

Willingness To Pay And Willingness To Accept On A Two-Sided Platform -  
The Use Case Of DoBeeDo



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Koblenz, im Juli 2019



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# *Abstract*

Institute for Management

Master of Science

## **Willingness To Pay And Willingness To Accept On A Two-Sided Platform - The Use Case Of DoBeeDo**

by Abed Naseri Douraki

It is widely known that especially for technology-based start-ups, entrepreneurs need to set up the boundaries of the business and define the product/service to offer in order to minimize the risk of failure. The goal of this thesis is to not only emphasize the importance of the business model development and evaluation but also show an example customer validation process for an emerging start-up named DoBeeDo, which is a mobile app operating on a two-sided market. During the process of customer validation a survey has been conducted to evaluate the interest of the target groups as well as the fit of their expectations using the Willingness to Pay and Willingness to Accept measures. The paper includes an analysis and evaluation of the gathered results and assesses whether the execution of the Customer Development Model can be continued.



# Contents

<b>Declaration of Authorship</b>	<b>iii</b>
<b>Abstract</b>	<b>v</b>
<b>1 Introduction</b>	<b>1</b>
1.1 Problem Definition / Motivation . . . . .	1
1.2 Business Model Design for Startups . . . . .	2
1.3 DoBeeDo . . . . .	3
<b>2 Conceptual Background</b>	<b>5</b>
2.1 Mobile Apps and Mobile App Market Growth . . . . .	5
2.2 Two Sided Markets . . . . .	7
2.3 Willingness to Pay (WTP) and Willingness to Accept (WTA) . . . . .	9
<b>3 Method</b>	<b>11</b>
3.1 Research Approach . . . . .	11
3.2 Data Collection Method . . . . .	11
3.3 Sample Selection . . . . .	12
3.4 Survey Design . . . . .	12
3.5 Pilot Testing . . . . .	19
3.6 Data Analysis . . . . .	21
<b>4 Evaluation And Results Of The Pilot Testing</b>	<b>23</b>
4.1 Effects on the final questionnaire . . . . .	23
4.2 Evaluation of the scenario comparability . . . . .	24
<b>5 Evaluation And Results Of the Final Survey</b>	<b>27</b>
5.1 Cleaning of Data . . . . .	27
5.2 Received Results . . . . .	27
5.2.1 Personal Information . . . . .	27
5.2.2 Scenarios . . . . .	33

5.3 Evaluation . . . . .	40
<b>6 Conclusion</b>	<b>63</b>
<b>A Pilot Test Survey</b>	<b>65</b>
A.1 Version 1 . . . . .	65
A.1.1 Households . . . . .	65
A.1.2 Students . . . . .	70
A.2 Final Version . . . . .	74
<b>B Main Survey</b>	<b>77</b>
B.1 Households . . . . .	77
B.2 Students . . . . .	81
<b>Bibliography</b>	<b>86</b>



## List of Figures

1.1	Customer Development Model (Source: Blank, 2006 [Modified]) . . . . .	3
2.1	Most popular categories of apps on the Apple's App Store (Source: Statista ( <i>Most popular Apple App Store categories in September 2018, by share of available apps</i> ) [Modified]) . . . . .	6
2.2	The players in a two-sided market (Source: Van Alstyne and Parker (2016) [modified]) . . . . .	8
3.1	Garden Example (Source: Plants ( <i>pflanzen für den vorgarten und ein- gangsbereich</i> ) ) . . . . .	16
3.2	Shopping List Example (Source: Loewentheil ( <i>I Tried Cooking Dinner All Week On A \$30 Budget</i> ) ) . . . . .	17
3.3	Car Interior Example (Source: Öner ( <i>Fiat Punto 176 Servo el.Fenster</i> ) ) .	18
3.4	Tutoring Kid (Source: Hansford ( <i>A practical guide to tutoring your chil- dren yourself, at home</i> ) ) . . . . .	18
3.5	German Shepherd (Source: ctvsh ( <i>German Shepherd</i> ) ) . . . . .	19
4.1	Pug Dog (Source: Wikipedia ( <i>Pug - Simple English Wikipedia, the free encyclopedia</i> ) ) . . . . .	25
5.1	Age spectrum of household group (Source: Own Representation ) . . . . .	28
5.2	Gender of household group (Source: Own Representation ) . . . . .	28
5.3	Job status of household group (Source: Own Representation ) . . . . .	29
5.4	Relationship status of household group (Source: Own Representation ) . .	30
5.5	Persons in Home of household group (Source: Own Representation ) . . .	30
5.6	Stress level of household group (Source: Own Representation ) . . . . .	31
5.7	Age spectrum of student group (Source: Own Representation ) . . . . .	31
5.8	Gender of student group (Source: Own Representation ) . . . . .	32
5.9	Job status of household group (Source: Own Representation ) . . . . .	32
5.10	Pursued degrees of student group (Source: Own Representation ) . . . . .	33

5.11 Results of the gardening scenario for households (Source: Own Representation ) . . . . . 34

5.12 Results of the gardening scenario for students (Source: Own Representation ) . . . . . 35

5.13 Results of the shopping scenario for households (Source: Own Representation ) . . . . . 36

5.14 Results of the shopping scenario for students (Source: Own Representation ) . . . . . 37

5.15 Results of the car cleaning scenario for households (Source: Own Representation ) . . . . . 38

5.16 Results of the car cleaning scenario for students (Source: Own Representation ) . . . . . 39

5.17 Results of the tutoring scenario for households (Source: Own Representation ) . . . . . 40

5.18 Results of the tutoring scenario for students (Source: Own Representation ) 41

5.19 Results of the pet sitting scenario for households (Source: Own Representation ) . . . . . 42

5.20 Results of the pet sitting scenario for students (Source: Own Representation ) . . . . . 43

5.21 Percentage of households who would use the service at least once (Source: Own Representation ) . . . . . 45

5.22 Percentage of households who would use the service at least once (Source: Own Representation ) . . . . . 46

5.23 Percentage of households choosing at least n scenarios (Source: Own Representation ) . . . . . 47

5.24 Percentage of students choosing at least n scenarios (Source: Own Representation ) . . . . . 48

5.25 Percentage of popularity of scenarios (Source: Own Representation ) . . . . . 49

5.26 Average hardship of scenarios (Source: Own Representation ) . . . . . 50

5.27 Age distribution of households willing to use the service (Source: Own Representation) . . . . . 50

5.28 Age distribution per scenario for households(Source: Own Representation ) . . . . . 52

5.29 Age distribution of students willing to use the service (Source: Own Representation ) . . . . . 53

5.30 Age distribution per scenario for students(Source: Own Representation ) . 54

5.31 Degree distribution among students willing to use service per scenario (Source: Own Representation ) . . . . .	55
5.32 Gender distribution per scenario for households (Source: Own Representation ) . . . . .	55
5.33 Gender distribution per scenario for students (Source: Own Representation ) . . . . .	56
5.34 Relationship distribution per scenario for households (Source: Own Representation ) . . . . .	56
5.35 Scenarios chosen by households with low stress level (Source: Own Representation ) . . . . .	57
5.36 Scenarios chosen by households with high stress levels (Source: Own Representation ) . . . . .	57
5.37 Mean WTPs and WTAs (Source: Own Representation ) . . . . .	58
5.38 Median WTPs and WTAs (Source: Own Representation ) . . . . .	58
5.39 Percentage of Households finding a match (Source: Own Representation )	59
5.40 WTP and WTA for gardening scenario (Source: Own Representation ) . .	60
5.41 WTP and WTA for shopping scenario (Source: Own Representation ) . .	60
5.42 WTP and WTA for car cleaning scenario (Source: Own Representation ) .	61
5.43 WTP and WTA for tutoring scenario (Source: Own Representation ) . . .	61
5.44 WTP and WTA for pet sitting scenario (Source: Own Representation ) . .	62
5.45 Median WTA for master and bachelor students (Source: Own Representation ) . . . . .	62



## List of Tables

3.1	Advantages and Disadvantages of Survey Methods (Source: Alasuutari, Bickman, and Brannen (2008) [own presentation]) . . . . .	13
4.1	Avg. Effort and Duration of Scenarios (Source: Own Representation ) . .	24



## List of Abbreviations

<b>WTP</b>	<b>Willingness To Pay</b>
<b>WTA</b>	<b>Willingness To Accept</b>
<b>BM</b>	<b>Business Model</b>
<b>BMD</b>	<b>Business Model Design</b>
<b>BMC</b>	<b>Business Model Canves</b>
<b>CDM</b>	<b>Customer Development Model</b>





# Chapter 1

## Introduction

### 1.1 Problem Definition / Motivation

As emerging technologies are characterised by their unpredictability, the process of developing a technology-based firm entails a great level of uncertainty (Aldrich and Fiol, 1994). In conclusion, developing a technology-based firm is much more risky than the traditional one. Startups in this sector not only have to build the final product and develop an organizational and financial architecture, they also have to pay attention to factors like the innovation speed, customers' behaviours, competition threat, governmental regulations, suppliers, investors, as well as many other environmental factors (Goktan and Miles, 2011; Mulders and Broek, 2012). business models are expected to increase entrepreneurs' chances of success by helping them to make more informed decisions by describing all essential features regarding the product, operations, and the structure of the new venture. Due to this, business models (BMs) and their evaluation are an especially important step in the creation of a technology-based startup as they can verify the product or service fit. The creation and use of BMs for startups are explained in detail in section 1.2.

In this master thesis we want to explore parts of the Business Model creation on the example of DoBeeDo. DoBeeDo is a location based app which is meant for getting help for daily small tasks. It is introduced in greater detail in section 1.3. The appropriate measures for creating a business model were already used by the team and an overall strategy approved by the founders. However since the firm is operating on a two-sided market it is even more important to attract and satisfy a sufficient number of users in both user groups. The first steps of verifying the product have already been executed by the founders themselves, in executing surveys to show the demand for a first draft of the idea in both user groups. In the course of this master thesis we want to answer the two following questions of the Customer Validation stage of the Customer Development Model (CDM). These will help us evaluate whether the business model is feasible and selected target customers are appropriate.

1. Are the user groups likely to use the service based on example scenarios?

2. What is the Willingness to pay and the Willingness to accept for the given service respectively?
3. Is there a sufficient amount of potential transactions created based on these measurements?
4. Which factors can we identify influencing these measurements?
5. Are there amendments to the Business Model that should be made or considered?

If the validation stage of the CDM is successful, the launch of DoBeeDo can be executed. As these questions are generally applicable to a number of startups and new business ideas on a two-sided market, a similar approach can be taken to verify them as is introduced in the following chapters.

## 1.2 Business Model Design for Startups

In the recent years, the interest in the idea of Business Models (BM) have exponentially increased, drawing in attention of many business owners, managers and academics. (Zott, Amit, and Massa, 2011) Even though some companies and organisations have applied creative BMs in the history of business, it is only in the last few years that the scale and pace of creative BMs are reconstructing industries and obliquely, civil society, has attracted the attention of scientists and experts. (Osterwalder and Pigneur, 2010)

According to several recent scholars which were reviewed by (Zott, Amit, and Massa, 2011) the BM is a ‘system level concept, centered on activities and focusing on value’ (p. 1037). The BM answers the following questions: (i) Who are the customers? (ii) what is the value that we are going to deliver to the customer? (iii) how do we make revenue? (iv) and what is the business logic that explains, how we can deliver the value to our customers with a suitable price? (Bijker, Hughes, and Pinch, 1987) A variety of tools and models has been created to aid in developing a BM. One of these is the Business Model Generation Canvas (BMC), proposed by Osterwalder and Pigneur, 2010 and Osterwalder, Pigneur, and Tucci, 2005. It is represented by a graphical schema consisting of nine building blocks: 1) customer segments, 2) value proposition, 3) channels, 4) customer relationships, 5) revenue streams, 6) key resources, 7) key activities, 8) key partnerships, and 9) cost structure. It represents not only the objects but also concepts and their relationships, as well as expressing the logic underlying the business. According to (Hulme, 2011), the use of canvas is essential for the learning cycle of a start-up. Indeed it has been of great popularity among entrepreneurs.

Another important tool in creating a Business Model is the Customer Development Model (CDM) developed by (Blank, 2006). Many startups use the BMC but follow a linear progression from idea to product development, which does not guarantee customer

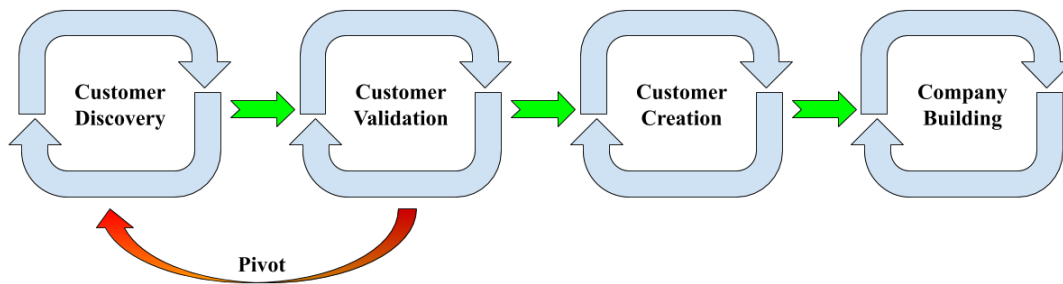


FIGURE 1.1: Customer Development Model (Source: Blank, 2006 [Modified])

acceptance. In fact market orientation has a close relationship with firm success (Zhang and Duan, 2010). In conclusion, the lack of a process for discovering their markets, identifying their customers, and validating their assumptions is one of the most prevalent reasons for failure among start-ups. To overcome these flaws the CDM introduces a 4 step process that is shown in 1.1. . “Customer discovery” focuses on understanding customer problems and needs, it also shows whether there is a real market for the product/service. The “Customer validation” step focuses on verifying the existence of customers, the perceived value of the product and the appropriateness of pricing and channel strategies. After the product launch “customer creation” takes place, that is to create and derive end user demand, based on the success of early sales. Lastly “company building” encompasses the journey from informal learning to formal departments exploiting the company’s early market success (Blank, 2006).

### 1.3 DoBeeDo

DoBeeDo is a location based app which is meant for getting help for small daily tasks. The app connects two customer groups, households on one side as task creators and students on the other side as task doers. Households that are more busy and usually earn more money can ask for help in the app for small things like helping with garden, walking the dog or grocery shopping. Students can then request to do these tasks according to their availability and schedule to earn some extra money. For every successfully executed task, a commission fee will be going to DoBeeDo, this is considered the main income stream for this business.

The first version of DoBeeDo was released on 1st of October 2018. Starting with only one customer group, that were students of university of Koblenz. The released app was supposed to be the test version of the current business idea, and to be updated and upgraded regularly. This version did not include payments but instead uses a point based system for simplification of processes and to make testing easier and less risky, in terms

of government laws related to online banking. This means, students would get 50 points on sign up so that they could then immediately post their first task, asking for any kind of help, whether related to studies or e.g. borrowing a hammer. They could earn more points either by helping someone or inviting friends to the network.

The app had a good start and attracted the first 100 users within the first weeks, but then it observed a decrease in sign-ups and in the amount of tasks being performed. This was mainly caused by the points system, because users weren't motivated enough by getting only points that had no external value to them. We observed that still some users were posting tasks (asking for help), but their task was left open.

This caused the founders to rethink the idea and make a pivot in the business model. Which as a result, real money was added and a new target customer, households. This still has to be implemented in the app. The development of new features is stopped to first do a business validation, which is the goal of this master thesis.

The current version of the app exists for both iOS and Android devices and is freely available in both the Apple's App Store and Google's Play Store to download. Both apps were build native (using Swift programming language for the iOS version and Kotlin for Android) to ensure the high performance and best user experience for the users. The Back-end of DoBeeDo is developed using NodeJS which is programmed in Javascript. There all the logic of a platform or website happens such as registration, log in, posting a task, uploading photo etc.

## Chapter 2

### Conceptual Background

#### 2.1 Mobile Apps and Mobile App Market Growth

Over the last few years, there has been enormous increase in the use of mobile devices. This increase has caused a huge development of softwares for these mobile devices, that are called mobile applications. (Nagappan and Shihab, 2016) Mobile applications are installed on small mobile devices that are transportable, easy to use and accessible from anywhere. They are a software that when installed on the mobile device and used, perform a certain task. Mobile application is a fast growing sector of the Information and communication Technology. (Islam, Islam, and Mazumder, 2010)

Most cellphone producers release their devices with preinstalled apps such as message app, phone/call app, email app etc., which are considered important for the usage of cellphones. The limits from the already installed apps and or lack of special features, led to the development of thousands of apps by developers to satisfy the users needs. That is why in the recent years, we are seeing an enormous growth in the demand of smartphones and mobile applications. (*The Mobile Application Market*)

In fact, current studies about app markets suggests that the most popular app markets, i.e. Apple's App Store (iOS platform) and Google's Play Store (Android platform), each have beyond 1.5 million apps. (*Number of apps available in leading app stores as of 3rd quarter 2018*) These mobile markets have introduced some categories for apps, so that it's easier for both the developers to reach their target users and on the other hand, easy for users to find the app they want in their favorite category. These categories, in the Apple's App Store as an example, can be found in Figure 2.1. With a growing number of mobile devices as well as a growing adoption of newer devices such as Tablets the global mobile application market is expected to rise to \$311,249 million by 2023 (*Mobile Application Market by Marketplace ( Google Play Store and Apple App. Store) and App Category ( Gaming, Entertainment & Music, Health & Fitness, Travel & Hospitality, Retail & E-Commerce and Education & Learning) - Global Opportunity Analysis and Industry Forecast, 2016 - 2023*). As mobile apps are mostly light-weight and economically viable solution for not only entertainment purposes but also for business and other productivity use, more and more publishers including the mainstream software companies

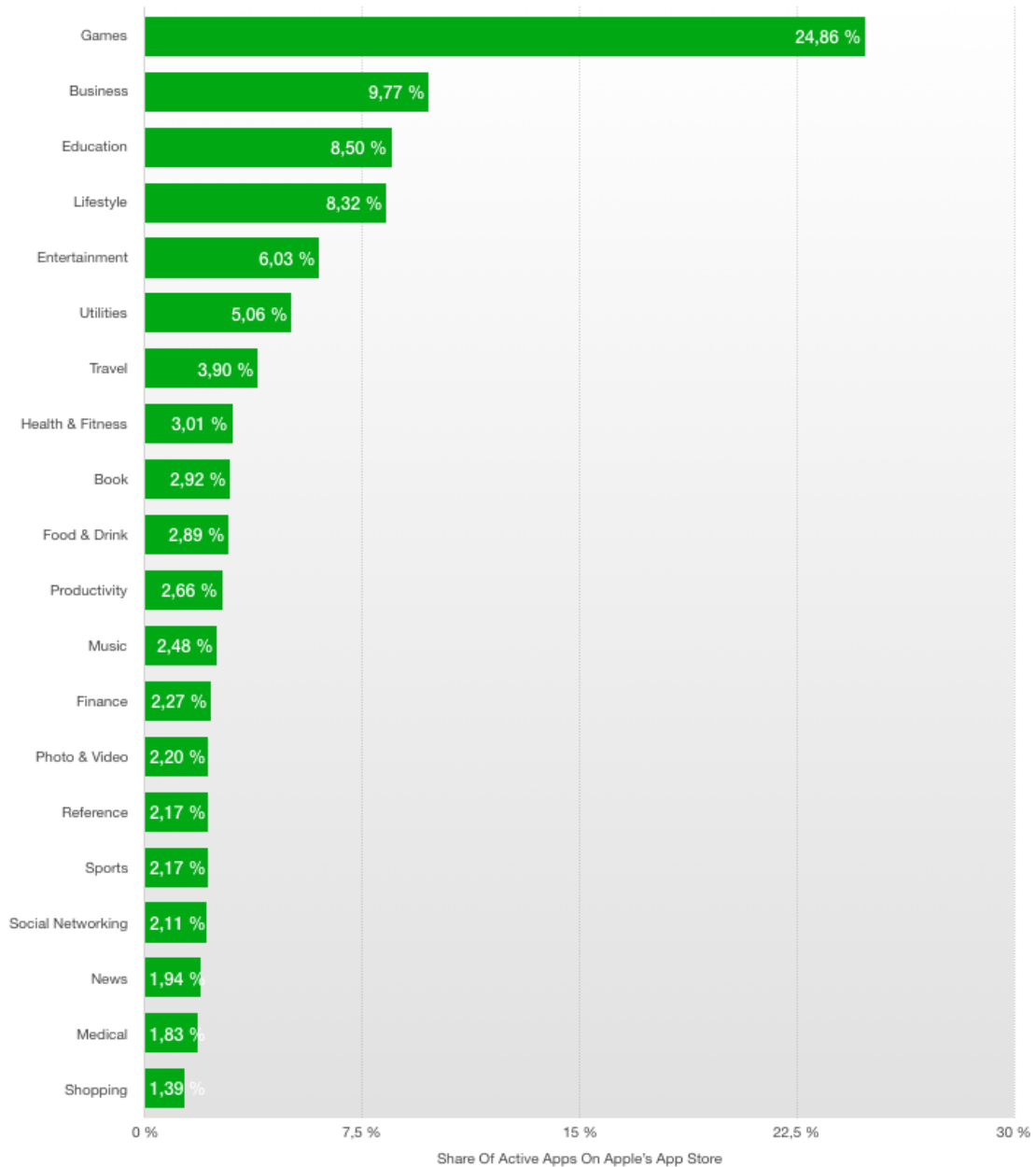


FIGURE 2.1: Most popular categories of apps on the Apple's App Store (Source: Statista (*Most popular Apple App Store categories in September 2018, by share of available apps*) [Modified])

are expected to enter the market (*Mobile Application Market by Marketplace ( Google Play Store and Apple App. Store) and App Category ( Gaming, Entertainment & Music, Health & Fitness, Travel & Hospitality, Retail & E-Commerce and Education & Learning) - Global Opportunity Analysis and Industry Forecast, 2016 - 2023*), resulting in an increase in the mobile business categories.

## 2.2 Two Sided Markets

With the growth of internet, two-sided or multi-sided markets (Platforms) have increased rapidly. This has caused new business models to appear in online markets in order to monetise innovative value propositions (Muzellec, Ronteau, and Lambkin, 2015). A two-sided platform is a platform which usually connects two (or more) distinct groups (markets) to each other. They satisfy the need of two distinct customer groups who need each other in some way (Evans, 2003). Generally speaking, a two-sided platform is one in which two (or more) groups of customers interact through an intermediary or platform, and the decisions of each groups of customers affects the outcomes of the other group through indirect network effects. Demand for a product is characterized by an indirect network effect when consumers' willingness to pay depends on the number of consumers (or the quantity bought) of another product (Filistrucchi, 2010). The occurring network effects are called externalities, since the buyers of the two products do not internalise these effects, other than the platform owner. This makes a two-sided market different from the case of a market for complementary products (Rochet and Tirole, 2003). A popular example is the case of a video game system as a two sided platform, for example XBox, the platform is the console producer - Microsoft - while the two groups of customers are consumers (video gamers) and the game developers (Rysman, 2009). Another example is the app market that we have previously talked about in chapter 2.1. A graphical representation of how the app market constitutes a two-sided market can be found in figure 2.2.

Two-sided markets can be distinguished into two-sided transaction and non-transaction markets. Two-sided non-transaction markets are characterised by the absence of a transaction between the two sides of the market, so that a per-transaction fee is not possible. Even though an interaction between the two sides is possible, it is usually not observable. Two-sided transaction markets are characterised by the presence and observability of a transaction between the two groups of platform users (Damme et al., 2010). In terms of the business model this means that the platform is not only able to charge a price for joining the platform but also one for using it. While Two-sided and non transaction markets are influenced by membership externalities, transaction markets are also influenced by usage externalities (Rochet and Tirole, 2003). Since the value of joining the platform depends on the number (or demand) of customers of the other user group, the benefit of using the platform similarly depends on the demand for usage by the other side.

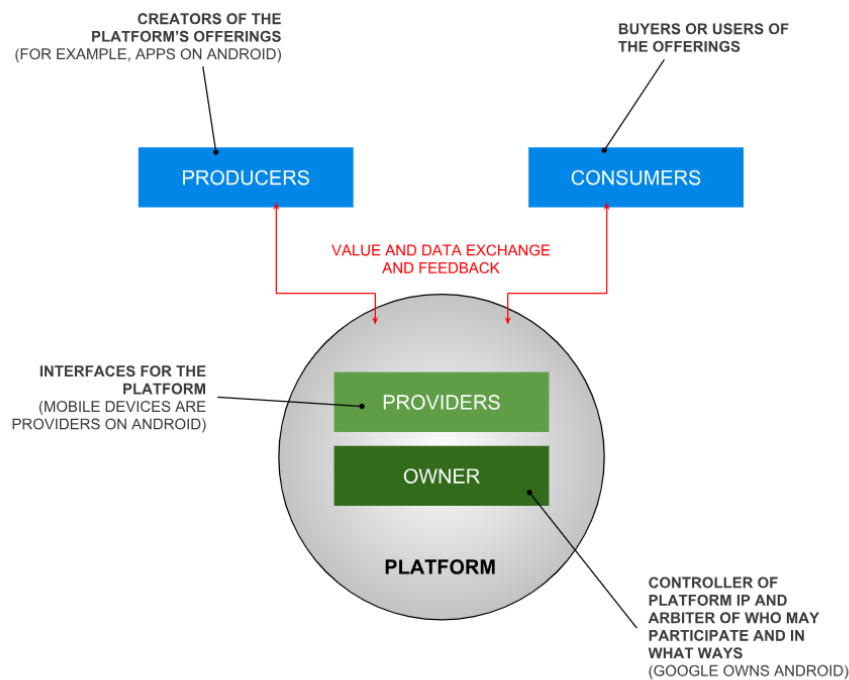


FIGURE 2.2: The players in a two-sided market (Source: Van Alstyne and Parker (2016) [modified])

Therefore we can say that even though multi-sided markets open new business opportunities, they are not free of problems. The main problem of a multi-sided platform is getting critical mass of users on all sides in order to succeed. Getting enough users is a necessary condition for a multi-sided platform for success (Ondrus, Gannamaneni, and Lyytinen, 2015). Based on (Evans and Schmalensee, 2010), success or failure of a multi-sided platform particularly depends on both the value that the platform offers to its users and the initial key decisions that the founders make in the beginning in order to pass the critical mass frontier by initial adoptions. The multi-sided platforms have the chicken-egg problem. For instance, there would be no demand for payment cards by buyers if they could not use the cards anywhere and also no demand from retailers for the cards if no one use them. which comes first, the retailer or the buyer (Evans and Schmalensee, 1999)? Additionally, the larger the network is, the better are the matches between supply and demand and the richer is the data that can be used to find matches (Van Alstyne and Parker, 2016). A greater scale results in more value, which attracts more participants, which in return again create more value and so on.



## 2.3 Willingness to Pay (WTP) and Willingness to Accept (WTA)

A typical setting to observe Willingness to Pay and Willingness to Accept is an experiment in which a participant is given a good like a coffee mug. Then he is asked for a price he/she would sell the good. This is his willingness to accept (WTA), compensation demanded or willingness to sell. Another participant is not given the good and instead asked how much he would pay for one. This is his willingness to pay (WTP) (Horowitz and McConnell, 2003) or the reservation price (Carmon and D., 2000). The price that consumers are willing to pay is influenced by the value the product or service has to the consumer and the effort necessary to acquire the product. The value of an offer is the first thing that is evaluated by a consumer in his decision to purchase an item (Monroe, 1990). The assessment of a products value depends both on the perceived benefits of the product compared to the sacrifices made and the perceived attractiveness of the price relative to reference prices. Reference prices may be influenced by prices previously encountered (e.g., Bitta, Albert, and Monroe (1974)) or comparative price advertisements (e.g., Blair and Landon (1981), Bitta et al. (1981)). For a good with a value that is small relative to income, WTP and WTA should be very close (Willig, 1976). However, numerous empirical studies, including many laboratory experiments have found a divergence in this values. There have been a number of theoretical explanations for why an individual's WTP differs from his/her WTA. One of the most popular ones involves modification of standard utility theory, claiming that the value of a loss is different from the value of a gain, even if loss or gain is small in comparison to income. This theory was formulated by Kahneman and Tversky (Kahneman and Tversky, 1979) in the context of loss aversion and by Thaler (Thaler, 1980) as the endowment effect. Another explanation has been made by Hanemann (Hanemann, 1991), who is considering unique non-market goods, for which substitutes are not readily available. He claims that if there is no market substitute for a good, it is not possible to compensate for its removal which result in an infinitely high WTA. On the other hand, if there is a low-cost market good that is a perfect substitute, there is no divergence between WTA and WTP. Shogren et al (Shogren et al., 1994) present experimental results that support the substitution effect while refuting the endowment effect and Kolstad and Guzman are able to reproduce previous experiment results under the premise that the item in question is a market good where the main uncertainty regards its market price. With repeated trials participants are obtaining information on what the group views the market price as being. And after repeated trials, the uncertainty and divergence is largely eliminated. Is the difficulty of obtaining information increased is the divergence of WTA und WTP also increasing.

For this thesis the results of previously conducted research regarding Willingness to Pay and Willingness to Accept show that the results of our analysis can only be seen as an indication of successful matching of consumer groups. WTA is mostly higher in experimental settings than WTP but the observed gap is decreased as consumers gain a

better understanding about the value of goods.

## Chapter 3

### Method

#### 3.1 Research Approach

At the beginning of each research process a researcher has to choose which methodologies to apply to reach the objectives. The different methodologies are typically split into qualitative and quantitative research methods. Similarly a research can be approached in a qualitative, quantitative and mixed approach. The difference in both approaches lies with the how data is treated and handled analytically. The purpose of qualitative approach is based on 'researcher immersion in the phenomenon to be studied, gathering data which provide a detailed description of events, situations and interaction between people and things' (Carson et al., 2001). Qualitative research is often building theories through interpretation, but rarely testing them.

Quantitative research lies emphasize on transforming data to numbers, quantities and statistical models for the purpose of measurement and analysis. In business research, quantitative methodologies often measure consumer behaviour, knowledge, opinions or attitudes. Surveys are considered a dominant tool of quantitative researchers (Cooper and Schindler, 2008).

The selected approach for this thesis will be the quantitative one. We chose this, since the goal of this thesis is to quantify a valuation of the product for students and households and to make a prediction of the success of the product.

#### 3.2 Data Collection Method

To get accurate and useful data, one should carefully choose a fitting data collection method. The selected method determines how data is collected. Possible methods of data collection are e.g. interviews, questionnaires, documentations, observations, standardized tests and archival records (Tashakkori and Teddlie, 2003). Data from these sources can be categorized in two different classes: primary and secondary (Sekaran, 1992). Primary data is collected by the researcher himself through direct observations, surveys and interviews while secondary is externally acquired. Secondary data always brings along the issue of reliability.

Moreover another classification can be done into monitoring or communication processes (Cooper and Schindler, 2008). Monitoring describes the processes of observing and documenting the activities of a subject, without the researcher attempting to elicit responses from anyone. Communication studies on the other hand involves the researcher questioning and collecting subjects' responses through personal or impersonal means.

For this master thesis, a communication process is used by conducting a survey. Naturally since this is the only collected data to answer our research goals, only primary data is used.

### 3.3 Sample Selection

There exist two types of sampling approaches (Tansey, 2007). One is non-probability sampling where, there is little attempt to generate a representative sample. The sample population is selected in a non-systematic process (Elfil1 and Negida, 2017). These type of sampling is mostly used in qualitative research (Patton, 1990). The other sampling method is probability sampling where all subjects in the target population have equal chances to be selected in the sample. This does permit statistical inferences to be made (Sandelowski, 2000).

In this master thesis we orient ourselves towards the simple random sampling i.e. the probability sampling. Meaning that participants from the customer groups will be selected as randomly as possible. Since DoBeeDo is based in Koblenz and the first target group is households and students in Koblenz, we will randomly select potential participants for the household group in Koblenz city center and for the student group on the university campus. We have decided to personally select instead of distributing the survey online, to eliminate any biases from people who volunteer to do the survey.

To define the target groups in greater detail, we established certain requirements. To be an eligible participant of the student group, he/she must be matriculated as a full-time student, while as an eligible participant of the household group, he/she must be a full-time employee, self-employed or unemployed. We aim to reach at least 100 participants in total.

### 3.4 Survey Design

The first step in creating a survey is to choose a communication approach. The three most popular types of approaches are (De Leeuw, 2005):

- The Self-Administered Survey
- The Telephone or Web Survey
- The Survey via Personal Interviews

Personal Interviews	Telephone	Self-administered
+ Interviewers may motivate respondents. + Interviewers provide additional instruction or explanations + variety of measurements + CAPI usable	+ high coverage + lower cost than personal + reduced interviewer bias + CATI usable	+ Respondents see the questions + often lowest cost + high coverage perceived as most anonymous
- presence of the interviewer can influence responses - Respondents do not see the questions - More limited participants - high cost	- lower response rate than personal - Respondents do not see the questions - no visual cues - interview length limited	- can have low responses - often returns are more extreme leading to skewing - cannot be too complex - no additional explanation possible

TABLE 3.1: Advantages and Disadvantages of Survey Methods (Source: Alasuutari, Bickman, and Brannen (2008) [own presentation])

A selection of each methods advantages and disadvantages can be found in table 3.1. The type of survey should be chosen based on which advantages and disadvantages are most fitting to the research goal. Furthermore a hybrid model may also be chosen. What should be taken further into consideration are the different sources of errors that can stem from the interviewer or participant. Among these are e.g.

- the wording of a question affecting the participant
- the sheer presence of on interviewer
- matters interviewees are unable or unwilling to talk about
- things people see through distorting lenses
- interviewer variability

and many more (e.g. Edwards et al., 1994, Becker and Geer, 1957 or Fowler and Mangione, 1990).

For this master thesis we chose to go with a hybrid model of personal interviews and self-administered study. Due to the fact that we personally choose the participants, it allows us to pre-screen them if they fit the mentioned criteria, like in personal interviews. Furthermore interviewers can answer questions about the understanding of the survey

if necessary and this method ensures a greater participation rate. Still we are aware of the possibility of inappropriate influencing behaviour and physical presence bias occurring. To minimize these risks, the participants should be provided with the questionnaires themselves and fill them independently. They should not feel observed by the interviewer when filling the questions.

As a next step we have to choose which variables we want to observe. Of course, like it has been already mentioned we want to find out if users of both target groups would choose to use the service of DoBeeDo and for which price, WTP or WTA respectively. Furthermore we want to evaluate if there is a relationship between some personal aspects of the participant and the willingness to use the service and the price point. For the household group we want to interrogate the age, employment status (i.e. unemployed, employed or self-employed) and the number of persons in their household. The number of persons in their households is asked so that we can see if there is any relation between the number of members and refusal to use the service. Lastly, for the student group we would like to gain information about the degree they are studying for (i.e. Bachelor, Master or PhD) and whether they are currently working in a student job.

In the next steps, the appropriate measurements for the variables has to be chosen. Two of the most popular measurements to do this are open-ended questions and close-ended questions. Open-ended questions do not provide predefined answers to the question. Close-ended questions do provide a certain number of possible answers for the participant to choose from. In quantitative research mostly close-ended questions are used, which is also the type of question we have chosen (Reja et al., 2003). Additionally, often scales are used to allow for the capturing of interval data. To capture participants age we chose a numerical question, as well as for the number of people in the household. For employment status and degree we use multiple-choice, single-response-questions and for asking if students are working part-time we use a simple category question. Next, we designed 5 different scenarios for which the participant could use Dobeedo. Each of them is explained in a short text. The participant has to choose one of the scenarios that is most applicable for him/her. This is again marked with a numerical question. After choosing the Scenario, the participant has to give a price, he/she would be willing to pay/willing to accept for the execution of the work. Again this will be done through a numerical question. As the last question we want to ask how stressed participant in the household group are. Since we want to measure the attitude or emotions of the participant this is most often evaluated using scaling (Maranell, 2007). For this we use a numerical scale.

This leads to the following personal information questions for the household group:

1. Please enter your age in years:

\_\_\_\_\_

2. Please enter your gender:

- Male
- Female
- Diverse
- not specified

3. Please enter your status of employment:

- employed
- unemployed
- self-employed
- other

4. Please enter the number of persons in your household:

\_\_\_\_\_

And the last question:

6. How stressed are you in your personal life?

not stressed    1    2    3    4    5    6    7    very stressed

As well as the following personal information questions for the student group:

1. Please enter your age in years:

\_\_\_\_\_

2. Please enter your gender:

- Male
- Female
- Diverse
- not specified

3. What degree are you currently studying for?

- Bachelor degree
- Master degree
- PhD
- other

4. Are you currently working in part-time job next to your studies?:

- Yes

No

Next we describe the 5 scenarios with the following questions for the household group and the student group for each scenario:

Households:

5. Can you imagine yourself to be in a similar situation like person A in the scenario described above?
6. Do you want to use the described service?

Students:

5. Can you imagine yourself to be in a similar situation like person B in the scenario described above?

Scenarios have been written to be detailed in the task that needs to be done, so both groups have an identical understanding of the situation and can evaluate it correctly. At the same time situations are chosen that can possibly apply to a large group of people. Furthermore, it was important to keep every scenario as short as possible to not lose the engagement of the participant.

1. Person A has a 40 Sq m garden area (shown in Figure 3.1) in front of their house. Since Person A is going on a 4 day trip, and there is no one to water his/her plants, he/she would like to use a new service to hire a student (person B) from University of Koblenz-Landau to do this task. Because the trip is short, the task of watering should be done only once (and not for example 3 times).



FIGURE 3.1: pflanzen für den vorgarten und eingangsbereich  
(Source: Plants (*pflanzen für den vorgarten und eingangsbereich*))



2. Person A has a grocery shopping list (Represented in Figure 3.2) but cannot go to the supermarket him/herself instead he/she wants to try a new local service in which she/he can find a student (person B) to go grocery shopping. Usually the shopping trip results in 2 filled standard shopping bags.



FIGURE 3.2: I Tried Cooking Dinner All Week On A \$30 Budget  
(Source: Loewentheil (*I Tried Cooking Dinner All Week On A \$30 Budget*))

3. Person A has a car (shown in Figure 3.3.) and its interior should be vacuum cleaned. But since he/she wants to spend more time with his/her family, person A wants to instead, use a local service and hire a student (person B) to clean the interior of the car. Person A provides the vacuum cleaner for cleaning the car.



FIGURE 3.3: Fiat Punto 176 Servo el.Fenster (Source: Öner (*Fiat Punto 176 Servo el.Fenster*))

4. Person A has a 10 year old son that needs one-time tutoring in English for an upcoming test. Since person A is not so proficient in English, he/she is willing to use a new service to pay a student of Koblenz university or university of applied science (person B) to be an English tutor for the kid.



FIGURE 3.4: A practical guide to tutoring your children yourself, at home (Source: Hansford (*A practical guide to tutoring your children yourself, at home*))

5. Person A has a German Shepherd named Giny. Since person A is too busy today, he/she would like to use a service to ask a student (person B) to take Giny for longer walk and keep her busy in return for a fee.



FIGURE 3.5: German Shepherd (Source: ctvsh (*German Shepherd*))

After participants picked a scenario, they have to answer either

6. If we provide you with a student to do a similar task as in the scenario for you, how much would you maximum be willing to pay per hour?

\_\_\_\_\_

or

5. If we would connect you to a person that has a similar task to do, how much is the minimum amount of money per hour for which you would do the task?

\_\_\_\_\_

The individual questionnaires for both user groups can be found in the appendix section.

### 3.5 Pilot Testing

Before a survey can be conducted pre- or pilot testing should be done to ensure that the survey will run with the minimum possible errors caused by flaws in the questionnaire design (Teijlingen and Hundley, 2001). Goals of pilot tests include but are not limited to:

- testing comprehensibility of questions
- determining variances
- testing clarity of the questionnaire
- identifying any difficulties in answering questions
- testing field conditions

Most methodologies used in pilot testing are either testing procedures in the field (e.g. Behaviour Coding, Random Probe, Qualitative Interviews, etc.) or they are cognitive procedures in the laboratory (e.g. Think-Aloud, Confidence Rating, Response Latency, etc.). All methodologies have certain advantages and disadvantages and should also be selected based on the goals of the survey and focus of the pretest. For our questionnaire we identified the biggest skewing factor in incomparability of scenarios. For example if a scenario is seen as lower effort in comparison to others it might be more often picked. This however would just be the result of the selected scenario format and does not reflect the actual attitude of a participant towards a category. This means, that in our pretest we have to identify that participant evaluate the effort in doing the tasks as comparable. With a lower priority we should also identify any issues in understanding of questions and directions as well as general difficulties. This can easily be achieved with the help of a „Conventional pretest" (Presser and Blair, 1994) or „Standard pretest" (Oksenberg, Cannell, and Kalton, 1991), in which pilot participants receive the questionnaire under most realistic conditions and are asked to complete it. The interviewers task is simply to observe and report problems and abnormalities in the completion of the surveys. The sample size is usually between 10 and 200. The methodology we chose to evaluate the comparability of the scenarios is called Free/Dimensional Sort. In this procedure respondents have to group given items either according to their own (Free Sort) or predefined criteria (Dimensional Sort) using given scales (Collins, 2013). For every scenario we ask the participants to evaluate the effort and time of the task:

How high would you rate the effort required to complete the task?

very low effort    1    2    3    4    5    6    7    8    9    10    very high effort

How long would you say it takes to complete the task ?

\_\_\_\_\_

We chose 18 users in our focus groups which participated in the pilot testing. Results of the pilot test will be discussed in chapter 4.

### **3.6 Data Analysis**

The first step of data analysis is data preparation which includes editing coding and data entry (Health Statistics, 1973). These activities ensure the accuracy of data and conversion from raw form to a form suitable for analysis. In editing, errors and omissions are detected and if possible corrected. This can happen for example in field editing, which means that immediately after the interview the data should be checked for errors and the participant called back if necessary. In central editing afterwards, errors can only be corrected if the intention of the interviewee is obvious, otherwise data has to be marked as e.g. unknown (Cooper and Schindler, 2008). In the coding stage answers are classified and given a numerical codes for the ease of data processing (Health Statistics, 1973). The coding stage is particularly easy for quantitative questions. In the data entry stage the data is transferred to a medium for analysis, i.e. a database for quantitative questions. All of the described steps will be applied in this thesis.



## Chapter 4

### Evaluation And Results Of The Pilot Testing

#### 4.1 Effects on the final questionnaire

First we want to talk about the changes to the questionnaire that have been made after the Pilot Testing phase. In the household group we noticed that people sometimes overlooked the fact that the described task should only be done once (e.g. for the tutoring or dog sitting scenarios). Because of this we added this information again to the corresponding text areas so that they cannot be missed as easily. Further, some of the participant reasoned that the gardening work can be done fast with a garden hose, others did not think that a hose would be an option. Therefore it needs to be re-specified in the scenario that there is no access to a hose for watering the plants. One time we could observe that a participant accidentally swapped person A and person B. So for each scenario we add again who is person A or B in the questions. Lastly we noticed that it could be interesting to add relationship status in the personal information section, as this could also be a determinant of different results. So we added the following question:

What is your relationship status?

- Single
- In a Relationship
- Married
- Other

The student pretesting was done with the changes of the household group testing. The problems that were occurring in the other group were not appearing anymore, which leads us to believe that they were solved by the introduced measurements. Additionally we could not notice any other problems in answering or understanding the questionnaire.

Scenario	Avg. Effort	Avg. Duration	Ratio
Gardening Work	3.11	47.76	0.07
Shopping	3.11	45.28	0.07
Car Cleaning	4	57.22	0.07
Tutoring	4.44	90.88	0.05
Pet Sitting	3.33	74.72	0.04

TABLE 4.1: Avg. Effort and Duration of Scenarios (Source: Own Representation)

## 4.2 Evaluation of the scenario comparability

As already mentioned, the pre-test solved two purposes in our survey. The first purpose was to find problems in the presentation of the questionnaire and the results were discussed in 4.1. The second purpose was to find out if the scenarios we want to use for the actual survey are comparable among each other. Only if this is the case we can guarantee valid results of the later conducted survey. To find out if the scenarios are similar, we are going to calculate the average effort and time that participants selected. Since effort and time are not completely independent variables but could be affecting each other we are normalizing our values by calculating the ratio of them, i.e. effort/time. Since it is not realistic to find scenarios that would result in a ratio that is exactly the same, we defined the upper and lower bounds. Taking a scenario with a medium effort, which on our scale from 1 to 7 would mean an effort of 3,5 the tasks were aimed to have a duration of 1 hour  $\pm$  10min. For our ratios this means, that they should be between 0.05 and 0.07. Table 4.1 shows the results rounded two digits after comma.

As we can see, the results of the first four scenarios are within our defined range. The last scenario with a ratio of ca. 0.0446 is not within bounds. This meant that the last scenario, which is about walking the dog needed to be reworked. The first change that we made in an effort to decrease the duration and therefore raise the overall ratio, was to change from a german shepherd to a smaller dog. Figure 4.1 shows the swapped picture. However after rerunning the pre-test with only this question we could not notice any significant change in the resulting ratio.





FIGURE 4.1: Pug Dog - Simple English Wikipedia, the free encyclopedia (Source: Wikipedia (*Pug - Simple English Wikipedia, the free encyclopedia*))

As a next step we again tried to produce a decrease in duration by making textual changes. We added to the question that person B was only responsible for an evening walk, since it might have been a possibility that some participants understood that all walking for a day needed to be done. Moreover, we also removed the word "longer" as an adjective for the walk that has to be done. The resulting question was like following:

5. Person A has a Pug named Giny. Since person A is too busy this evening, he/she would like to use a service to ask a student (person B) to take Giny for an evening walk in return for a fee.

When the pre-testing of this version was done on 13 people it resulted in an effort of ca. 3.17, duration of ca. 62.917 and therefore a ratio of almost exactly 0.05.

With this changes and results of the pre-test in place, we concluded our final version for the real survey.



## Chapter 5

### Evaluation And Results Of the Final Survey

#### 5.1 Cleaning of Data

Originally we managed to get a total of 122 answers. 53 people filled the questionnaire in the household group and 69 people filled the questionnaire in the student group. For the data cleaning however some answers needed to be removed from our final evaluation or edited. In the student group we removed 4 filled out questionnaires. These four questionnaires contained obvious fake data like an age of 1048 years. In the household group we removed 3 filled out surveys. These three questionnaires were removed because they were filled by someone who was still a student, and we are actively separating these two groups. Furthermore some people added answers under 'other' even though there was a category existing which should include the answer they gave. For these we manually edited the received questionnaire. The cleaned up data is leaving us with 50 answers in the household group and 65 answers in the student group which will be taken into account for the evaluation.

#### 5.2 Received Results

##### 5.2.1 Personal Information

First we want to talk about the type of participants we were able to gather for our survey. In the household group we were able to achieve a diverse spectrum of participants' age, which goes from 23 years to 65 years old. This can be seen in figure 5.1 where also the exact numbers of participants for each age can be found.

42.2% of the participants were male and 52.8% were female (5.2). Therefore the gender of the participants was almost equally distributed between male and female, with no answers from diverse.

The vast majority of the participants in the household group were employed with only one person being retired, self-employed or jobless respectively (5.3). In contrast to this is the relationship status in the household group. The relationship status is very diverse as it can be seen in figure 5.4. About a third of the participants are married, a bit more than

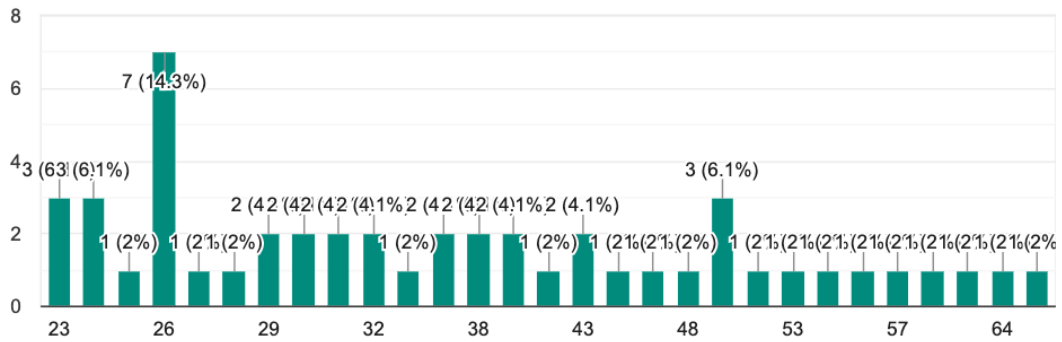


FIGURE 5.1: Age spectrum of household group (Source: Own Representation)

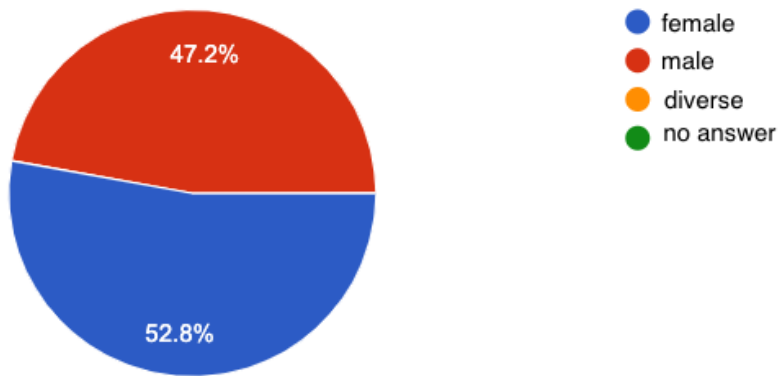


FIGURE 5.2: Gender of household group (Source: Own Representation)

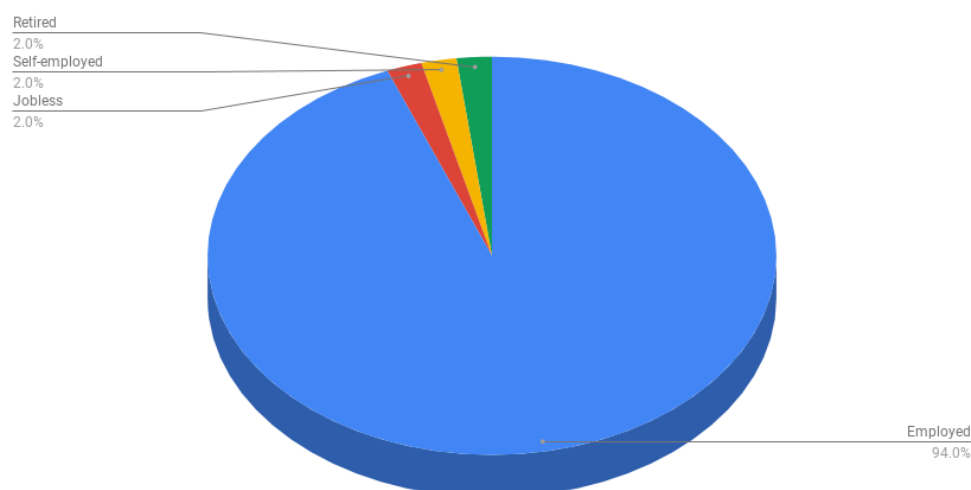


FIGURE 5.3: Job status of household group (Source: Own Representation)

a third of them are in a relationship. About one quarter of participants are single and the remaining ones are either divorced or widowed.

Corresponding with one quarter of all participants being single, one quarter reported only one person to exist in their household. Most participant had one other person in their household. The remaining ones had either three or four persons in their household equally distributed (5.5).

In the last personal information question for households we asked about the stress level of participants. Surprisingly the reported stress level was not very high for most participants as you can see in figure 5.6. More than a third of participant reported a stress level of 2 out of 7 and only 3 participants reported a stress level of more than 5 out of 7.

In the student group the age spectrum was not as diverse as in the household group, as it can be expected. The age range of participants was ranging from 18 to 30 years old as shown in figure 5.7. Therefore most participants were in their twenties.

Also the gender distribution of students differed from the household group. More than 60% of participating students were female and only a bit more than 1/3rd of participants were male. Again there was no one who registered in the survey as diverse (5.8).

While we could see in the household group that almost all participants were employed, also 3 out of 4 students were working besides their studies. Only 26.2% reported to not have a student job (5.9).

Lastly students were asked which degree they are pursuing right now. The results are shown in figure 5.10. Most of the studies participants were studying in a Bachelor's program. About a quarter of students where in a Master's program.

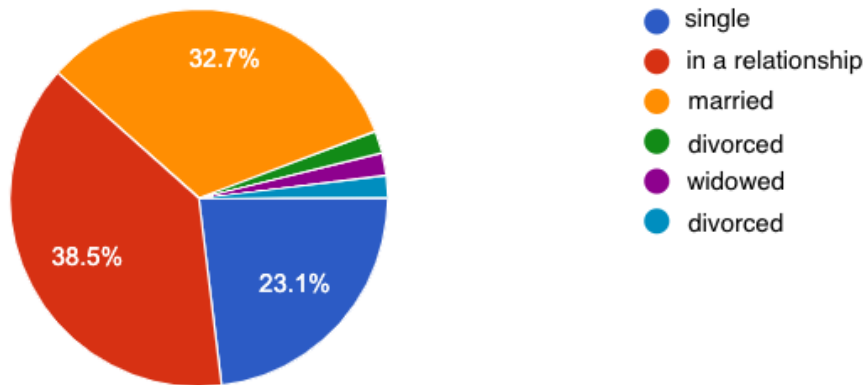


FIGURE 5.4: Relationship status of household group (Source: Own Representation)

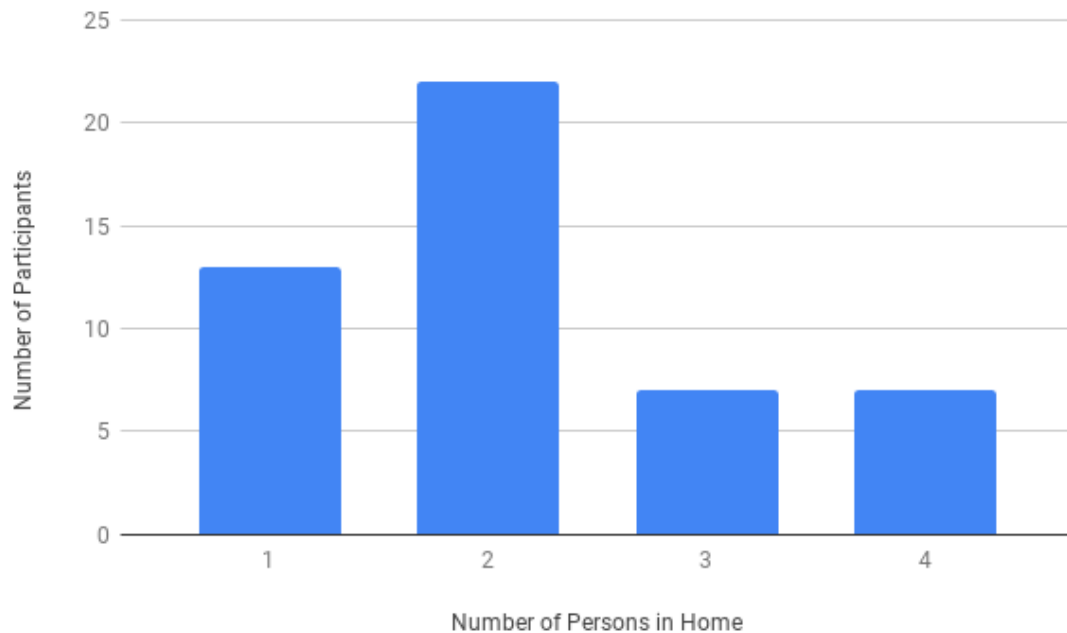


FIGURE 5.5: Persons in Home of household group (Source: Own Representation)

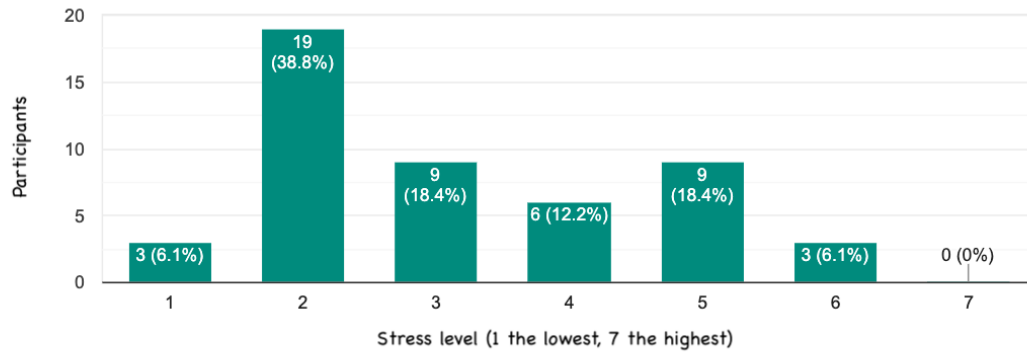


FIGURE 5.6: Stress level of household group (Source: Own Representation)

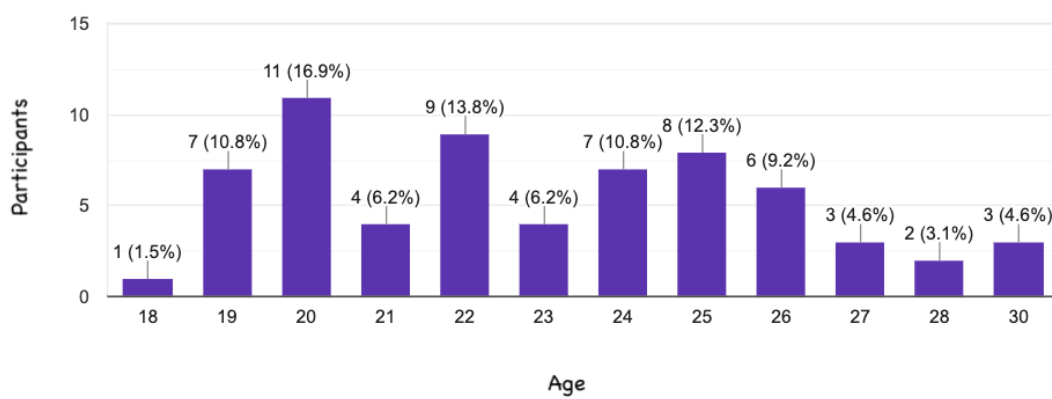


FIGURE 5.7: Age spectrum of student group (Source: Own Representation)

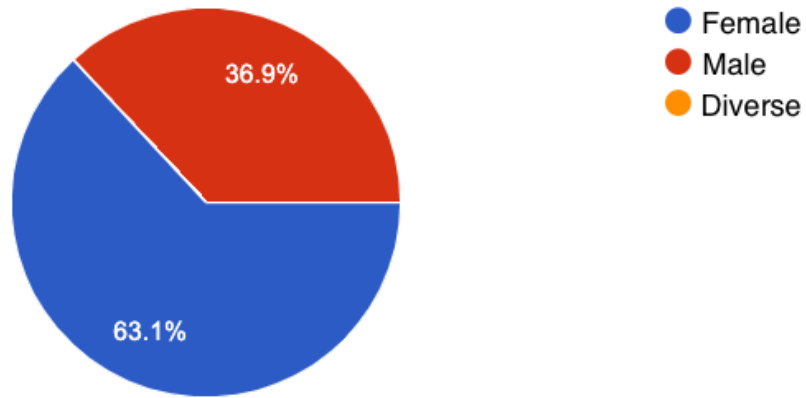


FIGURE 5.8: Gender of student group (Source: Own Representation)

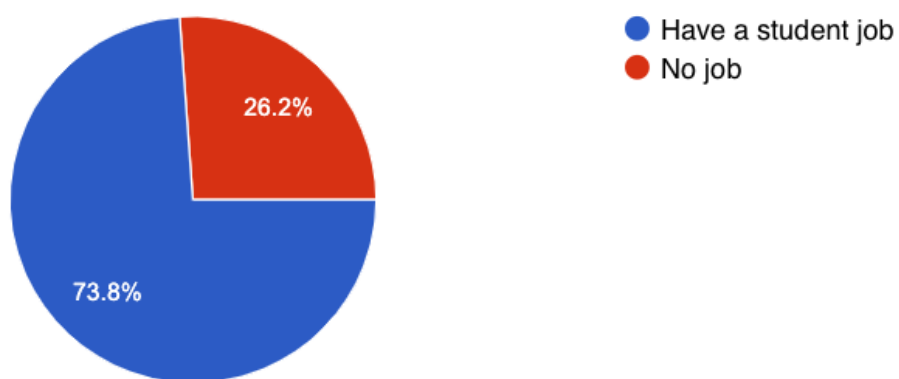


FIGURE 5.9: Job status of student group (Source: Own Representation)



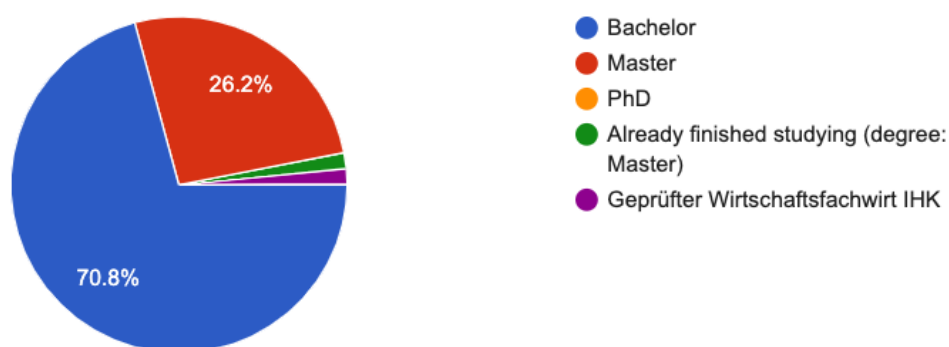


FIGURE 5.10: Pursued degrees of student group (Source: Own Representation)

## 5.2.2 Scenarios

For the first scenario about three quarters of household participants could identify with the need of the gardening scenario. 44% chose not to use the service, the remaining ones did. The prices the household group would pay for someone to do the service can be seen in figure 5.11. Prices were ranging from 5 to 20 Euros. More than 80% of students could imagine to fulfill the service described in the gardening scenario. However, only about 60% could also imagine to actually fulfill the service. Prices students would be willing to accept are shown in figure 5.12. Prices were ranging from 5 to 20 Euros as well.

For the shopping scenario a bit less people in the household group could identify with the situation and only about half would consider to use the service. Offered prices are shown in figure 5.13. Again they were ranging from 5 to 20 Euros. Students could also identify less with the scenario but more than the household group. Slightly more than 70% were identifying with it and 60% were willing to do the task. Accepted prices are depicted in figure 5.14 and were ranging from 5 to 50 Euros.

In the car cleaning scenario we found a similar discrepancy between people that could imagine themselves to be in the described situation and people who would use the service as in the first scenario. The differences amounted to 18%. 64% could imagine themselves to be in the situation, only 46% would use the service (5.15). The car cleaning was also the least popular scenario among students. Less than half could identify with the scenario, but the same percentage of them would also use the service. WTP and WTA amounts are shown in figure 5.15 and figure 5.16 respectively. This time household participants were willing to pay between 5 and 50 Euros and students were willing to accept 5 to 45 Euros.

The tutoring scenario was the most popular among the household group. 82% of participants could identify with the scenario and even a slightly higher percentage of people reported that they would use the service. In the student group the identification

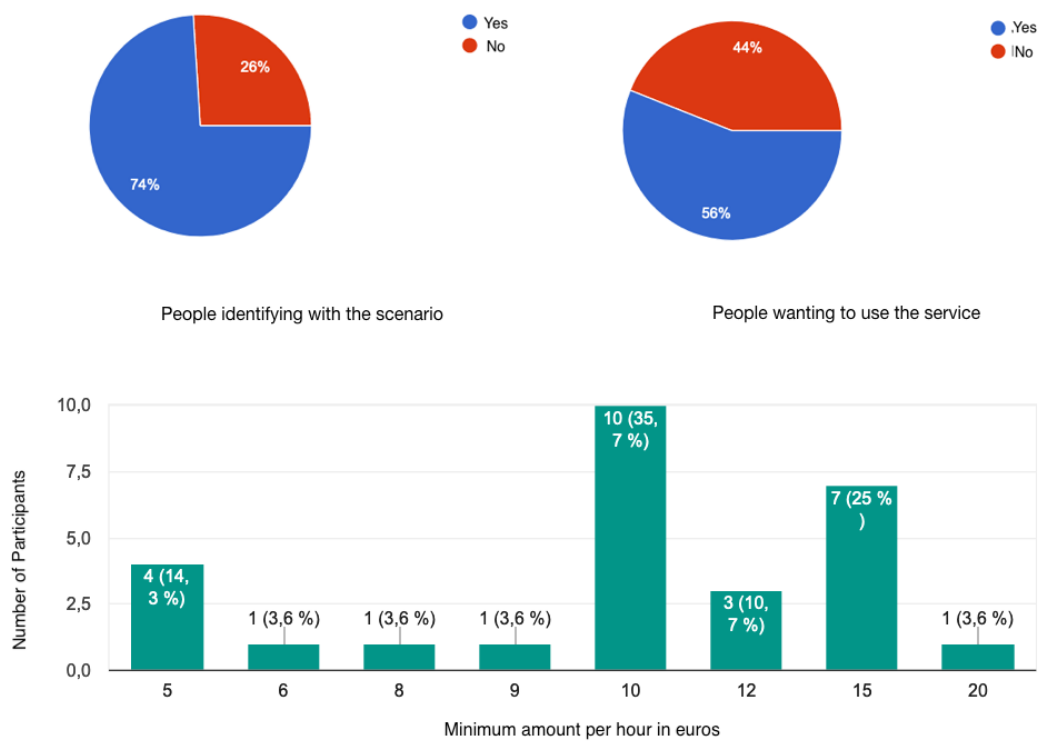


FIGURE 5.11: Results of the gardening scenario for households  
(Source: Own Representation)

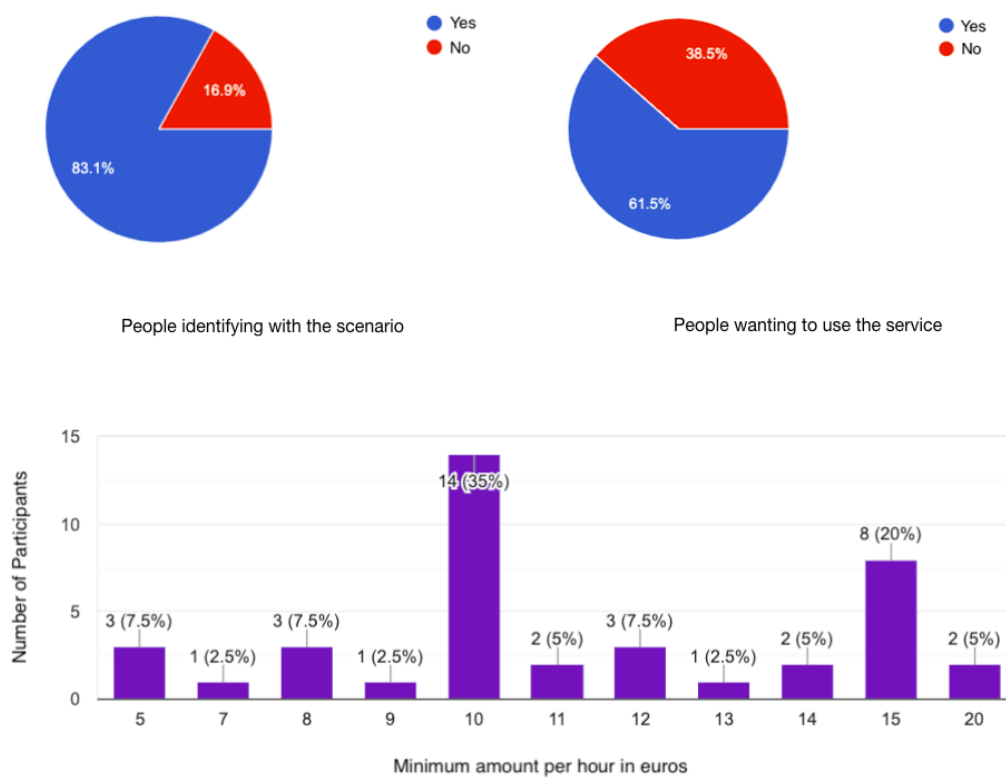


FIGURE 5.12: Results of the gardening scenario for students (Source: Own Representation)

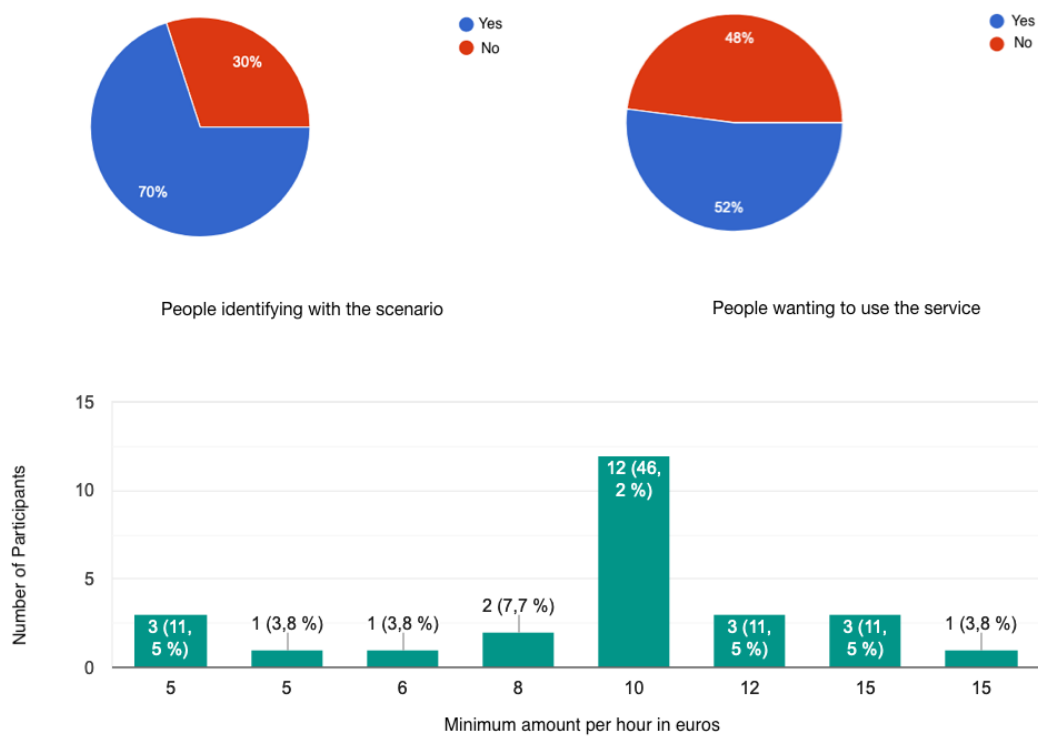


FIGURE 5.13: Results of the shopping scenario for households  
(Source: Own Representation )

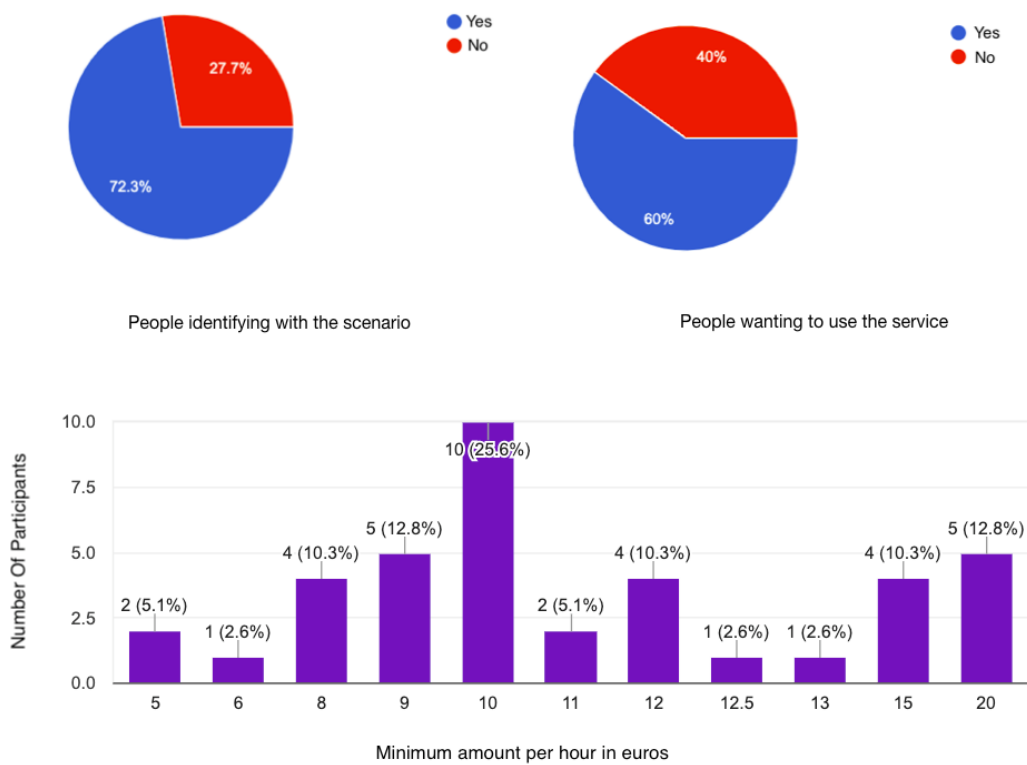


FIGURE 5.14: Results of the shopping scenario for students (Source: Own Representation)

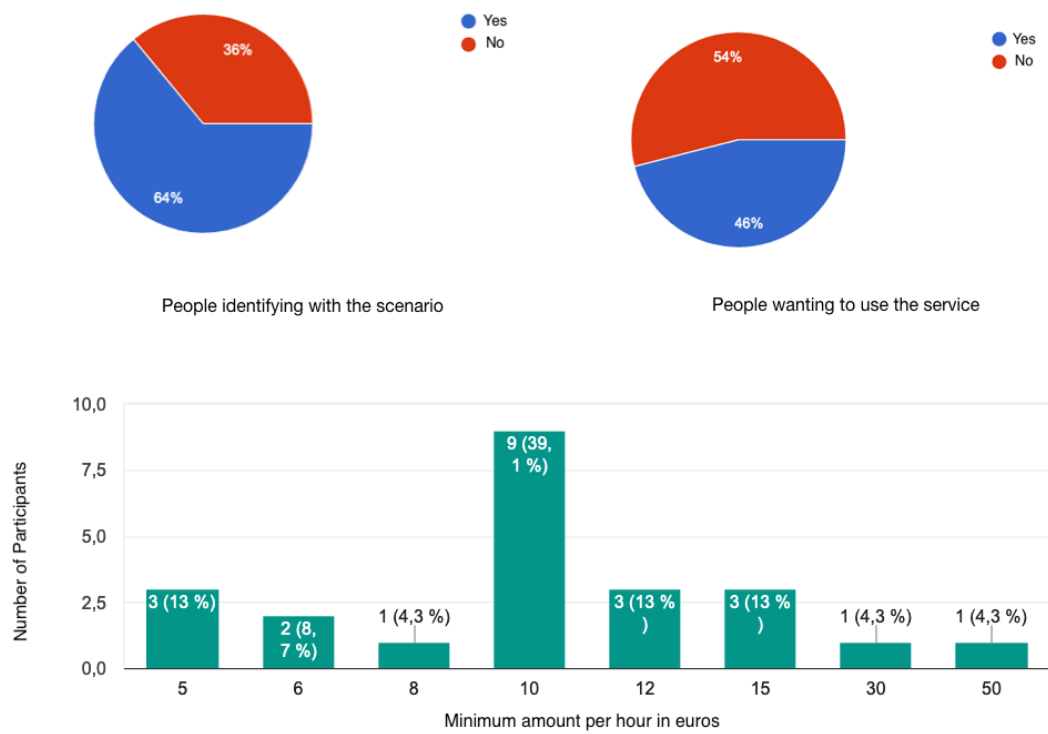


FIGURE 5.15: Results of the car cleaning scenario for households  
(Source: Own Representation)

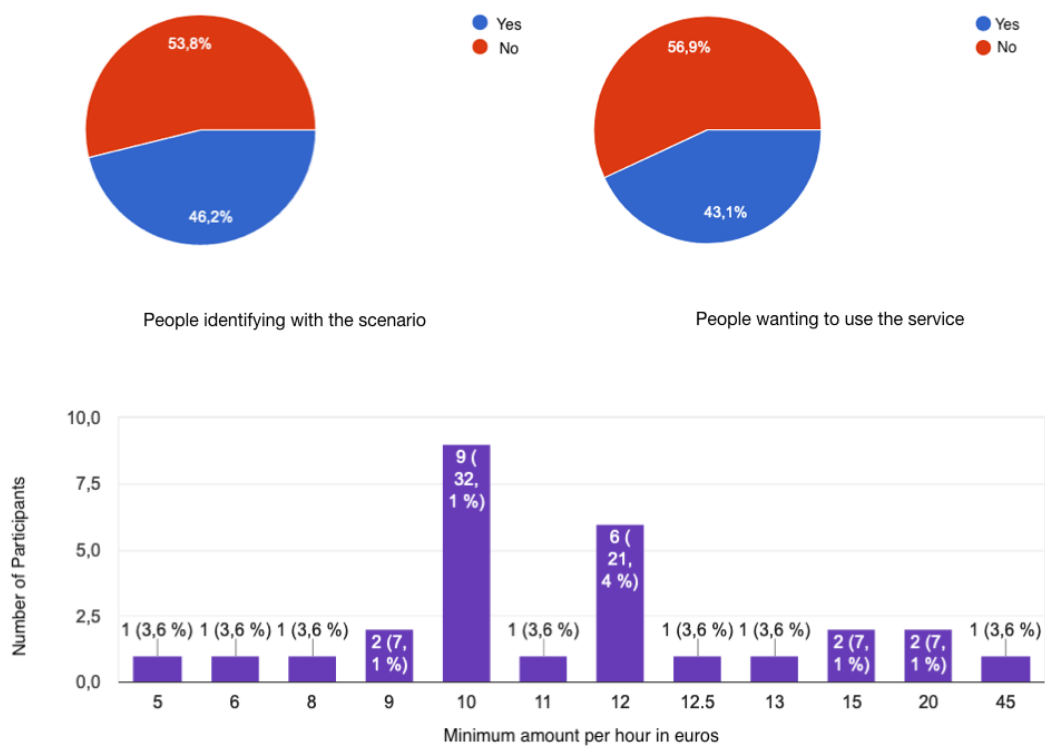


FIGURE 5.16: Results of the car cleaning scenario for students  
(Source: Own Representation)

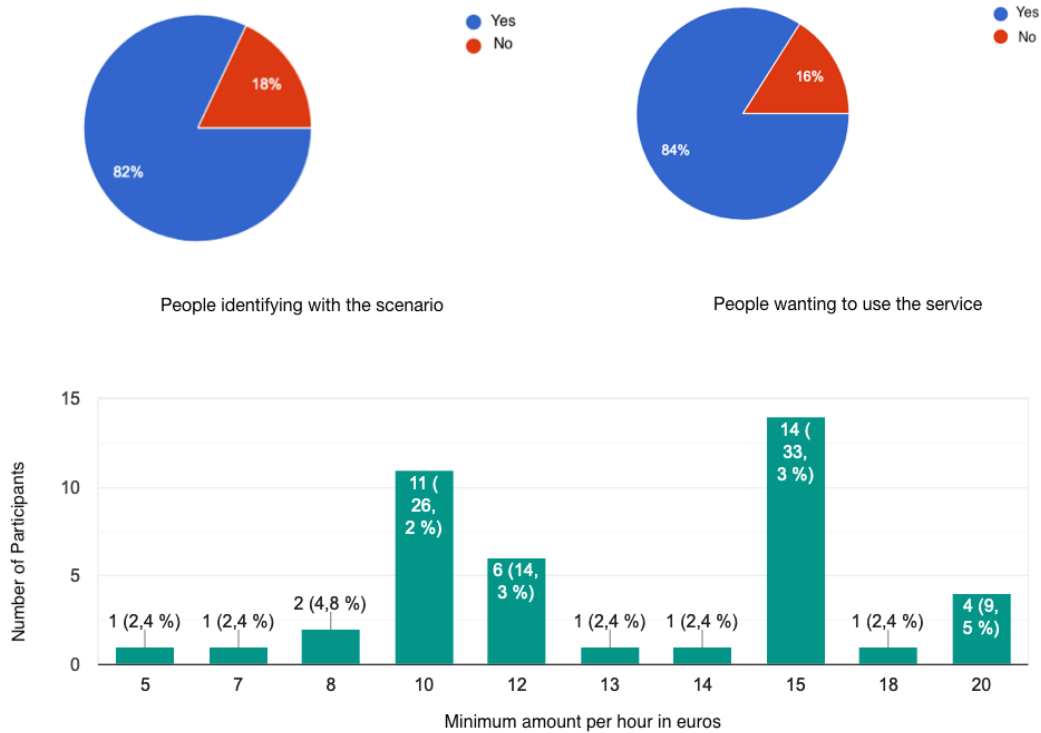


FIGURE 5.17: Results of the tutoring scenario for households  
(Source: Own Representation)

rate was also quite high with almost 85%. For students however only three quarters would use the service. Again WTA and WTP amounts can be found in figure 5.17 and 5.18 and both amounted to 5 to 20 Euros.

The last scenario in the survey was the pet sitting which its result are displayed in figure 5.19 for the household group and in figure 5.20 for the student group. Similarly to the ratio of some other scenarios 60% of household participants were identifying with the scenario and 42% wanted to use the service. For the students both values came to almost 75%. WTP for households was between 3 to 15 Euros. WTA for students was 5 to 20 Euros.

### 5.3 Evaluation

In this section we want to attempt to explain the received results and present conclusions that can be drawn from the gathered data. Moreover we also want to present additional calculations and data representations. First we will start with the personal information of the household group.

In figure 5.1 we could see that mostly age of participants were relatively evenly distributed between 23 to 65. There is only one significant outlier, which is the age 26. This



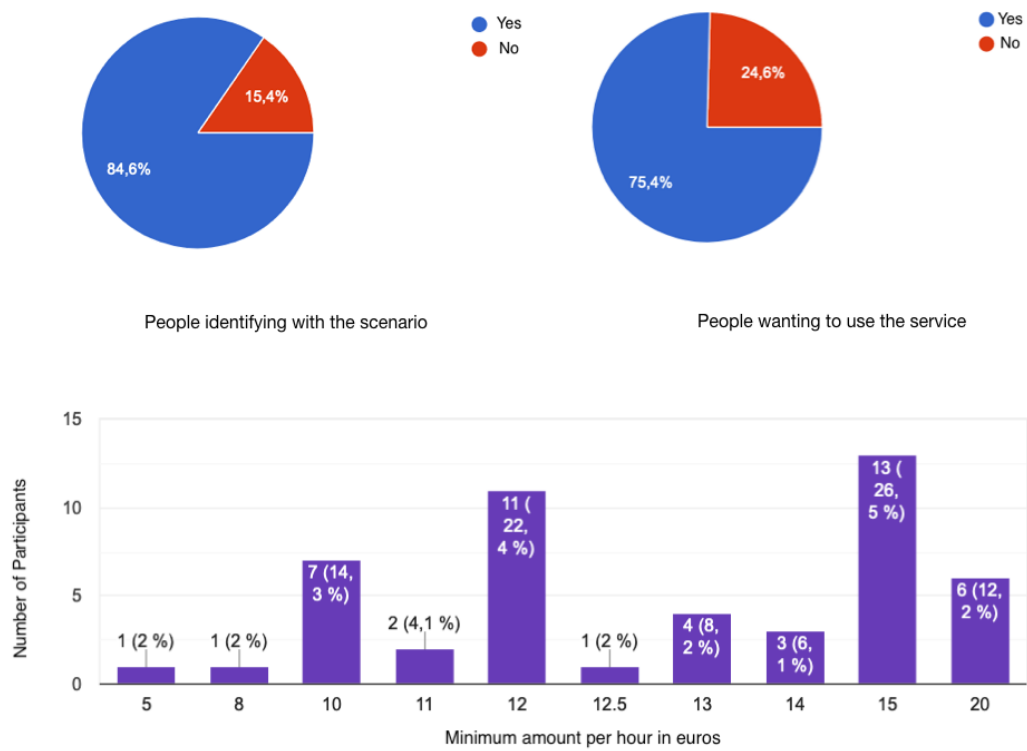


FIGURE 5.18: Results of the tutoring scenario for students (Source: Own Representation)

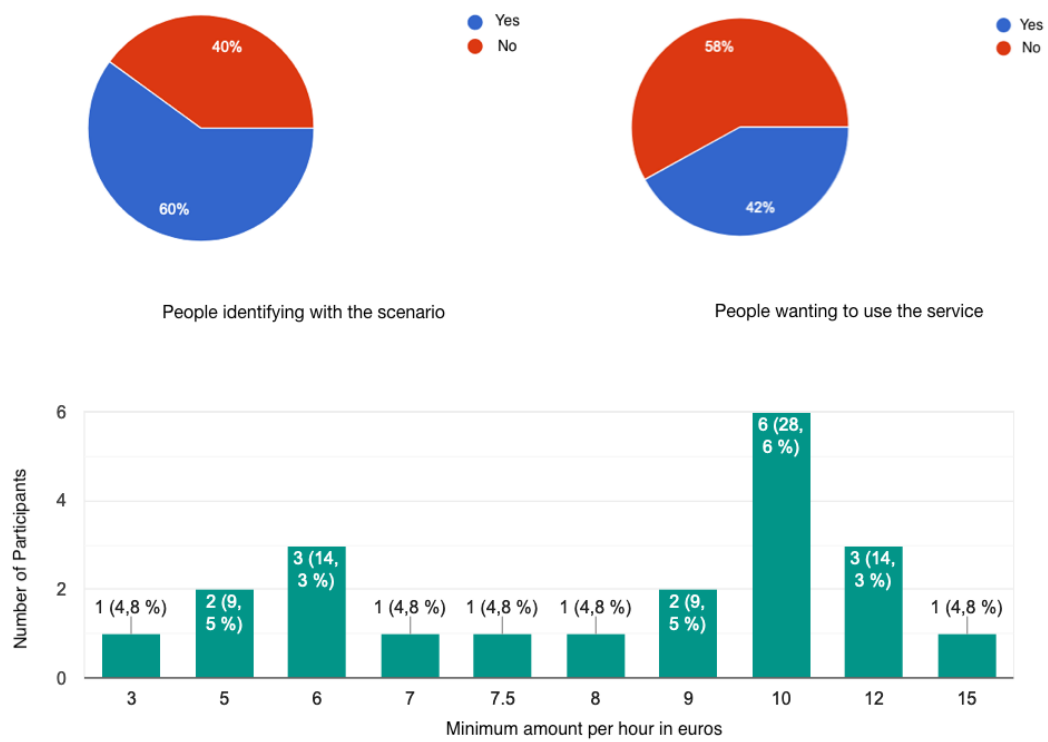


FIGURE 5.19: Results of the pet sitting scenario for households  
(Source: Own Representation)

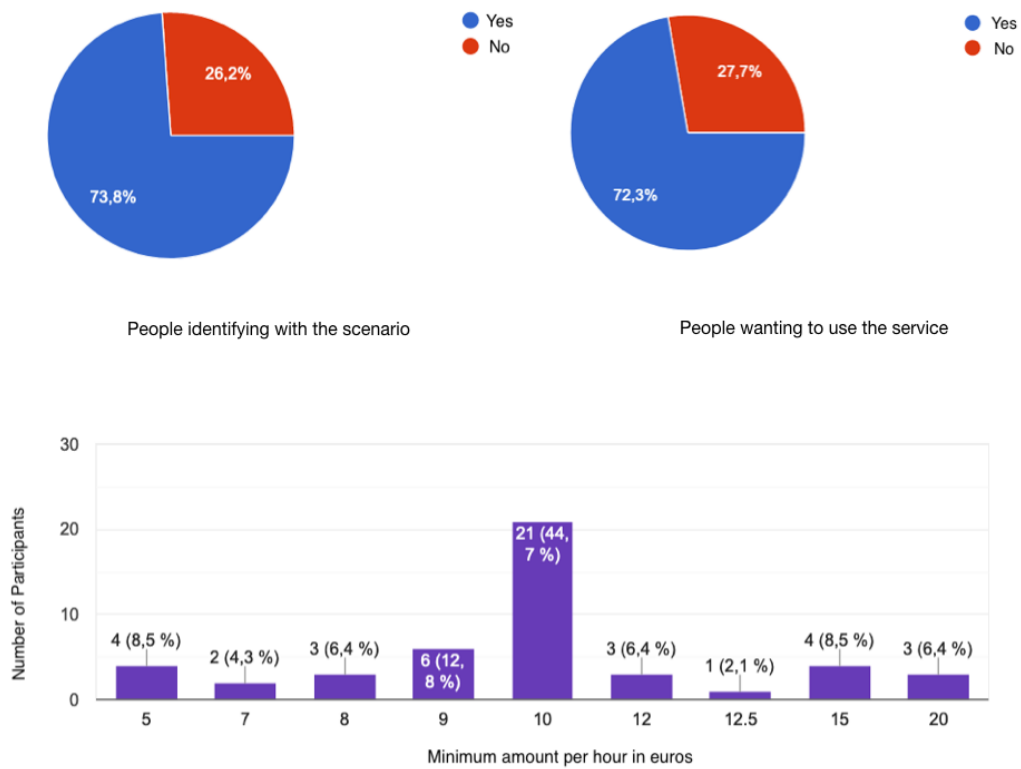


FIGURE 5.20: Results of the pet sitting scenario for students  
(Source: Own Representation)

could be the case due to our method of asking people on the streets to fill out the survey if there were groups of people asked to fill out the questionnaire that are in the same age group. However it should not influence the validity of results since we can separate the age groups if necessary. The ratio of gender with 50% to 50% is reflecting no bias towards any gender of participants. Since the age spectrum of our participants is only reaching up to 65 years the retirement in figure 5.3 is quite low. Very few people are also self-employed or jobless. Theoretically the low number of these categories could be attributed to the times and places the survey was conducted. Possibly jobless people are less likely to find in shopping districts and self-employed people have less spare time and therefore spent less time in said shopping districts. Since jobless people are not in the target group of DoBeeDo it does not matter much for testing the service. However for the following results we have to keep in mind that the number of retired and self-employed people is too small to conduct any statistical relevance from them. About one third each of our participants were in a relationship, married and without a partner (i.e. single, divorced or widowed). In figure 5.5 we can see an expected correlation in the ratio of the relationship status with the number of persons in an household, suggesting that mostly relationships live in 2 people households, married couples as a family in 3-4 people household and single persons alone.

In the student group we have a higher percentage of female participation. This can be explained by a higher percentage of woman studying on the campus in Koblenz. According to the university's statistics (*Studierende nach Erst- und Neueinschreibung - Studierende und Studienanfänger insgesamt und nach Campi (alle Studierenden ohne Beurlaubte)* [pdf]) in winter semester 18/19 about 60% of students are female which is very close to the 63% of our survey. The university also keeps track of bachelor and master students, however it is not separated by campus (*Studierende nach Erst- und Neueinschreibung - Bachelor- und Masterstudiengänge* [Excel]). For the whole university of Koblenz-Landau there are about 27% of master students compared to about 26% that we found. Sadly there were no statistics about the age of students available from the university but logically our results were in a typical range from 18 to 30.

To prove the validity of DoBeeDo's Business Model we ran a number of calculations based on the data and results that were collected for the scenarios and introduced in chapter 4. First of all we were interested in how many percent of participants would actually be interested to use the service that is provided by DoBeeDo unrelated to which kind of scenario they would choose. We got very positive results. Only 7.7% of students were choosing not to do any task, see 5.21. The reason for not choosing to do any task could for example be that there was no scenario they were interested in or that they already have a well-paid student job and think they have no benefit from the service. To investigate this reason we looked at whether it were the same people that had a job that choose to not use the service. Also in our data we could see that this was likely the case as 4/5 people in

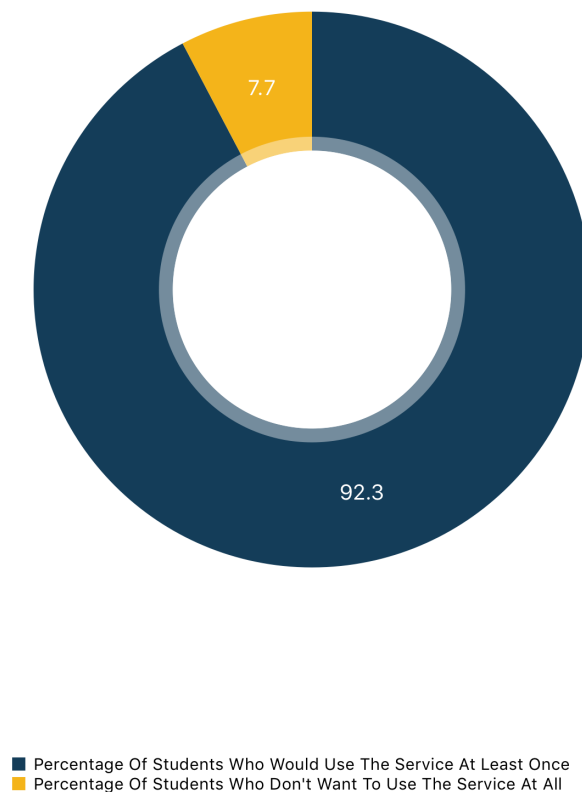
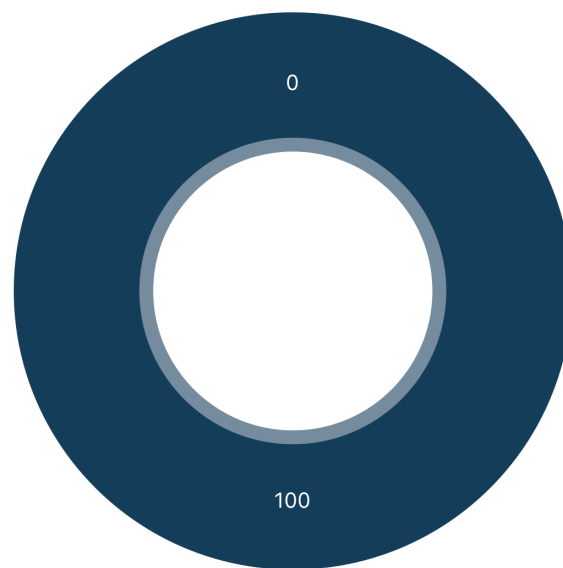


FIGURE 5.21: Percentage of students who would use the service at least once (Source: Own Representation)

this category had a student job. In the household group we achieved 100% in people that would like to use the service in at least one scenario (5.22).

We were also interested in the question whether participants were interested in multiple scenarios or just one. This can help us as an indication of the popularity of the service since later on people would also be inclined to use the application for different tasks and become regular customers. Figures 5.23 and 5.24 show the households and students choosing at least n scenarios. We can see that in both groups participants that wanted to use the service were always interested in multiple scenarios and even about half of them were interested in at least 3 out of 5 scenarios. This shows a really good rate and prognosis for a regular use of the app.

It was also important for us to see whether there exists an indication which scenarios would be good to include in DoBeeDo as possible categories, triggers or just focus points. For this we again displayed the popularity of scenarios for both groups in one graph (5.25). What is interesting to see from this graph was that for all but one scenario the popularity with students and households is correlating. We believe that a reason for the pet sitting scenario differing is actually a combination of students viewing this task as quite enjoyable and not many households that could identify with the scenario as they do



■ Percentage Of Households Who Would Use The Service At Least Once  
■ Percentage Of Households Who Don't Want To Use The Service At All

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FIGURE 5.22: Percentage of students who would use the service at least once (Source: Own Representation)

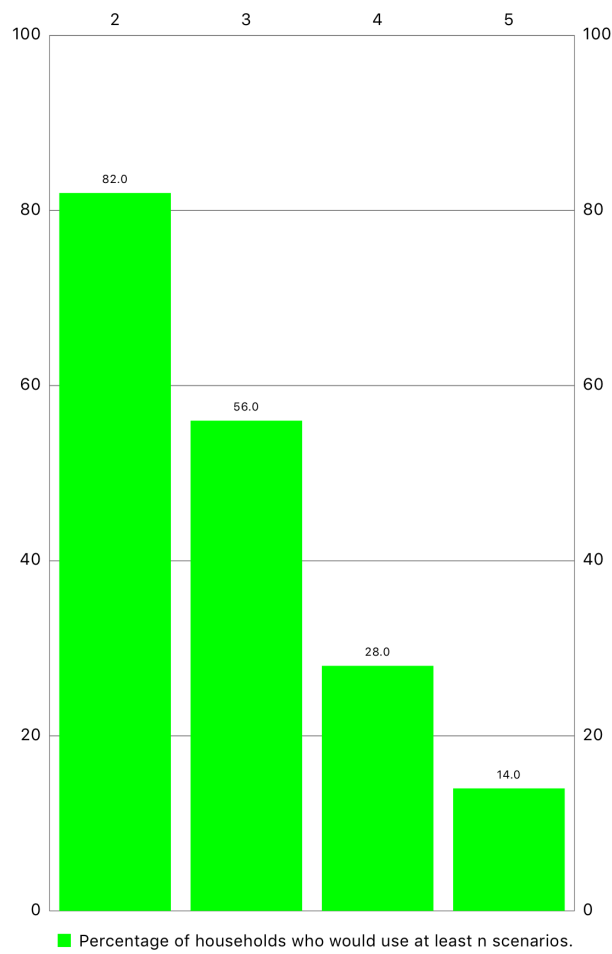


FIGURE 5.23: Percentage of households choosing at least n scenarios (Source: Own Representation)

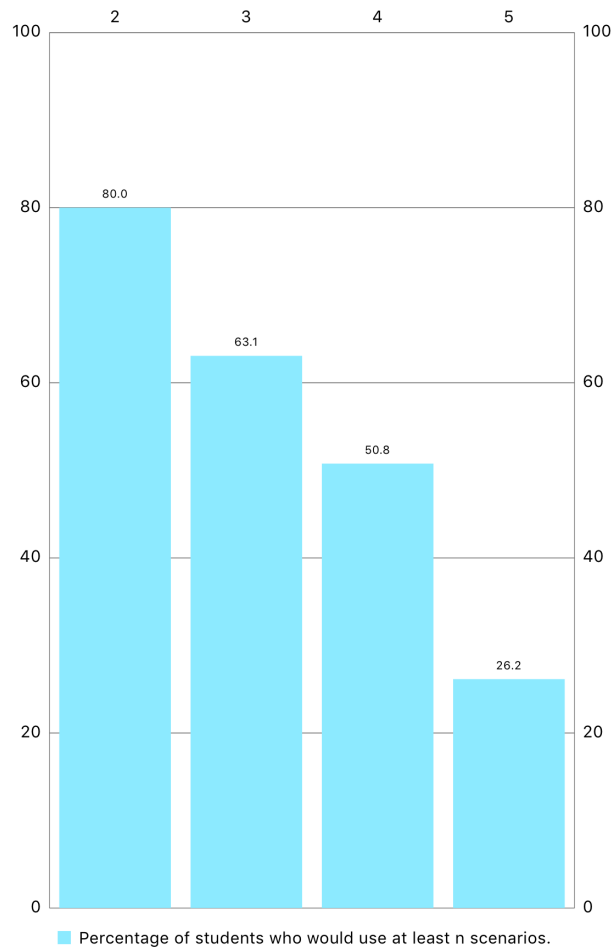


FIGURE 5.24: Percentage of students choosing at least n scenarios  
(Source: Own Representation)



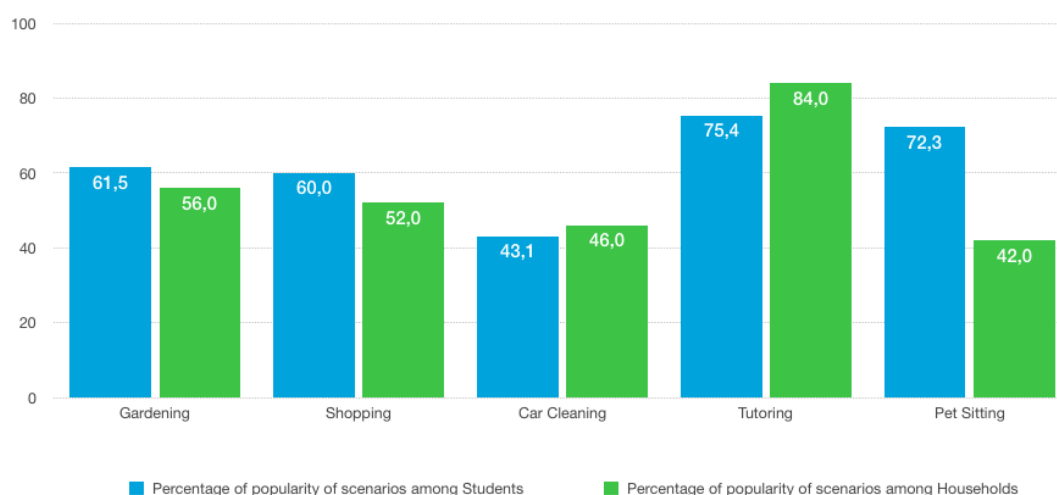


FIGURE 5.25: Percentage of popularity of scenarios (Source: Own Representation)

not own a dog. In figure 5.19 this low identification rate in the household group can be seen. The conversion to people who want to use the service is however similar to e.g. the gardening scenario. We believe that the tutoring scenario was most popular for households as this was the only scenario that household owners might not be able to do themselves and for students since it was not connected to physical labour and they felt like they could make use of their intellectual competencies. Moreover it is not to be disregarded that the scenario can be seen as the most traditional student job among them. This can explain why also the scenario was the most popular even though it was also seen as the one with the most hardship (5.43). Other than that a high perceived hardship in car cleaning for students might also explain that this was the least popular scenario to choose for students.

The initial reason why we collected personal information in the survey was that we wanted to see whether this personal features would influence the likeliness of someone using the service. Now we already saw that all participants in the household group wanted to use the service anyway so we were interested whether their features would be correlating with the scenarios they chose. The graphs representing the age distribution of every scenario in the household group (5.28) were compared to the total age distribution for people that wanted to use the service (5.27). Here we can see that the pet sitting and shopping scenario were of higher popularity in the oldest age group, probably due to decreased mobility. Which would also explain a small percentage in this group for the car scenario and gardening scenario. For the second oldest group it showed a higher interest in shopping, pet sitting and car cleaning. Possibly in this age group gardening is still done as a recreational activity and the tutoring scenario does not apply to them anymore with their own children or not yet as for grandchildren. Surprisingly the second youngest age

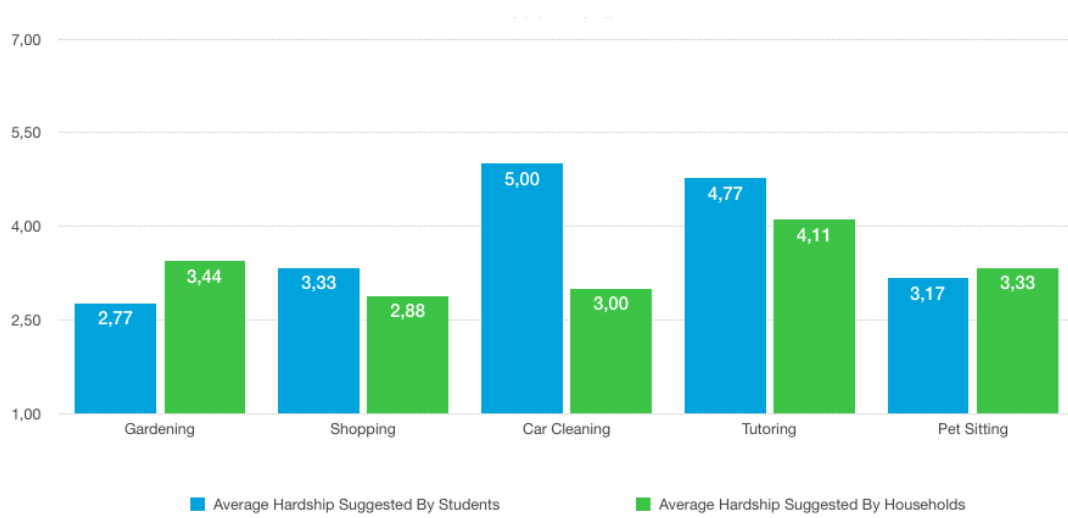


FIGURE 5.26: Average hardship of scenarios (Source: Own Representation)

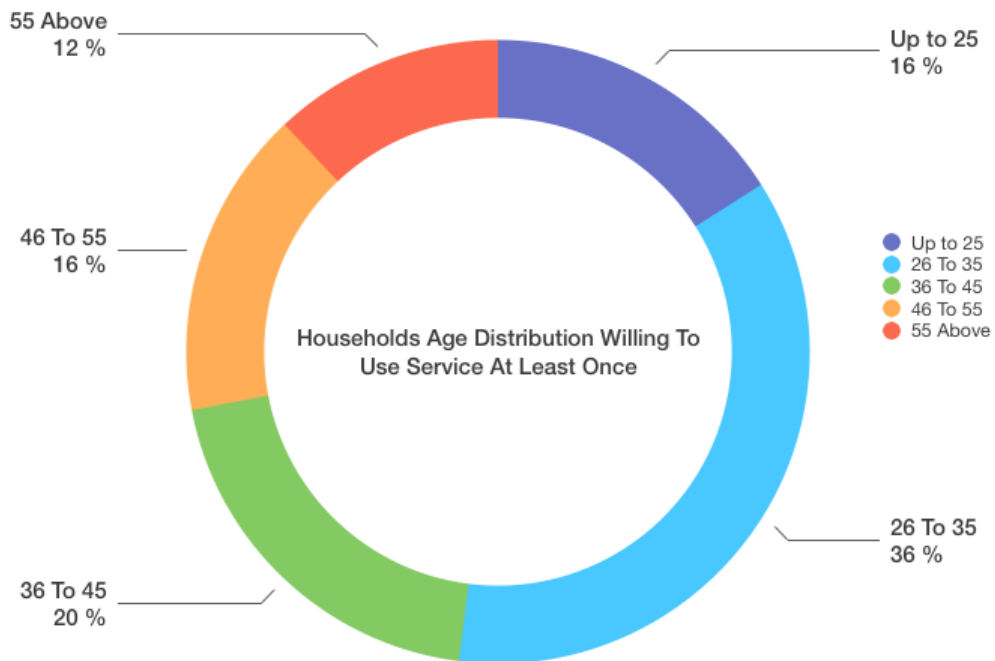


FIGURE 5.27: Age distribution of households willing to use the service (Source: Own Representation)

group showed relatively low interest in the gardening scenario, while the youngest one showed the highest interest there, and showed a high interest in the shopping scenario compared to the youngest group, where this expectedly was the least popular one.

Since we only have two age groups for students we can only make some vague assumption about the comparison of ratios between figure 5.29 and figure 5.31. But from our collected data it seems like with increasing age and/or education students are less likely to choose 'manual labour' tasks and are choosing rather service oriented or interest-based. This also shows in the degree distribution of students for each scenario, where bachelor students were especially less likely to choose the cleaning scenario and more likely to choose the tutoring scenario.

Looking at the gender of the participants we could find that in the household group women are far more likely to use the service than men in almost all scenarios (5.32). In the student group we could not find any significance of gender when it comes to doing a task (5.33).

From the scenario popularity based on the relationship status of household participants (5.34) we can see that relationship distribution varies depending on the scenario. Most noticeably here is the shopping scenario which was most popular with single and married participants. As these groups share no relation in age we think that a common factor in this groups could be how time restricted participants are. Participants without a partner or with a family could be less likely to find the time to go shopping themselves and are therefore willing to seek help.

Starting the survey we had the hypothesis that household participants would be more likely to use the service if they have a higher stress level, which is the reason why we collected the data in our survey. Looking at the results in figure 5.35 and 5.36 we could see that this is actually not necessarily the case. As we found out in chapter 4, only 36,7% percent of participants had a medium to high stress level, i.e. higher or equal than 4. This means that for gardening, shopping and tutoring the likelihood for choosing the service is not significantly higher. For pet sitting the likelihood for choosing the service was actually relatively lower, which we believe is due to the fact that busy people are less likely to get a pet in the first place as it is time consuming to take care of them. We found a significantly higher likelihood for a stressed participant to choose the car cleaning scenario. Since this scenario is the least popular with students and therefore in general the most undesirable one to do the results could be influenced by a different motivation of household participants. Low stress participants might be able to do the tasks themselves but chose to support students, since low stress would only be possible with sufficient time and monetary resources. Motivated by this they might be conscious to not offer really undesirable tasks. Higher stressed individuals however might be even more striving towards getting rid of undesirable tasks to reduce their stress level.

Of course to evaluate whether or not the Business Model can work we also need to



FIGURE 5.28: Age distribution per scenario for households (Source: Own Representation)

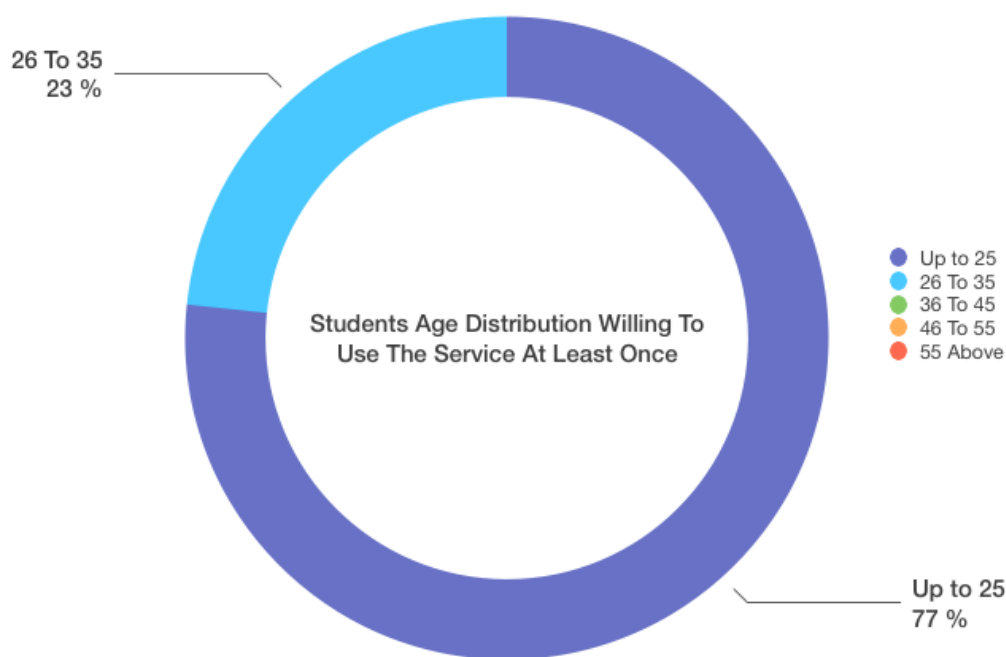


FIGURE 5.29: Age distribution of students willing to use the service  
(Source: Own Representation)

compare the prices task givers are willing to pay and task doers are expecting to receive. For this we first calculated the mean and average WTPs and WTAs for the scenarios (5.37, 5.38). From the median values we can see that the chosen prices are really close if not the same. But including all the available data points in the average, it becomes more obvious what can already be partly seen in the median graph: that students expectations are mostly slightly higher than what households are willing to pay. This is actually not surprising, since, as we mentioned in 2.3, it is a common phenomenon in research that WTA is higher than WTP without the influence of supply, demand, reference prices or similar. The closeness of these groups however shows a really good result and to show this we had a more detailed look at the data.

In total figure 5.39 shows that more than 50% of households had the potential to find a matching student.

From figure 5.40 to 5.44 we depicted the number of students that are willing to do the task for a certain amount of money. With an amount at least 10 Euro (which are about 75% of all offers) already more than 23% of students that wanted to do a task would be willing to use the service for almost all scenarios. Since households are supposed to pay a fee in the app, which we estimate around 15%, this would still leave us with 40,7% of all offers. The scenarios that were more unusual here were the tutoring scenario, for which the WTA was higher and the pet sitting scenario, for which it was lower. Like explained before we think the reason for a higher WTA and higher popularity was that students were

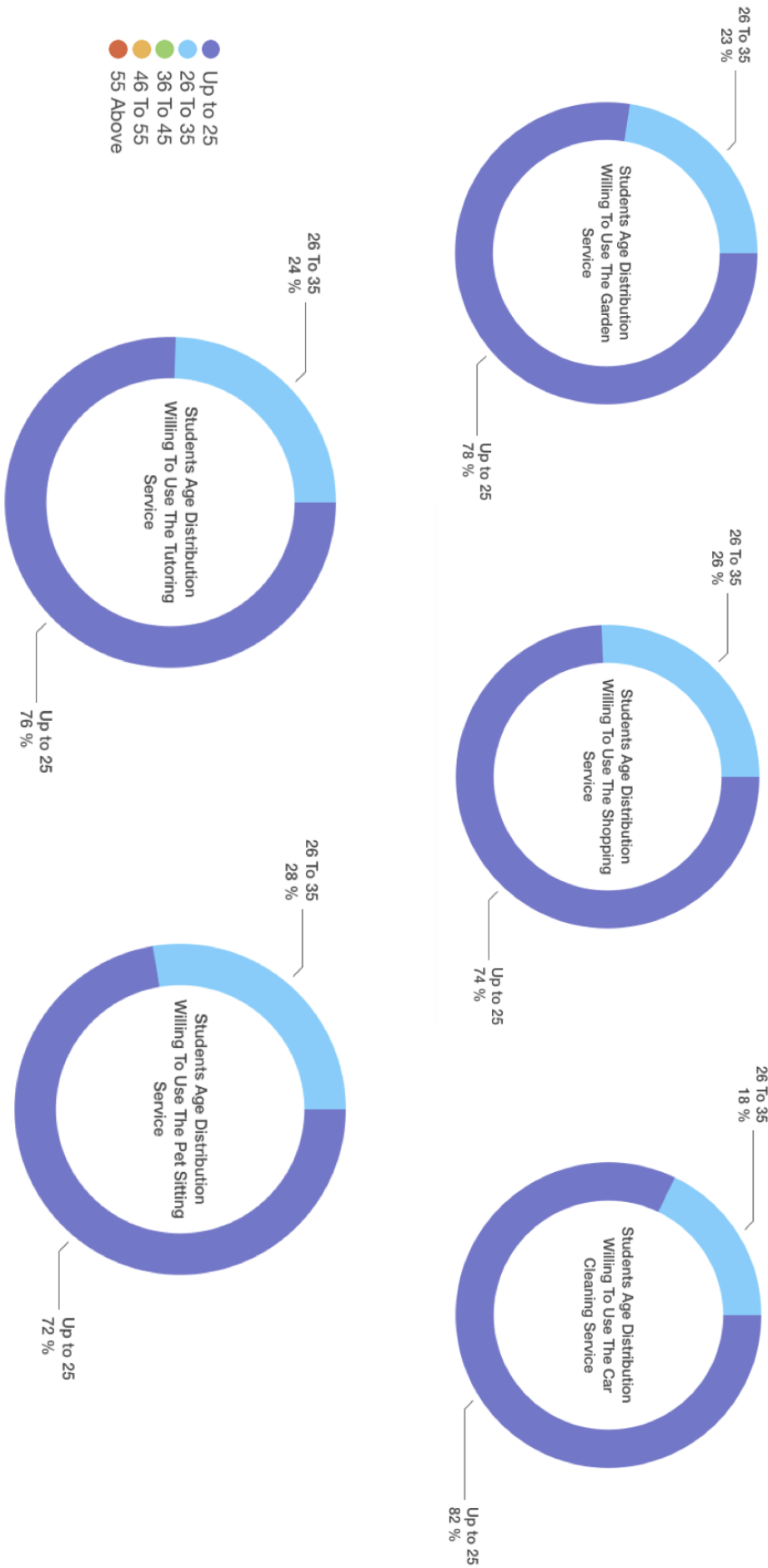


FIGURE 5.30: Age distribution per scenario for students (Source: Own Representation)

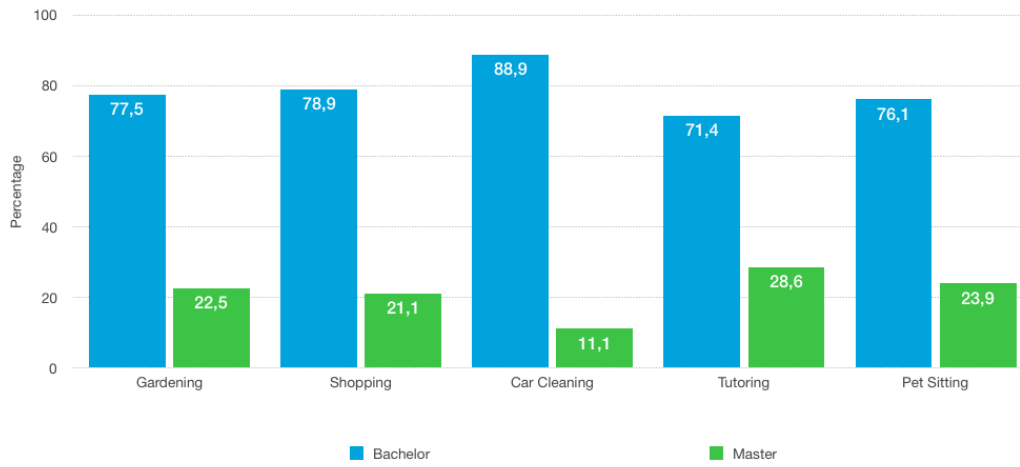


FIGURE 5.31: Degree distribution students (Source: Own Representation)

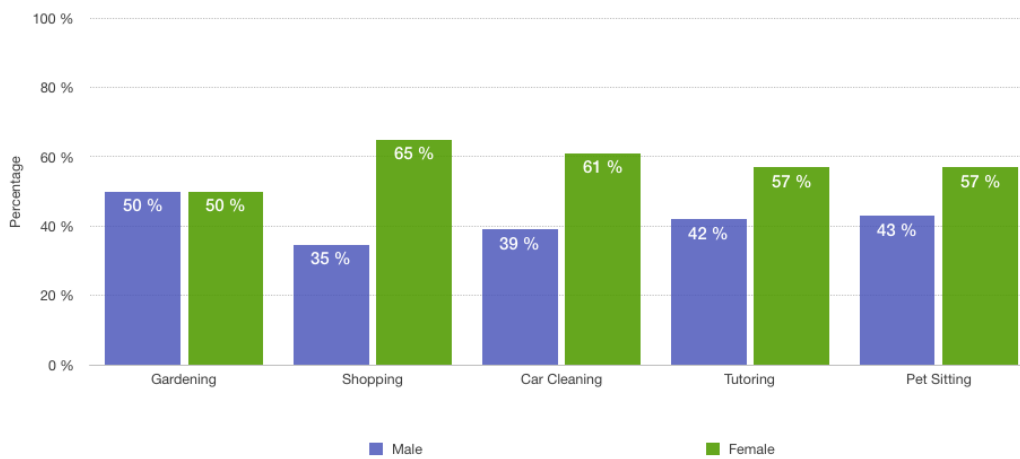


FIGURE 5.32: Gender distribution per scenario for households (Source: Own Representation)

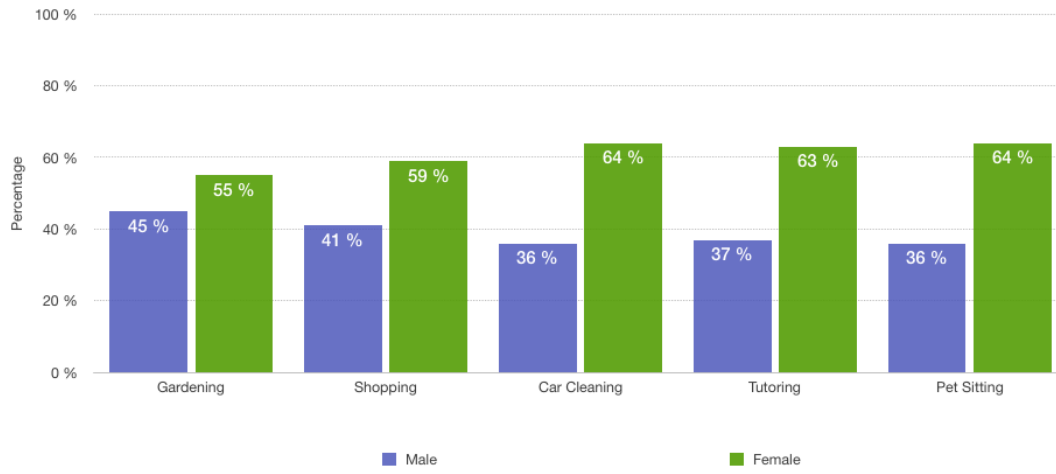


FIGURE 5.33: Gender distribution per scenario for students (Source: Own Representation)

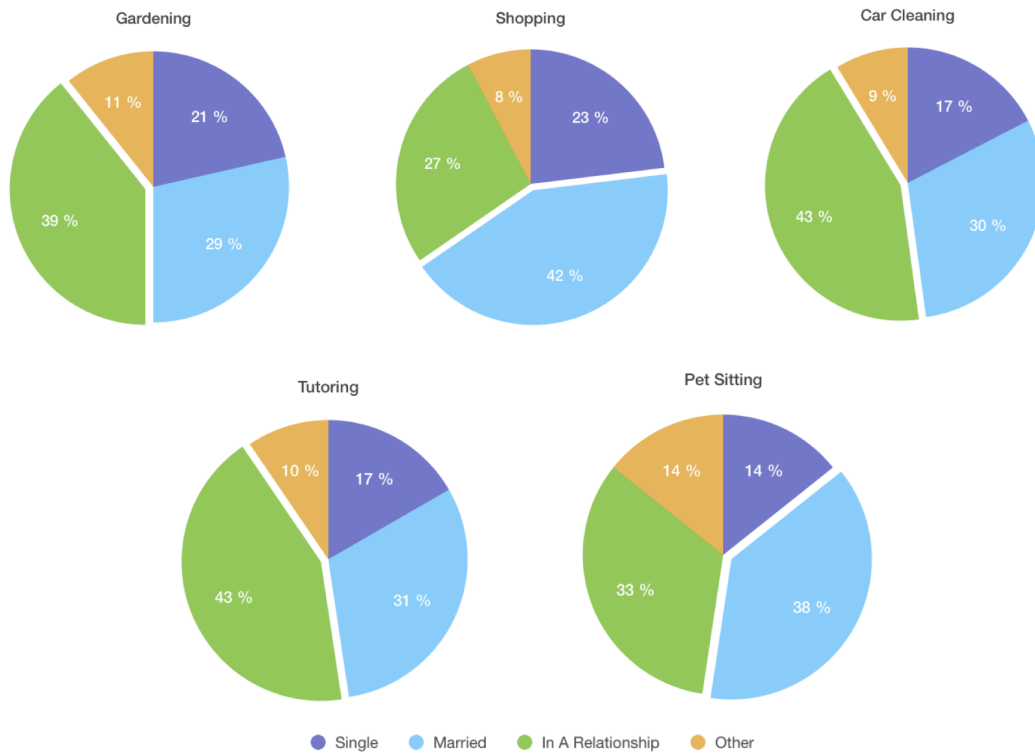


FIGURE 5.34: Relationship distribution per scenario for households (Source: Own Representation)



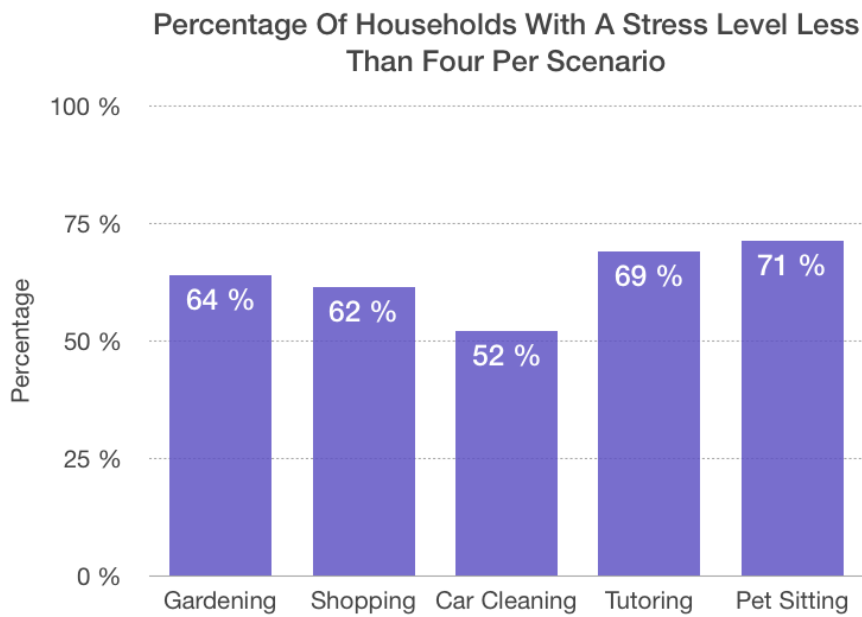


FIGURE 5.35: Scenarios chosen by households with low stress level  
(Source: Own Representation)

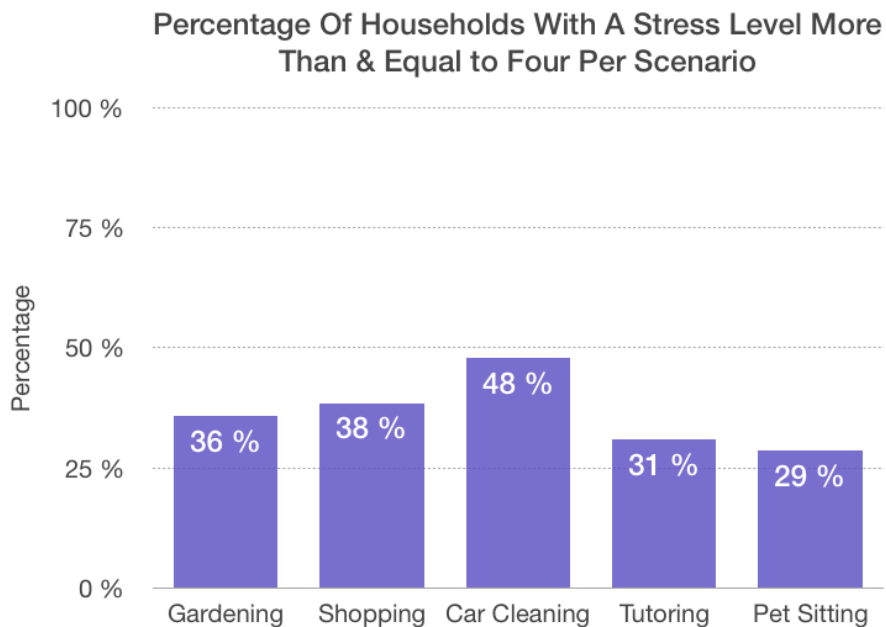


FIGURE 5.36: Scenarios chosen by households with high stress level  
(Source: Own Representation)

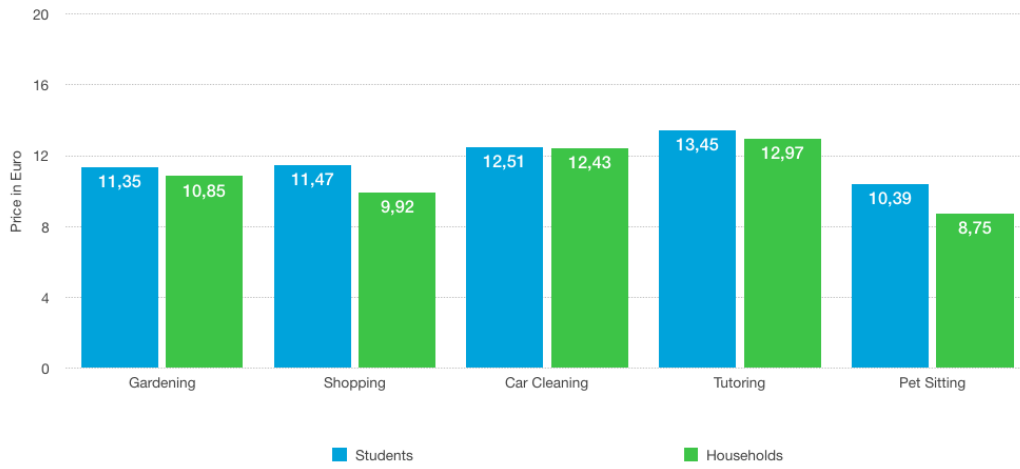


FIGURE 5.37: Mean WTPs and WTAs (Source: Own Representation)

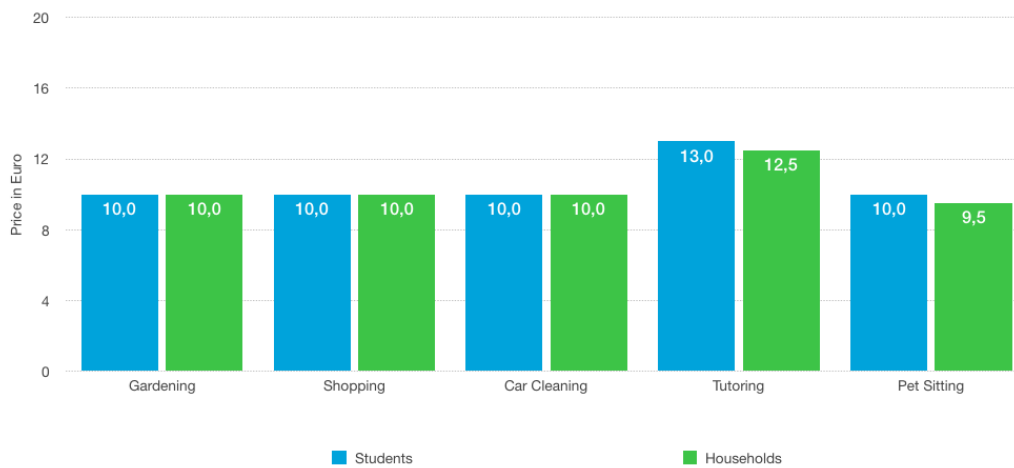


FIGURE 5.38: Median WTPs and WTAs (Source: Own Representation)

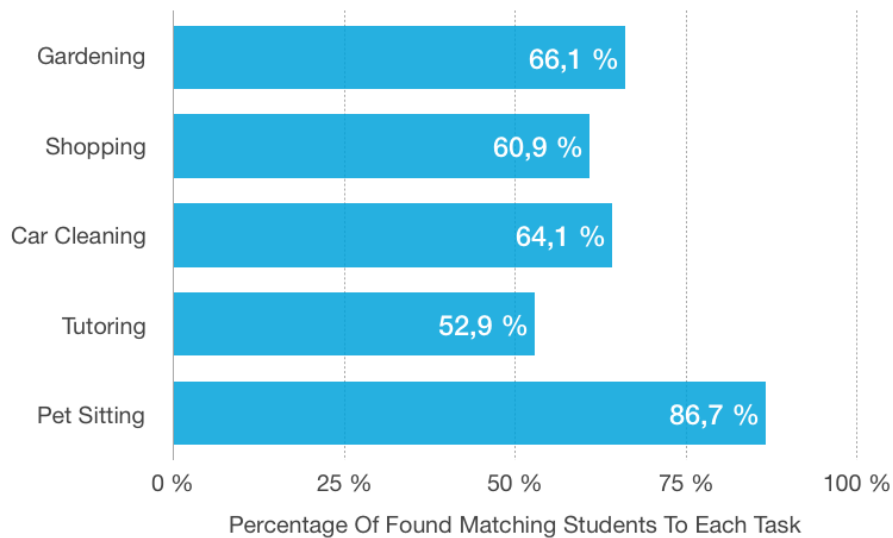


FIGURE 5.39: Percentage of Households finding a match (Source: Own Representation)

viewing this task as more "intellectual" work. Also both groups already had an idea of reference prices which not only raised the WTA but also the WTP 5.38. We could not find a reason that supported the low WTA for the pet scenario. Students were not choosing a lower price because they perceived it to be an easier task (5.43) also it was not reflected to be more enjoyable in the popularity of the task (5.20). To be discussed is whether a correlation could show if the motivation for a task would be evaluated using a scale.

Lastly we found that the median Willingness to Accept was lower for bachelor students than for master students as shown in figure 5.45.

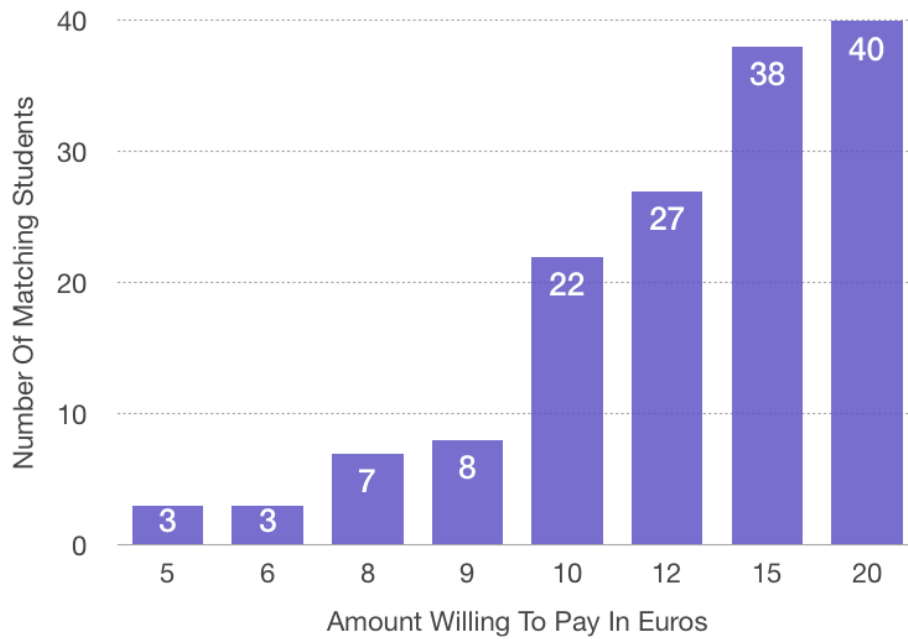


FIGURE 5.40: WTP and WTA for gardening scenario (Source: Own Representation)

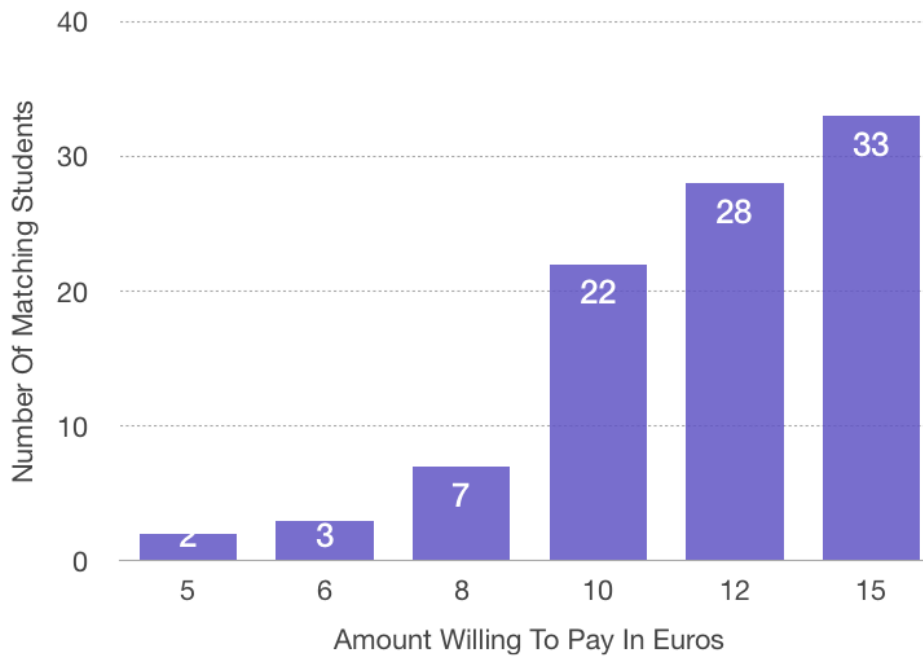


FIGURE 5.41: WTP and WTA for shopping scenario (Source: Own Representation)

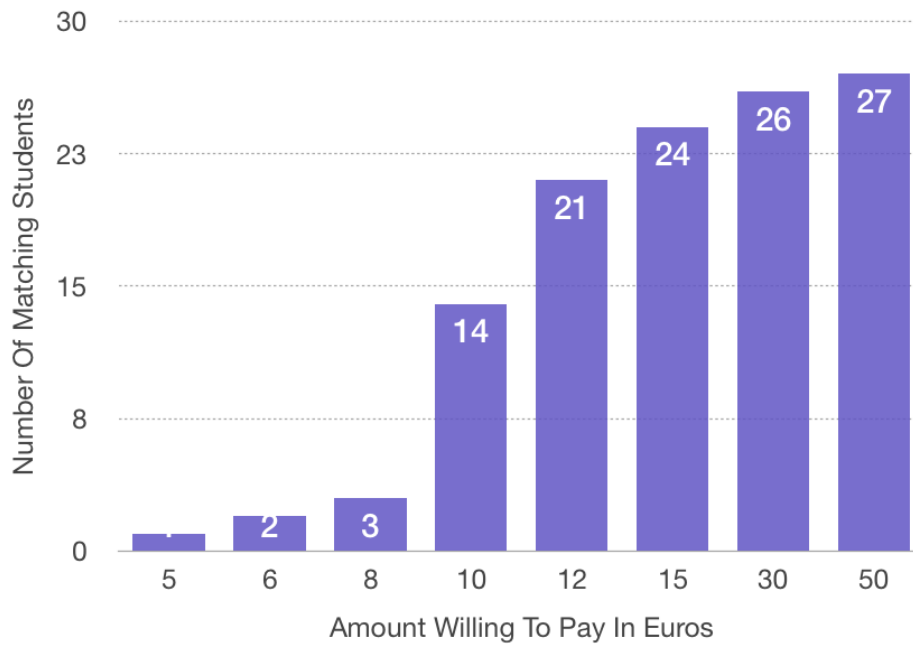


FIGURE 5.42: WTP and WTA for car cleaning scenario (Source: Own Representation)

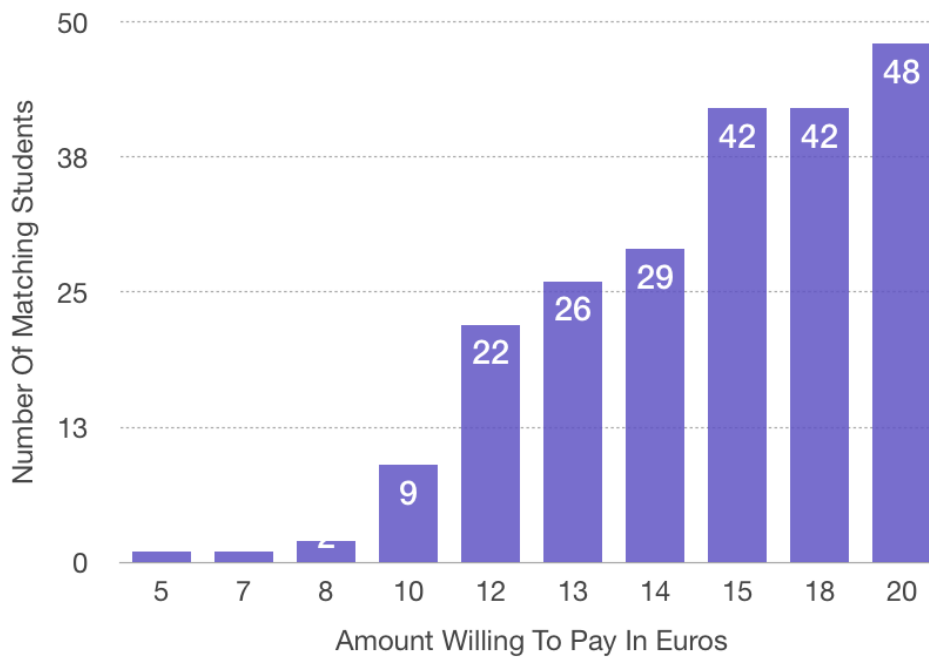


FIGURE 5.43: WTP and WTA for tutoring scenario (Source: Own Representation)

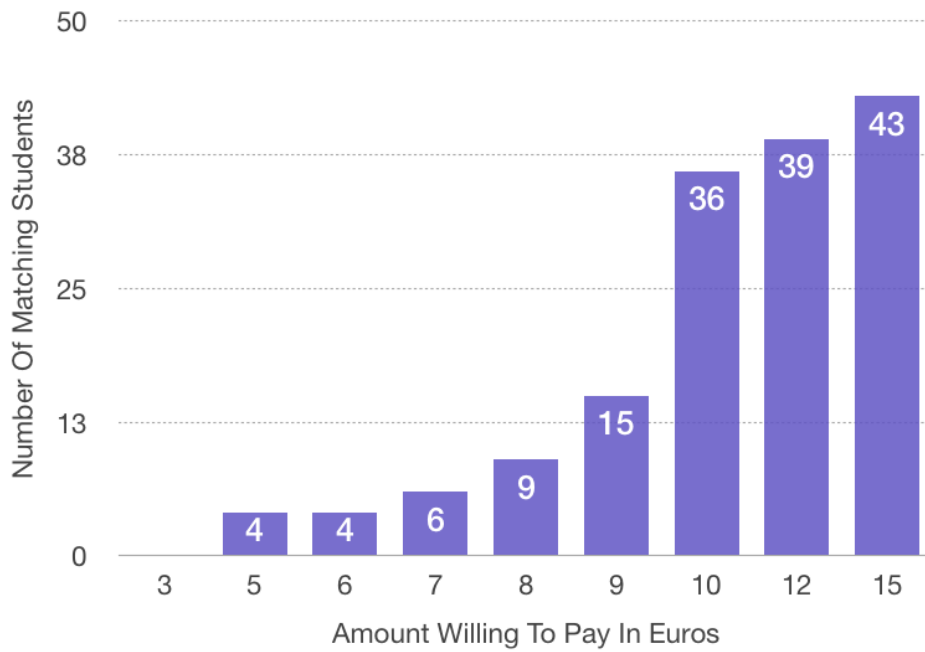


FIGURE 5.44: WTP and WTA for pet sitting scenario (Source: Own Representation)



FIGURE 5.45: Median WTA for master and bachelor students (Source: Own Representation)

## Chapter 6

### Conclusion

In this chapter we want to discuss the results of our evaluation as well as interpret them for the use case of DoBeeDo. Lastly we will also present, where future research may be conducted.

All in all we are left with very satisfactory results for the validation of DoBeeDo's business model. We found a very large interest in the service in both user groups. For the student group interest was higher in younger students compared to older ones and in the household group women were more willing to use the service multiple times. We found differences in the likelihood of choosing a scenario based on age, relationship status and stress level. This could be important if DoBeeDo wants to further specify their target customers or introduce categories of task. Moreover these results could also be used for effective marketing. The decision to amend the business model supporting these findings so far however should be made when there is more representative data collected for self-employed and retired people as well. This is left as a future To-do. Additionally there were also results of our survey that we could not explain with the collected data and further research into this topics has to be done to fully understand the causation. The collected Willingness to Pay and Willingness to Accept for a scenario was only marginally different in our results and still with a large overlap. Because of the nature of these measurements we can even expect a lesser difference factoring in real-world network effects and no lack of reference prices. So far it is also the goal of DoBeeDo to create a sufficient surplus of household group offers, since multiple tasks can be taken by one student. From the collected WTA and WTP we could see that a sufficient transaction rate is definitely achievable in this regard, even factoring in a 15% transaction fee, which currently is planned to be even slightly less.

Since younger students were more interested in the service, willing to do more manual labour and accept lower prices it has to be discussed if DoBeeDo should even change or extend their target group to highschool students. Highschool students could potentially also have a lower WTA. However new data would have to be collected in this case, as also the WTP of households could be affected by this change.

However, even if no amendmends are made to the business model, considering the data that has been collected we can support the further progression in the execution of

DoBeeDo.



## Appendix A

### Pilot Test Survey

#### A.1 Version 1

##### A.1.1 Households

1. Alter in Jahren::

\_\_\_\_\_

2. Geschlecht:

- Männlich
- Weiblich
- Divers
- Keine Angabe

3. Berufsstand:

- Angestellt
- Arbeitslos
- Selbständig
- Keine Angabe

4. Anzahl der Personen in Ihrem Haushalt:

\_\_\_\_\_

5. Wie gestresst sind Sie im Alltag außerhalb Ihrer Arbeitszeit?

Nicht gestresst    1    2    3    4    5    6    7    Sehr gestresst

#### **Gartenarbeit**

Person A hat einen Vorgarten von 40 Quadratmetern (gezeigt in der Abbildung). Da Person A eine 4 tägige Reise antreten möchte und daher die

Pflanzen nicht wässern kann, möchte sie einen neuen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um diese Aufgabe zu erledigen. Aufgrund der kurzen Reisedauer muss nur einmal gewässert werden.

[Garden Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Shopping**

Person A hat eine Einkaufsliste (gezeigt in der Abbildung) kann aber selbst nicht zum Supermarket gehen. Stattdessen möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um den Einkauf zu erledigen. Normalerweise füllt der Einkauf zwei Einkaufstaschen in Standardgröße.

[Shopping Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?  
Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand
2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?  
\_\_\_\_\_
3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?  
 Ja  
 Nein
4. Wollen Sie den angebotenen Service nutzen?  
 Ja  
 Nein
5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?  
\_\_\_\_\_

### **Autoreinigung**

Person A hat ein Auto (gezeigt in der Abbildung), dessen Innenraum mit dem Staubsauger gereinigt werden soll. Da Person A stattdessen jedoch Zeit mit ihrer Familie verbringen möchte entscheidet sie sich, bei einem neuen lokalen Service einen Studenten der Universität Koblenz-Landau (Person B) zu engagieren um die Aufgabe zu erledigen. Person A stellt den Staubsauger bereit.

[Car Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?  
Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand
2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?  
\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Nachhilfe**

Person A hat ein 10-jähriges Kind, das einmalig Nachhilfe in Englisch für eine anstehende Klassenarbeit benötigt. Da Person A nicht geübt in Englisch ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) für die Nachhilfe engagieren kann.

[Tutoring Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Tierbetreuung**

Person A hat einen deutschen Schäferhund namens Giny. Da Person A heute zu beschäftigt ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um mit Giny einen ausgedehnten Spaziergang zu machen und sie zu beschäftigen.

[Dog Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

 Ja Nein

4. Wollen Sie den angebotenen Service nutzen?

 Ja Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### A.1.2 Students

1. Alter in Jahren::

\_\_\_\_\_

2. Geschlecht:

- Männlich
- Weiblich
- Divers
- Keine Angabe

3. Für welchen Abschluss studieren Sie gerade?

- Bachelor
- Master
- PhD
- Sonstige

4. Arbeiten Sie momentan neben Ihrem Studium als Teilzeit Angestellter oder Aushilfskraft/Werksstudent?

- Ja
- Nein

#### **Gartenarbeit**

Person A hat einen Vorgarten von 40 Quadratmetern (gezeigt in der Abbildung). Da Person A eine 4 tägige Reise antreten möchte und daher die Pflanzen nicht wässern kann, möchte sie einen neuen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um diese Aufgabe zu erledigen. Aufgrund der kurzen Reisedauer muss nur einmal gewässert werden.

[Garden Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?  
\_\_\_\_\_
3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?  
 Ja  
 Nein
4. Wollen Sie den angebotenen Service nutzen?  
 Ja  
 Nein
5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bekommen?  
\_\_\_\_\_

### **Shopping**

Person A hat eine Einkaufsliste (gezeigt in der Abbildung) kann aber selbst nicht zum Supermarket gehen. Stattdessen möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um den Einkauf zu erledigen. Normalerweise füllt der Einkauf zwei Einkaufstaschen in Standardgröße.

[Shopping Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?  
Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand
2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?  
\_\_\_\_\_
3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?  
 Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Autoreinigung**

Person A hat ein Auto (gezeigt in der Abbildung), dessen Innenraum mit dem Staubsauger gereinigt werden soll. Da Person A stattdessen jedoch Zeit mit ihrer Familie verbringen möchte entscheidet sie sich, bei einem neuen lokalen Service einen Studenten der Universität Koblenz-Landau (Person B) zu engagieren um die Aufgabe zu erledigen. Person A stellt den Staubsauger bereit.

[Car Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein



5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Nachhilfe**

Person A hat ein 10-jähriges Kind, das einmalig Nachhilfe in Englisch für eine anstehende Klassenarbeit benötigt. Da Person A nicht geübt in Englisch ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) für die Nachhilfe engagieren kann.

[Tutoring Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Tierbetreuung**

Person A hat einen deutschen Schäferhund namens Giny. Da Person A

heute zu beschäftigt ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um mit Giny einen ausgedehnten Spaziergang zu machen und sie zu beschäftigen.

[Dog Image]

1. Wie hoch schätzen Sie den Aufwand ein um die Aufgabe zu erledigen?

Geringer Aufwand    1    2    3    4    5    6    7    Hoher Aufwand

2. Wie lange schätzen Sie dauert es die Aufgabe zu erledigen?

\_\_\_\_\_

3. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

4. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

5. Wie viel wollen Sie für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

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## A.2 Final Version

As discussed in chapter 4, only the last scenario had to be modified a lot but the rest was remained mainly unchanged.

### **Tierbetreuung**

Person A hat einen Mopshund namens Giny. Da Person A heute Abend zu beschäftigt ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren

kann um mit Giny einen Abendspaziergang zu machen.

[Pug Dog Image]



## Appendix B

### Main Survey

#### B.1 Households

1. Alter in Jahren::

\_\_\_\_\_

2. Geschlecht:

- Männlich
- Weiblich
- Divers
- Keine Angabe

3. Beziehung Status:

- Ledig
- In einer Beziehung
- Verheiratet
- Sonstige

4. Berufsstand:

- Angestellt
- Arbeitslos
- Selbständig
- Keine Angabe

5. Anzahl der Personen in Ihrem Haushalt:

\_\_\_\_\_

6. Wie gestresst sind Sie im Alltag außerhalb Ihrer Arbeitszeit?

Nicht gestresst    1    2    3    4    5    6    7    Sehr gestresst

### **Gartenarbeit**

Person A hat einen Vorgarten von 40 Quadratmetern (gezeigt in der Abbildung). Da Person A eine 4 tägige Reise antreten möchte und daher die Pflanzen nicht wässern kann, möchte sie einen neuen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um diese Aufgabe zu erledigen. Aufgrund der kurzen Reisedauer muss nur einmal gewässert werden.

[Garden Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie maximal für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Einkaufen**

Person A hat eine Einkaufsliste (gezeigt in der Abbildung) kann aber selbst nicht zum Supermarket gehen. Stattdessen möchte sie einen neuen lokalen

Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um den Einkauf zu erledigen. Normalerweise füllt der Einkauf zwei Einkaufstaschen in Standardgröße.

[Shopping List Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie maximal für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Autoreinigung**

Person A hat ein Auto (gezeigt in der Abbildung), dessen Innenraum mit dem Staubsauger gereinigt werden soll. Da Person A stattdessen jedoch Zeit mit ihrer Familie verbringen möchte entscheidet sie sich, bei einem neuen lokalen Service einen Studenten der Universität Koblenz-Landau (Person B) zu engagieren um die Aufgabe zu erledigen. Person A stellt den Staubsauger bereit.

[Car Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

- Ja
- Nein

3. Wie viel wollen Sie maximal für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Nachhilfe**

Person A hat ein 10-jähriges Kind, das einmalig Nachhilfe in Englisch für eine anstehende Klassenarbeit benötigt. Da Person A nicht geübt in Englisch ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) für die Nachhilfe engagieren kann.

[Tutoring Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

- Ja
- Nein

2. Wollen Sie den angebotenen Service nutzen?

- Ja
- Nein

3. Wie viel wollen Sie maximal für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

### **Tierbetreuung**

Person A hat einen Mopshund namens Giny. Da Person A heute Abend zu beschäftigt ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um mit Giny einen Abendspaziergang zu machen.

[Pet Sitting Image]



1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person A im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie maximal für die Erledigung der Aufgabe pro Stunde in Euro bezahlen?

\_\_\_\_\_

## **B.2 Students**

1. Alter in Jahren::

\_\_\_\_\_

2. Geschlecht:

Männlich

Weiblich

Divers

Keine Angabe

3. Für welchen Abschluss studieren Sie gerade?

Bachelor

Master

PhD

Sonstige

4. Arbeiten Sie momentan neben Ihrem Studium als Teilzeit Angestellter oder Aushilfskraft/Werksstudent?

- Ja
- Nein

### **Gartenarbeit**

Person A hat einen Vorgarten von 40 Quadratmetern (gezeigt in der Abbildung). Da Person A eine 4 tägige Reise antreten möchte und daher die Pflanzen nicht wässern kann, möchte sie einen neuen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um diese Aufgabe zu erledigen. Aufgrund der kurzen Reisedauer muss nur einmal gewässert werden.

[Garden Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

- Ja
- Nein

2. Wollen Sie den angebotenen Service nutzen?

- Ja
- Nein

3. Wie viel wollen Sie mindestens für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Einkaufen**

Person A hat eine Einkaufsliste (gezeigt in der Abbildung) kann aber selbst nicht zum Supermarket gehen. Stattdessen möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um den Einkauf zu erledigen. Normalerweise füllt der Einkauf zwei Einkaufstaschen in Standardgröße.

[Shopping List Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie mindestens für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Autoreinigung**

Person A hat ein Auto (gezeigt in der Abbildung), dessen Innenraum mit dem Staubsauger gereinigt werden soll. Da Person A stattdessen jedoch Zeit mit ihrer Familie verbringen möchte entscheidet sie sich, bei einem neuen lokalen Service einen Studenten der Universität Koblenz-Landau (Person B) zu engagieren um die Aufgabe zu erledigen. Person A stellt den Staubsauger bereit.

[Car Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie mindestens für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Nachhilfe**

Person A hat ein 10-jähriges Kind, das einmalig Nachhilfe in Englisch für eine anstehende Klassenarbeit benötigt. Da Person A nicht geübt in Englisch ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) für die Nachhilfe engagieren kann.

[Tutoring Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie mindestens für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

\_\_\_\_\_

### **Tierbetreuung**

Person A hat einen Mopshund namens Giny. Da Person A heute Abend zu beschäftigt ist möchte sie einen neuen lokalen Service benutzen bei dem sie einen Studenten der Universität Koblenz-Landau (Person B) engagieren kann um mit Giny einen Abendspaziergang zu machen.

[Pet Sitting Image]

1. Können Sie sich vorstellen in einer ähnlichen Situation wie Person B im oberen Szenario zu sein?

Ja

Nein

2. Wollen Sie den angebotenen Service nutzen?

Ja

Nein

3. Wie viel wollen Sie mindestens für die Erledigung der Aufgabe pro Stunde in Euro bekommen?

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## Articles

- Aldrich, H. E. and C. M. Fiol (1994). “Fools rush in? The institutional context of new industry creation.” In: *Academy of Management Review* 19.4, 645 – 670.
- Becker, H. S. and B. Geer (1957). “Participant Observation and Interviewing: A Comparison”. In: *Human Organization* 16.3, pp. 28–32.
- Bitta, D., J. Albert, and K.B. Monroe (1974). “The Influence of Adaptation Levels on Subjective Price Perceptions”. In: *Advances in Consumer Research* 1, pp. 359–369.
- Bitta, D. et al. (1981). “Consumer Perceptions of Comparative Price Advertisements”. In: *Journal of Marketing Research* 18, pp. 416–427.
- Blair, E. A. and E. L. Landon (1981). “The Effects of Reference Prices in Retail Advertisements”. In: *Journal of Marketing* 45, pp. 61–69.
- Carmon, Z. and Ariely D. (2000). “Focusing on the Foregone: How Value Can Appear So Different to Buyers and Sellers”. In: *Journal of Consumer Research* 27.3, pp. 360–370.
- Collins, D. (2013). “Pretesting survey instruments: An overview of cognitive methods”. In: *Quality of Life Research* 12, 229–238.
- Damme, E. et al. (2010). “Mergers in Two-Sided Markets – A Report to the NMa”. In: *Netherlands Competition Authority*, pp. 1–183.
- De Leeuw, E. (2005). “To Mix or Not to Mix Data Collection Modes in Surveys”. In: *Journal of Official Statistics* 21.2, pp. 65–772.
- Edwards, S. et al. (1994). “Objective System for Interviewer Performance Evaluation-for Use in Epidemiologic Studies”. In: *American Journal of Epidemiology* 140.11, pp. 1020–1028.
- Elfil1, M. and A. Negida (2017). “Sampling methods in Clinical Research; an Educational Review”. In: *Emerg (Tehran)* 5.1, e52.
- Evans, D. (2003). “Some Empirical Aspects of Multi-sided Platform Industries”. In: *Review of Network Economics* 2.3, pp. 191–209.
- Evans, D. S. and R. Schmalensee (2010). “Failure to Launch: Critical Mass in Platform Businesses”. In: *Review of Network Economics* 9.4.
- Filistrucchi, L. (2010). “How Many Markets are Two-Sided?” In: *The CPI Antitrust Journal* 2, pp. 2–6.
- Goktan, A. B. and G. Miles (2011). “Innovation speed and radicalness: are they inversely related?” In: *Management Decision* 49.9, 533 – 547.

- Hanemann, W.M. (1991). "Willingness to Pay and Willingness to Accept: How Much Can They Differ?" In: *Amer. Econ. Rev.* 81, pp. 635–647.
- Health Statistics, National Center for (1973). "Quality Control and Measurement of Non-sampling Error in the Health Interview Survey". In: *Data Evaluation and Methods Research* 2.54.
- Horowitz, J. K. and K. E. McConnell (2003). "Willingness to accept, willingness to pay and the income effect". In: *Journal of Economic Behavior & Organization* 51.4, pp. 537–545.
- Islam, Md., Md. Islam, and T. Mazumder (2010). "Mobile Application and Its Global Impact". In: *International Journal of Engineering & Technology* 10.6, pp. 104–111.
- Kahneman, D. and A. Tversky (1979). "Prospect Theory: An Analysis of Decision under Risk". In: *Econometrica* 47, pp. 263–291.
- Muzellec, L., S. Ronteau, and M. Lambkin (2015). "Two-sided Internet platforms: A business model lifecycle perspective". In: *Industrial Marketing Management* 45, pp. 139–150.
- Nagappan, M. and E. Shihab (2016). "Future Trends in Software Engineering Research for Mobile Apps". In: *2016 IEEE 23rd International Conference on Software Analysis, Evolution, and Reengineering (SANER)* 5, pp. 21–32.
- Oksenberg, L., Ch. F. Cannell, and G. Kalton (1991). "New Strategies for Pretesting Survey Questions". In: *Journal of Official Statistics* 7, pp. 349–365.
- Ondrus, J., A. Gannamaneni, and K. Lyytinen (2015). "The Impact of Openness on the Market Potential of Multi-Sided Platforms: A Case Study of Mobile Payment Platforms". In: *Journal of Information Technology* 30.3, pp. 260–275.
- Osterwalder, A., Y. Pigneur, and C. Tucci (2005). "Clarifying Business Models: Origins, Present, and Future of the Concept." In: *Communications of the Association for Information Systems* 16.
- Presser, S. and J. Blair (1994). "Do Different Methods Produce Different Results?" In: *Sociological Methodology* 23.
- Reja, U. et al. (2003). "Open-ended vs. Close-ended Questions in Web Questionnaires". In: *Developments in Applied Statistics* 19, pp. 159–177.
- Rochet, J. C. and J. Tirole (2003). "Platform Competition in Two-Sided Markets". In: *Journal of the European Economic Association* 1.4, pp. 990–1029.
- Rysman, M. (2009). "The Economics of Two-Sided Markets". In: *Journal of Economic Perspectives* 23.3, pp. 125–143.
- Sandelowski, M. (2000). "Combining Qualitative and Quantitative Sampling, Data Collection, and Analysis Techniques in Mixed-Method Studies". In: *Research in Nursing & Health* 23, 246–255.
- Shogren, J.F. et al. (1994). "Resolving Differences in Willingness to Pay and Willingness to Accept". In: *Amer. Econ. Rev.* 84, pp. 255–270.



- Tansey, O. (2007). "Process Tracing and Elite Interviewing: A Case for Non-Probability Sampling". In: *Political Science and Politics* 40.4, pp. 65–772.
- Teijlingen, E. R. and V. Hundley (2001). "The importance of pilot studies". In: *Social Research Update* 35.
- Thaler, R. (1980). "Toward a Positive Theory of Consumer Choice". In: *J. Econ. Behav. and Organization* 1, pp. 39 –60.
- Van Alstyne, M. W. and G. Parker (2016). "Pipelines, Platforms, and the New Rules of Strategy". In: *Harvard Business Review* 4, p. 6.
- Willig, R. D. (1976). "Consumer's Surplus Without Apology". In: *The American Economic Review* 66.4, pp. 589–597.
- Zhang, J. and Y. Duan (2010). "The impact of different types of market orientation on product innovation performance." In: *Management Decision* 48.6, pp. 849 –867.
- Zott, C., R. Amit, and L. Massa (2011). "The business model: Recent developments and future research". In: *Journal of Management* 37.4, pp. 1019–1042.



## Books

- Alasuutari, P., L. Bickman, and J. Brannen (2008). *The SAGE Handbook of Social Research Methods*. Sage.
- Bijker, W.E., T.P. Hughes, and T.J. Pinch (1987). *The social construction of technological systems: New directions in the sociology and history of technology*. Cambridge MA: MIT Press.
- Blank, S. (2006). *The Four Steps to the Epiphany: Successful Strategies for Products that Win*. K&S Ranch Press, Pescadero CA.
- Carson, D. et al. (2001). *Qualitative Marketing Researchs*. Sage.
- Cooper, D. and S. Schindler (2008). *Business Research Methods*. McGraw Hill.
- Evans, D.S. and R. Schmalensee (1999). *Paying with Plastic: The Digital Revolution in Buying and Borrowing*. The MIT Press, Cambridge, MA.
- Fowler, F.J. and T. W. Mangione (1990). *Standardized Survey Interviewing: Minimizing Interviewer-Related Error*. Sage.
- Maranell, g. (2007). *Scaling: A Sourcebook for Behavioral Scientists*. Routledge.
- Monroe, K. B. (1990). *Pricing: Making Profitable Decisions*. McGraw-Hill.
- Mulders, M. A. W. and C. P. J. A. van den Broek (2012). *Entrepreneurial decision making and the effect on business models*. Breda, The Netherlands: Avans University of Applied Sciences.
- Osterwalder, A. and Y. Pigneur (2010). *Business model generation*. Hoboken, New Jersey: John Wiley and Sons.
- Patton, M.Q. (1990). *Qualitative evaluation and re-search methods*. Sage.
- Sekaran, U. (1992). *Research Methods for Business: A Skill-Building Approach*. John Wiley & Sons Inc.
- Tashakkori, A. and C. Teddlie (2003). *Handbook of Mixed Methods in Social & Behavioural Research*. Sage.



## Internet

- ctvsh. *German Shepherd*. <https://www.ctvsh.com/services/dogs/breeds/german-shepherd>. Accessed: 21 Apr. 2019.
- Hansford, Mike James. *A practical guide to tutoring your children yourself, at home*. <https://blog.tutorhub.com/2013/10/30/a-practical-guide-to-tutoring-your-children-yourself-at-home/amp-on/>. Accessed: 21 Apr. 2019.
- Hulme, T. (2011). *Tom Hulme's Business Model Framework*. <http://www.memonic.com/user/ludwiglingg/id/1qjFt>. Accessed: 29 Jun. 2019.
- Koblenz-Landau, Universität. *Studierende nach Erst- und Neueinschreibung - Bachelor- und Masterstudiengänge [Excel]*. <https://www.uni-koblenz-landau.de/de/uni/organisation/verwaltung/abteilungen/stabsstelle-bp/studierendenstatistik/wintersemester-2018-2019/wintersemester-2018-2019>. Accessed: 29 Jun. 2019.
- *Studierende nach Erst- und Neueinschreibung - Studierende und Studienanfänger insgesamt und nach Campi (alle Studierenden ohne Beurlaubte) [pdf]*. [https://www.uni-koblenz-landau.de/de/uni/organisation/verwaltung/abteilungen/stabsstelle-bp/studierendenstatistik/wintersemester-2018-2019/2\\_20182\\_Studierende\\_nach\\_Erst-und\\_Neueinschreibung-2.pdf](https://www.uni-koblenz-landau.de/de/uni/organisation/verwaltung/abteilungen/stabsstelle-bp/studierendenstatistik/wintersemester-2018-2019/2_20182_Studierende_nach_Erst-und_Neueinschreibung-2.pdf). Accessed: 29 Jun. 2019.
- Loewentheil, Hannah. *I Tried Cooking Dinner All Week On A \$30 Budget*. <https://www.buzzfeed.com/hannahloewentheil/budget-dinner-diary>. Accessed: 20 Apr. 2019.
- Plants, Native. *pflanzen für den vorgarten und eingangsbereich*. <https://www.native-plants.de/pflanzen-thematisch/gartenbereiche/fuer-den-vorgarten/?p=1>. Accessed: 21 Apr. 2019.
- Research, Allied Market. *Mobile Application Market by Marketplace ( Google Play Store and Apple App. Store) and App Category ( Gaming, Entertainment & Music, Health & Fitness, Travel & Hospitality, Retail & E-Commerce and Education & Learning) - Global Opportunity Analysis and Industry Forecast, 2016 - 2023*. <https://www.alliedmarketresearch.com/mobile-application-market>. Accessed: 11 Apr. 2019.

- Statista. *Most popular Apple App Store categories in September 2018, by share of available apps*. <https://www.statista.com/statistics/270291/popular-categories-in-the-app-store/>. Accessed: 07 Mar. 2019.
- *Number of apps available in leading app stores as of 3rd quarter 2018*. <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>. Accessed: 07 Mar. 2019.
- Svanberg, J. *The Mobile Application Market*. <http://www.berginsight.com/ReportPDF/ProductSheet/bi-app1-ps.pdf>. Accessed: 03 Mar. 2019.
- Wikipedia, Simple. *Pug - Simple English Wikipedia, the free encyclopedia*. <https://simple.wikipedia.org/wiki/Pug>. Accessed: 06 July. 2019.
- Öner, Auto. *Fiat Punto 176 Servo el.Fenster*. <https://suchen.mobile.de/fahrzeuge/details.html?id=276277104>. Accessed: 21 Apr. 2019.