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VALUE CO-CREATION AND CO-DESTRUCTION IN UNTAPPD

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Tässä pro-gradu tutkielmassa tutkitaan miten arvoa yhteisluodaan ja yhteistuhotaan Untappdissa, sosiaalisessa sovelluksessa, joka pyörii oluen arvostelun ympärillä. Tutkielman tavoitteena on selvittää miten yksilöt ja Untappd yhdessä luovat tai tuhoavat arvoa. Arvon yheisluonnin viitekehys kuluttajille suunnatuissa tietojärjestelmissä (CIS) on käytössä empiirisessä vaiheessa, jossa suoritetaan puolistrukturoitu laadullinen haastattelu laddering-menetelmän avulla (n=26). Haastattelun tulokset analysoitiin temaattisesti CIS viitekehystä hyväksikäyttäen, jonka lopputuloksena on viisi teemakarttaa, jotka kuvaavat kuinka arvoa yhteisluodaan Untappdissa ja yksi teemakartta, mikä näyttää miten arvo yhteistuhoutuu Untappdissa. Tutkimusten tulokset osoittavat, että arvoa yhteisluodaan lähinnä järjestelmän arvolupauksien avulla. Varsinkin käytön sosiaalinen luonne ja käytön konteksti korostuvat tuloksissa. Arvon yhteistuhoutuminen osoittautui lieväksi ilmiöksi. Tämä tutkimus edistää palvelutieteiden kirjallisuutta tarjoamalla tietoa siitä, miten arvoa yhteisluodaan ja yhteistuhotaan digitaalisessa palvelussa. Se myös vahvistaa käsitystä siitä, että CIS-viitekehys yhdessä laddering-tekniikan ja temaattisen analyysin kanssa on sopiva yhdistelmä arvon yhteisluonnin ja yhteistuhon tutkimiseen. Tästä huolimatta tutkimuksen rajallisuus tiedostetaan ja laaja-alaisempi tutkimus on tervetullutta.

Asiasanat: palvelulähtöinen ajattelu, digitaalinen palvelu, arvo, arvon yhteisluonti, arvon yhteistuhoaminen

ABSTRACT

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This master's thesis studies how value is co-created and co-destructed in Untappd, social application for rating beers. Goal of the study is to gain understanding on how individuals and Untappd jointly create or destroy value. The framework for value co-creation in Consumer Information Systems (CIS) is used as a framework during the empirical phase, where semi-structured qualitative interview, laddering method (n=26) is utilized. Results of the interview were thematically analyzed using the CIS framework, resulting in five theme maps, which illustrate how value is co-created in Untappd and one theme map, which displays how value is co-destroyed in Untappd. Findings indicate that the value co-creation in Untappd happens mostly through system value propositions. Especially social nature of use and context of use stand out. Value co-destruction turned out to be a minor phenomenon in this study. This study contributes towards service science literature by offering insight how value is co-created and co-destructed in a digital service. It also confirms that CIS framework along with laddering technique and thematical analysis is a suitable combination for studying value co-creation and co-destruction. Still, limitations of the study are acknowledged and broader research on the subject is welcomed.

Keywords: service-dominant logic, digital service, value, value co-creation, value co-destruction

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1 INTRODUCTION

In the year 2020, services made up to 69,4 % of Finland's GDP (Statistics Finland, 2021). Furthermore, Finnish economic research institute ETLA estimated that digital services made up to 10,9% (21 billion euros) of Finland's GDP in the year 2019 (Ali-Yrkkö et al., 2020). This focus on services also overlaps in the field of Information Systems (IS), where it is essential to understand how value is created for the users of services, which have digital dimensions i.e., are digital services.

Untappd is a digital service revolving around consumption of beer. Beer enthusiasts around the globe use it to rate beers, discuss them with their social networks and earn badges doing so. It currently has close to 10 million users with over 925 million unique check-ins. Untappd is celebrating its 10th anniversary. (Avola, 2020). In Finland, beer consuming overall has lately shifted to favoring quality over quantity, which can be seen in every grocery store. The growing popularity of craft breweries tells its own tale, too.

The scope on the field of marketing has switched from goods-centric towards service-centric, as services have gained much needed attention over the last decades. When digital services are designed, it is important to understand how value perceived by users is created. Value co-creation, coined by Vargo & Lusch (2004), is a joint process, where service providers offer value propositions to service users, who in turn determine and create value utilizing these propositions in addition to their own skills and knowledge.

Lately the scholars of service science have acknowledged that the perceived value of services may often be negative, resulting in value co-destruction (Echeverri & Skålen, 2011). Understanding that value can be also co-destructed during the service process is essential to everyone involved in designing services.

As digital services become more and more part of everyday life, the need to study things related to it become more apparent. Understanding how the core component of service, value, is created and perceived is difficult because of its subjective and intangible nature. That creates the need to study it in somewhat different conditions. That is why this thesis is important and worth to read for those interested in service science and information systems in general.

Researching Untappd using the scope of value co-creation and value co-destruction grants us with an opportunity to dive deep in the minds of people who have common interest in craft beer to find the motivations to use this application. It also grants a view in understanding nuances of the hobby of craft beers in general. Thus, it serves multiple different stakeholders who have interest in either service science, developing digital services, or things related to brewing industry.

1.1 Research objective

The main goal of this thesis is to research on how value is co-created and co-destroyed in the Untappd-application. Due to time and space limitations, this study is limited only to concern users´ point of view. In other words, businesses using it are ignored. In order to get a clear picture of the situation, some support is needed from the marketing and IS literature. Mainly, the concepts of value co-creation and co-destruction need to be crystal clear so that the phenomenon is understood. It is also important to understand where these concepts are derived from. Hence, the literature review will also contain the concepts of digital service and value along with comparison of theoretical concepts Goods-Dominant logic and Service-Dominant logic. Last part of literature review focuses on presenting Framework for value co-creation in consumer information systems (Tuunanen et al., 2010), which works as framework for the actual research part.

As stated earlier, the object of this thesis is to research on how value is co-created in Untappd. In addition to this, it seems necessary to also study the negative effects Untappd may offer to its users. Hence, the research question is two-sided:

"How is value co-created in Untappd?"

And

"How is value co-destroyed in Untappd?"

1.2 Thesis outline

This thesis starts with a brief literature review. In literature review, concepts needed to understand the phenomenon studied are presented. Digital service is defined first, followed by the concept of value. Those concepts are needed to understand why the focus shifted from Goods-Dominant logic towards Service-Dominant logic, which are presented in the middle of literature review. The most

important concepts, value co-creation and value co-destruction, are at the end of second chapter.

The third chapter is all about framework for value co-creation in consumer information systems by Tuunanen et al. (2010). This framework illustrates how value gets co-created and co-destroyed in consumer information systems. It is an essential part of the actual research, which is presented in the fourth chapter. It starts with describing the context of the study, Untappd. Definition of research approach is next. Data collection method and stimuli used in the interviews are followed. Chapter ends with description of how interviews and analysis were conducted.

Fifth chapter is reserved for findings. Emerging themes and maps illustrating them were formed during the analysis and presented here. Each of them is introduced individually. The point of the findings is to provide answers to the research questions. Sixth chapter is discussion, where research questions are answered. Implications to both research and practice are presented as well. Seventh chapter, conclusion, wraps up this thesis via summarizing key elements of each chapter. It also includes possible limitations of research and some interesting research topics to consider in the future.

2 LITERATURE REVIEW

Theoretical background is presented in this chapter. Key concepts surrounding value co-creation and co-destruction are presented so that a good foundation for understanding this topic is achieved.

2.1 Digital service

Information technology has allowed us to reconsider what service means and how to develop service innovations (Barrett, Davidson, Prabhu & Vargo, 2015). As the trend in digital services gaining more hold on their share of the GDP on a yearly basis (Ali-Yrkkö et al., 2020), it is safe to say that digital services are here to stay.

Many researchers agree on the concept of service becoming a key driver in the field of IS. Although services are often at the scope of IS research, there is not a commonly agreed upon definition of it (Alter, 2012). However, Peters et al., (2016) state that many authors of high standing in the field of IS have accepted the definition offered by Vargo & Lusch (2004), who view that service is "the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself". But how does digital service differ from this?

Williams, Chatterjee, and Rossi (2008) have summarized key differences between services and digital services. Obviously digital services are at least in some portion, digital. But it is important to note that the range of "digitality" can be notable between digital services. Even an application like Untappd has some physical nuances, as you can order physical transformation from Uber directly from the application. (Williams et al., 2008).

Tangibility of a digital service often varies greatly from a traditional service, as digital services tend to use a lot of intangible resources in their favor. Related to this is the idea of ownership, which is far more complex in digital services: digital rights and ownership rights are harder to define. Last but certainly not

least, digital services focus more on suprafunctional needs (such as emotional, aspirational, cultural, and social needs) compared to traditional services, which focus more on functional needs. (Williams et al., 2008).

Williams et al. (2008) have two rather similar views on digital service. The simpler version states that digital services are services, which are received through a digital transaction over Internet Protocol (IP). They can also be viewed as an "activity or benefit that one party can give to another, that is, provided through a digital transaction". The party giving out the service or activity is the digital service provider (in this case, Untappd), and the party receiving the activity or benefit is the digital service user (in this case, the common users of Untappd). (Williams, Chatterjee & Rossi, 2008). The latter explanation serves well this thesis, as it is simple, yet profound enough for examining how value is co-created and co-destructed in a digital service platform.

Williams et al. (2008) present a digital service design taxonomy, which aims to classify digital services in a way, where one digital service provider´s market presence can be distinguished from every other digital service provider. The taxonomy can be seen below (figure 1).

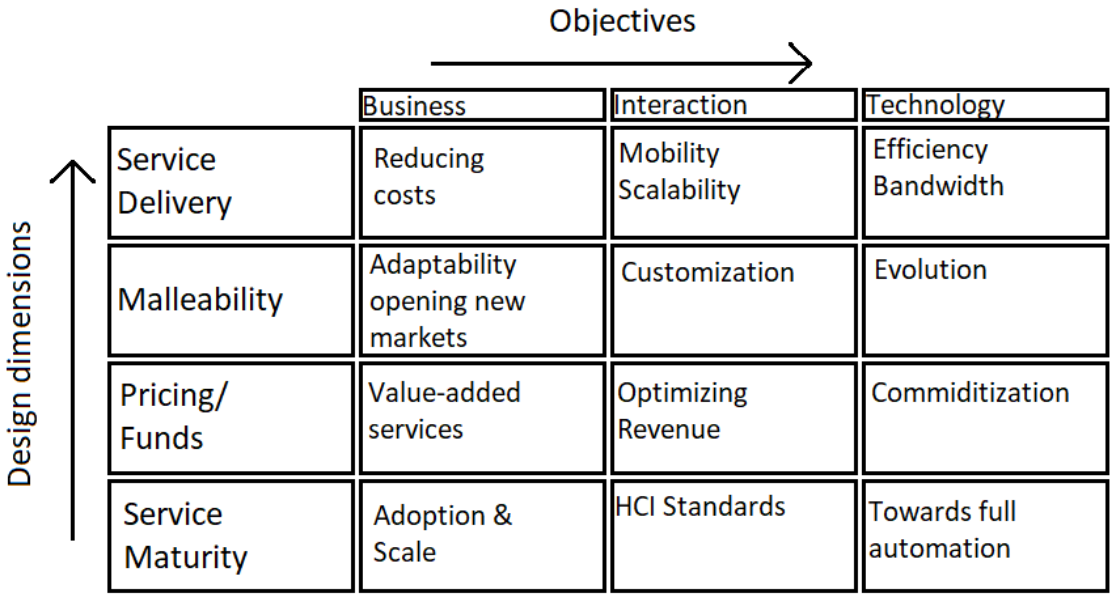

FIGURE 1 Digital service design taxonomy (Williams et al., 2008)

The taxonomy features four fundamental design dimensions, which separate services from each other. Those dimensions are service delivery, malleability, pricing/funding, and service maturity. These design objectives depend on the three design objectives, which are business, interaction, and technology. (Williams et al., 2008).

2.2 Value

The creation of value is the sole purpose and central process in economic exchange (Vargo, Maglio & Akaka, 2008). To define value co-creation & co-destruction, it is vital to understand clearly what the term value stands for in this context. Although it seems easy to define value, it can be derived into a surprisingly complex concept.

Concept of value dates back at least to Aristotle, who divided value into two categories: use-value and exchange-value (Fleetwood, 1997). Use-value was identified as "collection of resources and the qualities associated to these collections" (Vargo et al., 2008). The qualities related to use-value are individual and thus, are inherently differentiated. The exchange-value is a far more difficult category to explain. It has been identified as "quantity of a substance that could be commensurable value of all things" (Vargo et al., 2008). The problem with that statement lies in the impossibility of comparing commensurable values of two different substances. Although many tries, Aristotle was never able to identify a commensurable measure for exchange-value with clarity (Fleetwood, 1997). The term use-value was widely accepted, as it had no contradictions which exchange-value had (Vargo et al., 2008).

The controversy over commensurable metric of exchange-value lasted all the way into the 18th century when Adam Smith (1776) brought the discussion of value and creation of value into the field of economics. The concepts of value-in-use and value-in-exchange were introduced, where value-in-use implied the "utility of some particular object" and value-in-exchange "the power of purchasing other goods which the possession of that object conveys" (Smith, 1776). Smith argued that it was common that items which possess the most value-in-use, usually have far less of value-in-exchange, and vice versa.

From these thoughts, Smith (1776) derived the idea of splitting the concept of value into real value and nominal value. Real value was established in the effort required to afford the necessities of life, thus linking it with value-in-use. Nominal value refers to the price paid in market exchange. As happened with Aristotle, this view also faced problems on identifying value, as the amount of labor is nearly impossible to be measured. This led to focusing on tangible resources and nominal value, as they were measurable and easier to grasp on. Because of its tangible nature, Goods-Dominant-logic became the primary angle of value. (Vargo et al.,2008).

As the world has entered the age of digitalization, the intangible resources of products and services have gained more influence. Currently, in the fields of IS and economics, the focus is not entirely on tangible part of value as it was before. For example, Zeithaml (1988) defines "value as consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given." The notion of perception underlines that value is individually perceived and thus, can vary greatly based on the person assessing it.

Grönroos (2008) refers to value as follows: "Value for customers means that after they have been assisted by a self - service process (cooking a meal or withdrawing cash from an ATM) or a full - service process (eating out at a restaurant or withdrawing cash over the counter in a bank) they are or feel better off than before." Grönroos (2008) emphasizes that value can also be negative and that it always has an attitudinal component such as trust, affection, comfort and ease of use.

2.3 From Goods-Dominant logic towards Service-Dominant logic

For most of the 20th century, the field of marketing was dominated by Goods-Dominant logic. It was natural to focus on this side of economics since there were major difficulties to clearly understand intangible aspects of value. In this logic, the point of economic transaction is to make and distribute tangible products to be sold (Prahalad & Ramaswamy, 2004). Simply put, Goods-Dominant logic is based on the value-in-exchange meaning of value, where the roles of producers and consumers are precise, and value creation is fully provided by the firm (Vargo et al., 2008). In its most raw form, Goods-Dominant logic states the following (Vargo & Lusch, 2004):

1. The purpose of economic activity is to make and distribute goods to be sold.

2. In order to get sold, these goods must be embedded with utility and value during the production and distribution processes. To the customer, they must offer superior value in relation to competitors' goods.

3. The firm should make all decisions at a level where it enables to maximize the profit from the sale of goods.

4. The goods should be standardized and produced away from the market for bot maximum production and efficiency.

5. The good can then be inventoried until it has demand and then delivered to the customer at a profit.

In Goods-Dominant logic, service acts as a supporting, secondary role to the actual good, which is the center of economic activity (Lusch, Vargo & Wessels, 2008). Here, services are something what goods are not: somewhat not ideal products, which are intangible, inseparable, and perishable (Vargo & Akaka, 2009). However, the world has vastly changed in recent years and trends like digitalization and globalization have created a greater need for emphasizing

intangible services and their obvious impact on the economy. The market is filled with informed, networked, empowered and active customers, which have more influence on companies than ever before (Prahalad & Ramaswamy, 2004a). They also possess knowledge and skills, are eager to learn and engage in dialogue in order to create personalized experiences (Ramaswamy, 2009). For businesses, this has created an urgent need to dissociate positively from the competition by all means necessary.

In the 1990s, the field of marketing started to emphasize the growing importance of services. For example, Prahalad & Ramaswamy (2000) introduced the idea away from the notion of separately produced value into the idea of value being co-produced between companies and customers. Gummesson (1995) stated the following: "Customers do not buy goods or services: They buy offerings which render services which create value.… The traditional division between goods and services is long outdated. It is not a matter of redefining services and seeing them from a customer perspective; activities render services, things render services. The shift in focus to services is a shift from the means and the producer perspective to the utilization and the customer perspective." On this pressuring demand for a more holistic view of marketing economy, Service-Dominant logic was founded (Vargo & Lusch, 2004).

2.4 Service-Dominant logic

Although there were a lot of buzz in the field of marketing about a new world view, Vargo & Lusch (2004) were the first ones to coin the term Service-Dominant logic, even though they emphasized that Service-Dominant logic is not owned by anyone, but rather that it is more of an open-source idea. In this logic, all exchange is based on service. Unlike in Goods-Dominant logic, where goods are in the center of economic activity, here they are seen as tools for delivery and application of resources. (Vargo, Lusch & Morgan, 2006). Service-Dominant logic is also heavily tied to the value-in-use view of value instead of the more simplistic value-in-exchange view of value (Vargo & Lusch, 2008).

In Service-Dominant logic, there is a key distinction between operand and operant resources. Vargo & Lusch (2004) categorize resources into tangible, intangible, operand, and operant resources. "Operand resources are resources that an actor acts on to obtain support" (Lusch & Nambisan, 2015). Thus, operand resources work as enablers for the service to produce value. For example, natural resources act as operand resources. Generally speaking, traditional goods fall into this category. "Operant resources are resources that act on other resources to produce effects" (Lusch & Nambisan, 2015). That means that resources, such as human skills and knowledge take advantage of operand resources as well as other operant resources in order to produce effects.

One of the most significant differences between Goods-Dominant logic and Service-Dominant logic lies in the conceptualization of service. As stated earlier, Goods-Dominant logic views services as units of output, which are somewhat

inferior to goods. Service-Dominant logic views service as a set of "application of specialized competences (knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself" (Lusch & Vargo, 2006). As services are a vital part of this logic, application of knowledge and skills is the main provider of competitive advantage in markets (Vargo et al., 2008). Vargo & Lusch (2004) compiled a table, which illustrates the main differences between Goods-Dominant and Service-Dominant logic (table 1).

	Goods-Dominant logic	Service-Dominant logic
Primary unit of exchange	People exchange for goods. These goods serve primarily as operand resources	People exchange to acquire the benefits of specialized competences (knowledge and skills), or services. Knowledge and skills are operant resources
Role of goods	Goods are operand resources and end products. Marketers take matter and change its form, place, time and possession.	Goods are transmitters of operant resources (embedded knowledge): they are intermediate "products" that are used by other operant resources (customers) as appliances in value creation processes.
Role of customer	The customer is the recipient of goods. Marketers do things to customers; they segment them, penetrate them, distribute to them, and promote to them. The customer is an operand resource.	The customer is coproducer of service. Marketing is a process of doing things in interaction with the customer. The customer is primarily an operant resource, only functioning occasionally as operand resource.
Determination and meaning of value	Value is determined by the producer. It is embedded in the operand resource (goods) and is defined in terms of "exchange-value".	Value is perceived and determined by the consumer on the basis of "value in use". Value results from the beneficial application of operant resources sometimes transmitted through operand resources. Firms can only make value propositions.
Firm-customer interaction	The customer is an operand resource. Customers are acted on to create transactions with resources.	The customer is primarily an operant resource. Customers are active participants in relational exchanges and coproduction.
Source of economic growth	Wealth is obtained from surplus tangible resources and goods. Wealth consists of owning, controlling, and producing operand resources.	Wealth is obtained through the application and exchange of specialized knowledge and skills. It represents the right to the future use of operant resources.

TABLE 1 Differences between GDL and SDL (Vargo & Lusch, 2004)

First difference involves the primary unit of exchange. In Goods-Dominant logic, people solely focus on exchanging goods, which primarily serve as operand resources. Service-Dominant logic stresses that people exchange in order to gain the benefits of operant resources of one another. (Vargo & Lusch, 2004).

Role of goods also differs between these two logics. In Goods-Dominant logic goods are the main driver of the economy and the role of marketing is to take it and change its form, place, time and possession. In Service-Dominant logic goods transmit operant resources. Goods are products which are used by other operant resources in the value creation processes. (Vargo & Lusch, 2004).

In Goods-Dominant logic the role of the customer is rather passive. Their main objective is to receive the goods. Marketers aim to segment, penetrate, distribute, and promote customers. Customers are viewed as an operand resources. Service-Dominant logic sees customers as co-producers of service. Marketing is viewed as a process of being in interaction with customers and most of the time customers are seen as operant resources. (Vargo & Lusch, 2004).

Value determination and meaning also has differences in these two logics. Goods-Dominant logic defines value in terms of exchange-value, and it is purely determined by the producer. Service-Dominant logic views that value is perceived and determined individually by consumers in value-in-use. The role of a firm is to offer value propositions to its customers. (Vargo & Lusch, 2004).

Fifth difference concerns the relationship between firms and customers. As stated earlier, Goods-Dominant logic views customers as operand resources, which are acted upon to create transactions with resources. Service-Dominant logic primarily sees customers as operant resources. They participate actively on both relational exchanges and value co-production. (Vargo & Lusch, 2004).

The last notable difference between these logics is the viewpoint on how economic growth is achieved. Goods-Dominant logic views that economic growth is achieved via owning, controlling, and producing operand resources. Service-Dominant logic argues that wealth is obtained via the application of operant resources and thus, services. (Vargo & Lusch, 2004).

In Service-Dominant logic, value is mutually created between service provider and beneficiary. The value of a service is defined when customers use services and apply their own operand and operant resources in the mix. This act is called value co-creation. (Vargo & Lusch, 2004). This means that service providers do not directly deliver value to customers, but rather enable customers to create value for themselves (Prahalad & Ramaswamy, 2004a). Service providers make value propositions to customers, who in turn create value-in-use (Vargo et al, 2008). Because each customer is an individual actor with their own goals and notions of what is valuable to them personally, perceived value of a certain service is unique to each customer.

To summarize the most important aspects of Service-Dominant logic, Vargo & Lusch (2004) also presented foundational premises, which help present the main idea of the emergent, dominant logic. These premises have been modified and amplified throughout the years as the field has advanced (Vargo & Lusch, 2008; Vargo & Lusch, 2016). Currently, Service-Dominant logic includes 11

foundational premises, of which 5 have been identified as the axioms of Service-Dominant logic (Vargo & Lusch, 2016). The figure below will illustrate the foundational premise development from the year 2004 to 2016 (figure 2).

	2006	2008	2016
FP1	The application of specialized skills and knowledge is the fundamental unit of exchange	Service is the fundamental basis of exchange	No change (AXIOM 1).
FP2	Indirect exchange masks the fundamental unit of exchange	Indirect exchange masks the fundamental basis of exchange	No change
FP3	Goods are distribution mechanisms for service provision	No change	No change
FP4	Knowledge is the fundamental source of competitive advantage	Operant resources are the fundamental source of competitive advantage	Operant resources are the fundamental source of strategic benefit
FP5	All economies are service economies	No change	No change
FP6	The customer is always the co-producer	The customer is always a co-creator of value	Value is co-created by multiple actors, always including the beneficiary (AXIOM 2)
FP7	The enterprise can only make value propositions	The enterprise cannot deliver value, but only offer value propositions	Actors cannot deliver value but can participate in the creation and offering of value propositions
FP8	Service-centered view is customer-oriented and relational	Service-centered view is inherently customer-oriented and relational	Service-centered view is inherently beneficiary oriented and relational
FP9	N/A	All social and economic actors are resource integrators	No change (AXIOM 3)
FP10	N/A	Value is always uniquely and phenomenologically determined by the beneficiary	No change (AXIOM 4)
FP11	N/A	N/A	Value co-creation is coordinated through actor-generated institutions and institutional arrangements (AXIOM 5)

TABLE 2 Foundational premise development from 2004 to 2016 (Vargo & Lusch, 2016)

FP1 suggests that service is the foundational basis of exchange. Service is exchanged for service. As application of skills and knowledge is the definition of service in Service-Dominant logic, the change made from the original is made in the means of simplification (Vargo & Lusch, 2008). Later Vargo & Lusch (2016) made it into an axiom of Service-Dominant logic.

The corrections made in FP2 are, again, rather semantical. This foundational premise means that indirect exchange (such as exchange of skills and competences) is superior to direct exchange (monetary exchange) in the terms of importance. (Vargo & Lusch, 2008).

FP3 states that goods are "platforms or appliances that assist in providing benefits" (Vargo & Lusch, 2004). Therefore, they are viewed as distribution mechanisms for services and most importantly, service provisions.

The original FP4 emphasizes that knowledge is the fundamental source of competitive advantage (Vargo & Lusch, 2004). Vargo & Lusch (2008) changed knowledge to operant resources, as the years between had made the term into relatively common knowledge. Operant resources contain both skills and knowledge, and thus is more fitting term in this context. Latest version states that operant resources are the fundamental source of strategic benefit. It highlights the implication of service-for-service concept of Service-Dominant logic, where the service provider also has the role of a beneficiary in the service exchange. (Vargo & Lusch, 2016).

The change made in FP5 is a minimal one, but still worth noting. At the time of developing foundational premises of Service-Dominant logic, the transition from the plural "services" into a singular "service" was not made (Vargo & Lusch, 2008). The point of this premise is to refer on the idea of services being exchanged for services and thus being the essence of economic activity (Vargo & Lusch, 2004).

FP6 states that customer always has a role in the creation of value of a service. This premise has been modified twice. Firstly, "co-production" was changed to "co-creation" as Service-Dominant logic is primarily about value creation, rather than production, which has a slight connotation of making units of output and mainly the creation of value proposition, which only concerns service providers. (Vargo & Lusch, 2008).

Secondly, this foundational premise was modified to highlight that value co-creation does not usually involve just two actors (service provider and customer), but a vast number of different actors. In most services, value is not created solely on individual level, but "rather it is created through the integration of resources, provided by many sources, including a full range of market-facing, private and public actors. In short, cocreation of value is the purpose of exchange and, thus, foundational to markets and marketing." (Vargo & Lusch, 2016). The importance of this premise made it into axiom number 2.

Originally, FP7 stated that enterprise can only offer value proposition and it was up to the customer to determine its value and participate in creating it through the process of co-creation (Vargo & Lusch, 2004). In that form, it could be interpreted to mean that once the value proposition is made, there is nothing

left to do on the service provider side. The modifications made by Vargo & Lusch (2008) aim to emphasize that offering value propositions can be an ongoing process even when the service is used or still in use.

Later the reference to the "enterprise" was changed to a more generic "actor" to show that Service-Dominant logic is not always about the service transactions between enterprises and customers, but more generally, it deals with transactions between two actors. For example, in the field of business-to-business economics, the roles of customers and providers are not strict. Instead, there are various actors, who are engaged in the service-for-service exchange between networks. The term actor disassociates them from roles such as producers and consumers, which are quite limiting. (Vargo & Lusch, 2016).

FP8 states that service-centered view is inherently both consumer-centric and relational because consumers have a vital role in the creation of value (Vargo & Lusch, 2004). Later, Vargo & Lusch (2008) wanted to further emphasize the role of customer by adding term inherently in the foundational premise.

As they did with FP7, Vargo & Lusch (2016) also wanted to highlight the actor-to-actor view also in this premise. That is why FP8 changed into the form of "a service-centered view is inherently beneficiary oriented and relational". The term beneficiary centers the discussion around the recipient of service.

FP9 was not part of the "original seven" by Vargo & Lusch (2004). It was added later to reflect on the idea that all social and economic actors are resource integrators. In a nutshell, it means that all sides involved in the act of value co-creation may use and integrate resources in order to create value in a service. (Vargo & Lusch, 2008). This foundational premise was promoted into third axiom by Vargo & Lusch (2016).

FP10 was also added by Vargo & Lusch (2008). It states that value is "always uniquely and phenomenologically determined by the beneficiary". It is strongly linked to the concept of value co-creation, and in this case, an individual that uses Untappd. It was also promoted into fourth axiom by Vargo & Lusch, (2016).

Finally, FP11 and the fifth axiom was added by Vargo & Lusch (2016). It states that "value co-creation is coordinated through actor-generated institutions and institutional arrangements." Vargo & Lusch (2008) state: "Just as actors don't exist independently of (social) contexts, institutions don't exist independently of other institutions." This foundational premise and axiom was added to remind that various institutions (such as norms, meanings, symbols, laws, practices) guide value co-creation process.

As the context of this thesis leans heavily on system users and thus, individual people, the differences of the foundational premises between Vargo & Lusch (2008) and Vargo & Lusch (2016) rather semantical, it is still worth noting the "newest version" of Service-Dominant logic. The newly generated axioms give a good sense of what are the most important factors in this logic. Noting that value co-creation is not always just between businesses and customers is rather important in the bigger picture.

2.5 Value co-creation

As stated earlier, a very central part of Service-Dominant logic is the notion of how the value of a certain service gets created. In fact, it is considered a foundational premise on this logic. The concept of value co-creation emerged in the late 1990s, when Kambil, Friesen & Sundaram (1999) proposed co-creation to be about directly engaging customers in the production or distribution of value. Later Prahalad & Ramaswamy (2000) adopted this term and referred it as activities, which customers and companies jointly participate in in order to create value for a service. Prahalad & Ramaswamy (2004a) emphasized that firm simply cannot create anything of value without the efforts of individuals. In another article they state that every interaction between the service provider and customer is an opportunity for value co-creation. (Prahalad & Ramaswamy, 2004b).

Vargo & Lusch (2004) included the idea of value co-creation in the new Service-Dominant logic, where it has an essential role. First the term co-production was used to describe this phenomenon, but later it was switched to co-creation as it was more fitting with the new service-minded logic and highlighted the customer's role in the process of value creation. (Vargo & Lusch, 2008).

The actual process of value co-creation is quite difficult to define, as value is delivered in various forms and each customer perceives it differently. Despite that fact, it is possible to define the characteristics of that process. In Service-Dominant logic, value is always co-created between service provider and customer, and the act itself is mutually beneficial. Service providers make value propositions, and the customer, via applying their own operant resources, experiencing them creates value-in-use, which is individual and unique. (Vargo & Lusch, 2008).

Vargo et al. (2008) take a service system view on value co-creation. Maglio & Spohrer (2008) define service systems as "dynamic value co-creation configurations of resources (people, technology, organizations, and shared information)". These systems vary on size, smallest being an individual and biggest being something on a macroscopic scale, such as weather. Vargo et al. (2008) argue that service-systems co-create value in service-for-service contact, where resources are in integration. This view considers countless amounts of actors which may take part in the value co-creation process, instead of there being only provider and customer.

Nordic school of service science has a somewhat different view on value co-creation than aforementioned scholars. According to Grönroos (2011), value co-creation should not be seen as a comprehensive process. That means that the early parts of the production, such as design, development, manufacturing, and delivery should not be included in the value co-creation process. Grönroos (2008) also emphasizes that mainly customer creates value, and firm's main objective is to work as facilitators for customer's value creation. This also means that the firm´s participation in the actual value co-creation process is not an automatic outcome, as Service-Dominant logic points out (Grönroos, 2011).

2.6 Value co-destruction

For a long period of time before introducing Service-Dominant logic, the negative effects of value co-creation were ignored. Although Grönroos (2008) and Prahalad & Ramaswamy (2004) stated that the value perceived from value co-creation may also turn into negative, on a larger scale the perception of value co-creation could be seen as overly optimistic (Plé & Chumpitaz Cáceres, 2010). Plé & Chumpitaz Cáceres (2010) were the first people focusing on how value co-creation may have negative outcomes. Echeverri & Skålen (2011) were quick to follow on this phenomenon, as they studied on how interactive value formation takes place in practice.

Plé & Chumpitaz Cáceres (2010) view value co-destruction occurring, when a service system (either by accident or full intention) misuses resources (either own or those of another service systems) by acting in an inappropriate or unexpected manner. They state the following: "Thus, we suggest that value co-destruction can be defined as an interactional process between service systems that results in a decline in at least one of the systems' well-being (which, given the nature of a service system, can be individual or organizational). During this process, these service systems interact either directly (person-to-person) or indirectly (via appliances such as goods) through the integration and application of resources." (Plé & Chumpitaz Cáceres, 2010). Plé & Chumpitaz Cáceres (2010) point out that value co-destruction might have different impacts on the service systems involved in the process. Echeverri & Skålen (2011) view similarity, as they point out, that users experience value individually. Thus, activities which create value for others may destroy value for others.

Lintula, Tuunanen & Salo (2017) created a framework for value co-destruction process for service systems, based on former studies made on the field. The framework consists of three different, overlapping dimensions, which lead to value co-destruction: orientation, resources, and perceptions.

Orientation-dimension consists of intentions and goals, which means that there is information asymmetry between service provider and consumer. Lintula et al. (2017) give an example of car manufacturer, who engages consumers to co-production of commercial online video material to promote and develop a brand image. Involved customers could use the platform to promote their own agenda, such as environmental activism, which probably will contradict with the goals of the car manufacturer.

Resources-dimension is about lack of resources (before the service encounter), which may lead to either misuse of resources, loss of resources or non-integration of resources (during service encounter) and finally, attempt to restore resources (after service encounter). As value co-creation is a process of integrating resources between participants, in a case of either one or both service systems lacking them there may be negative outcomes. Resource misuse/non-integration refers to resources being either used falsely or not used at all in the co-creation process. Loss of resources means that either "1) the provider is unexpectedly not

able to fulfill the expected resource offer, 2) expected resources are not gained, 3) customer loses more resources than expected or 4) A combination of the above". (Lintula et al., 2017). Finally, the attempt to restore resources may lead into more value co-destruction, as service system may try to engage in co-destructive actions to attempt to regain lost resources (Lintula et al., 2017).

Perceptions-dimension consists of expectations (prior to the service encounter), which may lead to insufficient perceived value, incongruence of practices, and contradictions of value (during service encounter). Service encounters are entities of co-creation, where parties must meet each other's expectations to create value. If one or more parties fail to exceed expectations, value co-destruction may occur. Insufficient perceived value happens, when expected value is not met. Incongruence of practices refers to service system expecting certain procedures, understandings, or engagements and receiving something not expected. Contradictions of value means that value may be both co-created and co-destroyed at the same time. (Lintula et al., 2017).

3 FRAMEWORK FOR VALUE CO-CREATION IN CONSUMER INFORMATION SYSTEMS

This chapter focuses on presenting the framework for value co-creation for consumer information systems (CIS), which was introduced by Tuunanen, Myers and Cassab (2010). The chapter starts off with a background-section, where the need of this said framework is justified. The components of CIS framework are introduced, which include customer value drivers and value propositions. Additionally, this chapter includes a figure of the CIS framework which provides a clear image of the process.

3.1 Background

According to Tuunanen et al. (2010), the global shift to service-oriented economy has led to IS researchers taking part in service research. Firstly, there is a trend in service research to find new ways of improving the development and design of digital services. (Ostrom et al., 2010). Secondly, the field of IS is being increasingly targeted to consumers of digital services. Thirdly, research made in consumer psychology, behavioral psychology and marketing implies that consumption is motivated by expected utility of the good or service (Tuunanen et al., 2010). Consumers tend to use rationally and emotionally based evaluations in their predictions of the utility of a certain good or service (Shiv & Fedorikhin, 1999). Therefore, the object of consumption will usually have both utilitarian and hedonic value when the point of view is on the consumer.

Traditionally in the field of IS, users of information systems are often mainly concerned about the effectiveness and efficiency of their performance (Lamb & Kling, 2003). In other words, utility plays a major part when information systems are studied in organizational settings. On the other hand, consumers tend to seek balance between utilitarian and hedonic utility in the service they are consuming (Holbrook et al., 1984; Shiv & Fedorikhin, 1999). As stated in the earlier chapters, consumers have become active participants in the production of the goods and

services they consume and become co-creators of value (Vargo & Lush, 2004). This means that the service offering has increased role in the designing and developing consumer oriented IS solutions, which is why Tuunanen et al., (2010) suggest on entering a new era of consumer information systems, where systems are developed for consumers rather than users. This small change in notion may seem insignificant, but the points mentioned earlier in this chapter explain well why it is worth noting.

Tuunanen et al., (2010) define consumer information systems (CIS) as "systems that enable consumer value co-creation through the development and implementation of information technology enabled processes that integrate system value propositions with customer value drivers". Thus, CIS is a facilitator in consumer´s value creation through a service, which is enabled by IT. Next the framework and its main points are briefly introduced.

3.2 Framework

Tuunanen el al. (2010) present a framework for development of CIS. The conceptual framework includes six factors in two main sections, which are taken from the research literature in IS, marketing and service research. These six factors need to be considered when developing CIS to enable value co-creation. According to the framework (figure 2), value co-creation occurs through an interaction between the system offering value propositions to its users, and users having values and goals, which drive their behavior to co-create value. The system value propositions are "construction of identities", "social nature of use" and "context of use". Customer value drivers include "participation in service production", "service process experience" and "goals and outcomes". (Tuunanen et al., 2010.)

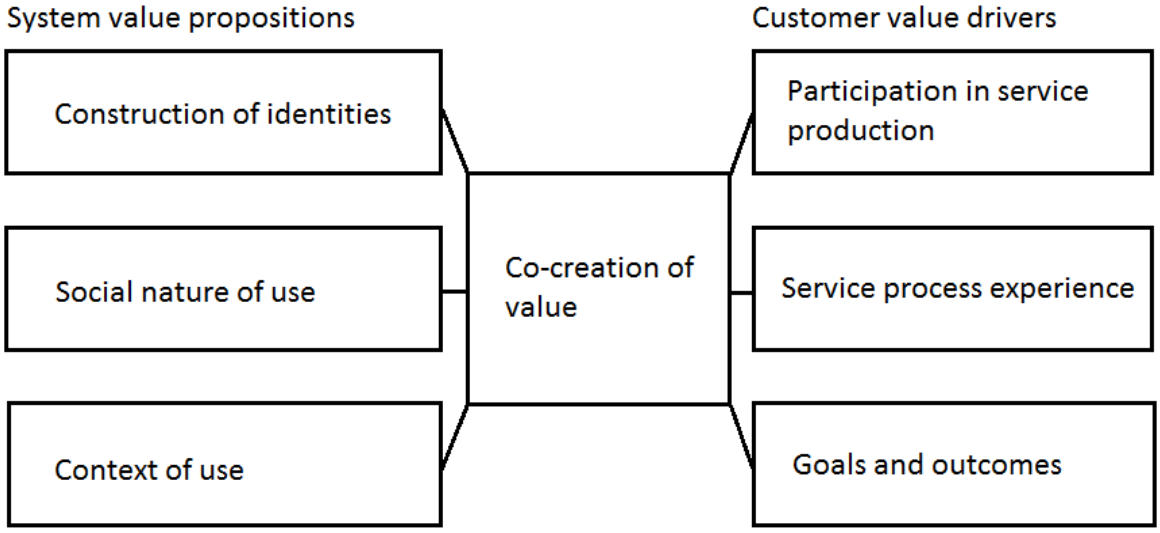

FIGURE 2 Framework for value co-creation and co-destruction in CIS (Tuunanen et al., 2010)

3.3 System value propositions

Theories, which the system value propositions are based on, are presented here. Value propositions of a system are the features, which enable consumer value creation. The three value propositions mentioned in the framework are construction of identities, social nature of use, and context of use. (Tuunanen et al., 2010). These are derived from earlier literature, which are briefly presented next.

3.3.1 Construction of identities

Construction of identities is based on social actor theory (Lamb, 2005; Lamb, 2006; Lamb & Kling, 2003). In social actor theory, users can be viewed as actors, which are socially connected and networked. This theory emphasizes that people tend to work as teams as opposed to working alone in the context of using IT. Lamb and Kling (2003) indicate that actors may have identities, which are linked to the IT artifacts they are using (Creed, Scully & Austin, 2002; Simon, Boudreau & Silverman, 2009). This identity can have various forms. In the context of Untappd, the use of a profile picture works as an example of a way for a user to express its identity.

3.3.2 Social nature of use

Essential part of social actor theory is that the social actors tend to work in networked environments when using IT. In fact, they actively look for ways to network and interact with users. (Lamb & Kling, 2003.) Thus, the second value proposition that the system offers is social nature of use. The value which social interaction brings to CIS can be seen in the popularity of social media. (Tuunanen et al., 2010.) In the case of Untappd, the application has a clear social dimension, which allows its users to share their views of beers to other people in their social network.

3.3.3 Context of use

Authors have earlier argued that context of use very often affects user experience (Dey & Abowd, 2000; Schilit, Adams & Want, 1994). For example, Schilit et al. (1994) present the idea of context-aware computing, where softwares adapt according to data gained from various contexts such as location of use, people nearby, hosts and accessible devices. Such systems can react to changes in these contexts. In modern times, softwares and applications with such abilities are considered self-evident.

Context of use also includes cultural aspects, which can be seen to affect user requirements (Tuunanen, Peffers & Gengler, 2006) as well as system use (Myers, 1999; Myers & Tan, 2003). Tuunanen et al. (2010) include context of use into the system value propositions derived from these above-mentioned publications. For example, Untappd utilizes location data to recommend nearby pubs

and venues. It also commemorates local festivities such as the Oktoberfest and Halloween, which can be viewed as cultural context.

3.4 Customer value drivers

The theories behind the customer value drivers of the CIS framework are presented here. Customer value drivers are the drivers which motivate consumers to use CIS. The three customer value drivers mentioned in the framework are participation in service production, service process experience, and goals and outcomes. (Tuunanen et al., 2010.) The three customer value drivers are now briefly presented.

3.4.1 Participation in service production

Researchers from the field of IS have promoted user participation in development of service for a long time (Davis, 1982; Goodhue, 1995), and involving consumers in development is very much agreed upon as a beneficial method (Tuunanen et al., 2010). Most studies done focus on users in organizational settings, but there is a minority of studies, where attention is more on the consumers.

Von Hippel (1986) and Von Hippel and Katz (2002) propose engaging lead-users of a product or a service via toolkits which help users to prototype, design and test them. Tuunanen and Rossi (2004) argue that consumers do not clearly know what they want for services and expressing ideas may often be challenging. That is why they advocate for the use of fast prototyping, where consumers design services online using modeling tools.

Tuunanen et al. (2010) emphasize on consumers expecting more personalized experiences. Therefore, it is often vital to include them in the development of the value proposition to create unique and personalized value propositions for different individuals (Prahalad & Ramaswamy, 2004a). In a way, users of Untappd constantly jointly create value to other users of the service system, as they rate beers and beverages for everyone else to see and examine. Thus, it could be argued that users have an important and ongoing role in producing this service.

3.4.2 Service process experience

Holbrook et al. (1984) proposed the notion of "playful consumption", where consumption of a service is motivated by inherent hedonic motivators felt by the consumer. Tuunanen et al. (2010) view that especially in the world of CIS, consumers do not only derive utility from the systems, but also hedonic value.

Service process experience is based on the concept of flow. In a state of flow, an individual is deeply concentrated and feels enjoyment completing the task in hand. This way of system use can be seen optimal, as it often correlates with efficiency in handling tasks. (Csikszentmihalyi, 1990; Agarwal & Karahanna, 2000).

Tuunanen et al. (2010) mention Microsoft utilizing flow-concept as a way of enhancing the user experience of gamers. Service process experience is an inherent part of value co-creation, and it can be measured using the concept of flow as a tool (Tuunanen et al., 2010). There is hardly a better example of this than Untappd, an application, where its users rate and discuss beers motivated by the consumption of them, which has hedonistic aspects.

3.4.3 Goals and outcomes

Goals and outcomes of the consumer is the final driver, which motivates users to participate in value co-creation. As stated earlier, consumers aim to seek balance between both utilitarian and hedonic value from the service (Holbrook et al., 1984). In marketing, this phenomenon is known as consumer trade-off (Green & Srinivasan, 1990; Ostrom & Iacobucci, 1995). Tuunanen et al. (2010) give an example of Fluid-application for iPhone, which has no utilitarian value, but still produces value to consumers.

The measurement of hedonic value has been deemed difficult to do, as it is more subjective experience from its counterpart utilitarian value, which is based on simple tasks that need to be done. (Tuunanen et al., 2010.) In the case of Untappd, the line between hedonic value and utilitarian value may be hard to draw.

4 RESEARCH METHODOLOGY

The research methodology is presented in this chapter. This chapter starts with describing the context of the study, followed by defining of the research approach. Third subsection defines the data collection method. The stimuli list used in the interviews is presented in the fourth subsection. Fifth subsection aims to clarify how interviews were conducted and who were involved. Finally, the last subsection presents how the data was analyzed.

4.1 Study context

The study is aimed at Untappd, a social media platform for mobile devices. Platform is designed for craft beer enthusiasts around the globe, and allows users to rate beers consumed, earn badges, review what´s available on nearby venues and stores, connect with friends via chat, toasting and commenting, and view suggested beers. In addition to this, the application offers barcode scanning to find beers more conveniently. Untappd is free and available for both Android and iOS platforms.

Untappd features some distinctive elements worth mentioning. First, it is a social platform, meaning that interaction with other users is facilitated, or rather encouraged. Definition of social media by Carr & Hayes (2015) seems fitting for this context: "Internet-based, disentrained, and persistent channels of masspersonal communication facilitating perceptions of interactions among users, deriving value primarily from user-generated content."

Other distinctive element about Untappd is its exploitation of gamification elements to enhance user experience. Gamification means using game elements in contexts that do not feature games (Deterding et al., 2011). Main goal of gamification is to promote "human motivation and performance in regard to a given activity" (Sailer et al., 2017). For example, in Untappd, users have the access to badges with various levels, which are used to measure progress and give information about drinking habits. These badges can be compared with friends and

acquaintances. At the same time, each profile displays information about the number of unique beers consumed, which can be seen as a gamification element as well.

Overall, Untappd seems to offer help in satisfying both hedonic and utilitarian needs of its users have surrounding beer consuming. Its popularity along with vastly growing trend of craft beers make for a interesting setting to study value co-creation and value co-destruction.

4.2 Research approach

In order to successfully complete a research and accomplish set objectives, researcher needs to obtain knowledge about the subject of the study. Selecting philosophical approaches, which dictate what kind of knowledge is required and how it should be gathered is vital. The philosophical perspective is based on how researcher assumes information can be generated. (Myers, 1997). There exists three main philosophical assumptions, which are positivist, interpretive and critical (Orlikowski & Baroudi, 1991).

Positivists assume that reality is objectively given and can be described by measurable attributes. In studies which adapt this philosophy, the theories are tested to increase the understanding of the phenomena (Myers & Avison, 2002). IS research is classified positivist, when there are signs of "formal propositions, quantifiable measures of variables, hypothesis testing, and the drawing of inferences about a phenomenon from the sample to a stated population". (Myers & Avison, 2002).

Interpretive researchers view that access to reality is obtained through social constructions (language, consciousness, and shared meanings). Interpretive methods of research in IS are "aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context". (Myers & Avison, 2002).

Critical researchers assume that the existing social reality is produced and maintained by people and thus, can be questioned. Critical research aims at identifying and questioning different forms of social, cultural, and political domination, which may limit human ability. (Myers, 1997).

The objective of this study is to gain understanding in how value is co-created and co-destroyed in the context of Untappd, a social application for beer tasting and rating. According to the theory of value co-creation and co-destruction, the perceived value users gain from the service are purely subjective. That is why this research is conducted in an interpretive manner, as the focus is on understanding the phenomenon through the user´s interpretation of the context (Myers, 1997).

The most common way to categorize research methods is to divide them into quantitative and qualitative research methods. Quantitative research methods were developed in the natural sciences to explore natural phenomena.

Qualitative research methods were developed in the social sciences to examine social and cultural settings. (Myers & Avison, 2002). The object of this study is an information system, where both approaches are valid and the most suitable depends on the context (Myers, 1999). Because the object of research contains a clear social dimension, a qualitative method will be used in this study. Qualitative data gathering methods include interviews, observation, and written material (Myers & Avison, 2002). The chosen qualitative method for data collection was interviews.

4.3 Data collection method

Laddering is an interview technique used in understanding "how consumers translate the attributes of products into meaningful associations with respect to self" (Reynolds & Gutman, 1988). It follows Means-End Theory (Gutman, 1982), which presumes that consumers use attributes of a product (means) to achieve consequences, which fulfill their personal values (ends). The means-end view is closely parallel to Expectancy-Value Theory (Rosenberg, 1956), which hypothesizes that consumer actions produce consequences and consumers learn to link certain consequences with certain product attributes. This results in consumers learning to choose products which contain certain attributes which are vital in achieving desired consequences (Reynolds & Gutman, 1988).

Technique of laddering consists of pre-tailored semi-structured interviews, which uses a "series of directed probes, typified by the "Why is that important to you?" question, with the express goal of determining sets of linkages between the key perceptual elements across the range of attributes (A), consequences (C), and values (V)." (Reynolds & Gutman, 1988). The interviewees are asked why certain attributes of a product, or a service are important to them, aimed to reveal consequences of those attributes. The same method of questioning interviewee´s answers by a simple "why?" question is repeated until underlying values are revealed, thus creating attribute-consequence-value ladders, which uncover why interviewees feel certain attributes of a product or service have importance on them. (Reynolds & Gutman, 1988).

Reynolds & Gutman (1988) present an example of a completed chain in a study about salty snacks: "(A) flavored chip - (A) strong taste - (C) eat less - (C) don´t get fat - (C) better figure - (V) self-esteem ". Contents of this ladder were gained from the interviewee due to laddering technique´s ability to cause the interviewee to think critically about the connections between product´s attributes and personal motivations. (Reynolds & Gutman, 1988).

The framework for critical success chains (CSC) was introduced by Peffers, Gengler and Tuunanen (2003), which aims to illustrate how attributes/features of an information system are viewed by its users via modeling the relationship between system´s attributes, consequences, and values. Methodology of CSC is based on critical success factors (CSF) and personal construct theory (PCT). (Peffers et al., 2003). In this study, CSC was used to develop graphic maps of the

data obtained from the laddering interviews, which point out how participants viewed using Untappd´s features either helped them gain value from use or lose some during the process. Laddering interviews and CSC both share the view of attribute-consequence-value relationships, which make them optimal together.

4.4 Stimuli

In this study, the laddering interview is supported by a list of stimuli, which were shown to interviewees prior to the actual interview. The stimuli list was created using the framework for value co-creation for consumer information systems (CIS) (Tuunanen et al., 2010) presented in the previous chapter.

CIS-framework allows to obtain values and goals, which motivate people to use Untappd. It also supports gaining data about value co-destruction, which may occur during the process of using Untappd. The stimuli list presented below leads into gaining data about how Untappd facilitates value co-creation and possible co-destruction. Thus, research questions can be answered.

1. **Construction of identities**

   This means the processes in Untappd, which affect the formation of your identity as a craft beer enthusiast. The hobby of beer tasting may be in line with other values user holds important and can be revealed via the application. Identity can be expressed via user profile (user name and profile picture) or created content.

2. **Social nature of Untappd**

   This means the phenomenon of belonging to a group with common interest in craft beers. Belonging in this group manifests itself by social interaction inside Untappd. It can be seen by creating beer reviews, reading reviews of others, and commenting on activities of peers.

3. **Context of using Untappd**

   This means all the different situations where Untappd is used. In what time, which situations and places is the application used? Use can be for example social communication or more of sheer utilitary information seeking.

4. **Service process experience**

   This means the use-experience of service. Using service should be smooth and follow the concept of flow, so that use-experience becomes pleasant and compelling. In an optimal situation, the user experiences

being in control of the situation, using of service is effortless and data offered by the application is easy to internalize. What feelings does Untappd cause to its users? Are they purely positive?

5. **Participation in service production**

   This means the chance to participate and have an effect on the birth of service experience. User personalizes his/her own service experience with own actions and while doing that, may influence the service experience of others as well. Do you feel that Untappd gives a chance for its users to have influence on the birth of service experience? How does this become apparent?

6. **Goals and outcomes**

   This means goals and values, which the user sets his/herself while using Untappd. While using a service, user may perceive gaining both utilitarian and hedonic value, in between which each user originates own personal balance. What goals and outcomes Untappd helps to reach? Goal could be, for example, tasting as many quality beers in a year as possible.

7. **Other theme**

   Something else, which either interests or bothers you, and does not fit the themes above.

4.5 Interviews

Total of 26 participants were recruited to participate in interviews. Participants had to be frequent users of Untappd, as the nature of the interview required knowledge of the app itself, along with the scene of beer tasting. Goal of the recruitment process was to gain as heterogeneous sample group as possible. This meant that the focus was to gain views of both sexes from all age groups. Recruitment platforms were the application itself (6 participants) along with Finnish Facebook group surrounding discussion about the hobby of craft beer (20 participants). Five participants identified as female and twenty-one as male. Age varied from 24 to 57, average age being 35,2 years.

The interviews were conducted in March 2021. Interviews were held online because of the exceptional circumstances caused by the pandemic. Twenty-four preferred Zoom, one participant Skype. One interview was conducted by phone. The duration of the interviews ranged from 45 minutes up to 75 minutes. Interviews, as well as the stimuli list, were conducted in Finnish and during the analysis, translated to English.

In the beginning of the interview participants were briefly informed about the objectives of the research. As participants were frequent users of the application, only the context of the study and the means of interviewing needed clarification. Participants were then shown the stimuli list and were asked to rank two of the most important themes. Top two stimuli were the ones the interview solely focused on.

The actual laddering started with questions targeted to the chosen theme. Participants were encouraged to mention features, which contribute to the selected theme. After a list of attributes were gathered, follow-up questions were asked, so that attribute-consequence-value chains formed. Typical follow-up question was "why is this important to you?", inspired by Peffers et al. (2003). This process was repeated until all the attributes were covered.

During the interview, participant's answers were collected to Microsoft Excel spreadsheet, which after the interview, contained all the chains of the two selected stimuli. If participant gave multiple reasons to follow-up questions, sub-chains were created branching from the original chains. These sub-chains were treated as equal chains during the data-analysis phase. At the end of the interview, participants were given an option to approve and clarify the interpretations marked in the Excel sheet. In addition to this, interviews were digitally recorded in MP3 format for later analysis. Recordings were stored with the permission of the participant.

Demographic information about the participants can be seen below (table 3).

ID	Age	Sex	Occupation	Chosen Stimuli
1	28	Male	Subject teacher	2 & 3
2	27	Male	Class teacher	2 & 4
3	33	Male	Mechanical designer	4 & 1
4	29	Male	University student	3 & 2
5	28	Male	Doctor	2 & 6
6	47	Male	Engineer	3 & 6
7	25	Female	Usability tester	3 & 6
8	30	Female	Market researcher	3 & 6
9	24	Male	Sales manager	2 & 6
10	53	Male	Project manager	4 & 6
11	36	Male	Mehanical designer	3 & 2
12	40	Male	Librarian	3 & 6
13	32	Male	Postdoctoral researcher	5 & 3
14	44	Male	Student	6 & 3
15	57	Male	Consultant	3 & 6
16	30	Male	Programmer	2 & 6
17	32	Male	Systems specialist	3 & 2
18	31	Male	Product manager	2 & 3
19	40	Male	Procurement engineer	6 & 3
20	27	Male	Student	2 & 6
21	44	Male	Telecommunication designer	2 & 3
22	42	Female	Garment industry	2 & 3
23	30	Male	Water supply engineer	2 & 6
24	36	Female	Special designer	2 & 3
25	47	Female	Reporter	3 & 2
26	25	Male	Transport manager	1 & 2

TABLE 3 Demographics of the participants

4.6 Data analysis

Analysis of laddering data includes coding each individual construct, creating a table tracking how many times each construct connects with another, and drawing a map, which illustrates how consumers link product (in this case, service) features to their personal end-goals and values. (Gengler & Reynolds, 1995). The

analysis of this study was conducted using two-step thematic approach, which followed previous similar research made in the field of IS. (Tuunanen et al., 2006).

The analysis started with combining 26 interview sheets into one main sheet. Total of 177 chains were discovered during the interview process and set on one excel sheet. With the help of interview recordings, additional 70 sub-chains were added to the sheet, making a total of 247 chains. Raw interview data was first sorted in seven stimulis, then simplified and standardized, so that statements with different words but similar meanings were coded under one label.

Adopting the CIS model by Tuunanen et al. (2010), total of six themes were found from the data set. Each chain was individually inspected and by the context, placed in the suitable theme. To gain meaningful results from the data, these themes were transformed into graphical theme maps using online service draw.io. The emerged six theme maps are presented in the following chapter.

5 FINDINGS

Theme maps generated during the analysis are presented here. Features/attributes of the service are in the left column, consequences in the middle and underlying values in the right column. The theme maps illustrate how interviewees felt how value is co-created or co-destroyed in Untappd by showing how attributes, consequences and values are connected to each other. Thus, research questions set for this study can be answered. Each theme is presented separately in their own respective subsections.

5.1 Construction of identities

Theme number one titled "Construction of identities" visualizes how using Untappd contributes to creating participant's own identity surrounding the hobby of beer tasting. Actions and decisions made while using the application may either consciously or subconsciously reflect individual´s personal values. This theme was the least mentioned theme in the analysis, contributing only 6 chains.

Attributes:

Participants mentioned *profile name* (2 chains) and *profile picture* (2) affecting most on their own identity. *Creating content* (1) and *small social circles in Untappd* (1) were also mentioned in this theme.

Consequences:

Most mentioned consequence under this theme was *conveys info about severity of use* (3), which was a direct consequence from setting profile name/picture and creating content. Participants also felt that profile name/picture were *part of a bigger web persona (*2), which reached multiple social media platforms. Small social circle enabled a *lower threshold to produce content* (1).

Values:

Most mentioned value was *represents own relationship towards drinking beer* (3), which was a direct result of conveying info about severity of use. *Need for privacy* (1) was directly related to a lower threshold to produce content.

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 3).

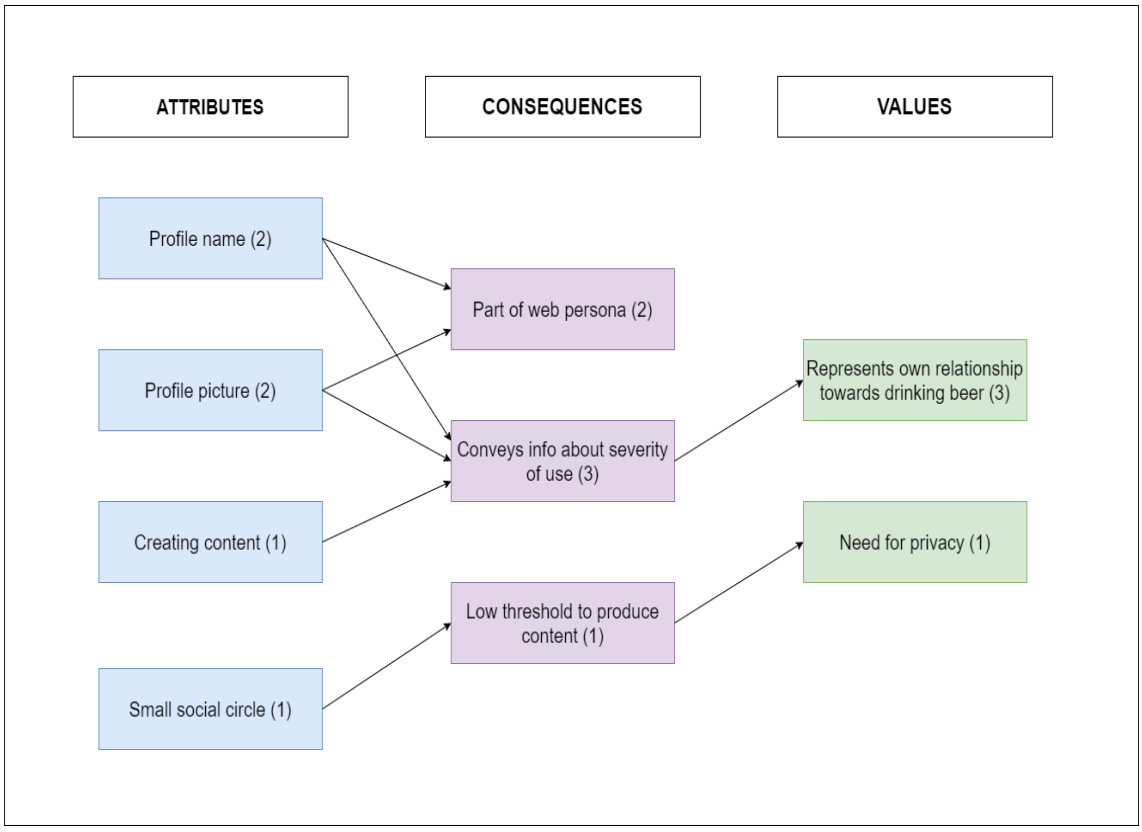

FIGURE 3 Construction of identities

5.2 Social nature of using Untappd

Theme number two is titled "Social nature of using Untappd". It visualizes how using Untappd serves in fulfilling user's social needs. Total of 86 chains belonging under this theme were discovered during the analysis.

Attributes:

Most mentioned attributes satisfying the social needs of participants were *feed* (29), *commenting* (16), and *toasting* (14). These attributes often go hand in hand, as viewing the feed offers easy access to both commenting and toasting. *Direct*

messages (7) was used in a more specific manner of communicating compared to commenting. *Following beer personalities*, *viewing lists of others*, and *badges* all contributed 4 chains to this theme. *Using location tags* (2), viewing *nearby-feed* (1), *Untappd for business-infoboards on venues* (1), and *groups* (1) were the least mentioned chains in this theme.

Consequences:

Most mentioned consequences were the *ability to see what others are doing*, *works as an act of noticing peers,* and *inquiring additional information* (13 chains each). Commenting and toasting resulted in the act of noticing peers. Direct messages and commenting resulted in the inquiry of additional information. The ability to see what others are doing was a direct result of participants browsing their feed.

Inspires own behavior (11) and *improves knowledge of beers* (10) were consequences of following beer personalities, viewing lists of others and feed. *Discussing beer related topics* (4), *need for social situations* (3), and *communicating on a low threshold* (2) were, again, the result of direct messages and commenting.

Comparing them with friends (3) and *competing with friends* (1) were related to badges, as the application allows users to easily compare achieved badges between friends. *Brings beer community together* (2) and *ability to see what is happening nearby* (2) were consequences of participants browsing events from the application. *Small gesture on beer entrepreneurs* (1) and *gain knowledge where people spend time* (1) were the result of using and viewing location tags while using Untappd.

Untappd for business-infoboards resulted in a *small addition to enjoying beer* (1). Groups was seen as a tool of *managing social circles* (1). While toasting was seen as an act of noticing peers, it also was seen not contributing to any special consequence (N/A) on two occasions.

Values:

Sense of community (36) was the most mentioned value among the participants. It was involved in total of 12 consequences seen on the theme map, which is not a big surprise considering the theme in question. *Focusing on quality beers* (15), *new experiences around beer* (14), and *interest on beer culture* (10) gained a lot of mentions as well. They were mostly mentioned when discussion circled around reading of feed and using direct messages / comments.

Entertainment (2) was the result of both inspiring of own behavior and improvement of beer knowledge. *Validation of own opinion* (1) related to inquiring of additional information. Comparing badges with friends / competing with friends resulted in *competitiveness* (2). Managing social circles brought *clarity* (1).

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 4).

FIGURE 4 Social nature of using Untappd

5.3 Context of use

Theme number three is titled "context of use". It visualizes the situations (when, where and why) Untappd is used. Total of 84 chains were discovered during the analysis.

Attributes:

Picking/finding venue while traveling (15) was the most mentioned attribute. Untappd was proven to be quite useful application while traveling, as it eases finding suitable venues for beer tasting based on location and supply. Participants mentioned also using it while *rating beers* (13) and *discovering beers* (12), as Untappd offers an easy access to both find exciting new beers and review the ones available.

Untappd can be also used while *picking venue at hometown* (10). When preferred location was selected, Untappd helped participants in *choosing beers to buy in a venue (*7). Participants felt that *following beer scene* (7) in general was made easier by using Untappd, as it offers topical news about the scene and data about local and global trends. The data offered by Untappd eased participants in choosing beers to *buy in a store* (4) and *online* (3).

Untappd offered help in *managing own brewery* (4) by allowing users to add data about the brewery itself and beers brewed by said brewery for others to read and rate. Participants used Untappd in *managing lists* (3). One participant used Untappd for *sharing beer recommendations* (1), other at using in *beer tasting* (1) and *planning beer tasting* (1).

Consequences:

Shows info about beer (24) was the most mentioned consequence. It was the consequence of four different attributes, which were discovering beers and choosing beers to buy in a store, venue, and online. *Easens finding and choosing venue* (14) and *choosing venue based on supply* (10) related to finding and picking venues through the application.

Works as a checklist (10) was a consequence of discovering beers, using Untappd to plan and execute beer tastings, managing lists and tasting beers in general. According to participants, Untappd *offers info about what´s happening in the scene* (7). Planning beer trips and discovering beers gave participants an opportunity in *planning activities ahead* (5). Rating beers helped participants in *visualizing own taste profile* (5).

Those rare few participants, who managed their own microbreweries, used Untappd as a *tool of quality control* (4). Few participants felt that rating beers *forced them to think more of the taste experience* (2), as the rating system allows users to evaluate taste experience. *Creating content for the community* (1) was also a consequence of rating beers.

Peer reviewed content is more reliable (1) was the reason of picking venue while traveling. *Sharing information with peers* (1) was related to sharing beer recommendations.

Values:

New experiences around beer (23) and *focusing on quality beers* (23) shared the title of most common value in this theme. Consequences such as "easens finding and choosing venue", "shows more info about beer" and "works as a checklist" mostly ended up in these two values. *Interest on beer culture* (14) and *minimizing time and effort* (9) were mentioned as values when participants planned activities ahead, gained information about beer scene or a certain beer, or picked a venue through the application.

As mentioned earlier, few participants used Untappd as a tool of quality control. *Sense of community* (5) and *improving the process based on reviews* (2) were the resulting values of it. Creating and viewing peer-reviewed content also served participants' sense of community. One participant felt that *memories are important* (2), as well as *statistics* (1).

Improving sense of taste (1), *validating own opinion* (1), and *using money efficiently* (1) were related to gaining more information about a certain beer. Sharing information with peers led to *maintaining friendships* (1).

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 5).

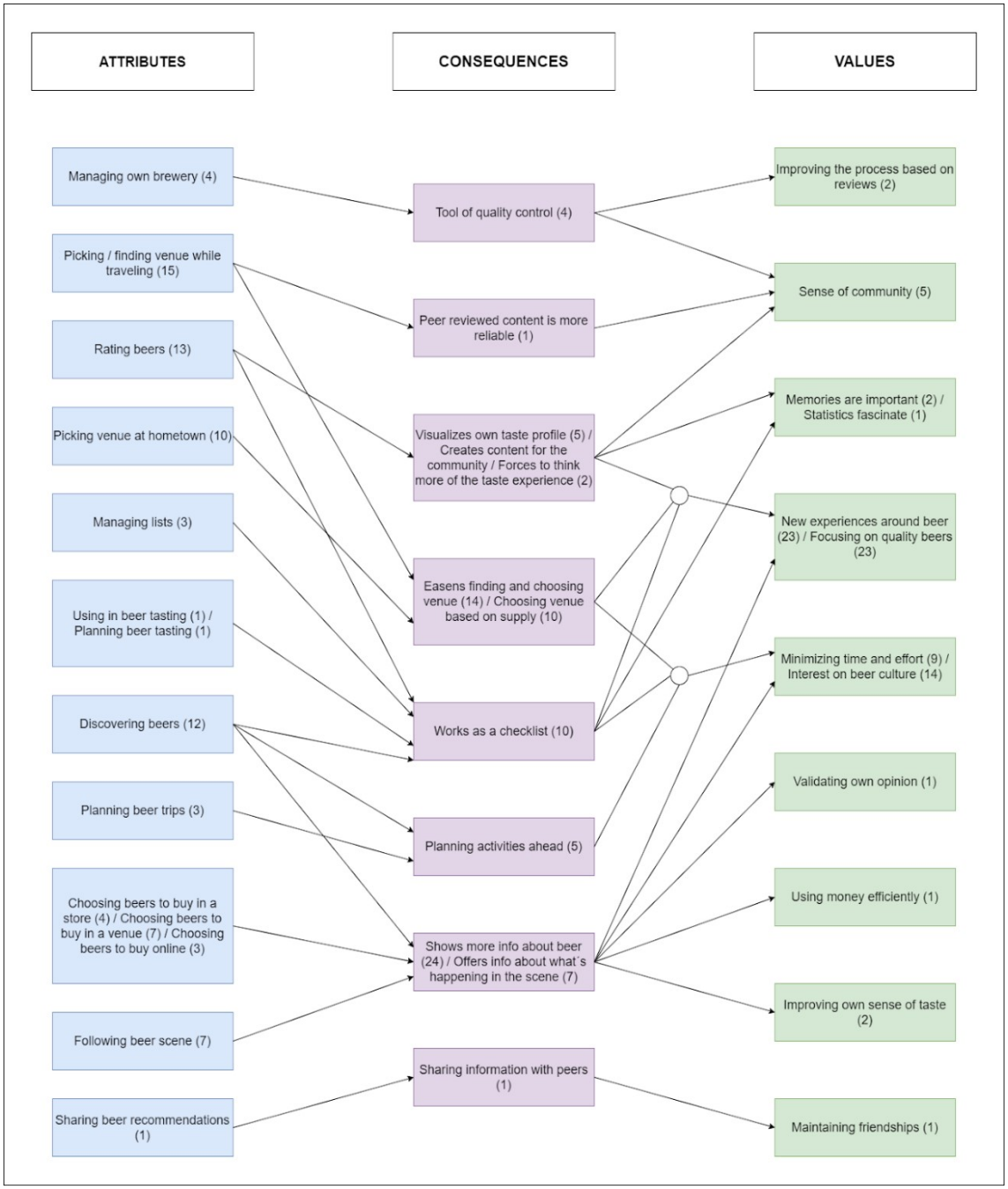

FIGURE 5 Context of use

5.4 Service process experience and participation in service production

Theme number four is titled “service process experience and participation in service production”. It visualizes how Untappd allows its users to participate in

service production. It also visualizes which features allow users to experience a flowing use experience. Total of 24 chains belong under this theme.

Attributes:

Creating content (8) was the most popular attribute. Participants felt that content creation was a clear indicator of users being able to participate in creating the service experience. Viewing *statistics* (7), *lists* (5), and *barcode scanning* (2) were seen more as offering users a solid flowing use experience. This applied also in *recommendations* (1) and *newsfeed* (1), which gave a participant a quick access to broader information.

Consequences:

Works as a checklist (7) was the most mentioned consequence, as participants felt that creating lists and content helped them to remember beer related information. *Offers data about own drinking habits* (6) related directly to the use of statistics. One participant saw statistics as a way of *gaining data about own drinking habits* (1).

Barcode scanning and recommendations *saved time* (3). Creating peer-produced content was seen as *more reliable* (2) opposed to those beer ratings, which might have external motives. Creating content also gave participants feelings of *mutuality* (2) and was considered *fun* (1). Newsfeed offered *info about what's happening in the scene* (1).

Values:

Focusing on quality beers (8) and new *experiences around beer* (6) were the main values of this theme. Time-saving, checklists, reliable content, and data about drinking habits resulted in these values. *Sense of community* (6) came from comparing data, feelings of mutuality, and peer-produced content.

Interest on beer culture (2) related to info about scene and data about own drinking habits. *Ease of use* (1) came directly from timesaving. Data about drinking habits offered one participant *fascination about statistics* (1) in general.

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 6).

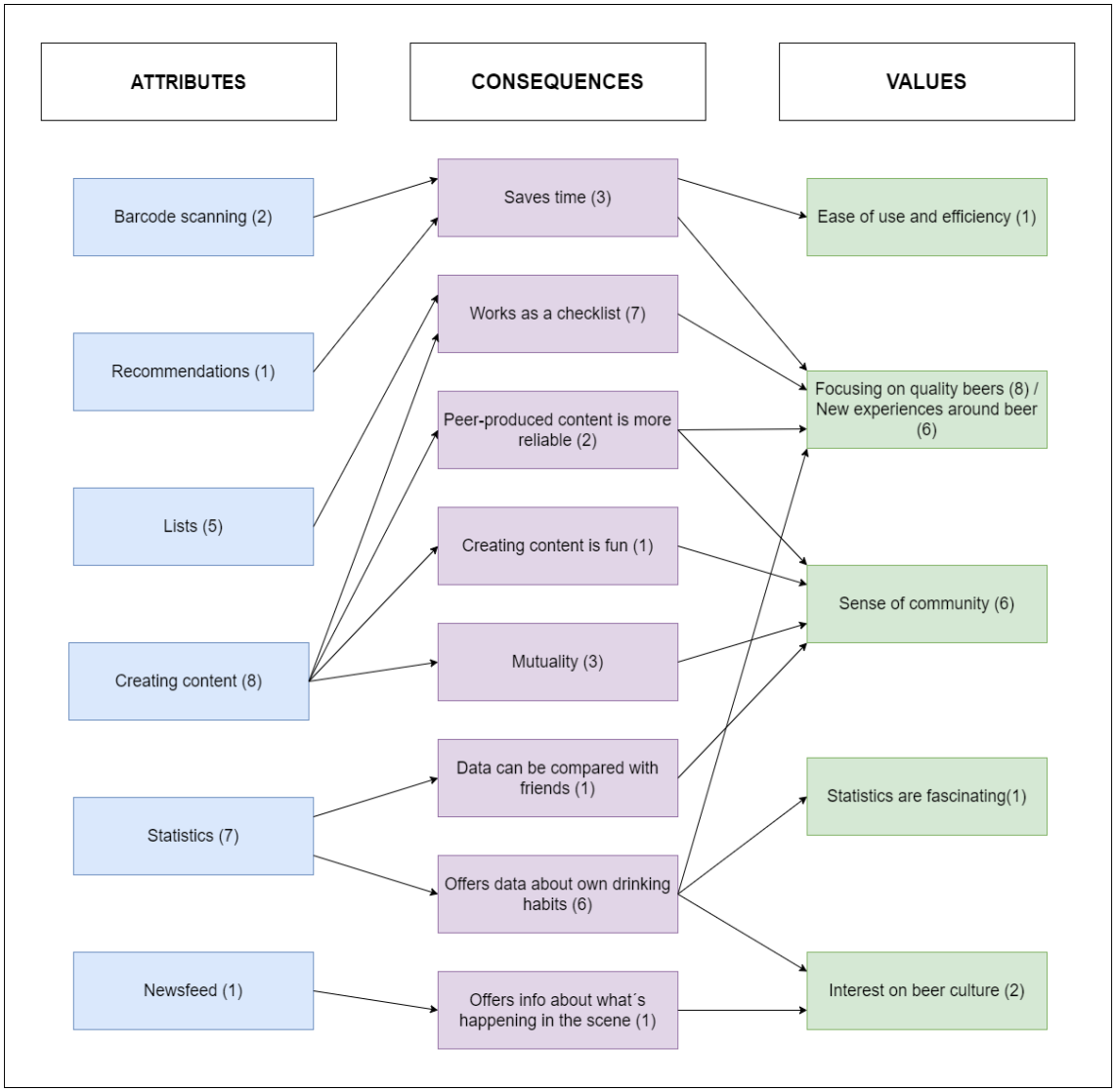

FIGURE 6 Service process experience and participation in service production

5.5 Goals and outcomes

The fifth theme is titled "Goals and outcomes". It visualizes how the functionalities of Untappd helps its users to reach their personal goals surrounding the hobby of beer tasting. Total of 35 chains belonging here were discovered during the analysis.

Attributes:

General goal of *finding beers* (11) and *rating beers* (7) were mentioned most on this theme. During these conversations, *finding quality breweries* (2) was also

mentioned. Untappd helped participants in *keeping track of own drinking behavior* (6) and *reaching beer-related milestones* (4).
Few participants used Untappd in *exploring beer cultures globally* (3), as the application offers tools to see what's happening in the scene both locally and globally. Social goals such as finding company through app and keeping in touch with friends were both mentioned once.

Consequences:

Improves knowledge of beers (8) was the most mentioned consequence. It is related to finding beers and keeping track of own drinking behavior. Keeping track about own drinking behavior and rating beers resulted in *offering data about own drinking habits* (7). Reaching milestones resulted in *conveying info about severity of use* (3) and *gave motivation to continue* (1).

Finding beers and quality breweries meant that participants gained *quality options to resort into in the future (*3), as well as *peer-produced content guided buying decisions* (2). Finding beers also *increased expertise on beers* (1). Rating beers *worked as a checklist* (2), helped *discover own sense of taste* (2), and allowed to *keep up with trends* (1).

Exploring beer cultures helped *getting to know and understand cultures* (2). Common hobby also eased *finding company* (2) while traveling and understanding something about local beer cultures. *Keeping in touch with friends was seen as important* (1) way of maintaining friendships.

Values:

Total of eight consequences led to *new experiences around beer* (14) and *finding optimal beers* (5). These, along with *interest on beer culture* (6) can be seen as the most impactful values of this theme. Common hobby related to *sense of community* (2) and *meeting new people* (1).

Maximizing use of time (1) related to discovering of own sense of taste. One participant felt that *healthiness is important* (1), which could be monitored via usage data offered by Untappd. *Goals were seen as important* (1) by one participant, which fueled the hunt of milestones. Increased expertise served a bigger *dream of working in the brewing industry in the future* (1).

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 7).

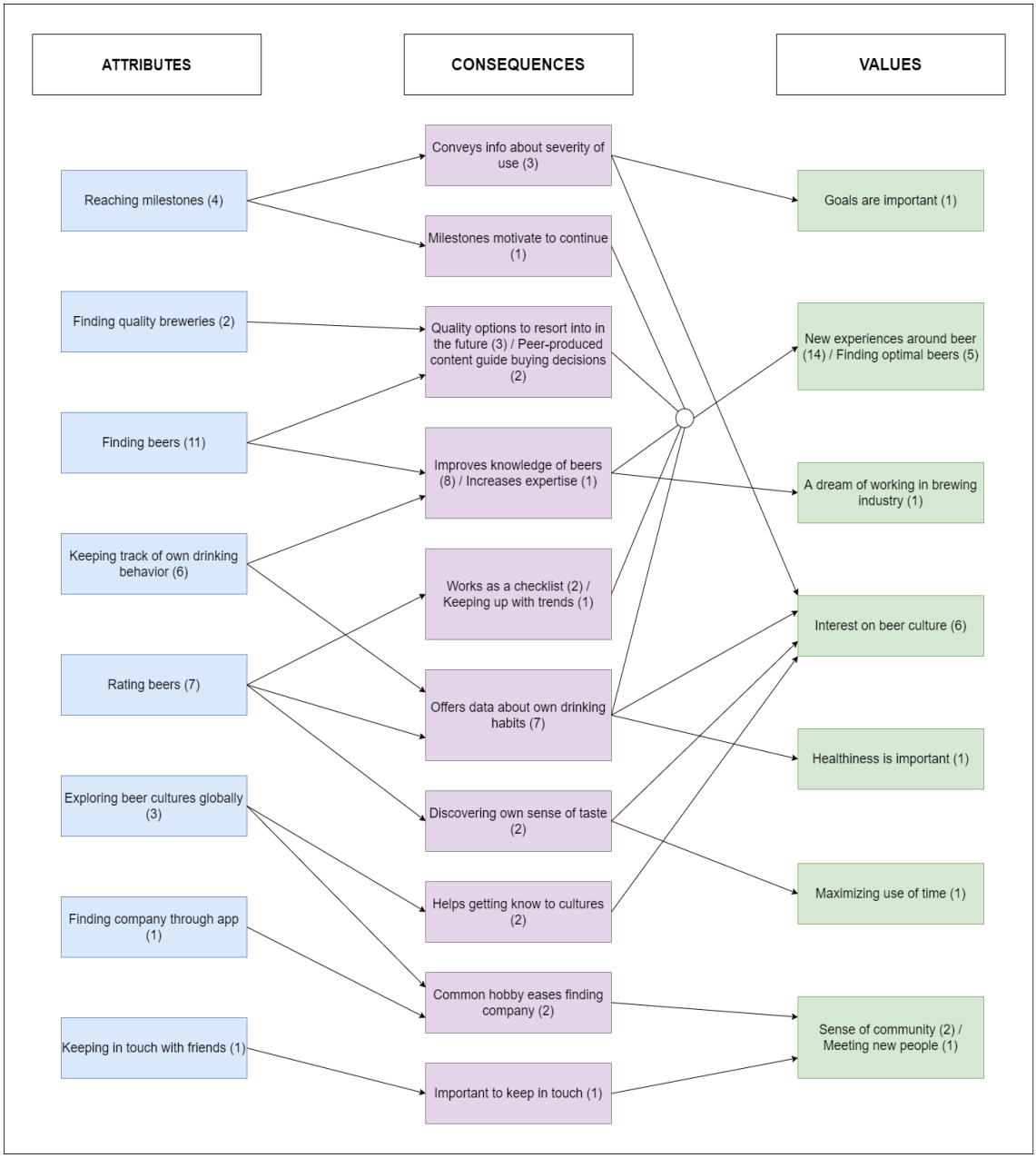

FIGURE 7 Goals and outcomes

5.6 Value co-destruction in Untappd

The sixth theme is titled “value co-destruction in Untappd”. It visualizes how using Untappd can result in a negatively perceived value. Total of 12 chains were discovered during the analysis.

Attributes:

When participants spoke about irritating and inconvenient features of Untappd, *unrealistic* ratings (5) was the most mentioned attribute. Participants noticed that certain breweries manipulated the ratings of their own products in order to attract customers. Along with this, the nationality of the brewery seemed to impact greatly on ratings. For example, Russian breweries were perceived as gaining extra good ratings based on nationality alone, whereas Finnish beers seemed to be rated in a significantly more critical manner.

Few participants perceived decreased value while *browsing Untappd in social situations* (3), as attention shifted towards phones at the cost of companions. One participant felt that *rating beers* (1) caused discomfort. Other attributes, which decreased perceived value were *lists* (1), *beer trends* (1), and *general overuse of Untappd* (1).

Consequences:

Unrealistic ratings led to *distorted general view of beers* (3) and ratings *not bringing additional value* (2) to participants. Using Untappd in social situations meant that both *social situations* in general (2) and *focus on using the application* (1) suffered. *Trendy beers gained better reviews* (1), which was seen problematic by one participant.

Lists were viewed as *illogical* (1) by one participant, who stated that the user journey to reach said feature was too complex. *Trendy beers gained better reviews* (1) and *spontaneity suffered* (1) from the overuse of the application. One participant felt that Untapp´s Finnish counterpart *Pint Please offered a more comprehensive rating model* (1), which brought sense of frustration while rating beers.

Values:

New experiences around beer (3) was the most mentioned attribute, *whereas focusing on quality beers* (1) was mentioned once. Those who viewed using Untappd in social situations problematic felt that *focusing on social situations* (2) and *creating quality content* (1) was important. *Importance of usability* (1) derived from illogical lists and *interest on beer culture* (1) from unhappiness with the rating model. *Sense of community* (1) related to displeasement in unrealistic ratings.

Figure which illustrates attribute-consequence-value chains from this theme is found below (figure 8).

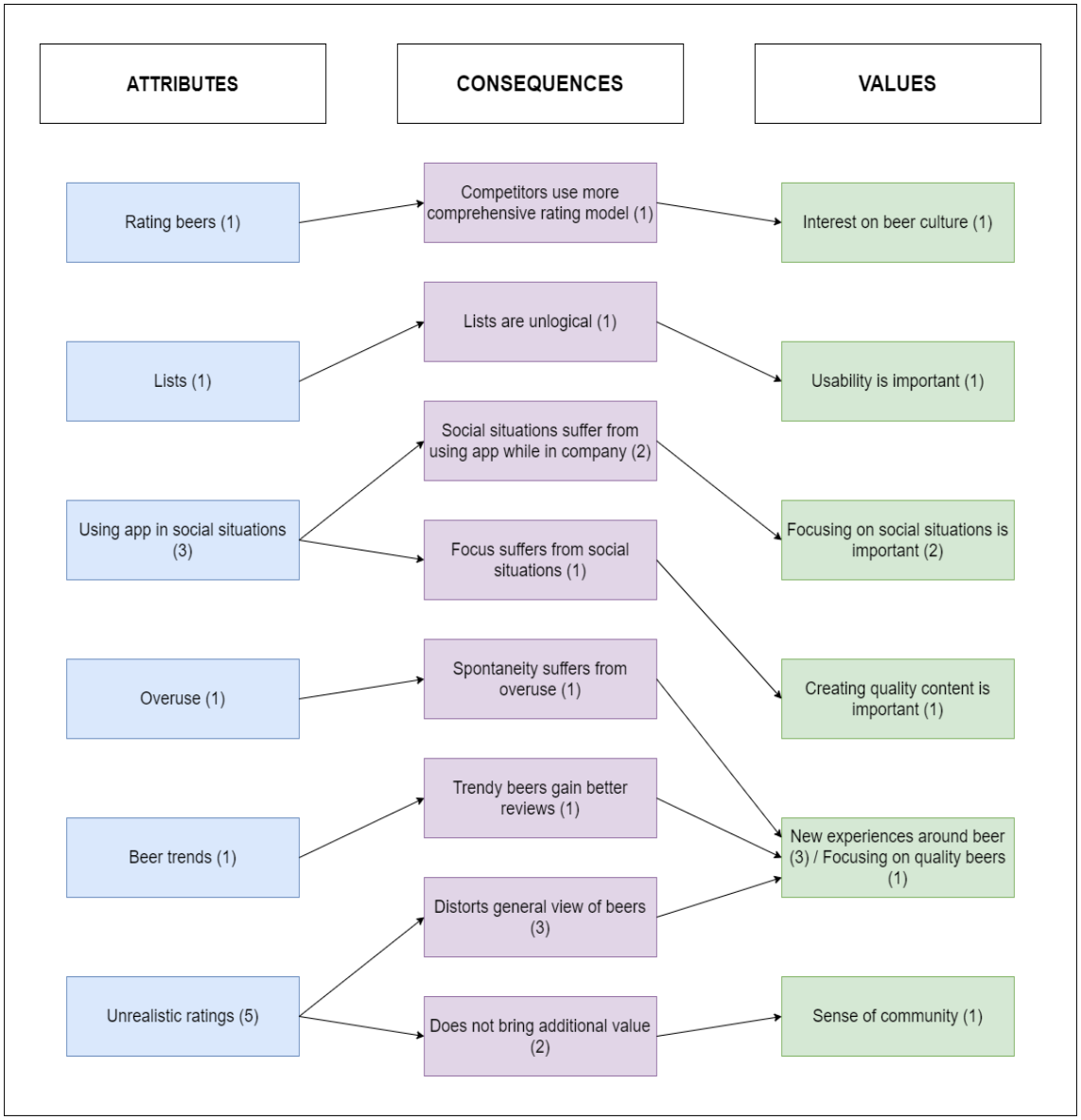

FIGURE 8 Value co-destruction

5.7 Summary of results

Total of 247 chains were found during the analysis and were distributed to themes above. Table below (table 4) will show information about the relational popularity between themes.

Theme	Share of chains (Number of chains)
Social nature of use	34,8 % (86)
Context of use	34 % (84)
Goals and outcomes	14,2 % (35)
Service process experience and participation in service production	9,7 % (24)
Value co-destruction	4,9 % (12)
Construction of identities	2,4 % (6)

TABLE 4 Value chain distribution between themes

In summary, analysis showed how value chains from the interviews distributed between themes found in the analysis. In next chapter these results are utilized so that set research questions can be answered and implications to both research and practice made.

6 DISCUSSION

Research questions are reflected on this chapter, using literature review and results of the study of previous chapters. Finally, the implications to research and practice are presented. This study circled around two research questions, which are answered in the first subsection.

6.1 Research questions

The object of this study was to explore how value is co-created and co-destroyed in the context of Untappd, a social beer rating application. First research question was:

"How is value co-created in Untappd?"

Answer to this research question is achieved using CIS framework by Tuunanen et al. (2010) as a lense. CIS framework has six elements, divided in system value proportions and customer value drivers. System value propositions consist of construction of identities, social nature of use and context of use. Customer value drivers consist of participation in service production, service process experience and goals and outcomes. CIS framework offers a simple path to understanding value co-creation as a phenomenon and in the context of Untappd, as system value propositions enable value co-creation and customer value drivers guide users to co-create. (Tuunanen et al., 2010).

As themes obtained from the interviews show, certain elements from the CIS framework stood up. Overall, system value propositions were dominant over the customer value drivers, although construction of identities gained only six chains. Social nature of use (86 chains) and context of use (84 chains) were clear favorites among interviewees. Thus, it could be argued that those elements are viewed as key factors of producing value to users in the context of Untappd. Overall, interviews produced 59 chains of customer value drivers. Goals and

outcomes (35 chains) were presented as an individual theme and service process experience and participation in service production (24 chains total) were presented together under one theme, as there were somewhat overlapping chains. Next up, those themes are considered one-by-one, starting from the most popular themes. Understanding the ratio of impact of these themes gives a clear view of how value is co-created in Untappd.

As mentioned earlier, social nature of use was the most popular theme, having a total of 86 chains. Interviewees mentioned a total of 12 attributes having a positive effect on their social needs while using Untappd. Attributes such as viewing general feed, commenting, and toasting on activities there were frequently mentioned by all participants who chose this stimulus. Those attributes satisfied the need for social interactions, as well as worked as a way of noticing peers. They also served as a way of obtaining information, which seemed to inspire the future behavior of participants. Some lesser attributes such as following beer influencers/lists of other users served the same purpose. Sense of community was the main value obtained in this theme, which is not a surprise considering the focus being on social context of use. Focusing on quality beers and gaining new experiences around beer derived from obtaining information from the data Untappd and its users offers. Many interviewees had a general interest in beer culture, which also derived from obtaining information from the application.

Context of use included 84 chains. It visualizes when, where and why Untappd is used. Most mentioned attribute was finding a suitable venue while traveling, as the application offers data about locations and supplies of venues. For the same reasons, some users used it while picking a venue at where they live. Finding beers to drink and rating them were popular attributes. Discovering beers and following beer scene in general allowed users to keep a checklist on beers they want to drink, as well as obtain information about beers. It also helped participants to keep up with the scene. Rating beers worked as a checklist as well. It also helped participants to visualize their own taste profile and forced them to think intensively about the taste experience. Untappd was also used in making purchase decision in stores, online and venues purely because of the data Untappd offers about specific beers. Gaining new experiences around beer and focusing on quality beers was the most common value in this theme. As the theme maps shows, those values derive mainly from the most common attributes of this theme. Interest on beer culture and minimizing time and effort were mentioned as values, when participants planned activities ahead, gained information about either beer scene or certain beers, or picked a venue using application. Sense of community was relatively uncommon value in this theme.

Theme goals and outcomes featured 35 chains. It visualizes how Untappd helps its users in fulfilling their goals surrounding the hobby of craft beers. Most participants thought that Untappd offers tools to find and rate (quality) beers and breweries which could be resorted to in the future. This also increased knowledge of beers in general, as well as knowledge of own sense of taste and drinking habits. Some participants felt that Untappd aids in keeping track of drinking habits and possible milestones such as rating certain amounts of beers. Throughout the

interviews participants mentioned that even figures (such as the magical milestone of 1000 unique rated beers) were particularly interesting and worth pursuing. Again, new experiences around beer and finding optimal beers were the most common values. Interest in beer culture drove six participants in the use of Untappd. Only a couple of participants felt that a sense of community and meeting new people drove them forward in the context of goals related to this hobby. Rather interesting curiosity was that one participant had a dream of working in the brewing industry. To that participant, Untappd offered data about beers in general, which increased knowledge which was helpful in pursuing a career in the industry.

In this study, service process experience and participation in service production are dealt with together, as the analysis showed there were overlapping chains. It shows how Untappd allows its users to participate in the production of service. It also shows how attributes of Untappd allow users to perceive flowing use experience. Participants felt that the most obvious attribute contributing towards participation in service production was creating content. Rating beers and contributing in discussion offered an easy way to participate in the service process. On top of working as a checklist, it gave participants feelings of mutuality and enjoyment. Attributes like statistics, lists and barcode scanning were mostly seen giving participants solid flowing use experience. Lists worked as a way of bookkeeping for interesting beers and beers already rated. Statistics offered data about drinking habits and barcode scanning was time-saving. As far as underlying values go, focusing on quality beers and gaining new experiences around beer were again the favorites, mostly because of matters related to a flowing service process experience. Sense of community gained few notions, which derived directly from creating content. Other underlying values were interest in beer culture, ease of use/efficiency and fascination with statistics.

Least selected theme/stimulus was construction of identities, which aims to show how Untappd allows its users to create and express their own identities in the context of beer tasting. Only two participants chose this stimulus. Profile name and profile picture were mentioned by both participants. They are part of a bigger web persona and also convey information about the severity of use. Participants felt that the hobby is all about new experiences and having fun, which could be seen in the profile bio, which lacked formality. One of the participants felt that creating content also conveyed information about the seriousness of using Untappd. Other participant viewed that a small social circle in Untappd allowed a low threshold to produce content, as the hobby of beer tasting did not fit well with his/her general image outside of Untappd. Thus, the option to manage who is able to see content created serves the value of need for privacy. The other mentioned value was representation of one's own relationship towards drinking beer, which resulted directly from conveying information about severity of use.

Data obtained from the study allows the argument that value co-creation in Untappd happens mostly through system value propositions. In conclusion, social nature of use (36,6 % of chains) is enabled by allowing users to interact with each other by viewing peer-created content, which then can be both toasted and

commented on. Users also have the option of direct messaging for more specific communication. These attributes give users access to a sense of community, as well as focusing on quality beers/new experiences. Interest in beer culture is satisfied by users communicating with each other. Context of use (35,7 % of chains) illustrates when, where and why use of Untappd occurs. Untappd offers tools to find venues to go to both locally and while traveling by showing their locations, supplies and reviews. It is also used to rate and discover new beers, as well as bookkeep them in lists. For those interested in brewing, Untappd offers tools to manage their microbreweries. Again, these attributes serve in allowing users to feel new experiences around beer, as well as focusing on quality ones. Untappd also minimizes time and effort and satisfies its users interest in beer culture and offers a sense of community. Untappd offers its users ways to express their identity (2,6% of chains) via customizable profile bio and the ability to create content which reflects attitudes towards beer drinking.

Customer value drivers are the personal factors of users, which guide them in value co-creation. In this study, they were a minority but still give valuable data on how value co-creation occurs. Goals and outcomes (14,9 % of chains) is about showing how Untappd helps its users in reaching their goals surrounding beer tasting. Untappd enables users to reach their beer-oriented goals by allowing them to efficiently both find and rate beers and breweries. It also provides data, which helps users to track drinking behavior and reach personal milestones. Few users felt that Untappd makes it easier to explore beer cultures globally. Service process experience and participation in service production (10,2% of chains) is about how Untappd allows its users to participate in the production of service and how well the concept of flow is achieved while using Untappd. Untappd facilitating creation of content contributes to both participation in service production and the feeling of flowing use experience. Creating content works as a checklist, offers reliable data to peers and gives feelings of joy and mutuality. Statistics offered by Untappd offer data about drinking habits, which can also be compared with friends and peers. Lists are an easy way to keep track of beers consumed. Barcode scanning saves time. Newsfeed give a quick peek of what's happening globally in the scene of craft beer.

Second research question was:

"How is value co-destroyed in Untappd?"

As CIS framework can also be used to study value co-creation of an information system, it is used as a lense to view this research question as well. Some negative values (12 chains) were found during interviews, but amount of these were significantly lower than positive values. Hence, it could be argued that users using Untappd co-create more value than destroy it.

Unrealistic ratings posted by other users caused most irritation among interviewees. It distorts the overview of beers and does not bring any additional value. There seems to be a couple of reasons for this behavior. The level of seriousness varies between users, which makes the scale of ratings wide and often

misleading. Some breweries misuse the rating-system to promote their products. As mentioned earlier, a sense of nationalism tends to affect ratings as well. Several interviewees mentioned that they took the ratings of Russian and American beers with a grain of salt, as there tends to be a lot of favoritism towards them. For those who understand Finnish state of mind, it comes as no surprise that Finnish beers tend to be undervalued in Untappd in terms of ratings and expected quality. One interviewee mentioned that beer trends affect ratings as well.

Using the application in social situations caused discomfort, as both social situations in general and focus on the application suffered from it. As studied by Lintula et al. (2017), the effect of constant mobile use may hinder relationships in the long run and make this notion worth concern. General overuse of Untappd has a negative influence on spontaneity, which some users felt was an essential part of the hobby. Only two of the mentioned attributes were directly related to usability and general ease of use. Illogical lists and ratings system gained only one mention each. Considering the range of chains gathered during the interviews, it is easy to argue that Untappd is set in terms of usability.

The problems with Untappd seem to be of the quality, which is hard to counter. Unrealistic ratings seem to be a byproduct of a vast user base, which means that the variety of opinions and motives is large and causes a slight irritation among users. Limiting the freedom of opinion may come with a cost, which makes countering this problem difficult. It is also difficult to find a solution to the problem with using the application while in social situations unless the user simply limits usage while in social settings.

6.2 Implications to research

Implications made from findings are presented here. Goal is to take findings out from the context of empirical research and make generalizations surrounding this topic.

Implication: Consumer information systems tend to offer both hedonic and utilitarian value and the ratio of these depends on the context of the service system

In literature review it was stated that consumers aim to seek balance between both utilitarian and hedonic value from the service (Holbrook et al., 1984) and both of these values are of significant importance to service users (Tuunanen et al., 2010). The ratio of these values can be studied from the attribute-consequence-value chains created in this research.

Judging from the emerging values gained from the research, Untappd is mostly hedonic value-driven service system. This comes as no surprise, as the hobby of beer tasting may be seen as hedonistic as it gets when it comes to hobbies in general. However, the distinction between hedonic and utilitarian values is not clear-cut, so the term hybrid value, coined by Tuunanen, Lintula &

Auvinen (2019) comes handy when viewing the list of underlying values gained from the interviews. For example, value focusing on quality beer has both hedonic and utilitarian dimensions.

Considering the ratio of utilitarian/hedonic motivations of use in Untappd, it could be considered a mixed system (Gerow, Ayyagari, Thatcher & Roth, 2013). This means that Untappd offers the ability for productive use as well as a sense of fun, which can be realized simultaneously.

During the laddering interviews, it became apparent that interviewees had individual and unique reasons for system use in this context. A small portion of interviewees claimed to use Untappd in a strictly utilitarian manner, while the rest of the sample group acknowledged their hedonic purposes dominating their formation of perceived values gained from system use. All in all, studies showed that Untappd offers its users a wide variety of value propositions for its consumers to grasp on. As SDL states, it is up to individuals to make use of them as they feel the most fitting way (Vargo & Lush, 2004; Vargo et al., 2008).

Implication: CIS framework combined with laddering technique is a suitable tool to study value co-creation in digital consumer services

CIS framework by Tuunanen et al. (2010) was used as a tool of research in this study. Stimuli list made for laddering interviews was fully inspired by CIS framework. Considering all the 26 interviews conducted, it seems apparent that CIS framework and laddering technique was suitable for studying value co-creation in digital consumer services and in this case, Untappd. Interviewees seemed to quickly catch up on the goals of the study and were able to produce satisfactory data so that attribute-consequence-value chains could be constructed. After each interview, participants were allowed to check these chains created and, in all cases, there was no need for clarifications. This is in line with findings made by Tuunanen et al. (2019), which conclude that the CIS framework fits well in research of how consumers perceive gaining value from a certain digital service/consumer information system. Thus, it is a useful tool in studying how value is co-created in digital consumer services.

Implication: There remains a doubt on CIS framework combined with laddering technique being a suitable tool to study value co-destruction in digital consumer services

There remain some questions surrounding the suitability of CIS framework in studying value co-destruction. Attribute-consequence-value chains dealing with negative feelings perceived were surprisingly low (12 chains in total), which makes it difficult to generalize results on a broader scale. There are some possible reasons for this. It could be that interviewees simply felt Untappd as a well optimized application with good all-around usability and most of all, having no major flaws in terms of user experience. It could also be that the research could have been planned in a manner, where value co-destruction was included as a theme in the stimuli list, as opposed to the study conducted, where in times the results

gained from value co-destruction seemed to be just a mere side product of studying value co-creation. If additional studies of researching both value co-creation and value co-destruction are to be conducted, some attention should be given to these issues. Perhaps it would be wisest to study these phenomena separately, so that each of them gains the focus they deserve.

6.3 Implications to practice

Implications to practice are discussed here. They are carefully generalized suggestions targeted for practitioners. Goal is to offer implications which are helpful for stakeholders of either digital service design or the brewing industry.

Implication: Well-designed user experience is seen as somewhat self-evident part of CIS

As mentioned earlier, only one interviewee (out of 26 in total) expressed mixed feelings about Untappd in terms of usability. This can be seen as a major win for the system in those circumstances. But in contrast, none of the participants praised Untappd either. This implies that user experience and usability is seen as a fundamental part of CIS, a sort of a bare minimum and self-evident part for a successful digital service. Digital services have been around for decades now, so consumers tend to expect a solid user experience.

Implication: Digital services surrounding hobbies should focus on facilitating social interaction between users

The role of social dimensions became apparent during the first couple of interviews. 14 (out of 26) chose it from the stimuli prior to the interviews and majority discussed the social part of Untappd during the interviews underlining its importance on their personal system use. Only one participant emphasized that social interaction in the application played no role in the use of Untappd.

It is fair to generalize this notion to other digital services surrounding hobbies, as they often tend to be driven by the chance to interact with peers. This can be seen by communities formed around hobbies, where like-minded people can easily share their experiences and thoughts about common interests. Potential for fruitful interactions regarding digital surrounding hobbies is evident, and it is up to service designers to facilitate possibility for them.

Implication: Consumers welcome gamifying elements in digital services surrounding the hobby of beer tasting

In general, interviewees of this study described gamifying elements bringing joy and motivation in the system use. Such elements in the context of Untappd include badges gained from reaching certain milestones and statistics, which can

be compared with friends and peers using the application. Interviewees strongly felt that these attributes had a positive influence on system usage. Effects of gamifications were shown in two ways. Achieving badges and milestones helped interviewees to set and track their personal goals set in the hobby of beer tasting. It also allowed them to compare them with their peers, effectively helping them to strengthen their relationships with each other and thus satisfying the need of belonging in a community.

Mixed systems tend to offer both utilitarian value as well as a sense of enjoyment whilst using. Hence, the use of these systems may be driven by extrinsic and intrinsic features. (Gerow et al., 2013). In general, gamification mostly aims to please hedonic, intrinsic motivations towards system use but the underlying goal is related more in the utilitarian end, as it is used to support extrinsic and valuable goals outside the system. (Hamari & Koivisto, 2015). For IS designers, it seems important to figure out possible motivations for system use and use gamifying elements to support them accordingly, as employing them seems to be well received in general.

7 CONCLUSION

In this chapter the study is concluded. This includes objectives of the study, how it was conducted and what were the findings. Limitations of the study are discussed after the brief conclusion. Finally, recommendations for future research are presented.

7.1 Summary of the study

The main objective of the study was to study value co-creation and value co-destruction in consumer information systems. More specifically, goal was to research how value is co-created and co-destroyed in Untappd, a mobile application revolving around beer tasting scene. Two research questions were formed in order to define the exact intention of the study: ""How is value co-created in Untappd?" and "How is value co-destroyed in Untappd?".

To gain knowledge on the subject, literature review was conducted. Service-Dominant logic (Vargo & Lusch, 2004) and value co-destruction (Prahalad & Ramaswamy, 2000) & co-destruction (Plé & Chumpitaz Cáceres, 2010) were the focal points of this chapter. Framework for value co-creation for consumer information systems (CIS) by Tuunanen, Myers and Cassab (2010) was presented next. It was used as a lense in the actual research.

Empirical research started with defining the research approach. Means for data collection, interviews and analysis were specified and the stimuli list used in the interviews was presented. The actual empirical part was conducted using laddering method (Reynolds & Gutman, 1988) to 26 participants. Interviews were in-depth, one-on-one interaction where the goal was to form attribute-consequence-value chains based on the simple questions asked from the interviewee. The chains were thematically analyzed and presented in the fifth chapter, where themes of the topic were formed and introduced. Total of six themes were found during the analysis. Themes were illustrated as maps, which were used to give answers to the research questions.

As main findings, this study identified how value is co-created and co-destroyed in Untappd. Data obtained from the study showed that value co-creation in Untappd is mostly driven by system value propositions. More than two thirds of attribute-consequence-value chains were thematically identified to be part of system value propositions. Especially social elements offered by Untappd stood out within participants. About a quarter of the chains were identified as customer value drivers. For instance, Untappd contributes towards achieving goals its users have set up in relation to beer consumption. Main implication for research made from the data was that consumer information systems tend to offer both hedonic and utilitarian value and the ratio of these depends on the context of the service system. CIS framework was also deemed ass a suitable lense to study value co-creation in digital consumer services. Implications to practice included the notion that user experience is seen as a self-evident part of CIS. Practitioners were also encouraged to facilitate social interactions between users and use gamification tools.

7.2 Limitations of the study

Although the objectives of the study have been met, it is important to recognize the limitations of the study in order to retain the integrity and transparency of the research conducted. While the main target of interviewee acquisition was to gather as heterogeneous sample group as possible, there remains a doubt of whether the female representation could have been higher. On the other hand, the ratio probably reflects quite well the ratio of craft beer community, which seems to be male-dominant. Also, there was not a significant difference between styles of thought between genders.

The fact that all of the interviewees were Finnish casts a shadow on whether results of the study can be generalized on a global scale. Cultural aspects may have an effect on both information system usage and beer consumption. Thus, they need to be taken into account when reading this study and applying it for practical purposes in those contexts. Data was generated in Finnish along with the interviews. For the actual thesis, the data and results made from it in the analysis was translated into English, which means that some nuances of it may have been lost in translation.

Finally, theme maps made during the analysis are based on the researcher's interpretation of the data. Therefore, there is a bit of subjectivity included in the achieved results. The researcher in this case is not a hard-core user of Untappd, but merely a frequent one. That means that some of the interpretations made during interviews and analysis may be incomplete. Although the laddering interview method suggests using at least two coders during the analysis (Reynolds & Gutman, 1988), it was not considered an essential requirement considering the nature and scale of this study.

7.3 Future research

Some topics of future research can be derived from this study. The aforementioned limitations of the study indicate some potential scenarios to consider in the future. Cultural context likely influences both user requirements (Tuunanen et al., 2006) and system use (Myers & Tan, 2002). Ultimately this means that services and applications created for one market may not succeed as well in others because of cultural differences. Commercially, it could be important to acknowledge main differences between continents and beer cultures in order to facilitate a service which is inclusive.

In the context of beer-related applications, a similar study with similar research methods could be made for its Finnish competitor Pint please. During the interviews some participants referenced and compared these two applications emphasizing Untappd being more of a hedonic experience and Pint please focusing on utilitarian aspects. Such study could prove useful for both competitors as well as stakeholders in the industry in general. It could also either strengthen or challenge implications made in this study.

In a way, value co-creation overshadowed value co-destruction in this study. This could be due to the fact that Untappd is a well-rounded service with no major flaws that cause nuisance to its users or the way that this research was conducted. The overshadowing seems to be the case in service science in general, which means that value co-destruction should be notified more in studies. It would be both useful and interesting to gain more in-depth information why certain attributes of Untappd cause discomfort and what could be done to counter them.

Finally, it would be useful to inspect how Untappd value is created or destroyed with other stakeholders of the platform, such as breweries, stores, and venues. That would help in giving a holistic view on the platform and thus serve all involved in it. Such study could also allow comparison between how value is co-created and co-destroyed in the system, comparing users and businesses.

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APPENDIX 1 STIMULI LIST FOR THE INTERVIEWS (IN FINNISH)

1. **Identiteettien rakentuminen**

Tällä tarkoitetaan Untappdissa tapahtuvia prosesseja, jotka vaikuttavat olutharrastajan identiteettisi muodostumiseen. Olutharrastus voi olla linjassa muiden käyttäjän arvojen kanssa, joita palvelun avulla voi tuoda ilmi. Tämä voi käydä ilmi esimerkiksi käyttäjäprofiilin (käyttäjänimineen ja profiilikuvineen) ja käyttäjän tuottaman sisällön kautta.

2. **Untappdin käytön sosiaalinen luonne**

Tällä tarkoitetaan ilmiötä, jossa Untappdin käyttäjä kuuluu joukkoon, jolla on yhteinen kiinnostus olutharrastamiseen. Tämä joukkoon kuuluminen ilmenee sosiaalisena kanssakäymisenä Untappdin sisällä. Se voi ilmetä esimerkiksi olutarvioiden luomisella, niiden lukemisena ja muiden käyttäjien aktiviteetteja kommentoimalla.

3. **Tilanteet, jolloin Untappdia käytetään**

Tällä tarkoitetaan kaikkia niitä erilaisia tilanteita, joissa Untappdin käyttöä tapahtuu, toisin sanoen sitä, millä eri tavoilla Untappdia käytetään. Mihin aikaan, missä tilanteissa ja missä paikoissa sovellusta käytetään? Käyttö voi olla esimerkiksi luonteeltaan sosiaalisen median omaista yhteydenpitoa tai enemmän silkkaa hyödyllisyyteen pohjautuvaa tiedonhakua.

4. **Palvelun käyttökokemus**

Tällä tarkoitetaan palvelun käyttökokemusta. Palvelun käytön tulisi olla soljuvaa, jotta käyttö on mielekästä ja mukaansatempaavaa. Optimitilanteessa käyttäjä kokee olevansa tilanteen herra ja käyttö on helppoa sekä sovelluksen tarjoama tieto helposti sisäistettävissä. Mitä tunteita Untappdin käyttö aiheuttaa käyttäjälleen? Ovatko ne pelkästään positiivisia?

5. **Osallistuminen palvelun tuottamiseen**

Tällä tarkoitetaan mahdollisuutta osallistua ja vaikuttaa Untappdin palvelukokemuksen syntyyn. Käyttäjä personalisoi oman palvelukokemuksensa teoillaan ja voi samalla vaikuttaa muiden kokemuksiin palvelusta. Antaako Untappd mielestäsi mahdollisuuden käyttäjälleen vaikuttaa palvelukokemuksen muodostumiseen? Miten tämä ilmenee?

6. Tavoitteet ja päämäärät

Tällä tarkoitetaan tavoitteita ja arvoja, käyttäjä asettaa itselleen käyttäessään Untappdia. Palvelua käyttäessään käyttäjä voi kokea saavansa siitä sekä nautinnollista että hyödyllistä arvoa, joiden välillä syntyy kullekin käyttäjälle oma henkilökohtainen tasapaino. Mitä tavoitteita tai päämääriä Untappd auttaa saavuttamaan? Tavoitteena voi olla esimerkiksi mahdollisimman monen laatuoluen maistaminen vuoden aikana.

7. Joku muu teema, mikä?

Jotain muuta, mikä sinua Untappdissa eritoten kiinnostaa tai vaivaa, eikä sovi yllä mainittuihin teemoihin.

APPENDIX 2 STIMULI LIST FOR THE INTERVIEWS (ENGLISH TRANSLATION)

1. **Construction of identities**

This means the processes in Untappd, which affect the formation of your identity as a craft beer enthusiast. The hobby of beer tasting may be in line with other values user holds important and can be revealed via the application. Identity can be expressed via user profile (user name and profile picture) or created content.

2. **Social nature of Untappd**

This means the phenomenon of belonging to a group with common interest in craft beers. Belonging in this group manifests itself by social interaction inside Untappd. It can be seen by creating beer reviews, reading reviews of others and commenting on activities of peers.

3. **Context of using Untappd**

This means all the different situations where Untappd is used. In what time, which situations and places is the application used? Use can be for example social communication or more of sheer utilitary information seeking.

4. **Service process experience**

This means the use-experience of service. Using service should be smooth and follow the concept of flow, so that use-experience becomes pleasant and compelling. In an optimal situation, the user experiences being in control of the situation, using of service is effortless and data offered by the application is easy to internalize. What feelings does Untappd cause to its users? Are they purely positive?

5. **Participation in service production**

This means the chance to participate and have an effect on the birth of service experience. User personalizes his/her own service experience with own actions and while doing that, may influence the service experience of others as well. Do you feel that Untappd gives a chance for its users to have influence on the birth of service experience? How does this become apparent?

6. Goals and outcomes

This means goals and values, which the user sets his/herself while using Untappd. While using a service, user may perceive gaining both utilitarian and hedonic value, in between which each user originates own personal balance. What goals and outcomes Untappd helps to reach? Goal could be, for example, tasting as many quality beers in a year as possible.

7. Other theme

Something else, which either interests or bothers you, and does not fit the themes above.