthermore, companies have to make sure that the customers "Privacy" is secured, especially for consumers of higher income levels. The same is true for North Americans compared to Europeans. The trust levels concerning "Privacy" are higher in Europe than in North America. This means if a company tries to engage in collaborative consumption in North America more resources have to be allocated to dealing with "Privacy" issues.

7.1.4 'Participation drivers.'

In this research, it was only possible to determine the 'participation drivers' of "Public transport," "Big marketplaces," and "Second hand shops." The key drivers for "Public transport" are "Community," "Environmental concerns," "Price consciousness," "Experience," "Access over ownership," and "Selfless deed." Companies that are operating in this field can use these drivers to engage with customers to take part in collaborative consumption. Examples are to promote the benefits for the environment when using a certain kind of public transport. For example, *Deutsche Bahn* applies this concept through the promotion of "*100% Ökostrom*." When customers pay extra for their tickets or discount cards then 100% of the money goes into the purchase of electricity from renewable energy sources. That means *Deutsche Bahn* uses the money to buy energy from renewable energy sources and mixes it with electricity from nonrenewable energy sources (Deutsche Bahn, 2013). This is only one way to maintain current and attract new customers. The price for "Public transport" is also deciding. More research will show how much customers are ready to pay. Other businesses can and are already focusing on low-cost strategies. Marketing strategies can also include "Access over ownership" and promote the advantages associated with using public transport (e.g. no parking fees, no traffic tolls, no extra car insurance…). "Selfless deed" means that it is better for the world, which can include fewer energy costs, is better for the environment, or people can travel together with group tickets. These values can be further investigated in future studies.

The opinions diverge when it comes to "Community." Students do not see "Community" as a driver to use public transport, whereas, employees do. Therefore, marketing campaigns can focus on "Community" when targeting employees, but disregard this factor when targeting students. The same pattern can be observed when looking at introverts and extraverts. Introverts do not see public transport as a way to engage in community activities, whereas, extraverts do. Extraverts can be targeted by offering community related offers. As a second step, they can indirectly influence introverts. "Community" as discussed in the literature review is a strong principle of collaborative consumption. It has to be used wisely, and it does not apply to all services.

The same pattern can be observed when looking at "Experience." Employees and extraverts see "Public transport" as an experience, whereas, students and

introverts do not. That means companies can target employees and extraverts when creating new experiences with in their public transport system.

The key drivers for "Big marketplaces" are "New technologies," "Community," "Environmental concerns," "Price consciousness," "Experience," and "Selfless deed." "Big marketplaces" thrive through new technologies and especially the Internet. Looking at established platforms such as *ebay.com* or *craigslist.org* one can experience the values of "Community," "Experience" and especially "Price consciousness." One driver that has been disregarded so far is "Environmental concerns." Many "Big marketplaces" work on the premise of redistribution markets and implicitly reduce waste through reusing used products. Nevertheless, transportation costs are often not accounted for. New studies can show how "Big marketplaces" can use people's desires to be more environmentally friendly.

The driver "Selfless deed" is especially relevant in North America as opposed to Europe. Promoting these behavioral components works often autonomously, but it is advised to constantly monitor them to react quickly to sudden changes in customer behavior.

"Second hand shops" see "New technologies," "Community," "Environmental concerns," "Price consciousness," and "Selfless deed" as the most influential drivers. "New technologies" can help to either guide customers to the actual shop or even offer online sales. Depending on the type of second hand shops, building a community can strengthen the customer base. "Environmental concerns" and "Selfless deed" can be used to build strong values in which customers can find community support. "Price consciousness" is an essential factor too, but depending on the business, one must be cautious. Some second hand shops follow a differentiation strategy, which can be maintained.

Not all drivers can be applied to all companies. The right balance has to be achieved. The suggestions given are the results of this preliminary research. The results pinpoint a few aspects of collaborative consumption that companies are encouraged to consider. By pointing out the different applications, it allows companies to look at their current selling propositions from a new angle. The suggestions that were made are observations that show what different types of customers are looking for. Therefore, deeper research is suggested to companies that feel that these changes apply to them.

7.2 Limitations

The results of this study include some limitations that have to be pointed out. Firstly, there is no underlying theory that is supporting this study. It is assumed to be an exploratory study. An exploratory study is a first step towards a theory. Consequently, the set up of the study, including the literature review, model, questionnaire, and analysis can be improved in upcoming studies. This study is a first attempt to provide new insights into the field of collaborative consumption. It has to be considered that the results of the exploratory study can be misleading because a larger sample can provide different outcomes to the same questions.

The questionnaire was build from a model that was only developed for this research. This is a first step for developing a comprehensive model. In future models, new hypotheses and components can be added. The questionnaire was written entirely in English. This limits the number of the participants that can fill out the survey. In order to get a global perspective, future studies can include more languages and maybe even focus on specific countries. In this study, it was not possible to reach the minimum number for Asian respondents. That is why, future studies have to use techniques to attain this number of respondents in order to gain a global perspective of collaborative consumption. Some questions including some introduction questions were disregarded in the analysis. A new setup of the questionnaire can be considered and new questions can be introduced to limit shortcomings.

The questions concerning people's usage habits over the last ten years are self-observed questions. Self-observed answers result often in a subjective view on what actually occurred. This can lead to a distorted evaluation of the actual data. If possible, statistical data can be used to validate the findings of the survey. This is concerning the number of activities used as well as the number of types being used over the last ten years.

It was already mentioned that the sample was a convenient sample, meaning that the respondents are not representative. The number of respondents is too small and is, therefore, not reliable. This includes also the distribution of participants. Regions like North America and Europe are very large and diverse. This can also influence the results negatively. The age of the respondents was disregarded, because the number of participants between 20 and 30 was too large compared to younger and older respondents. The gender, income, occupation, regional, and personality

distribution was also not equally distributed which had an influence on the results. Lastly, only respondents that had access to the online survey were able to fill out the survey, excluding the minimal number of paper surveys. This means a large part of the population was excluded.

The chi-square test was chosen as the analytical method to test the significance. The threshold of significance was predetermined. However, a different threshold can change the conclusions. This means that the chosen threshold might have been not optimal for this analysis. All of these components influenced the analysis in one or another way.

7.3 Future research

It is recommended that future research attempts to avoid the aforementioned shortcomings. Instead of incorporating all systems of collaborative consumption, this study can be used as a guideline. If new research follows the proposed model, it is recommended to add three additional connections and hypotheses (Figure 12).

The initial idea of this research was that there is no link between types and 'non-participation drivers,' but that there has to be a link between types and 'participation drivers.' This assumption can be revised in a new study because there is reason to believe that people do not participate in specific types for explicit reasons. Different drivers influence people to participate or not to participate in certain types. Therefore, it is suggested to add H_a to see if there is an indirect influence on 'non-participation drivers' through types. The other initial idea was that there cannot be a direct link between socio-demographics and personality to 'participation drivers.' However, there can be general drivers that apply to collaborative consumptions. Therefore, future research has to include H_b and H_c, stating that socio-demographics/personality have/has a direct influence on 'participation drivers.'

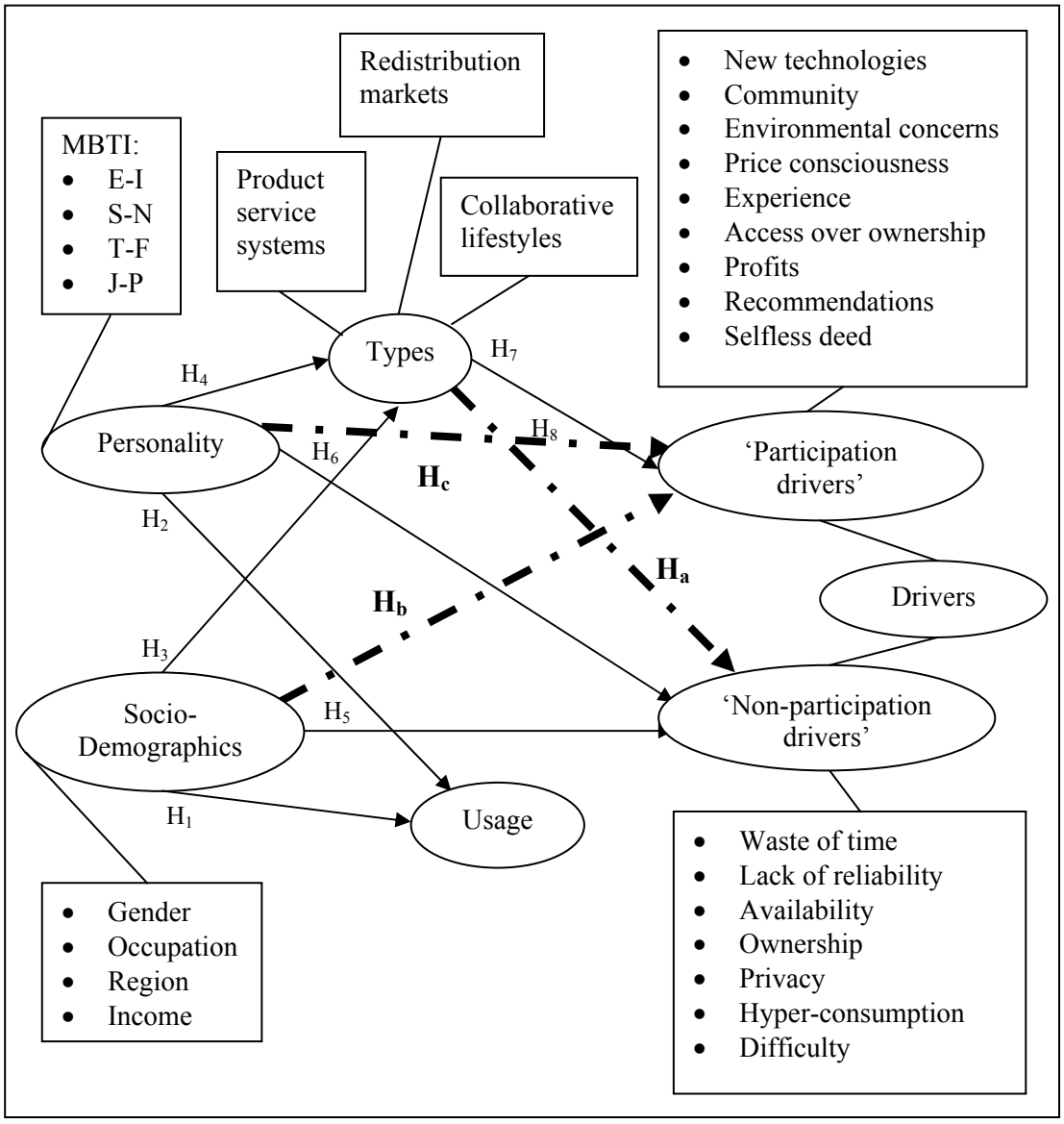


Figure 12. Hypothesis model for future research. This figure represents Figure 4 including three new connections between types and 'non-participation drivers,' socio-demographics and 'participation drivers,' as well as personality and 'participation drivers.' Suggested are also three new hypotheses H_a, H_b, and H_c.

In the survey, respondents had the chance to include answers to open-ended questions. A small number of participants added "Movies" to the list of important types of collaborative consumption. It is suggested that new research is adapting parts of the survey to include "Movies." This can have an influence on the number of respondents that selected "Movies" in this part of the survey. Regarding 'non-participation drivers,' "Unawareness" and "No need" were the two most frequent responses. Other responses included the given 'non-participation drivers' ("Availability," "Privacy," "Difficulty," and "Waste of time") and a few additional minor responses ("Shyness," "Only for young people," and "Partner disagrees")

(Appendix G). Future research can incorporate these findings and try to find evidence that these are recurring drivers.

Two methods are suggested for future research. Firstly, new research can focus on a specific area of collaborative consumption in one specific region or country. Secondly, a larger study towards global developments can be conducted as it was proposed at the beginning of this research. In both cases, the model has to be adjusted, the questionnaire to be refined, the sample size and distribution of the respondents has to be adequate, and new statistical data has to be included. This can potentially allow future studies to create a theory of collaborative consumption.

8 Conclusion

Authors (Manzini & Vezzoli, 2002; Meroni, 2007; Jégou & Manzini, 2008; Botsman & Rogers, 2011) observed that consumption habits are changing. These changes underly various principles and are influenced by many different drivers. For instance, technology allows connecting many people which had been difficult, if not impossible without the Internet and new technologies. People are conducting business. They are sharing and trading as hundreds or thousands of years ago. The only difference is that collaborative consumption can be done from anywhere in the world. Companies have to keep up with the rapid changes in order to maintain a competitive advantage in new developments.

The Internet gives customers a platform for the exchange of information. This can be beneficial as well as potentially detramental for companies. Traditional marketing strategies still have an influence, but with new opportunities in sight, new ways of thinking can change the traditional methods. People will continue to consume, the question remains in what way that will happen. Businesses have to consider the option that consumers will share, trade, or give away used products. This can have drastic influences on the product life cycle by both extending certain products into new heights as well as potentially shrinking others down into obsolescence. It is necessary not to disregard the phenomenon as a temporary trend, but to conduct thorough research to understand the processes and the evolution of this trend.

A first step towards understanding this concept was taken by several authors. This research paper is part of a next step. The research collected tries to capture the various concepts that are currently discussed in combination with an empirical study. The more studies that are conducted, the clearer the concept of collaborative consumption becomes.

The empirical study has shown that personality can have an influence on usage and that socio-demographics can have an influence on types as well as on ‘non-participation drivers.’ Furthermore, partial support was found that socio-demographics and personality indirectly influence ‘participation drivers’ through types. This suggests that collaborative consumption is perceived differently, depending on the socio-demographics and personality. This is an interesting finding and can give businesses a better understanding of the field. On the other hand, these

findings are just the beginning. More research has to be conducted to verify the data as well as include additional questions.

The results show businesses what to do and how to cope with the occurring changes. Some companies thrive through these developments. Others run out of existence. The challenge is to not only arm businesses the proper tools to assess their market share, but to also provide anyone with those same tools and best practices. In so doing, the community at large can benefit from understand the concepts behind the term collaborative consumption. Either companies can reposition themselves in this new environment or entrepreneurs can use collaborative consumption to their advantage by making their business more efficient.

This paper is not only directed towards businesses and entrepreneurs. It includes researches as well as consumers. Researches can conduct new studies towards human behavior and drivers of consumption. Consumers can learn more about new types of collaborative consumption, which can increase their well being. The list of advantages is long. That is why this step of research is so valuable. Most people are not merely passive consumers. Collaborative consumption includes a field in which businesses, researchers, consumers and the community at large can work together collaboratively. This research showed some differences, e.g. between regions or personalities. The development of collaborative consumption points towards an increase of activities, but only future research and continuous observations will be able to answer the question if collaborative consumption will develop from a niche into the new status quo.

Appendixes

Appendix A

Examples of collaborative consumption

Systems	Marketplaces	Examples
Product service systems	Car sharing	*zipcar.com, goget.com.au, whizzcar.com, autoshare.com, stattauto.net, autolibre.com, denzeldrive.at, cambiocar.com, zazcar.com.br, citycarclub.co.uk, carsharing.de, zoomcar.in, socar.kr*
	Car sharing (from big automobile brands)	*drive-now.com (BMW), quicar.de (VW), mu.peugeot.fr, car2go (Daimler)*
	Peer-to-peer car sharing	*whipcar.com, relayrides.com, drivemycarrentals.com.au, getaround.com, tamyca.de, buzzcar.com, nachbarschaftsauto.de, autonetzer.de, snappcar.nl, 58.com*
	Bike sharing	*velib.paris.fr, bixi.com, tfl.gov.uk (barclays cycle hire), bcycle.com, callabike-interaktiv.de, cyclocity.com, niceridemn.org, socialbicycles.com, doliquid.com, konrad-kassel.de, cyclechalao.com, spinlister.com*
	Ride sharing	*zimride.com, nuride.com, liftshare.com.uk, jayride.com.au, gocarshare.com, carpooling.com, caronetas.com.br, duckseat.com, avego.com, amovens.com, tickengo.com, mitfahrgelegenheit.de, side.cr, olivetrips.com*
	Public Transport	*Busses, trains, trams…*
	Solar power	*Solarcity.com, solarcentury.co.uk, pretasol.com, 1bog.org, citizenre.com*
	Toy rental	*dimdom.fr, babyplays.com, rent-that-toy.com, library.sunshinecoast.qld.gov.au (Kids Toy library), speelotheken.nl, brinquedoteca.org.br*
	Textbook rental	*chegg.com, campusbookrentals.com, zookal.com, bookrenter.com*
	Art rental	*artsicle.com, turningart.com, letsswap.it*
	Fashion rental	*bagborroworsteal.com, fashionhire.co.uk, lovemeandleaveme.com, renttherunway.com*
	Movies	*netflix.com, quickflix.com.au, lovefilm.de*

	General online rental	*getable.com, anyhire.com, mudproject.org*
	Peer-to-peer rental	*zilok.com, rentoid.com, ecomodo.com, hirethings.co.nz, rentstuff.com, openshed.com.au*
	Neighborhood rental	*sharesomesugar.com, neighborrow.com, thesharehood.org, frents.com, friendswiththings.com.au, heyneighbor.com*
Redistribution markets	Big marketplaces	*craigslist.org, ebay.com, gumtree.com, kiple.net*
	Second hand shops	*Local stores*
	Free/Gift exchanges	*freecycle.org, giftflow.org, zilch.com, exchango.com, freally.com*
	Used electronics	*gazelle.com, instantsale.ebay.com, apple.com/recycling*
	Swap sites for books	*paperbackswap.com, bookmooch.com, ebookfling.com*
	Swap sites for baby/kids goods and toys	*toyswap.com, thredup.com, tauschteddy.de, segundamanita.com, shopandswap4baby.com.au, kiditroc.com, kiple.net, recrib.com*
	Clothing swaps	*swapstyle.com, clothingexchange.com.au, 99dresses.com, bigwardrobe.com, i-ella.com, manodrabuziai.it*
	Swap sites for media (DVD's, books, games)	*swap.com, dignswap.com, netcycler.de, swapsity.ca*
	Neighborhood marketplaces	*eggdrop.org, zaarly.com, garagesaletrail.com.au, heyneighbor.com, fribi.com*
Collaborative lifestyles	Co-working spaces	*citizenspace.us, hubculture.com, the-hub.net, techhub.com, nwc.co, studiomates.com, beesoffice.com, coloft.com, la-ruche.net, co-up.com, betahaus.de, theterminal.jp*
	Co-working space finders	*desksnear.me, deskwanted.com, coloco.org, opendesks.com, desksurfing.net, centralworking.com*
	Social lending	*zopa.com, prosper.com, lendingclub.com, qifang.cn, cumplo.cl*
	Social currencies	*venmoney.net, theliquiditynetwork.org, timebanks.org, transferwise.com, currencyfair.com, bitcoin.org*
	Peer-to-peer travel	*couchsurfing.org, airbnb.com, roomorama.de, onefinestay.com, bedandfed.co.uk, 9flats.com, wimbu.de, crashmypad.com*

	Taxi sharing	*taxi.to, taxistop.be, weeels.org*
	Bartering	*barterquest.com, ourgoods.org, itex.com, bartercard.com.au, tourboarding.com*
	Crowd-funding	*indiegogo.com, kickstarter.com, startsomegood.com, pozible.com, crowdcube.com, idea.me, catarse.me, kisskissbankbank.com, eppela.com*
	Gardens and landsharing	*urbangardenshare.org, yardshare.com, huertoscompartidos.es*
	Skill sharing	*brooklynskillshare.org, tradeschool.coop, skillshare.com, skilio.com, weteachme.com, tomoclases.com, swapaskill.com, mutantspace.com*
	Shared studios/workshops	*thirdspacestudio.com, techshop.ws*
	Parking spots	*parkatmyhouse.com, parkcirca.com, parkonmydrive.com*
	Neighborhood support	*sharesomesugar.com, brightneighbor.com, streetbank.com, toolzdo.com*
	Errand & task networks	*taskrabbit.com, zaarly.com, airrun.com, mytaskangel.co.uk, gigwalk.com, airtasker.com, taskrunner.co.uk*
	Unique experience marketplaces	*vayable.com, gidsy.com, sidetour.com, guidehop.com*
	Social food networks	*gobble.com, grubwithus.com, eatwithme.net, woknwine.com, colunching.com, housebites.com*
	Storage networks	*storpod.com, sharemystorage.com, spaceout.com.au*
	Pet Minding	*dogvacay.com, pethomestay.com, rover.com*

Note. This table gives an exemplary summary of collaborative consumption systems, some of their marketplaces and specific examples of these marketplaces. Adapted from *Snapshot of Examples*, n.d., Collaborative Consumption Hub. Retrieved from http://www.collaborativeconsumption.com/the-movement/snapshot-of-examples.php.

Appendix B

Survey

WELCOME

Dear participant,

Welcome to my survey! My name is Frank Born and I am a master student at the University of León, Spain. The survey is part of my master thesis and will take approx. 10 minutes. Your answers will remain anonymous.
Feel free to send me an e-mail for any suggestions or questions:

As a first step, I would like you to read the next page carefully, as it explains briefly what my topic is about. Then I will ask you to answer some questions.

Thank you for your participation!

Frank Born
Student of European Master in Business Studies

Topic

The role of collaborative consumption

Collaborative consumption describes the rapid explosion in traditional online and offline sharing, bartering, lending, trading, renting, gifting, and swapping reinvented through network technologies (Internet, Smartphone Apps).

Never heard of it? While you think you don't use it, you may already have!

Collaborative consumption includes:
· Product service systems: e.g. car sharing (zipcar.com); bike sharing; ride sharing (mitfahrgelegenheit.de)
· Redistribution markets: e.g. marketplaces (ebay.com); trading used items; swap trading
· Collaborative lifestyles: e.g. peer-to-peer travel (couchsurfing.org) or social lending (zopa.com)

More examples will be given in the survey.

Collaborative consumption stays in contrast to traditional forms of consumption which usually include the purchase of a product, owning it, and discarding the product after using it. Examples include: food shopping in supermarkets, cloth shopping in fashion shops, buying a car from a car dealer, or buying a smartphone from a phone shop.

I want to find out more about your behavior regarding collaborative consumption. Therefore, I kindly ask you to complete the following questions.

Collaborative Consumption and You

I mainly use collaborative consumption

○ Online ○ Offline ○ Both ○ None

Product Service Systems 	Redistribution Markets 	Collaborative Lifestyles 
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

PRODUCT SERVICE SYSTEMS: Have you taken part in collaborative consumption? If yes, which kinds?

☐ Car sharing (e.g. zipcar.com, carsharing.de)
☐ Peer-to-peer car sharing (e.g. whipcar.com, 58.com)
☐ Bike sharing (e.g. Bixi, Konrad)
☐ Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)
☐ Public Transport (e.g. bus, train)
☐ Toy rental (e.g. dimdom.fr, rent-that-toy.com)
☐ Textbook rental (e.g. chegg.com, campusbookrentals.com)
☐ Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)
☐ Movies (e.g. netflix.com, lovefilm.de)
☐ Other online rentals (with example)
☐ Other offline rentals (with example)
☐ Other product services systems (with example)
☐ None

If 'Other online rentals (with example)', please specify:

If 'Other offline rentals (with example)', please specify:

If 'Other product services systems (with example)', please specify:

REDISTRIBUTION MARKETS: Have you taken part in collaborative consumption? If yes, which kinds?

- ☐ Big marketplaces (e.g. ebay.com, craigslist.org)
- ☐ Second hand shops
- ☐ Free/Gift exchanges (e.g. freecycle.org, giftflow.org)
- ☐ Exchange sites for books (e.g. paperbackswap.com, bookmooch.com)
- ☐ Exchange sites for baby/kids goods and toys (e.g. toyswap.com, thredup.com)
- ☐ Clothing exchange(e.g. swapstyle.com, 99dresses.com)
- ☐ Exchange sites for media (e.g. swap.com, dignswap.com)
- ☐ Neighborhood marketplaces (e.g. eggdrop.org, zaarly.com)
- ☐ Other online exchange sites (with example)
- ☐ Other offline exchange sites (with example)
- ☐ Other redistribution markets (with example)
- ☐ None

If 'Other online exchange sites (with example)', please specify:

If 'Other offline exchange sites (with example)', please specify:

If 'Other redistribution markets (with example)', please specify:

COLLABORATIVE LIFESTYLES: Have you taken part in collaborative consumption? If yes, which kinds?

- ☐ Co-working spaces (e.g. hubculture.com, betahaus.de)
- ☐ Social lending (e.g. zopa.com, prosper.com)
- ☐ Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)
- ☐ Crowd-funding (e.g. indiegogo.com, kickstarter.com)
- ☐ Gardens (e.g. urbangardenshare.org, yardshare.com)
- ☐ Errand & task networks (e.g. taskrabbit.com, zaarly.com)
- ☐ Social food networks (e.g. gobble.com, grubwithus.com)
- ☐ Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)
- ☐ Other online networking sites (with example)
- ☐ Other offline networking sites (with example)
- ☐ Other collaborative lifestyles (with example)
- ☐ None

If 'Other online networking sites (with example)', please specify:

If 'Other offline networking sites (with example)', please specify:

If 'Other collaborative lifestyles (with example)', please specify:

Consumption patterns

Please indicate HOW OFTEN you took part in collaborative consumption between 2001-2004, 2005-2008, and 2009-2012 (approximate number of activities, PER MONTH). Example: using ebay twice a month and couchsurfing once a month = 3 times per MONTH

	Never (0)	Rarely (1-2)	Sometimes (3-4)	Often (5-6)	Very often (more than 6)
2001-2004 (MONTHLY AVERAGE)	○	○	○	○	○
2005-2008 (MONTHLY AVERAGE)	○	○	○	○	○
2009-2012 (MONTHLY AVERAGE)	○	○	○	○	○

Product Service Systems	Redistribution Markets	Collaborative Lifestyles
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

Please indicate in HOW MANY TYPES of collaborative consumption you took part between 2001-2004, 2005-2008, and 2009-2012 (approximate number, PER YEAR). The number of times are irrelevant. Examples: using only e.g. big marketplaces (e.g. ebay) = 1 type; using e.g. big marketplaces (ebay and craigslist) AND e.g. peer-to-peer travel (couchsurfing) = 2 types (big marketplaces + peer-to-peer travel); using ebay (big marketplaces), couchsurfing (peer-to-peer travel) and ride sharing = 3 types per YEAR

	None (0)	A Few (1-2)	Some (3-4)	Many (5-6)	A Lot (more than 6)
2001-2004 (YEARLY AVERAGE)	○	○	○	○	○
2005-2008 (YEARLY AVERAGE)	○	○	○	○	○
2009-2012 (YEARLY AVERAGE)	○	○	○	○	○

Product Service Systems	Redistribution Markets	Collaborative Lifestyles
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

Please indicate the degree of agreement with the following statements from your personal point of view (as a consumer). (scale: strongly disagree 1 to strongly agree 7)

	1	2	3	4	5	6	7
I will continue using collaborative consumption in the future.	○	○	○	○	○	○	○
I will use different types of collaborative consumption as often as possible.	○	○	○	○	○	○	○
I will recommend using collaborative consumption to other people.	○	○	○	○	○	○	○

Motivation

SELECT ONLY ONE! Please choose your personal MOST important type of collaborative consumption. Then answer the questions on the next page!

○ Car sharing	○ Fashion rental	○ Exchange sites for media	○ Errand & task networks
○ Peer-to-peer car sharing	○ Big marketplaces	○ Neighborhood marketplaces	○ Social food networks
○ Bike sharing	○ Second hand shops	○ Co-working spaces	○ Neighborhood support
○ Ride sharing	○ Free/Gift exchanges	○ Social lending	○ None
○ Public Transport	○ Exchange sites for books	○ Peer-to-peer travel	○ Other
○ Toy rental	○ Exchange sites for baby goods and toys	○ Crowd-funding	
○ Textbook rental	○ Clothing exchanges	○ Gardens	

If 'Other', please specify:

Product Service Systems	Redistribution Markets	Collaborative Lifestyles
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

Taking into consideration the type of collaboration that you selected as MOST important, answer the following questions!

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Web services make it easy to use collaborative consumption.	○	○	○	○	○
I like to engage with people.	○	○	○	○	○
I believe it is more environmentally sustainable.	○	○	○	○	○
It's a way to save money.	○	○	○	○	○
I like experiencing something new.	○	○	○	○	○
I do not want to own the product. I just want to use it.	○	○	○	○	○
I earn money this way.	○	○	○	○	○
My friends invited me to try it.	○	○	○	○	○
I want to make the world a better place.	○	○	○	○	○

Other reason why you are taking part in this type of collaborative consumption.

If you gave another reason, please rate this reason!

○ Strongly disagree ○ Disagree ○ Undecided ○ Agree ○ Strongly agree

SELECT ONLY ONE! Please choose your personal 2nd most important type of collaborative consumption. Then answer the questions on the next page!

○ Car sharing	○ Fashion rental	○ Exchange sites for media	○ Errand & task networks
○ Peer-to-peer car sharing	○ Big marketplaces	○ Neighborhood marketplaces	○ Social food networks
○ Bike sharing	○ Second hand shops	○ Co-working spaces	○ Neighborhood support
○ Ride sharing	○ Free/Gift exchanges	○ Social lending	○ None
○ Public Transport	○ Exchange sites for books	○ Peer-to-peer travel	○ Other
○ Toy rental	○ Exchange sites for baby goods and toys	○ Crowd-funding	
○ Textbook rental	○ Clothing exchanges	○ Gardens	

If 'Other', please specify:

Product Service Systems	Redistribution Markets	Collaborative Lifestyles
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

Taking into consideration the type of collaboration you selected as 2nd most important, answer the following questions!

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Web services make it easy to use collaborative consumption.	○	○	○	○	○
I like to engage with people.	○	○	○	○	○
I believe it is more environmentally sustainable.	○	○	○	○	○
It's a way to save money.	○	○	○	○	○
I like experiencing something new.	○	○	○	○	○
I do not want to own the product. I just want to use it.	○	○	○	○	○
I earn money this way.	○	○	○	○	○
My friends invited me to try it.	○	○	○	○	○
I want to make the world a better place.	○	○	○	○	○

Other reason why you are taking part in this type of collaborative consumption.

If you gave another reason, please rate this reason!

○ Strongly disagree ○ Disagree ○ Undecided ○ Agree ○ Strongly agree

SELECT ONLY ONE! Please choose your personal 3rd most important type of collaborative consumption. Then answer the questions on the next page!

○ Car sharing	○ Fashion rental	○ Exchange sites for media	○ Errand & task networks
○ Peer-to-peer car sharing	○ Big marketplaces	○ Neighborhood marketplaces	○ Social food networks
○ Bike sharing	○ Second hand shops	○ Co-working spaces	○ Neighborhood support
○ Ride sharing	○ Free/Gift exchanges	○ Social lending	○ None
○ Public Transport	○ Exchange sites for books	○ Peer-to-peer travel	○ Other
○ Toy rental	○ Exchange sites for baby goods and toys	○ Crowd-funding	
○ Textbook rental	○ Clothing exchanges	○ Gardens	

If 'Other', please specify:

Product Service Systems	Redistribution Markets	Collaborative Lifestyles
• Car sharing • Bike sharing • Ride sharing • Public Transport • Toy rental • Textbook rental • Fashion rental • Movie rental (e.g. Netflix) • Other	• Big marketplaces (e.g. ebay.com) • Second hand shops • Free/Gift exchanges • Exchange sites for books • Exchange sites for baby/kids goods and toys • Clothing Exchange • Exchange sites for media • Neighborhood marketplaces • Other	• Co-working spaces • Social lending (e.g. zopa.com) • Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com) • Crowd-funding • Garden share • Errand & task networks (e.g. taskrabbit.com) • Social food networks • Neighborhood support • Other

Taking into consideration the type of collaboration you selected as 3rd most important, answer the following questions!

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Web services make it easy to use collaborative consumption.	○	○	○	○	○
I like to engage with people.	○	○	○	○	○
I believe it is more environmentally sustainable.	○	○	○	○	○
It's a way to save money.	○	○	○	○	○
I like experiencing something new.	○	○	○	○	○
I do not want to own the product. I just want to use it.	○	○	○	○	○
I earn money this way.	○	○	○	○	○
My friends invited me to try it.	○	○	○	○	○
I want to make the world a better place.	○	○	○	○	○

Other reason why you are taking part in this type of collaborative consumption.

If you gave another reason, please rate this reason!

○ Strongly disagree ○ Disagree ○ Undecided ○ Agree ○ Strongly agree

Why DON'T you participate more often in collaborative consumption?

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
It takes too much time to use the different services.	○	○	○	○	○
I think it is not a safe form of consumption.	○	○	○	○	○
There is no offline collaborative consumption in my area.	○	○	○	○	○
There is only limited Internet available in my area.	○	○	○	○	○
I feel better, if I own a product.	○	○	○	○	○
I don't like sharing information with people.	○	○	○	○	○
I prefer traditional forms of consumption.	○	○	○	○	○
I think it is too difficult to use.	○	○	○	○	○

Other reason why you DON'T participate more often in collaborative consumption.

If you gave another reason, please rate this reason!

○ Strongly disagree ○ Disagree ○ Undecided ○ Agree ○ Strongly agree

Socio-Demographic Background

Please select the one OR the other statement depending on which fits better to your personality!

	E		I
	The following statements generally apply to me: I am seen as "outgoing" or as a "people person." I feel comfortable in groups and like working in them. I have a wide range of friends and know lots of people. I sometimes jump too quickly into an activity and don't allow enough time to think it over. Before I start a project, I sometimes forget to stop and get clear on what I want to do and why.		The following statements generally apply to me: I am seen as "reflective" or "reserved." I feel comfortable being alone and like things I can do on my own. I prefer to know just a few people well. I sometimes spend too much time reflecting and don't move into action quickly enough. I sometimes forget to check with the outside world to see if my ideas really fit the experience.

Please select the one OR the other statement depending on which fits better to your personality!

	S		N
	The following statements generally apply to me: I remember events as snapshots of what actually happened. I solve problems by working through facts until I understand the problem. I am pragmatic and look to the "bottom line." I start with facts and then form a big picture. I trust experience first and trust words and symbols less. Sometimes I pay so much attention to facts, either present or past, that I miss new possibilities.		The following statements generally apply to me: I remember events by what I read "between the lines" about their meaning. I solve problems by leaping between different ideas and possibilities. I am interested in doing things that are new and different. I like to see the big picture, then to find out the facts. I trust impressions, symbols, and metaphors more than what I actually experienced Sometimes I think so much about new possibilities that I never look at how to make them a reality.

Please select the one OR the other statement depending on which fits better to your personality!

	T		F
	The following statements generally apply to me: I enjoy technical and scientific fields where logic is important. I notice inconsistencies. I look for logical explanations or solutions to most everything. I make decisions with my head and want to be fair. I believe telling the truth is more important than being tactful. Sometimes I miss or don't value the "people" part of a situation. I can be seen as too task-oriented, uncaring, or indifferent.		The following statements generally apply to me: I have a people or communications orientation. I am concerned with harmony and nervous when it is missing. I look for what is important to others and express concern for others. I make decisions with my heart and want to be compassionate. I believe being tactful is more important than telling the "cold" truth. Sometimes I miss seeing or communicating the "hard truth" of situations. I am sometimes experienced by others as too idealistic, mushy, or indirect.

Please select the one OR the other statement depending on which fits better to your personality!

	J		P
	The following statements generally apply to me: I like to have things decided. I appear to be task oriented. I like to make lists of things to do. I like to get my work done before playing. I plan work to avoid rushing just before a deadline. Sometimes I focus so much on the goal that I miss new information.		The following statements generally apply to me: I like to stay open to respond to whatever happens. I appear to be loose and casual. I like to keep plans to a minimum. I like to approach work as play or mix work and play. I work in bursts of energy. I am stimulated by an approaching deadline. Sometimes I stay open to new information so long I miss making decisions when they are needed.

How old are you?

What is your gender?

○ Male ○ Female

What is your current occupation?

○ Student ○ Unemployed ○ Employed ○ Self-employed ○ Retired

In which of the following regions have you taken part in collaborative consumption the most?

☐ North America ☐ Europe ☐ Asia ☐ None

What is your nationality?

If 'Other', please specify:

What is your net income of your household per month?

○ Less than 200 Euros ○ 500-999 Euros ○ 2000-2999 Euros ○ More than 5000 euros
○ 200-499 Euros ○ 1000-1999 Euros ○ 3000-5000 euros

Appendix C

Usage

Usage: personality and extravert-introvert
Increase types/Extravert-Introvert (Total)

	E		I		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	9	**25.7%**	26	**74.3%**	**35**	**100.0%**
Slightly disagree	**15**	**44.1%**	**19**	**55.9%**	**34**	**100.0%**
Undecided	**34**	**51.5%**	**32**	**48.5%**	**66**	**100.0%**
Slightly agree	**39**	**50.0%**	**39**	**50.0%**	**78**	**100.0%**
Agree	**61**	**59.8%**	**41**	**40.2%**	**102**	**100.0%**
Total	**158**	**50.2%**	**157**	**49.8%**	**315**	

p = **1.3%** ; chi2 = **12.71** ; dof = **4** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Increase types/Extravert-Introvert (Students)

	E		I		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	4	**16.7%**	20	**83.3%**	**24**	**100.0%**
Slightly disagree	**6**	**40.0%**	**9**	**60.0%**	**15**	**100.0%**
Undecided	**13**	**46.4%**	**15**	**53.6%**	**28**	**100.0%**
Slightly agree	**18**	**52.9%**	**16**	**47.1%**	**34**	**100.0%**
Agree	**25**	**59.5%**	**17**	**40.5%**	**42**	**100.0%**
Total	**66**	**46.2%**	**77**	**53.8%**	**143**	

p = **1.5%** ; chi2 = **12.28** ; dof = **4** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Future/Thinker-Feeler (Europe)

	T		F		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	14	**73.7%**	5	**26.3%**	**19**	**100.0%**
Undecided	**2**	**12.5%**	**14**	**87.5%**	**16**	**100.0%**
Agree	**61**	**36.7%**	**105**	**63.3%**	**166**	**100.0%**
Total	**77**	**38.3%**	**124**	**61.7%**	**201**	

p = **<0.1%** ; chi2 = **14.74** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Appendix D

Types of collaborative consumption

Types of product service systems

	No.	% obs.
Public Transport (e.g. bus, train)	**248**	**77.0%**
Movies (e.g. netflix.com, lovefilm.de)	**183**	**56.8%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**93**	**28.9%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**87**	**27.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**54**	**16.8%**
Bike sharing (e.g. Bixi, Konrad)	**47**	**14.6%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**12**	**3.7%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**9**	**2.8%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**5**	**1.6%**
Total	**322**	

Types of redistribution markets

	No.	% obs.
Big marketplaces (e.g. ebay.com, craigslist.org)	**248**	**77.0%**
Second hand shops	**216**	**67.1%**
Free/Gift exchanges (e.g. freecycle.org, giftflow.org)	**59**	**18.3%**
Exchange sites for books (e.g. paperbackswap.com, bookmooch.com)	**55**	**17.1%**
Clothing exchange(e.g. swapstyle.com, 99dresses.com)	**30**	**9.3%**
Neighborhood marketplaces (e.g. eggdrop.org, zaarly.com)	**25**	**7.8%**
Exchange sites for media (e.g. swap.com, dignswap.com)	**25**	**7.8%**
Exchange sites for baby/kids goods and toys (e.g. toyswap.com, thredup.com)	**8**	**2.5%**
Total	**322**	

Types of collaborative lifestyles

	No.	% obs.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	**103**	**32.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**58**	**18.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**28**	**8.7%**
Social food networks (e.g. gobble.com, grubwithus.com)	**26**	**8.1%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**15**	**4.7%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**14**	**4.3%**
Social lending (e.g. zopa.com, prosper.com)	**13**	**4.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**7**	**2.2%**
Total	**322**	

Types of collaborative consumption: socio-demographics and gender

Collaborative lifestyles/Gender (Total)

	Male	Female	Total
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	38	65	103
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	31	27	58
Co-working spaces (e.g. hubculture.com, betahaus.de)	9	19	28
Social food networks (e.g. gobble.com, grubwithus.com)	8	18	26
Gardens (e.g. urbangardenshare.org, yardshare.com)	2	13	15
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	5	9	14
Social lending (e.g. zopa.com, prosper.com)	4	9	13
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	0	7	7
Total	97	167	264

p = **3.1%** ; chi2 = **15.43** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Gender (Europe)

	Male	Female	Total
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	24	48	72
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	20	12	32
Co-working spaces (e.g. hubculture.com, betahaus.de)	7	8	15
Social food networks (e.g. gobble.com, grubwithus.com)	1	11	12
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	3	4	7
Social lending (e.g. zopa.com, prosper.com)	3	3	6
Gardens (e.g. urbangardenshare.org, yardshare.com)	2	3	5
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	0	2	2
Total	60	91	151

p = **3.6%** ; chi2 = **15.01** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Gender (Students)

	Male	Female	Total
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	18	27	45
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	18	4	22
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	3	4	7
Social food networks (e.g. gobble.com, grubwithus.com)	2	4	6
Co-working spaces (e.g. hubculture.com, betahaus.de)	1	2	3
Social lending (e.g. zopa.com, prosper.com)	0	2	2
Gardens (e.g. urbangardenshare.org, yardshare.com)	1	0	1
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	0	1	1
Total	43	44	87

p = **2.7%** ; chi2 = **15.84** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Gender (Intuitors)

	Male	Female	**Total**
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	**25**	**40**	**65**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**21**	**15**	**36**
Social food networks (e.g. gobble.com, grubwithus.com)	**4**	**15**	**19**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**4**	**12**	**16**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**5**	**7**	**12**
Social lending (e.g. zopa.com, prosper.com)	**2**	**7**	**9**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**1**	**7**	**8**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**0**	**5**	**5**
Total	**62**	**108**	**170**

p = **2.4%** ; chi2 = **16.18** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Types of collaborative consumption: socio-demographics and occupation

Product service systems/Occupation (Sensor)

	Student		Employed		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**45**	**50.6%**	**44**	**49.4%**	**89**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**23**	**39.0%**	**36**	**61.0%**	**59**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**21**	**56.8%**	**16**	**43.2%**	**37**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**25**	**83.3%**	**5**	**16.7%**	**30**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**11**	**68.8%**	**5**	**31.3%**	**16**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**5**	**41.7%**	**7**	**58.3%**	**12**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**50.0%**	**1**	**50.0%**	**2**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**100.0%**	**0**	**0.0%**	**1**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**1**	**100.0%**	**1**	**100.0%**
Total	**132**	**53.4%**	**115**	**46.6%**	**247**	

p = **0.9%** ; chi2 = **20.39** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Types of collaborative consumption: socio-demographics and region

Product service systems/Region (Total)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**82**	**33.1%**	**166**	**66.9%**	**248**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**95**	**51.9%**	**88**	**48.1%**	**183**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**49**	**52.7%**	**44**	**47.3%**	**93**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**12**	**13.8%**	**75**	**86.2%**	**87**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**11**	**20.4%**	**43**	**79.6%**	**54**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**7**	**14.9%**	**40**	**85.1%**	**47**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**3**	**25.0%**	**9**	**75.0%**	**12**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**11.1%**	**8**	**88.9%**	**9**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**20.0%**	**4**	**80.0%**	**5**	**100.0%**
Total	**261**	**35.4%**	**477**	**64.6%**	**738**	

p = **<0.1%** ; chi2 = **69.74** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Males)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**28**	**31.1%**	**62**	**68.9%**	**90**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**35**	**49.3%**	**36**	**50.7%**	**71**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**14**	**46.7%**	**16**	**53.3%**	**30**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**6**	**23.1%**	**20**	**76.9%**	**26**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**12.5%**	**21**	**87.5%**	**24**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**3**	**15.8%**	**16**	**84.2%**	**19**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**20.0%**	**4**	**80.0%**	**5**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**1**	**100.0%**	**1**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**		**0**		**0**	**100.0%**
Total	**90**	**33.8%**	**176**	**66.2%**	**266**	

p = **0.6%** ; chi2 = **20.01** ; dof = **7** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Females)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**52**	**33.8%**	**102**	**66.2%**	**154**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**58**	**53.7%**	**50**	**46.3%**	**108**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**34**	**54.8%**	**28**	**45.2%**	**62**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**6**	**10.0%**	**54**	**90.0%**	**60**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**8**	**22.9%**	**27**	**77.1%**	**35**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**4**	**17.4%**	**19**	**82.6%**	**23**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**12.5%**	**7**	**87.5%**	**8**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**2**	**28.6%**	**5**	**71.4%**	**7**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**20.0%**	**4**	**80.0%**	**5**	**100.0%**
Total	**166**	**35.9%**	**296**	**64.1%**	**462**	

p = **<0.1%** ; chi2 = **50.94** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Students)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**25**	**21.2%**	**93**	**78.8%**	**118**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**30**	**40.0%**	**45**	**60.0%**	**75**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**7**	**13.0%**	**47**	**87.0%**	**54**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**24**	**46.2%**	**28**	**53.8%**	**52**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**2**	**6.3%**	**30**	**93.8%**	**32**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**3**	**12.5%**	**21**	**87.5%**	**24**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**14.3%**	**6**	**85.7%**	**7**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**4**	**100.0%**	**4**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**2**	**100.0%**	**2**	**100.0%**
Total	**92**	**25.0%**	**276**	**75.0%**	**368**	

p = **<0.1%** ; chi2 = **36.93** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Employed)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**42**	**42.0%**	**58**	**58.0%**	**100**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**51**	**61.4%**	**32**	**38.6%**	**83**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**18**	**60.0%**	**12**	**40.0%**	**30**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**3**	**10.7%**	**25**	**89.3%**	**28**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**5**	**23.8%**	**16**	**76.2%**	**21**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**27.3%**	**8**	**72.7%**	**11**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**2**	**50.0%**	**2**	**50.0%**	**4**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**2**	**100.0%**	**2**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**100.0%**	**0**	**0.0%**	**1**	**100.0%**
Total	**125**	**44.6%**	**155**	**55.4%**	**280**	

p = **<0.1%** ; chi2 = **33.60** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Extraverts)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**42**	**32.8%**	**86**	**67.2%**	**128**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**43**	**43.0%**	**57**	**57.0%**	**100**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**9**	**16.7%**	**45**	**83.3%**	**54**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**21**	**44.7%**	**26**	**55.3%**	**47**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**6**	**18.8%**	**26**	**81.3%**	**32**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**11.5%**	**23**	**88.5%**	**26**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**12.5%**	**7**	**87.5%**	**8**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**20.0%**	**4**	**80.0%**	**5**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**33.3%**	**2**	**66.7%**	**3**	**100.0%**
Total	**127**	**31.5%**	**276**	**68.5%**	**403**	

p = **0.2%** ; chi2 = **24.38** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Introverts)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**38**	**32.8%**	**78**	**67.2%**	**116**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**51**	**62.2%**	**31**	**37.8%**	**82**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**27**	**60.0%**	**18**	**40.0%**	**45**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**3**	**9.1%**	**30**	**90.9%**	**33**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**15.0%**	**17**	**85.0%**	**20**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**4**	**21.1%**	**15**	**78.9%**	**19**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**2**	**50.0%**	**2**	**50.0%**	**4**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**4**	**100.0%**	**4**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**2**	**100.0%**	**2**	**100.0%**
Total	**128**	**39.4%**	**197**	**60.6%**	**325**	

p = **<0.1%** ; chi2 = **52.45** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Sensors)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**33**	**32.7%**	**68**	**67.3%**	**101**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**37**	**56.1%**	**29**	**43.9%**	**66**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**22**	**53.7%**	**19**	**46.3%**	**41**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**3**	**9.7%**	**28**	**90.3%**	**31**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**3**	**17.6%**	**14**	**82.4%**	**17**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**4**	**23.5%**	**13**	**76.5%**	**17**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**3**	**100.0%**	**3**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**50.0%**	**1**	**50.0%**	**2**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**0**	**0.0%**	**1**	**100.0%**	**1**	**100.0%**
Total	**103**	**36.9%**	**176**	**63.1%**	**279**	

p = **<0.1%** ; chi2 = **32.49** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Intuitors)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**46**	**32.4%**	**96**	**67.6%**	**142**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**55**	**48.7%**	**58**	**51.3%**	**113**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**8**	**14.5%**	**47**	**85.5%**	**55**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**24**	**49.0%**	**25**	**51.0%**	**49**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**7**	**21.2%**	**26**	**78.8%**	**33**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**10.0%**	**27**	**90.0%**	**30**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**3**	**30.0%**	**7**	**70.0%**	**10**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**5**	**100.0%**	**5**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**3**	**100.0%**	**3**	**100.0%**
Total	**146**	**33.2%**	**294**	**66.8%**	**440**	

p = **<0.1%** ; chi2 = **39.82** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Thinkers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**34**	**37.4%**	**57**	**62.6%**	**91**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**42**	**59.2%**	**29**	**40.8%**	**71**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**21**	**60.0%**	**14**	**40.0%**	**35**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**5**	**16.1%**	**26**	**83.9%**	**31**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**6**	**31.6%**	**13**	**68.4%**	**19**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**6**	**33.3%**	**12**	**66.7%**	**18**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**33.3%**	**2**	**66.7%**	**3**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**33.3%**	**2**	**66.7%**	**3**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**3**	**100.0%**	**3**	**100.0%**
Total	**116**	**42.3%**	**158**	**57.7%**	**274**	

p = **<0.1%** ; chi2 = **26.24** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Feelers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**48**	**32.0%**	**102**	**68.0%**	**150**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**53**	**49.5%**	**54**	**50.5%**	**107**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**28**	**50.0%**	**28**	**50.0%**	**56**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**7**	**13.0%**	**47**	**87.0%**	**54**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**5**	**16.1%**	**26**	**83.9%**	**31**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**1**	**3.8%**	**25**	**96.2%**	**26**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**2**	**25.0%**	**6**	**75.0%**	**8**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**16.7%**	**5**	**83.3%**	**6**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**2**	**100.0%**	**2**	**100.0%**
Total	**145**	**33.0%**	**295**	**67.0%**	**440**	

p = **<0.1%** ; chi2 = **46.38** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Judgers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**26**	**28.3%**	**66**	**71.7%**	**92**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**36**	**50.0%**	**36**	**50.0%**	**72**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**18**	**48.6%**	**19**	**51.4%**	**37**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**3**	**8.6%**	**32**	**91.4%**	**35**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**4**	**20.0%**	**16**	**80.0%**	**20**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**5**	**26.3%**	**14**	**73.7%**	**19**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**1**	**20.0%**	**4**	**80.0%**	**5**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**1**	**25.0%**	**3**	**75.0%**	**4**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**0**	**0.0%**	**1**	**100.0%**	**1**	**100.0%**
Total	**94**	**33.0%**	**191**	**67.0%**	**285**	

p = **<0.1%** ; chi2 = **26.80** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Product service systems/Region (Perceivers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Public Transport (e.g. bus, train)	**56**	**36.8%**	**96**	**63.2%**	**152**	**100.0%**
Movies (e.g. netflix.com, lovefilm.de)	**59**	**54.6%**	**49**	**45.4%**	**108**	**100.0%**
Textbook rental (e.g. chegg.com, campusbookrentals.com)	**31**	**56.4%**	**24**	**43.6%**	**55**	**100.0%**
Ride sharing (e.g. zimride.com, mitfahrgelegenheit.de)	**9**	**17.3%**	**43**	**82.7%**	**52**	**100.0%**
Car sharing (e.g. zipcar.com, carsharing.de)	**6**	**17.6%**	**28**	**82.4%**	**34**	**100.0%**
Bike sharing (e.g. Bixi, Konrad)	**3**	**11.5%**	**23**	**88.5%**	**26**	**100.0%**
Peer-to-peer car sharing (e.g. whipcar.com, 58.com)	**2**	**25.0%**	**6**	**75.0%**	**8**	**100.0%**
Toy rental (e.g. dimdom.fr, rent-that-toy.com)	**1**	**25.0%**	**3**	**75.0%**	**4**	**100.0%**
Fashion rental (e.g. bagborroworsteal.com, fashionhire.co.uk)	**0**	**0.0%**	**4**	**100.0%**	**4**	**100.0%**
Total	**167**	**37.7%**	**276**	**62.3%**	**443**	

p = **<0.1%** ; chi2 = **47.23** ; dof = **8** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Region (Total)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	31	**30.1%**	**72**	**69.9%**	**103**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**26**	**44.8%**	**32**	**55.2%**	**58**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**13**	**46.4%**	**15**	**53.6%**	**28**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**14**	**53.8%**	**12**	**46.2%**	**26**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**10**	**66.7%**	**5**	**33.3%**	**15**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**7**	**50.0%**	**7**	**50.0%**	**14**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**7**	**53.8%**	**6**	**46.2%**	**13**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**5**	**71.4%**	**2**	**28.6%**	**7**	**100.0%**
Total	**113**	**42.8%**	**151**	**57.2%**	**264**	

p = **3.5%** ; chi2 = **15.11** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Region (Intuitors)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	14	**21.5%**	**51**	**78.5%**	**65**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**14**	**38.9%**	**22**	**61.1%**	**36**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**9**	**47.4%**	**10**	**52.6%**	**19**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**8**	**50.0%**	**8**	**50.0%**	**16**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**6**	**50.0%**	**6**	**50.0%**	**12**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**6**	**66.7%**	**3**	**33.3%**	**9**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**6**	**75.0%**	**2**	**25.0%**	**8**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**4**	**80.0%**	**1**	**20.0%**	**5**	**100.0%**
Total	**67**	**39.4%**	**103**	**60.6%**	**170**	

p = **0.4%** ; chi2 = **21.01** ; dof = **7** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Region (Females)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	17	**26.2%**	48	**73.8%**	**65**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**15**	**55.6%**	**12**	**44.4%**	**27**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**11**	**57.9%**	**8**	**42.1%**	**19**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**7**	**38.9%**	**11**	**61.1%**	**18**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**10**	**76.9%**	**3**	**23.1%**	**13**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**6**	**66.7%**	**3**	**33.3%**	**9**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**5**	**55.6%**	**4**	**44.4%**	**9**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**5**	**71.4%**	**2**	**28.6%**	**7**	**100.0%**
Total	**76**	**45.5%**	**91**	**54.5%**	**167**	

p = **0.3%** ; chi2 = **21.47** ; dof = **7** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Region (Males)

	North America		Europe		Total	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	**14**	**36.8%**	**24**	**63.2%**	**38**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**11**	**35.5%**	**20**	**64.5%**	**31**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**2**	**22.2%**	**7**	**77.8%**	**9**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**7**	**87.5%**	**1**	**12.5%**	**8**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**2**	**40.0%**	**3**	**60.0%**	**5**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**1**	**25.0%**	**3**	**75.0%**	**4**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**0**	**0.0%**	**2**	**100.0%**	**2**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**0**		**0**		**0**	**100.0%**
Total	**37**	**38.1%**	**60**	**61.9%**	**97**	

p = **9.2%** ; chi2 = **10.88** ; dof = **6** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

Types of collaborative consumption: personality and region

Redistribution markets/Extravert-Introvert (Sensors)

	E		I		Total	
	N	% cit.	N	% cit.	N	% cit.
Big marketplaces (e.g. ebay.com, craigslist.org)	**47**	**49.0%**	**49**	**51.0%**	**96**	**100.0%**
Second hand shops	**41**	**51.9%**	**38**	**48.1%**	**79**	**100.0%**
Exchange sites for books (e.g. paperbackswap.com, bookmooch.com)	**5**	**19.2%**	**21**	**80.8%**	**26**	**100.0%**
Clothing exchange(e.g. swapstyle.com, 99dresses.com)	**7**	**43.8%**	**9**	**56.3%**	**16**	**100.0%**
Free/Gift exchanges (e.g. freecycle.org, giftflow.org)	**4**	**26.7%**	**11**	**73.3%**	**15**	**100.0%**
Exchange sites for media (e.g. swap.com, dignswap.com)	**3**	**33.3%**	**6**	**66.7%**	**9**	**100.0%**
Neighborhood marketplaces (e.g. eggdrop.org, zaarly.com)	**5**	**83.3%**	**1**	**16.7%**	**6**	**100.0%**
Exchange sites for baby/kids goods and toys (e.g. toyswap.com, thredup.com)	**1**	**25.0%**	**3**	**75.0%**	**4**	**100.0%**
Total	**113**	**45.0%**	**138**	**55.0%**	**251**	

p = **2.7%** ; chi2 = **15.85** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Extravert-Introvert (Perceivers)

	E		I		Total	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	**37**	**62.7%**	**22**	**37.3%**	**59**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**13**	**36.1%**	**23**	**63.9%**	**36**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**10**	**55.6%**	**8**	**44.4%**	**18**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**10**	**71.4%**	**4**	**28.6%**	**14**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**2**	**22.2%**	**7**	**77.8%**	**9**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**1**	**16.7%**	**5**	**83.3%**	**6**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**3**	**75.0%**	**1**	**25.0%**	**4**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**2**	**66.7%**	**1**	**33.3%**	**3**	**100.0%**
Total	**78**	**52.3%**	**71**	**47.7%**	**149**	

p = **2.6%** ; chi2 = **15.87** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Collaborative lifestyles/Judger-Perceiver (Introverts)

	J		P		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Peer-to-peer travel (e.g. couchsurfing.org, airbnb.com)	**22**	**50.0%**	**22**	**50.0%**	**44**	**100.0%**
Crowd-funding (e.g. indiegogo.com, kickstarter.com)	**7**	**23.3%**	**23**	**76.7%**	**30**	**100.0%**
Co-working spaces (e.g. hubculture.com, betahaus.de)	**1**	**11.1%**	**8**	**88.9%**	**9**	**100.0%**
Social food networks (e.g. gobble.com, grubwithus.com)	**5**	**55.6%**	**4**	**44.4%**	**9**	**100.0%**
Neighborhood support (e.g. sharesomesugar.com, brightneighbor.com)	**3**	**37.5%**	**5**	**62.5%**	**8**	**100.0%**
Social lending (e.g. zopa.com, prosper.com)	**0**	**0.0%**	**7**	**100.0%**	**7**	**100.0%**
Gardens (e.g. urbangardenshare.org, yardshare.com)	**4**	**80.0%**	**1**	**20.0%**	**5**	**100.0%**
Errand & task networks (e.g. taskrabbit.com, zaarly.com)	**1**	**50.0%**	**1**	**50.0%**	**2**	**100.0%**
Total	**43**	**37.7%**	**71**	**62.3%**	**114**	

p = **1.4%** ; chi2 = **17.57** ; dof = **7** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Appendix E

'Non-participation drivers'

'Non-participation drivers:' socio-demographics and income

Ownership/Income (Total)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**13**	**22.4%**	**22**	**37.9%**	**23**	**39.7%**	**58**	**100.0%**
500-999 Euros	**25**	**39.1%**	**17**	**26.6%**	**22**	**34.4%**	**64**	**100.0%**
1000-1999 Euros	**20**	**32.3%**	**11**	**17.7%**	**31**	**50.0%**	**62**	**100.0%**
2000-2999 Euros	**21**	**41.2%**	**12**	**23.5%**	**18**	**35.3%**	**51**	**100.0%**
More than 3000 Euros	**23**	**41.8%**	**14**	**25.5%**	**18**	**32.7%**	**55**	**100.0%**
Total	**102**	**35.2%**	**76**	**26.2%**	**112**	**38.6%**	**290**	

p = **14.0%** ; chi2 = **12.25** ; dof = **8** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

Ownership/Income (North America)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**2**	**14.3%**	**4**	**28.6%**	**8**	**57.1%**	**14**	**100.0%**
500-999 Euros	**10**	**55.6%**	**3**	**16.7%**	**5**	**27.8%**	**18**	**100.0%**
1000-1999 Euros	**3**	**15.0%**	**3**	**15.0%**	**14**	**70.0%**	**20**	**100.0%**
2000-2999 Euros	**10**	**55.6%**	**5**	**27.8%**	**3**	**16.7%**	**18**	**100.0%**
More than 3000 Euros	**11**	**45.8%**	**4**	**16.7%**	**9**	**37.5%**	**24**	**100.0%**
Total	**36**	**38.3%**	**19**	**20.2%**	**39**	**41.5%**	**94**	

p = **2.2%** ; chi2 = **17.95** ; dof = **8** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Income (Employed)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**0**	**0.0%**	**3**	**50.0%**	**3**	**50.0%**	**6**	**100.0%**
500-999 Euros	**9**	**64.3%**	**2**	**14.3%**	**3**	**21.4%**	**14**	**100.0%**
1000-1999 Euros	**11**	**31.4%**	**9**	**25.7%**	**15**	**42.9%**	**35**	**100.0%**
2000-2999 Euros	**14**	**38.9%**	**9**	**25.0%**	**13**	**36.1%**	**36**	**100.0%**
More than 3000 Euros	**8**	**22.2%**	**13**	**36.1%**	**15**	**41.7%**	**36**	**100.0%**
Total	**42**	**33.1%**	**36**	**28.3%**	**49**	**38.6%**	**127**	

p = **13.7%** ; chi2 = **12.33** ; dof = **8** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

Privacy/Income (Judgers)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**9**	**39.1%**	**8**	**34.8%**	**6**	**26.1%**	**23**	**100.0%**
500-999 Euros	**14**	**56.0%**	**8**	**32.0%**	**3**	**12.0%**	**25**	**100.0%**
1000-1999 Euros	**8**	**36.4%**	**7**	**31.8%**	**7**	**31.8%**	**22**	**100.0%**
2000-2999 Euros	**3**	**21.4%**	**2**	**14.3%**	**9**	**64.3%**	**14**	**100.0%**
More than 3000 Euros	**7**	**25.9%**	**11**	**40.7%**	**9**	**33.3%**	**27**	**100.0%**
Total	**41**	**36.9%**	**36**	**32.4%**	**34**	**30.6%**	**111**	

p = **6.8%** ; chi2 = **14.57** ; dof = **8** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

Hyper-consumption/Income (North America)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**3**	**21.4%**	**5**	**35.7%**	**6**	**42.9%**	**14**	**100.0%**
500-999 Euros	**11**	**61.1%**	**5**	**27.8%**	**2**	**11.1%**	**18**	**100.0%**
1000-1999 Euros	**4**	**20.0%**	**8**	**40.0%**	**8**	**40.0%**	**20**	**100.0%**
2000-2999 Euros	**7**	**38.9%**	**6**	**33.3%**	**5**	**27.8%**	**18**	**100.0%**
More than 3000 Euros	**5**	**20.8%**	**13**	**54.2%**	**6**	**25.0%**	**24**	**100.0%**
Total	**30**	**31.9%**	**37**	**39.4%**	**27**	**28.7%**	**94**	

p = **9.7%** ; chi2 = **13.47** ; dof = **8** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

Hyper-consumption/Income (Employed)

	Disagree		Undecided		Agree		**Total**	
	N	% cit.	N	% cit.	N	% cit.	N	% cit.
Less than 500 Euros	**2**	**33.3%**	**2**	**33.3%**	**2**	**33.3%**	**6**	**100.0%**
500-999 Euros	**8**	**57.1%**	**3**	**21.4%**	**3**	**21.4%**	**14**	**100.0%**
1000-1999 Euros	**10**	**29.4%**	**7**	**20.6%**	**17**	**50.0%**	**34**	**100.0%**
2000-2999 Euros	**11**	**30.6%**	**17**	**47.2%**	**8**	**22.2%**	**36**	**100.0%**
More than 3000 Euros	**11**	**30.6%**	**16**	**44.4%**	**9**	**25.0%**	**36**	**100.0%**
Total	**42**	**33.3%**	**45**	**35.7%**	**39**	**31.0%**	**126**	

p = **9.6%** ; chi2 = **13.50** ; dof = **8** (**LS**)

Dependence is slightly significant.
Some modalities have been grouped

'Non-participation drivers:' socio-demographics and region

Privacy/Region (Total)

	North America		Europe		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**36**	**27.9%**	**93**	**72.1%**	**129**	**100.0%**
Undecided	**21**	**26.6%**	**58**	**73.4%**	**79**	**100.0%**
Agree	**52**	**51.0%**	**50**	**49.0%**	**102**	**100.0%**
Total	**109**	**35.2%**	**201**	**64.8%**	**310**	

p = **<0.1%** ; chi2 = **16.72** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Females)

	North America		Europe		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**18**	**24.3%**	**56**	**75.7%**	**74**	**100.0%**
Undecided	**15**	**31.9%**	**32**	**68.1%**	**47**	**100.0%**
Agree	**34**	**53.1%**	**30**	**46.9%**	**64**	**100.0%**
Total	**67**	**36.2%**	**118**	**63.8%**	**185**	

p = **0.2%** ; chi2 = **12.83** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Students)

	North America		Europe		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**10**	**16.1%**	**52**	**83.9%**	**62**	**100.0%**
Undecided	**5**	**15.2%**	**28**	**84.8%**	**33**	**100.0%**
Agree	**18**	**40.9%**	**26**	**59.1%**	**44**	**100.0%**
Total	**33**	**23.7%**	**106**	**76.3%**	**139**	

p = **0.5%** ; chi2 = **10.49** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (1000-1999)

	North America		Europe		Total	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**2**	**8.0%**	**23**	**92.0%**	**25**	**100.0%**
Undecided	**3**	**23.1%**	**10**	**76.9%**	**13**	**100.0%**
Agree	**15**	**62.5%**	**9**	**37.5%**	**24**	**100.0%**
Total	**20**	**32.3%**	**42**	**67.7%**	**62**	

p = **<0.1%** ; chi2 = **17.28** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Extraverts)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**19**	**25.3%**	**56**	**74.7%**	**75**	**100.0%**
Undecided	**10**	**26.3%**	**28**	**73.7%**	**38**	**100.0%**
Agree	**21**	**51.2%**	**20**	**48.8%**	**41**	**100.0%**
Total	**50**	**32.5%**	**104**	**67.5%**	**154**	

p = **1.1%** ; chi2 = **8.97** ; dof = **2** (**S**)

Dependence is significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Intuitors)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**18**	**24.0%**	**57**	**76.0%**	**75**	**100.0%**
Undecided	**11**	**26.8%**	**30**	**73.2%**	**41**	**100.0%**
Agree	**34**	**50.7%**	**33**	**49.3%**	**67**	**100.0%**
Total	**63**	**34.4%**	**120**	**65.6%**	**183**	

p = **0.2%** ; chi2 = **12.56** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Feelers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**19**	**25.3%**	**56**	**74.7%**	**75**	**100.0%**
Undecided	**10**	**20.8%**	**38**	**79.2%**	**48**	**100.0%**
Agree	**32**	**57.1%**	**24**	**42.9%**	**56**	**100.0%**
Total	**61**	**34.1%**	**118**	**65.9%**	**179**	

p = **<0.1%** ; chi2 = **19.56** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Privacy/Region (Judgers)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**8**	**18.2%**	**36**	**81.8%**	**44**	**100.0%**
Undecided	**10**	**26.3%**	**28**	**73.7%**	**38**	**100.0%**
Agree	**19**	**51.4%**	**18**	**48.6%**	**37**	**100.0%**
Total	**37**	**31.1%**	**82**	**68.9%**	**119**	

p = **0.4%** ; chi2 = **10.92** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Appendix F

'Participation drivers'

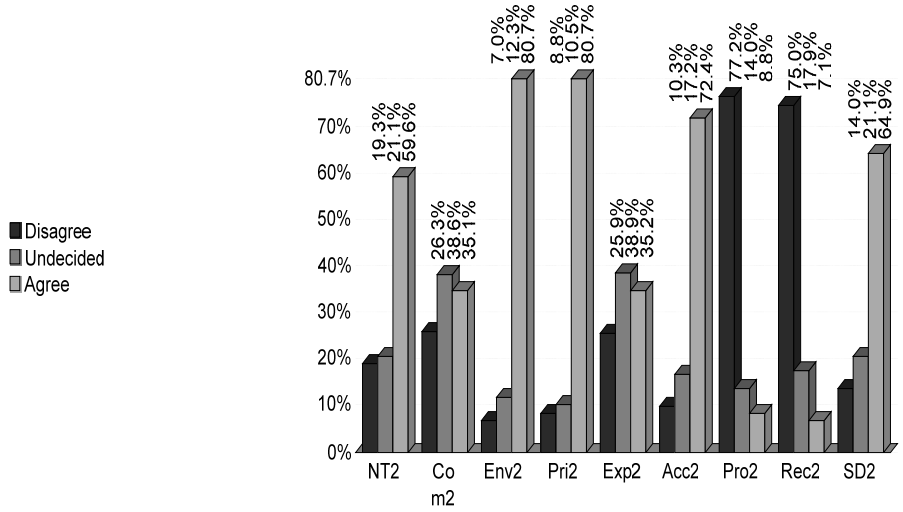
Number and percentage of respondents - most important type of collaborative consumption

	No.	% cit.
Public Transport	**79**	**24.5%**
Big marketplaces	**49**	**15.2%**
Second hand shops	**30**	**9.3%**
Other	**155**	**48.1%**
None	**9**	**2.8%**
Total	**322**	**100.0%**

Number and percentage of respondents - second most important type of collaborative consumption

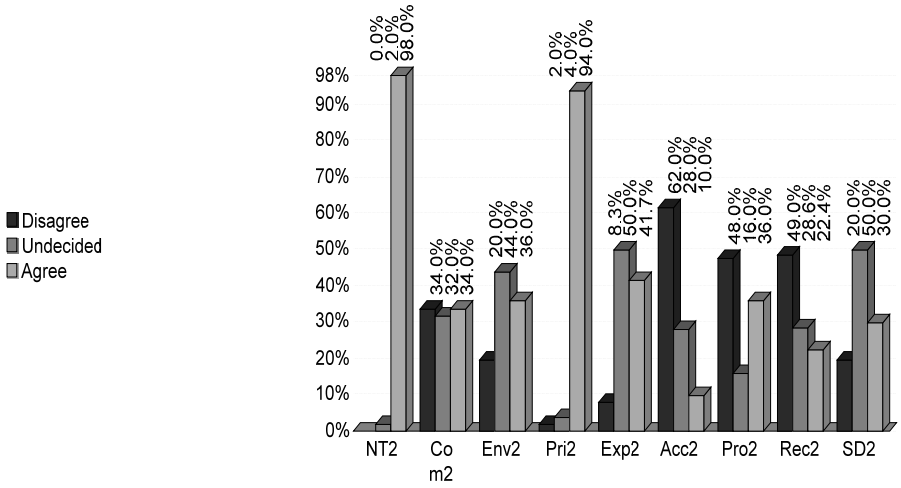
	No.	% cit.
Public Transport	**58**	**18.0%**
Big marketplaces	**50**	**15.5%**
Second hand shops	**39**	**12.1%**
Other	**161**	**50.0%**
None	**14**	**4.3%**
Total	**322**	**100.0%**

'Participation drivers' related to "Public Transport" – second most important type of collaborative consumption



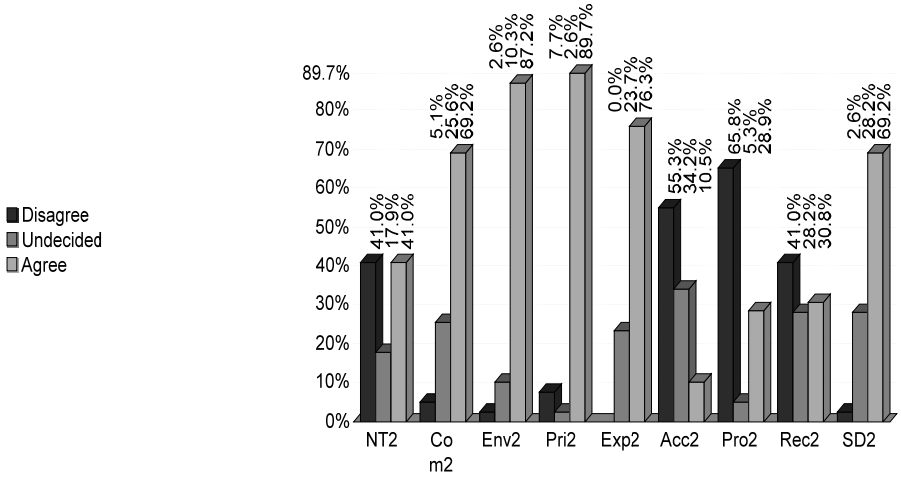
Note. "New technologies" (NT2), "Community" (Com2), "Environmental concerns" (Env2), "Price consciousness" (Pri2), "Experience" (Exp2), "Access over ownership" (Acc2), "Profits" (Pro2), "Recommendations" (Rec2), and "Selfless deed" (SD2).

‘Participation drivers’ related to “Big marketplaces” – second most important type of collaborative consumption



Note. “New technologies” (NT2), “Community” (Com2), “Environmental concerns” (Env2), “Price consciousness” (Pri2), “Experience” (Exp2), “Access over ownership” (Acc2), “Profits” (Pro2), “Recommendations” (Rec2), and “Selfless deed” (SD2).

‘Participation drivers’ related to “Second hand shops” – second most important type of collaborative consumption



Note. “New technologies” (NT2), “Community” (Com2), “Environmental concerns” (Env2), “Price consciousness” (Pri2), “Experience” (Exp2), “Access over ownership” (Acc2), “Profits” (Pro2), “Recommendations” (Rec2), and “Selfless deed” (SD2).

‘Participation drivers:’ socio-demographics and occupation

Community/Occupation (Public transport)

	Student		Employed		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**21**	**91.3%**	**2**	**8.7%**	**23**	**100.0%**
Undecided	**9**	**52.9%**	**8**	**47.1%**	**17**	**100.0%**
Agree	**16**	**53.3%**	**14**	**46.7%**	**30**	**100.0%**
Total	**46**	**65.7%**	**24**	**34.3%**	**70**	

p = **0.7%** ; chi2 = **9.96** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Experience/Occupation (Public transport)

	Student		Employed		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**13**	**81.3%**	**3**	**18.8%**	**16**	**100.0%**
Undecided	**21**	**84.0%**	**4**	**16.0%**	**25**	**100.0%**
Agree	**13**	**43.3%**	**17**	**56.7%**	**30**	**100.0%**
Total	**47**	**66.2%**	**24**	**33.8%**	**71**	

p = **0.2%** ; chi2 = **12.17** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

'Participation drivers:' socio-demographics and region

Selfless deed/Region (Big marketplaces)

	North America		Europe		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**0**	**0.0%**	**6**	**100.0%**	**6**	**100.0%**
Undecided	**0**	**0.0%**	**12**	**100.0%**	**12**	**100.0%**
Agree	**15**	**50.0%**	**15**	**50.0%**	**30**	**100.0%**
Total	**15**	**31.3%**	**33**	**68.8%**	**48**	

p = **0.1%** ; chi2 = **13.09** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

'Participation drivers:' personality and extravert/introvert

Community/Extravert-Introvert (Public transport)

	E		I		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**7**	**29.2%**	**17**	**70.8%**	**24**	**100.0%**
Undecided	**13**	**72.2%**	**5**	**27.8%**	**18**	**100.0%**
Agree	**27**	**75.0%**	**9**	**25.0%**	**36**	**100.0%**
Total	**47**	**60.3%**	**31**	**39.7%**	**78**	

p = **<0.1%** ; chi2 = **14.03** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Experience/Extravert-Introvert (Public transport)

	E		I		**Total**	
	N	% cit.	N	% cit.	N	% cit.
Disagree	**4**	**22.2%**	**14**	**77.8%**	**18**	**100.0%**
Undecided	**16**	**59.3%**	**11**	**40.7%**	**27**	**100.0%**
Agree	**27**	**79.4%**	**7**	**20.6%**	**34**	**100.0%**
Total	**47**	**59.5%**	**32**	**40.5%**	**79**	

p = **<0.1%** ; chi2 = **15.97** ; dof = **2** (**VS**)

Dependence is highly significant.
Some modalities have been groupedLes éléments sur (sous) représentés sont coloriés.

Appendix G

Open question

Number of respondents to open question – 'non-participation drivers' (grouped)

Types of 'non-participation drivers'	**Number of respondents**
Unheard of/Unawareness	14
No need	9
Availability online/offline	7
Safety/ Privacy	4
Difficulty	2
Social phobia/shyness	2
Waste of time	2
Only for young people	1
Partner disagrees	1

References

Ahuvia, A. (2008, August). If Money Doesn't Make Us Happy, Why Do We Act as if It Does? *Journal of Economic Psychology*, pp. 491–507.

Alberta, N., Merunka, D., & Valette-Florence, P. (2008, October). When Consumers Love Their Brands: Exploring the Concept and Its Dimensions. *Journal of Business Research*, pp. 1062–1075.

Alford, B. L., & Biswas, A. (2002). The Effects of Discount Level, Price Consciousness and Sale Proneness on Consumers' Price Perception and Behavioral Intention. *Journal of Business Research*, pp. 775–783.

Algar, R. (2007). *Collaborative Consumption*. Retrieved 12 13, 2012, from Oxygen Consulting: http://www.oxygen-consulting.co.uk/insights/collaborative-consumption

Bernstein, L., Bosch, P., Canziani, O., Chen, Z., Christ, R., Davidson, O., . . . Yohe, G. (2007). *Climate Change 2007: Synthesis Report.* Retrieved from Intergovernmental Panel on Climate Change: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

Beugelsdijk, S., Schaik, T. v., & Arts, W. (2006, 5). Toward a Unified Europe? Explaining Regional Differences in Value Patterns by Economic Development, Cultural Heritage and Historical Shocks. *Regional Studies*, pp. 317-327.

Bieswanger, M., & Becker, A. (2010). *Introduction to English Linguistics.* Tübingen: Narr Francke Attempto Verlag.

Bollier, D. (2009, 10 13). *Elinor Ostrom And The Digital Commons*. Retrieved from Forbes: http://www.forbes.com/2009/10/13/open-source-net-neutrality-elinor-ostrom-nobel-opinions-contributors-david-bollier.html

Boradkar, P. (2010, June 15). Designing Things: A Critical Introduction to the Culture of Objects.

Botsman, R. (2010, December). Retrieved from Rachel Botsman: The Case of Collaborative Consumption [video file]: http://www.ted.com/talks/rachel_botsman_the_case_for_collaborative_consumption.html

Botsman, R., & Rogers, R. (2010, October). Beyond Zipcar: Collaborative Consumption. *Harvard Business Review*, p. 30.

Botsman, R., & Rogers, R. (2011). *What's Mine Is Yours: How Collaborative Consumption is Changing the Way We Live.* London: HarperCollins Publishers.

Brabham, D. C. (2008). Crowdsourcing as a Model for Problem Solving. *Convergence*, pp. 75-90.

Bradley, N. (1999, October). Sampling for Internet Surveys. An examination of respondent selection for Internet research. *Journal of the Market Research Society*, pp. 387-395. Retrieved from http://www.wmin.ac.uk/marketingresearch/Marketing/sam06.html

Braungart, M., & McDonough, W. (2002). *Cradle to Cradle: Remaking the Way We Make Things.* New York: North Point Press.

Budka, P., & Kremser, M. (2004). CyberAnthropology - Anthropology of CyberCulture. In S. Khittel, B. Plankensteiner, & M. Six-Hohenbalken, *Contemporary Issues in Socio-Cultural Anthropology: Perspectives and research activities from Austria* (pp. 213–226). Vienna: Loecker.

Bulow, J. (1986, November). An Economic Theory of Planned Obsolescence. (I. John Wiley & Sons, Ed.) *Quarterly Journal of Economics*, pp. 729-749.

Carlson, J. G. (1985). Recent Assessments of the Myers-Briggs Type Indicator. *Journal of Personality Assessment*, pp. 356-365.

Clare, C. (2009, 9/10). Generational Differences: Turning Challenges into Opportunities. *Journal of Property Management*, pp. 41-43.

Cooper, T. (2004). Inadequate Life? Evidence of Consumer Attitudes to Product Obsolescence. *Journal of Consumer Policy*, pp. 421-449.

Crossman, A. (n.d.). *Convenience Sample*. Retrieved May 08, 2013, from sociology.about.com: http://sociology.about.com/od/Types-of-Samples/a/Convenience-Sample.htm

Davies, P. (2006). *Exploratory Research*. Retrieved from The SAGE Dictionary of Social Research Methods: http://srmo.sagepub.com/view/the-sage-dictionary-of-social-research-methods/n75.xml

Deutsche Bahn. (2013). *Nachhaltiges Reisen*. Retrieved from DB Bahn: http://www.bahn.de/micro/view/nachhaltiges_reisen/index.shtml

Drakulić, A. M. (2012). A Phenomenological Perspective on Subjective Well-Being: From Myth to Science. *Psychiatria Danubina*(24), pp. 31-37.

Esposti, P. D. (2012, February 29). *Hyperconsumption. Wiley-Blackwell Encyclopedia of Globalization.* Retrieved 11 16, 2012, from Wiley Online Library: http://onlinelibrary.wiley.com/doi/10.1002/9780470670590.wbeog279/abstract

Federal Acquisition Regulation. (2012). *Grants and Agreements [Google Books version]*. Retrieved from http://books.google.de/books?id=IM8jOwT8b1YC&printsec=frontcover#v=onepage&q&f=false

Feinberg, R. A. (1986, December). Credit Cards as Spending Facilitating Stimuli: Conditioning Interpretation. *Journal of Consumer Research*(13), pp. 348-356.

Felson, M., & Spaeth, J. L. (1978, 3 1). Community Structure and Collaborative Consumption: A Routine Activity Approach. *American Behavioral Scientist*, pp. 614-624.

Firat, A. F., & Venkatesh, A. (1993). Postmodernity: The Age of Marketing. *Intern. J. of Research in Marketing*, pp. 227-249.

Fishbach, A., Ratner, R. K., & Zhang, Y. (2010, October 20). Inherently Loyal or Easily Bored?: Nonconscious Activation of Consistency versus Variety-Seeking Behavior. *Journal of Consumer Psychology*, pp. 38–48.

Foster, K., Meijer, E., Schuh, S., & Zabek, M. A. (2011, April). *The 2009 Survey of Consumer Payment Choice*. Retrieved from Federal Reserve Bank of Bosten: http://www.bostonfed.org/economic/ppdp/2011/ppdp1101.pdf

Fox, A. (2011, 5). Talkin' Bout My Generation. *HR Magazine*, pp. 26-27.

Fredrickson, B. L. (2003). The Value of Positive Emotions - The Emerging Science of Positive Psychology is Coming. *American Scientist, 91*.

Gabor, A., & Granger, C. W. (1961, November). On the Price Consciousness of Consumers. *Journal of the Royal Statistical Society*, pp. 170-188.

Global Mobile Statistics. (2012). *Mobithinking*. Retrieved from http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/a#subscribers

Gottschalk, S. (2009). Hypermodern Consumption and Megalomania : Superlatives in Commercials. *Journal of Consumer Culture*, pp. 307-328.

Gray, B. (1989). *Collaborating: Finding Common Ground for Multiparty Problems.* San Francisco: Jossey-Bass Inc.

Guardo, C. J. (1982, 4). Student Generation and Value Change. *Personal and Guidance Journal*, pp. 500-503.

Guiltinan, J. (2009). Creative Destruction and Destructive Creations: Environmental Ethics and Planned Obsolescence. (Springer, Ed.) *Journal of Business Ethics*, pp. 19-28.

Hardin, G. (1968, 12 13). *The Tragedy of the Commons*. Retrieved from http://dieoff.org/page95.htm

Harry, R., & Palgrave, I. (2007). *Dictionary of Political Economy*. Retrieved from archive.org: http://www.archive.org/stream/dictionaryofpoli03palguoft/dictionaryofpoli03palguoft_djvu.txt

Hastie, R., & Dawes, R. M. (2009). *Rational Choice in an Uncertain World: The Psychology of Judgment and Decision Making [Google Books version]*. Retrieved from http://books.google.de/books?id=RS71UpvqI10C&printsec=frontcover#v=onepage&q&f=false

Hofstede, G. (1980). Motivation, Leadership, and Organization: Do American Theories Apply Abroad. *Organizational Dynamics*, pp. 42-63.

Howe, J. (2006, June 02). *Crowdsourcing: A Definition.* Retrieved from Crowdsourcing: http://crowdsourcing.typepad.com/cs/2006/06/

Hünerberg, R. (2012, December). Selected Problems: Multichannel Approaches. *Distribution Management*. Lecture conducted from Universität Kassel, Kassel. Retrieved from Distribution Management.

Jégou, F., & Manzini, E. (2008). *Collaborative Services: Social Innovation and Design for Sustainability.* Milano: POLI.design.

Katz, M. L., & Shapiro, C. (1994). Systems Competition and Network Effects. *Journal of Economic Perspectives*, pp. 93-115.

Kelly, K. (2009, January 21). *Better than Owning*. Retrieved from kk.org: http://www.kk.org/thetechnium/archives/2009/01/better_than_own.php

Kukar-Kinney, M., Walters, R. G., & MacKenzie, S. B. (2007, February). Consumer Responses to Characteristics of Price-Matching Guarantees: The Moderating Role of Price Consciousness. *Journal of Retailing*, pp. 211-221.

Lasswell, H. D. (2007). The Structure and Function of Communication in Society. *İletişim kuram ve araştırma dergisi*(24), pp. 215-228.

Laszlo, E. (2010). *Chaos Point: The World at the Crossroads.* Charlottesville: Hampton Roads Publishing Company, Inc.

Li, L. M., & Bond, M. H. (2010). Value Change: Analyzing National Change in Citizen Secularism Across Four Time Periods in the World Values Survey. *The Social Science Journal*, pp. 1-13.

Lichtenstein, D. R., Ridgway, N. M., & Netemey, R. G. (1993, May). Price Perceptions and Consumer Shopping Behavior: A Field Study. *Journal of Marketing Research*, pp. 234-245.

Limerick, D., & Cunnington, B. (1993). *Collaborative Individualism and the End of the Corporate Citizen.* Retrieved from http://svc163.wic011v.server-web.com/articles/CollaborativeIndividualism.PDF

Lipovetsky, G. (2011). The Hyperconsumption Society. In K. M. Ekström, & K. Glans, *Beyond the Consumption Bubble* (pp. 25-36). New York: Routledge.

Lynton, N. (2010, 2 17). Working with China's Generation Y. *BusinessWeek.com*, p. 13.

Makita, T., & Ida, M. (2001). Highlights of Value Change in Japan. *International Journal of Public Opinion Research*, pp. 426-432.

Manzini, E., & Vezzoli, C. (2002). *Product-Service Systems and Sustainability: Opportunities for Sustainable Solutions*. Retrieved from score-network.org: http://www.score-network.org/files//820_12.pdf

Maslow, A. (1943). *A Theory of Human Motivation.* Retrieved from Classics in the History of Psychology: http://psychclassics.yorku.ca/Maslow/motivation.htm

McDonough. (2007, April). Retrieved from William McDonough: Cradle to cradle design [video file]: http://www.ted.com/talks/william_mcdonough_on_cradle_to_cradle_design.html

McMillan, D. W., & George, D. M. (1986, January). Sense of Community: A Definition and Theory. *Journal of Community Psychology*, pp. 6-23.

Meroni, A. (2007). *Creative Communities: People Inventing Sustainable Ways of Living.* Milano: POLI.design.

Miller, F. P., Vandome, A. F., & McBrewster, J. (2010). *Mutualism (Economic Theory): Cost the Limit of Price, Mutual Credit, Agorism, Cincinnati Time Store, Consumers' Cooperative, Egalitarianism, Individualist Anarchism, Labor Theory of Property, Left- Libertarianism [Google Books version]*. Retrieved from http://books.google.de/books/about/Mutualism_Economic_Theory.html?id=bzgrQwAACAAJ&redir_esc=y

Molinari, A. (2011a, October). Ethical and Social Issues in Information Systems. *Information Systems & ICTs*. Lecture conducted from Università degli Studi di Trento, Trento.

Molinari, A. (2011b, November). IT Infrastructure and Emerging Technologies. *Information Systems & ICTs*. Lecture conducted from Università degli Studi di Trento, Trento.

Monday, J. (2009). Retrieved from MondayDots Model: Disruptive Innovation [video file]: http://www.youtube.com/watch?v=DaKgMcFP4Mo

Moore, C. J., Moore, S. L., Leecaster, M. K., & Weisberg, S. B. (2001, December). A Comparison of Plastic and Plankton in the North Pacific Central Gyre. *Marine Pollution Bulletin*, pp. 1297-1300.

Movement. (n.d.). *Collaborative Consumption Hub*. Retrieved December 13, 2012, from collaborativeconsumption.com: http://www.collaborativeconsumption.com/the-movement/

Nielsen. (2009, July 7). *Personal Recommandations and Consumer Opinions Posted Online are the most trusted forms of Advertising Globally*. New York.

Nonini, D. M. (2007). *The Global Idea of "The Commons" [Google Books version]*. Retrieved from http://books.google.de/books?id=5V16llBCte4C&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Obenberger, R. W., & Brown, S. W. (1976, October). A Marketing Alternative: Consumer Leasing and Renting . *Business Horizons*, pp. 82-86.

Ostrom, E. (2009). Beyond Markets and States: Polycentric Governance of Complex Economic Systems. *Prize Lecture*, 408-444.

Oxford Dictionary. (2012, November 14). *Oxford Dictionaries - The World's Most Trusted Dictionaries*. Retrieved from http://oxforddictionaries.com/definition/american_english/consumption?region=us&q=consumption

Pan, X., Han, C. S., Dauber, K., & Law, K. H. (2007). A Multi-Agent Based Framework for the Simulation of Human and Social Behaviors during Emergency Evacuations. *AI & Soc*, pp. 113–132.

Piller, F. T. (2007, February 26). Retrieved from The Consumer Decides: Nike Focuses Competitive Strategy on Customization and Creating Personal Consumer Experiences - Data about the Nike Plus Personalization System [Web log comment]: http://mass-customization.blogs.com/mass_customization_open_i/2007/02/the_consumer_de.html

Pine, B. J., & Gilmore, J. H. (2011). *The Experience Economy [Google Books version]*. Retrieved from http://books.google.de/books?id=edtOyzyKgXUC&printsec=frontcover#v=onepage&q&f=false

Poulsson, S. H., & Kale, S. H. (2004). The Experience Economy and Commercial Experiences. *The Marketing Review*, pp. 267-277.

Prelec, D., & Simester, D. (2001). Always Leave Home Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay. *Marketing Letters*, pp. 5-12.

Prettenthalera, F. E., & Steininger, K. W. (1999, March). From Ownership to Service Use Lifestyle: The Potential of Car Sharing. *Ecological Economics*, pp. 443–453.

Reisenwitz, T. H., & Iyer, R. (2009). Differences in Generation X and Generation Y: Implications for the Organization and Marketers. *Marketing Management Journal*, pp. 91-103.

Rogers, E. M. (2003). *Diffusion of Innovations [Google Books version]*. Retrieved from http://books.google.de/books?id=9U1K5LjUOwEC&printsec=frontcover#v=onepage&q&f=false

Scaglia, B. (2011). *The Sociology of the Internet: Cyber Relationships and Online Identities*. Retrieved from http://books.google.de/books?id=ZM0vKQEACAAJ&dq

Scholl, G. (2008). Product-service systems: Taking a functional and a symbolic perspective on usership. In A. Tukker, *Perspectives on Radical Changes to Sustainable Consumption and Production* (pp. 255-270). Scheffield: Greenleaf Publishing Limited.

Snapshot of Examples. (n.d.). *Collaborative Consumption Hub*. Retrieved December 13, 2012, from http://www.collaborativeconsumption.com/the-movement/snapshot-of-examples.php

Soman, D. (2001, March). Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments. *Journal of Consumer Research*, pp. 460-474.

The Myers & Briggs Foundation. (1997a). *Extraversion or Introversion*. Retrieved from myersbriggs.org: http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/extraversion-or-introversion.asp

The Myers & Briggs Foundation. (1997b). *Sensing or Intuition*. Retrieved from myersbriggs.org: http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/sensing-or-intuition.asp

The Myers & Briggs Foundation. (1997c). *Thinking or Feeling*. Retrieved from myersbriggs.org: http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/thinking-or-feeling.asp

The Myers & Briggs Foundation. (1997d). *Judging or Perceiving*. Retrieved from myersbriggs.org: http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/judging-or-perceiving.asp

The Myers & Briggs Foundation. (n.d.). *MBTI Basics*. Retrieved from http://myersbriggs.org/: http://myersbriggs.org/my-mbti-personality-type/mbti-basics/

Tomasello, M. (2009). *Why We Cooperate [Google Books version]*. Retrieved from http://books.google.de/books?id=UKPxkqLGtBgC&printsec=frontcover&dq#v=onepage&q&f=false

Turner, F. (2006). *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network and the Rise of Digital Utopianism [Google Books version]*. Retrieved from http://books.google.de/books?id=2SNFpgX_WigC&printsec=frontcover&dq#v=onepage&q&f=false

United Nations. (2010). *Country Profiles*. Retrieved from http://esa.un.org/: http://esa.un.org/unpd/wpp/unpp/Panel_profiles.htm

United Nations. (2013, February 11). *United Nation Statistics Devision*. Retrieved from unstats.un.org: http://unstats.un.org/unsd/methods/m49/m49regin.htm#europe

Veblen, T. (1899). *The Theory of the Leisure Class - An Economic Study of Institutions [Google Books version]*. Retrieved from http://books.google.de/books?id=98L1SCwrfg8C&printsec=frontcover#v=onepage&q&f=false

Wagner, R. (2012a, October). International Communication. *International Marketing*. Lecture conducted from Universität Kassel, Kassel.

Wagner, R. (2012b, September). Introduction. *International Marketing*. Lecture conducted from Universität Kassel, Kassel.

Wells, R., Kleshinski, C. E., & Lau, T. (2012). Attitudes Toward and Behavioral Intentions to Adopt Mobile Marketing: Comparisons of Gen Y in the United States, France and China. *IJMM*, pp. 5-25.

Welzel, C. (2006, 11 3). A Human Development View on Value Change Trends (1981-2006). Istanbul.

Zipcar.com. (n.d.). Retrieved May 07, 2013, from About Us: http://www.zipcar.com/about