WILLINGNESS TO SHARE

On commercial privacy rights and the future of data exploitation

Author: Karlijn Pots University of Twente P.O. Box 217, 7500AE Enschede The Netherlands

ABSTRACT

Individuals trade their personal data every day. By typing in Google search, or using Facebook they get the service for free in return for letting marketers trace their behaviors. When disclosing personal data individuals perform a simple risk-benefit calculation (privacy calculus) before deciding whether or not to disclose their personal information and against what costs. Despite the variety of attitudes toward these trade-offs, in which the more privacy and personal data individuals give up the more benefits they get in return, our information age has influenced open access and knowledge-sharing in a way that has individuals distracted from demanding certain benefits, for example that SNS users can personally take charge of extracting value from their own data. Ethically, it makes sense that everybody knows what is happening to their data, how an entity is using it, how the provider can benefit from the data disclosure and what the possible consequences are. This study aims to investigate the commercial rights of personal data sharing and the exploitation of data disclosure.

Supervisor:

Dr. A.B.J.M Wijnhoven

Key words

Commercial rights, privacy calculus, perceived fairness, perceived benefits, perceived risks, bounded rationality.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

5th IBA Bachelor Thesis Conference, July 2nd, 2015, Enschede, The Netherlands. Copyright 2015, University of Twente, The Faculty of Behavioural, Management and Social sciences.

1. INTRODUCTION

"The question is not 'what do we want to know about people?' It is 'what do people want to tell about themselves?'- Mark Zuckerberg

Consumers nowadays donate extremely lucrative information — their interests, demographic predilections, buying habits — in exchange for free admission into social media networking sites or other online platforms (Larnier, 2013). Big data is a tool that is tremendously valuable to companies, not only to send us custom-made advertisement, but also to predict our future behavior. Social networking sites, like Facebook, Google and Twitter make good money at this track. Our information age has influenced data sharing in a way that has SNS users distracted from demanding certain benefits. Many big data companies already know what you want before you even thought of it yourself. Banks and insurance companies can repackage data and present more attractive packages to individuals, but this individual does not receive a direct reward or payment for their personal data disclosure.

The privacy concerns are also a big issue. Protecting your privacy is an essential personal chore that most people are not trained to rationally perform (Larnier, 2013). Information supremacy becomes harder to distinguish from power. This state of affairs means that unless SNS users can protect their own personal data and privacy or receive a reward in exchange for personal data disclosure, they lose power.

In theory, when an SNS user receives a payment they need to sign up for a website and provide personal data. After that they are provided with a payment for disclosing personal data, after the site takes its own cut, of course. This is similar to what happens on Facebook, only the SNS users will receive money instead of a free service.

The trends and issues mentioned above are the facts that shaped the idea of data exploitation and information disclosure, but what is the future for the SNS user? Are SNS users willing to disclose personal data if they receive other benefits from big data companies, for example a payment.

The study will have a substantial and original contribution to the already existing knowledge about the subject of privacy and data exploitation in general. This proposed study looks at data exploitation and privacy in terms of commercial rights.

Big data companies offer individuals services for free, but earning millions by using your personal data. If SNS users continue to keep sharing their personal data for free a plutocracy is created. Big data companies, like Google and Facebook, will become more powerful because they are the wealthiest entities and are capable to model the lives of everybody else. In a later stage everyone will benefit from the cheaper services but we also create less income for ourselves. This because the cash flows; the sales of personal data, are not visible and therefore do not influence the economy. If we keep track of the books, the economical growth will increase. This will contribute to SNS users and the SNS providers. So when SNS users are willing to use and contribute to their commercial rights, they can keep track of the market value and sales which will, eventually, lead to a better economy. Even in an age where the technology is still growing.

This study consists out of five chapters the next chapter is the theoretical framework, within this chapter all the important concepts and theories will be discussed. In the research design chapter the aims, data analysis and methodology will be

mentioned. The fourth chapter is where the empirical and theoretical results of the conducted research will be explained. The conducted research consists out of different sections. First, the demographic results are discussed. After that, the commercial data, combined privacy- and perceived benefits results will be discussed. In the last chapter the conclusion, discussion, implications and future research are elaborated.

2. Theoretical framework

With the ongoing growth of online information the SNS users will benefit in terms of intrinsic and extrinsic benefits, but the exploitation of data also leads to more privacy endanger for SNS users. Dinev and Hart (2006) defined this contradiction as the privacy calculus. The privacy calculus gives insight in antecedents for user disclosure decisions. Big data companies benefit from the increased data exploitation, whereas SNS users currently do not use their commercial rights.

The privacy calculus is dividend in three segments, the perceived fairness, perceived benefits and the perceived risks. In the last section the bounded rationality theory will be discussed. Bounded rationality can influence the decision making behavior of individuals. All inter-correlations between the variables are displayed in figure 2.1.

2.1. Commercial rights

The personal data SNS users disclose are divided into three types of data. The volunteered data; which is the content created and shared by individuals. Observed data; captured by recording the actions of individuals. The inferred data; this is the type of data that companies construct out of the volunteered data and the observed data. Inferred data is the type with real practical value to the entities (Ehrenberg, 2014).

There are companies where individuals can get involved directly in the market. Matt Hogan, CEO and cofounder of Datacoup, states that if consumers want to make educated decisions, they should be able to sell personal data to who they want. Datacoup is a company where people get \$8 a month in return for access to their social media accounts and the transactions from a credit or debit card. The payment SNS users would receive from SNS services will contribute to the benefits of SNS data sharing.

According to Simon Torrance, CEO of Metaflight, this phenomenon has been introduced for quite some time, with insurance companies that adjust their prices to individual's actual driving behavior and companies that offer discounts when they are getting more access to personal data. Also Acquisti (2014) notes that the idea, that individuals might personally take charge of extracting value from their own data, has been discussed for years, but it hasn't yet been put to the test. In this study it is tested whether individuals are willing to disclose more personal data and whether the current volume of data disclosure of a SNS user influences this decision.

H1: The willingness for payment for personal data sharing has a positive association with volume of data disclosure of SNS

Using SNS is among the most common activity of today's adolescents (O'Keeffe, 2011). The use of social media is reduced when people grow older. This is why researchers assume younger SNS users are more attracted to the idea of

receiving payments from SNS services in exchange for sharing more personal data, says Acquisti.

H2: SNS users in the age 18-30 are more willing to receive a payment from SNS services in exchange for sharing personal data than older SNS users.

2.2. Privacy calculus

Privacy calculus is a risk-benefit tradeoff analysis that accounts for inhibitors and drivers that simultaneously influence the decision on whether to disclose information and personal data or not (Culnan & Bies, 2003). Individuals always perform a simple risk-benefit calculation in deciding whether or not to disclose their personal information (Laufer & Wolfe, 1977). If consumers perceive that the benefits of disclosure exceed the risks, both current and future, they are likely to disclose their data (Culnan & Armstrong, 1999).

2.2.1. Perceived fairness

Integrated within the privacy calculus are concepts of social contracts and justice, which proposes three justice principles and the underlying norms of a social contract (Li, Sarathy & Xu, 2010). Distributive justice, procedural justice and interactional justice are the three underlying principles within the justice theory. Distributive justice refers to how people evaluate the perceived fairness of the reward distributions that result from exchange or allocations (Molm, Collett, & Schaefer, 2006). Theories of procedural justice address the fairness of the process or procedures through which outcomes are obtained (Thibaut & Walker 1975). Interactional justice refers to the latter – fairness of the treatment that an actor receives from others (Molm, Collett, & Schaefer, 2006).

The principal underlying these themes of justice is perceived fairness, which will further adjust the risk-benefit trade-off by the consumers' understanding or implicit assessment of the fairness of the data exchange (Li, Sarathy and Xu 2010). If companies or institutions collect information irrelevant to the purpose of the data transaction or perceived benefits, the company does not provide an opt-out option when collecting personal data. This leads to the overestimation of privacy costs of information exchange or the underestimation of the exchange benefits (Larnier, 2013). So it is not fair or relevant to the purpose of the transaction.

2.2.2. Perceived benefits

The motivation theory has been widely used to explain individual's behavior of accepting information technology. Within this theory there is a divide between extrinsic motivation and intrinsic motivation. Extrinsic motivation refers to committing an action because of its perceived helpfulness in achieving value (e.g., the performance of improvement) (Deci, 1975). Intrinsic motivation refers to committing an action because of interest in the action itself rather than the external reinforcement (Davis et al., 1992). Kim (2007) pointed out that perceived benefits affects the way people will continue to share data, consisting of cognitive benefit and affective benefit. Extrinsic benefit proposes the usefulness of personal data sharing and the intrinsic benefit proposes the enjoyment as the components of individual's perceived benefit. Moon and Kim (2001) defined enjoyment as the pleasure the individual feels objectively when committing a particular behavior or carrying out a particular activity. Davis (1989) defined usefulness as the degree to which a person believes that using a particular system would enhance his or her performance, when the individual

feels a system is useful, he or she thinks positively about it. These two motivations affect the individual's intention to use social networking sites or other information services.

H3a: A high level of usefulness is positively associated with the volume of data disclosure.

H3b: SNS users in the age 18-30 perceive more usefulness than older SNS users.

2.2.3. Perceived risks

The different types of risks which are associated with the disclosure of personal data are referred as perceived or anticipated risks (Muhammed et al, 2012). A perceived privacy risk is the possibility of loss (Yates & Stone, 1993). According to O'Brien (2010) privacy risk includes the misuse of personal information. Featherman and Pavlou (2003) specify this by stating that privacy risk is a potential loss of control over personal information, such as when information about you is used without your knowledge or permission. The estimated impact is together with the likelihood the determining factor of a privacy risks (Krasnova, Kolesnikova & Gunether, 2009). Wamba (2014) states that perceived risks have an influence on the intention to use social media. Tan (1999) also confirmed that the higher the perceived risk, the more reluctant consumer became to buy a certain product.

H4a: Perceived risks have a negative impact on the volume of data disclosure by SNS users.

H4b: SNS users in the age 18-30 are showing more risky behavior than older SNS users.

The faces of these risks personal data disclosure require a degree of trust, because SNS users do know nothing about the organization information practices and whether their personal information may be used in a way that could result in harm to the SNS user. Trust has been conceptualized as the promise of a party to do something in the future in the interest of joint gain (Doney & Cannon, 1997). Trust by definition, then, involves the willingness to assume a level of risk in the face of incomplete information. For a user to trust a business, they have to believe that the business will do what it says it will do and the business will not behave opportunistically (Sako, 1998). To specify this definition, Dinev and Hart (2005) defined internet trust as the reflecting confidence that personal data submitted to entice beliefs that networking sites will handle this data competently, reliably, and safely.

2.3. Bounded rationality

Rational decision making is defined as choosing among alternatives in a way that properly accords with the preferences and beliefs of an individual decision maker (Luce & Rai 1957). A rational decision involves two kinds of guesses: guesses about future consequences of current actions and guesses about future preferences for those consequences (Savage, 1954; Thompson, 1967). Both guesses are difficult to make. Anticipating future consequences of present decisions is often subject to substantial error and anticipating future preferences is often confusing. The rational choice theory is an economic principle that assumes that individuals can make logical decisions, and guesses, that provide them with the greatest benefits and satisfaction. To dismantle this theory some dissents have pointed out that an individual does not always make rational decisions. Kahneman (2003) states how easy it is for humans to swerve away from rationality, because of our hardwired biases. The autopilot impairs the rationality of decision making; the privacy calculus is therefore not constantly applied in disclosure decisions. Kahneman and Tversky (1979) also state that individuals do not tend to look at the final outcome, but rather look at the gains and losses when making a decision. The theory of bounded rationality (Simon, 1995) has become widely recognized as an accurate portrayal of much choice behavior and as a normatively sensible adjustment to the costs and character of information gathering and processing by human beings (Radner, 1975). It illuminates the idea that when individuals make decisions their rationality is limited by the information element, time element and the cognitive limitations of their mind. The information element implies that individuals have limited knowledge to make rational decisions. The cognitive limitations refer to the inabilities of an individual to deal with information and knowledge. The time element refers to the time that is needed to make a rational choice that exceeds the time available. This leads to bounded rationality (Simon, 1955). Studies show that when individuals perceive more limited knowledge they observe more uncertainty (MetznerSzigeth, 2009; Drake, (1985). This increased level of uncertainty leads to more risks awareness. Risks awareness normally has a negative influence on information sharing. Yet our study predicts the opposite.

H5a: Limited knowledge has a positive influence on the volume of data disclosure by SNS users.

H5b: SNS users in the age 18-30 have more limited knowledge than older SNS users.

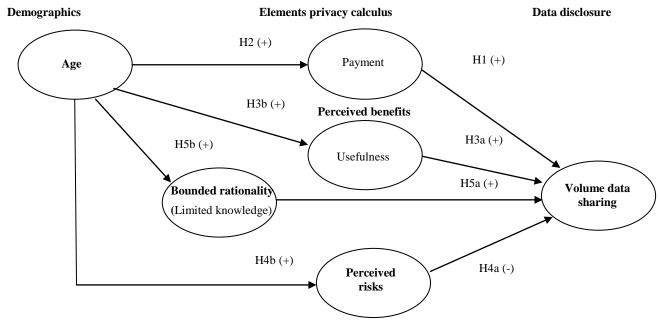


Figure 2.1: Conceptual model

3. Research design

This chapter contains six sections that define the research design. Firstly the aims of the study are presented; secondly the research questions and hypotheses are briefly mentioned. Finally the methodology, instrumentation, data collection and the data analysis are presented.

3.1. Research aims

To make privacy more concrete instead of philosophical, privacy and data will be researched in terms of commercial rights; 'individuals own their personal data, they should get paid for their data and make decisions about the price of their data' (Larnier, 2013). This proposed study is going to investigate the trade-offs between users and data sharing entities, and gather data on the willingness to share more personal data when SNS users receive a payment from SNS services.

3.2. Research questions & hypotheses

Are SNS users willing to share more personal data if they receive a payment from SNS services is the central research question that this study will seek to answer. In addition, the following sub questions have been formulated in order to guide the data collection process.

3.2.1. Sub questions

- What is our personal data worth?
- Are there differences within the different age categories?
- What are the types of risks SNS users perceive?
- What do individuals consider as a fair risk-benefit trade off?
- What kind of relationship is there between internet trust and perceived risks?
- What are motivations for sharing personal data?

3.2.2. Hypotheses

H1: The willingness for payment for personal data sharing has a positive association with volume of data disclosure of SNS users.

H2: SNS users in the age 18-30 are more willing to receive a payment from SNS services in exchange for sharing personal data than older SNS users.

H3a: A high level of usefulness is positively associated with the volume of data disclosure.

H3b: SNS users in the age 18-30 perceive more usefulness than older SNS users.

H4a: Perceived risks have a negative impact on the volume of data disclosure by SNS users.

H4b: SNS users in the age 18-30 are showing more risky behavior than older SNS users.

H5a: Limited knowledge has a positive influence on the volume of data disclosure by SNS users.

H5b: SNS users in the age 18-30 have more limited knowledge than older SNS users.

3.3. Sample

Social networking sites are popular across different demographic groups and therefore have no typical user group. The population of this study consists of the Dutch users of SNS between the ages of 18 and 60+. The minimum age is 18, because research shows that individuals become more rational and aware of decision making at the age of 18-25 (Reyna & Farley, 2006). The maximum age of 60+ is chosen because statistical evidence showed that this is the group that still is active on the SNS. Non-users of SNS are not incorporated within the scope of this study.

Within this study there is also a distinction between the level of education and the impact that this level of education has on decision making.

3.4. Methodology

A small section of the study is descriptive. This implies that the matter of the subject is described in detail in order to explain the problem statement and to understand the matter of the subject (Sekaran, 2003). The main sources for the literature review are from prior researches.

A large part of this study is based on empirical research Saunders (2000) declares that exploratory research are the valuable means to find out what is happening, seek new insights, ask questions and assess phenomena in a new light.

3.4.1. Literature review

By doing systematic literature research the fundaments within this study are structured. Continuously searching, assessing and adapting are the main focuses. Two ways to systematically review literature are used, the building block method and the snowball method. The building block method is used to combine as many concepts within one search query and the snowball method is based on finding relevant literature topics within another prior study. To guarantee the originality of this study, latest research will be explored and conducted.

3.4.2. Instrumentation

The empirical research within this study consists out of an online survey that contains 27 questions, listed in appendix A, and ten in-depth interviews with random participants in all age categories between 18 and 60+. The In-depth interviews enable us to seek an understanding of the participant's perspectives of their experiences through face-to-face encounters (Taylor & Bogdan, 1984). The intention of the interviews is to gather data on the perspectives of participants regarding the concepts of perceived fairness, perceived trust and perceived risks.

The first three questions of the survey collect demographics. The demographical questions gather information about whether the respondents match the research population. Three questions are related to the commercial rights of the individual. Unless otherwise noted, scale questions within the study are measured on a five-point Likert type scale. The survey also contains three agree or disagree statements to measure the skills of respondents regarding the research topics. The option 'I do not know' is added to prevent individuals from guessing.

The second part of our empirical research is a semi-structured interview with 10 participants (appendix B). The first three questions collect data about demographics. The next questions are related to the concepts perceived-fairness, trust and risks.

3.5. Data collection

The online survey (appendix A) and the interviews (appendix B) provide access through words to an individual constructed reality and interpretation of his or her experience (Fontana & Frey, 2000). The intention of the survey is to gather data on the perspectives of participants regarding the concepts mentioned in the chapter two. An appropriate sample is composed of participants that best represent or have knowledge of the research topic. The number of respondents (N=200) for this study is enough to complete the data set and avoid replication or redundancy, so saturation is reached. Saturation is the reached when the researcher gathers data to the point of diminishing returns, when nothing new is being added (Bowen, 2008). The survey will be shared through email correspondence, shared by family and friends, and through word to word communication. Random sampling, a sampling method where all individuals of a population have an equal chance of being selected (Marshall, 1996), cannot be applied due to time limitations. The semistructured interviews however, are randomly sampled. Included within this sample is a 5% margin of error and a confidence interval (CI) of 95%. A confidence stated at a $1-\alpha$ level can be thought of as the inverse of a significance level, α . This study focuses on sample size and sampling adequacy. During the coding and analysis process, the size of the sample may be increased in order to collect additional data until there is redundancy of information. The survey and the interviews are anonymously conducted and the users are informed of the anonymity beforehand.

3.6. Data analysis

The first part of the survey (appendix A) as well as the interview (appendix B) consists out of questions regarding demographics of the respondents. The next questions of the survey focus on the perceived benefits, perceived fairness and rationality. Each of the different parts contains variables that are analyzed for inter-correlations. To find these inter-correlations Pearson Correlation tests, Point Biserial correlation tests and Regression tests are used. Pearson Correlation test is a measure of linear correlation between normally distributed variables. It

¹ Social Network Fact Sheet, 2013

² http://www.socialbakers.com

is used to measure the dependence between the two variables, giving a value between +1 and -1. Where 1 means that there is a strong positive correlation, 0 means that there is no correlation and -1 means that there is a strongly negative correlation. (Jaccard & Becker, 2002). This study contains dichotomous (bivariate) variables and continuous variables therefore Point Biserial correlation tests are used to test inter-correlation between bivariate and continuous variables. (Field, (2013); Pallant, (2013). The R-squared value gives us an indication of the variance of variable A explained by the independent variable B. R-squared values range from 0 to 1. An R-squared of 1 indicates that all movements of variable A are explained by movements of variable B. A high R-squared (between 0.7 and 1) indicates the performance patterns have been in line with the

index variables. A higher R-squared value will indicate a more useful the beta figure. The basic function to predict Y is $\hat{y} = \alpha + \beta 1x1$. Where the slope β is the change in the mean value of the outcome \hat{y} that corresponds to change of x1.

To prevent a bias within the data analysis, a set of screening criteria is used to create a valid data set. Respondents younger than 18 years old are deleted and respondents that do not use any SNS are deleted. Also cases with missing data sets are deleted. The data set has a relative high reliability with a Cronbach's alpha = .762 with N=8. The data was valid at the significant value of <.05. Based on the count value obtained in the data set all the variables were valid.

Demographic results (Point-Biserial Correlation)

		U	•	,		
Independent variable	Dependent variable	df	Point Biserial Correlation	Sig.(2-tailed)	Confidence int.	
Gender	Volume	183	064	.390*	95%	Insignificant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Table 4.1: Demographic results

Demographic results (Pearson Correlation)

Independent variable	Dependent variable	df	Pearson Correlation	Sig.(2-tailed)	Confidence int.	
Age	Privacy importance level	183	.687	.000**	95%	Significant
Education level	Privacy importance level	183	.336	.000**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Table 4.2: Demographic results

4. Research results

The conducted empirical research results will be elaborated and explained within this chapter. First the demographic characteristics and correlations will be briefly discussed. In the sections after that the perceived fairness, perceived benefits and perceived risks results will be explained. The relationship between perceived risks and trust will be briefly mentioned in section four. In the final section the bounded rationality results will be elaborated. All regression inter-correlations results are summarized in figure 4.7.

4.1. Demographic results

The study contains 84 female and 101 male subjects. N=20 are deleted according to the screening criteria, including N=6 respondents that do not use social media. Because gender is a dichotomous variable a Point Biserial Correlation test has been used to find an inter-correlation between the volume of personal data sharing (dependent variable) and gender (independent variable). Statistics show there is no significant correlation between these variables, r(183)=-.064, p>.390 (table 4.1). Most SNS users within the research sample are distributed between the age 18 and 30 (M=1.54, SD =0.499) with little users above 60 years old. The respondents that are below the age of 18 (N=14) are deleted.

A Pearson Correlation test was conducted to determine whether there was a correlation between age (independent variable) and level of privacy importance (dependent variable). There is a relatively strong and positive significant correlation between age and the level of privacy, r(183) =.687, p<.000) (Table 4.2). The older the SNS user is the higher the level of privacy importance becomes

Statistics also confirm that there is a significant correlation between the privacy importance (dependent variable) and the level of education (independent variable), r (183) = .336, P<.000 (Table 4.2). Respondents with a higher level of education find privacy more important than respondents with a lower level of education. O'Neill (2001) confirmed this statement; those with the highest levels of education (a doctoral degree) expressed the highest percentage of being concerned with privacy on the internet.

4.2. Combining privacy results

The Pearson Correlation test confirmed that there is a significant correlation between the volume of data sharing (dependent variable) and the importance level of privacy (independent variable), r (184) = .473, p<.000 (table 4.3). SNS users that find privacy less important frequently disclose personal data.

32 SNS users that gave a four-point on the privacy importance scale rarely share personal data. The SNS users that gave less than a four-point disclose information once a week or more frequent. The more frequent a SNS user is sharing personal data the less important privacy becomes.

Prominent is that respondents that find privacy very important do not read the privacy policy. Only 2 respondents of the total

39 respondents that find privacy very important (five-point on the Likert scale) read the terms, conditions or privacy policies. Reasons for not reading privacy notices are (1) prior experience with the SNS, (2) the social networking site belonged to a well-known company and (3) when the privacy notices are not perceived comprehensible they will be less likely to be read. (Milne & Culnan, 2004). Moorman (1990) did found a significant correlation between the level of education and the privacy policy readings. Dommeyer and Gross (2003) state that education and experiences online are associated with privacy

concerns or with trust (Dommeyer & Gross, 2003). The survey results confirm Moorman's statement, that there is a significant positive correlation between the level of education (independent variable) and the privacy conditions readings (dependent variable), r (183) =.241, p <.001 (table 4.4). The higher the level of education the more likely SNS users read the privacy conditions.

Combining privacy results (Pearson Correlation)

Independent variable	Dependent variable	df	Pearson Correlation	Sig.(2-tailed)	Confidence int.	
Privacy importance level	Volume	184	.473	.000**	95%	Significant
* .05	01 4 4 1 1					

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Combining privacy results (Point-Biserial Correlation)

Independent variable	Dependent variable	df	Point Biserial Correlation	Sig.(2-tailed)	Confidence int.	
Education level	User conditions	183	.241	.001**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

4.3. Perceived fairness

According to the results of the semi-structured interviews and the online survey, transparency and the comprehensibility are the two significant answers on how the SNS users perceive an agreement as fair.

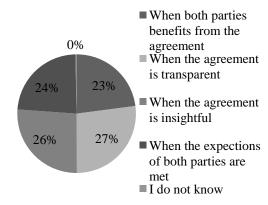


Figure 4.2: Fair agreement

Statistics show that only 28 respondents of the total 186 respondents that answered this question read the terms and user conditions of a social networking site. The terms and conditions are comprehended as an agreement between both parties to use each other service. Regardless of the demographic characteristics almost 85% of the research sample has to deal with limited knowledge, because they have not enough complete information about the specific service the SNS offers. Rational decision making is choosing among alternatives in a way that accords with the preferences and beliefs of the decision maker (Luce and Rai 1957). Without reading terms, user conditions and privacy policies the individual decision maker has incomplete information about alternatives to decide whether the agreement accords with their preferences and beliefs and whether it exceeds their perceived fairness or not (Simon, 1972). All ten interview participants are not willing to

share personal data if the risk-benefit trade-off is perceived as unfair, which proceeds as subjective. Prominent is that nine out of the ten respondents admitted not reading the terms and user conditions. So SNS users are not willing to share more personal data if the agreement is perceived as unfair, but do not tend to read the terms and conditions of the SNS. This means the knowledge and information on which perceived fairness is based could be biased, because the information element is lacking.

4.4. Perceived benefits

4.4.1. Commercial results

Survey results show that almost 80% of the respondents think that their personal data is €20 worth or more.

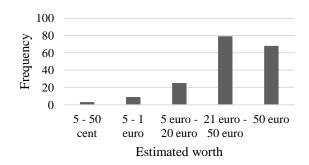


Figure 4.3. Estimated data worth

General information about a person, such as age, gender and location is only worth \$0.0005 per person, or \$0.50 per 1000 individuals (Ehrenberg, 2014). A person that is shopping for a car, a financial product or a vacation is slightly more valuable to companies. Certain milestones in a person's life or major changes in buying patterns increase the worth of personal data, whether that is becoming a new parent, moving homes, getting

Table 4.3: Combining privacy results.

Table 4.4: Combining privacy results.

engaged, buying a car, or going through a divorce. Some of the most personal data rank as the most expensive (Ehrenberg, 2014). For example, an entrepreneur whom is not a millionaire, does not have any interest in getting married and has no critical medical record, but is looking for a vacation and a new car is worth &0.33 according marketers. Typically marketers buy packages of data per 1000 customers. Marketers would pay &325.93 for a package of 1000 customers with interest similar as the entrepreneur. Of course is this calculator not totally comprehensive and does not include pricing details on all types of information that data brokers track, analyze and sell on individuals, but gives an impression on how much our data is actually worth (Steel, Locke, Cadman & Freese, 2013).

Survey results show that 53% of the SNS users are not willing to share more personal data in return for a payment received from SNS services.

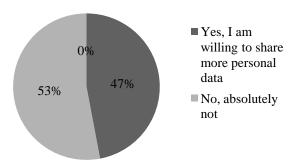


Figure 4.4: Payment for data.

Statistics confirm that there is a significant correlation between the SNS users that are willing to share more personal data when they receive a payment from SNS services (dependent variable) and the volume of personal data sharing (independent variable), r(183) = .449, p< .000 (table 4.5). The SNS users that are willing to share more personal data in exchange for a payment from SNS services are currently more active on SNS than the respondents whom are not willing to share more personal data when they are getting paid. Table 4.6 (appendix C) shows that the R-squared value is 0,201, so 20.1% of the variance in volume scores can be explained by payment. This is relatively a low score, but volume of data disclosure is not the major contributor to the willingness to receive a payment from SNS services. The variable age can also influence the willingness to share more personal data in exchange for a payment from SNS services.

The beta coefficients are illustrated within table 4.7. The model function that is constructed to predict the willingness for payment is $\hat{y} = -.053 + .153x1$. Where x1 = Volume.

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,053	,093		-,571	,569
	FrequencyData	,153	,023	,449	6,774	,000
D	ependent Variable:	Payment2				•

Table 4.7: Payment coefficients.

The influence of our independent variable, volume, is positive and significant. P<.001. There is a more than 95% certainty there is a positive influence of the volume of data disclosure on the willingness to get paid for sharing personal data. This means the first hypothesis, the willingness for payment for personal data sharing has a positive association with volume of data disclosure of SNS users, is accepted.

Another contributor to the variable payment is age. Results show that there is a significant positive correlation between the age of the SNS users (independent variable) and the willingness to receive a payment from SNS services (dependent variable). The older the SNS user the more negative the SNS user is regarding to the idea of receiving a payment from SNS services, r(183)=.529, p<.000 (table 4.5). Table 4.8 (appendix C) shows that the R-squared value is 0.279, so 28% of the variance in payment can be explained by the variable age. In psychological fields it is expected that the predicted value is low. Human behavior is harder to predict than physical processes

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,091	,080		-1,134	,258
	Age	,019	,002	,529	8,425	,000

Dependent Variable: Payment2

Table 4.9: Age coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = -.091 - .019x1$. Where x1 = age.

The influence of our independent variable, age, is positive and significant. P<.001. There is a more than 95% certainty there is a positive influence of age on the willingness to receive a payment from SNS services. So the second hypothesis, SNS users in the age 18-30 are more willing to receive a payment from SNS services in exchange for sharing personal data than older SNS users, is accepted.

Perceived benefits results: commercial rights (Point-Biserial Correlation)

Independent variable	Dependent variable	df	Point Biserial Correlation	Sig.(2-tailed)	Confidence int.	
Volume	Payment	184	.449	.000**	95%	Significant
Age	Payment	183	.529	.000**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Table 4.5: Perceived benefits results: commercial rights

Perceived benefit results: usefulness (Pearson Correlation)

Independent variable	Dependent variable	df	Pearson Correlation	Sig.(2-tailed)	Confidence int.	
Usefulness	Volume	183	.398	.000**	95%	Significant
Age	Usefulness	183	.462	.000**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Table 4.10: Perceived benefits results: usefulness

4.4.2. Perceived usefulness

121 respondents out of the 185 respondents gave usefulness a one of the reasons for using SNS. 64 respondents only mentioned other reasons for using SNS; (1) to stay informed, (2) because everybody else is doing it, (3) to show their interests, (4) out of boredom and (5) to stay in contact with friends and family.

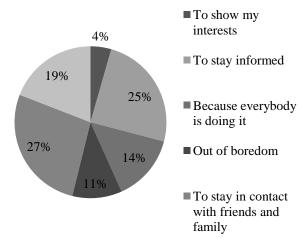


Figure 4.5: Reasons for using SNS

56% of the 121 respondents frequently share personal data, whereas 38% of the respondents that only gave other reasons for sharing personal data frequently share personal data. Pearson Correlation test resulted in a strong significant positive correlation between the level of usefulness (independent variable) of SNS and volume of personal data disclosure by SNS users (dependent variable), r(183) = .398, p<.000 (table 4.10). The higher the level of usefulness SNS users perceive the more frequent they disclose personal data.

Table 4.11 (appendix C) shows that the R-squared value is 0.158, so 15.8% of the variance in volume scores can be explained by the variable usefulness.

		Unstandardize	d Coefficients	Standardized Coefficients		
Mode	el	В	Std. Error	Beta	t	Sig.
1	(Constant)	3,407	,121		28,068	,000
	Reasons	1,233	,211	,398	5,849	,000

Dependent Variable: FrequencyData

Table 4.12: Usefulness coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = 3.407 + 1.233x1$. Where x1 = U sefulness.

The influence of our independent variable, usefulness, is positive and significant. P<.000. There is a more than 95% certainty there is a positive influence of usefulness on the volume of personal data disclosure. So our third hypothesis, a high level of usefulness is positively associated with the volume of data disclosure. data, is accepted.

Results also showed that there is a significant correlation between age (independent variable) and the perceived usefulness (dependent variable), r (183) = .462, p<.000 (table 4.10).

Table 4.13 (appendix C) shows that the R-squared value is .213, so 21.3% of the variance in usefulness scores can be explained by the variable age.

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,181	,079		-2,293	,023
	Age	,015	,002	,462	7,040	,000

Dependent Variable: Reasons

Table 4.14: Perceived usefulness coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = -.181 + .015 \times 1.$ Where X1 = Usefulness.

The influence of our independent variable, age, is significant. P<.000. There is a more than 95% certainty there is a positive influence of age on the variable usefulness. So the hypothesis, SNS users in the age 18-30 perceive more usefulness than older SNS users, is accepted.

4.5. Perceived risks

Risks perceived or real, exist due mostly to technology failure or human error. According to Muhammad (2012) the main risks individuals perceive are that (1) something gets posted people do not want others to see, (2) corporate identity theft, (3) legal, regulatory and compliance violations (4) financial risks and (5) convenience risks. 70% of the SNS users acknowledge the risks of using SNS, but only 50% state that they would have less intention to share personal data on that specific SNS.

Table 4.15 shows that there is a significant positive correlation between the perceived risks (independent variable) and the volume of data disclosure when perceiving risks (dependent variable), r (8) =.655, P<.04. When the respondents perceive risks they have less intention to share personal data at that specific SNS.

Table 4.16 (appendix C) shows the R-squared value is 0.429, so 42.9% of the variance in intention to share personal data can be explained by the variable perceived of risks.

				-			
			Unstandardize	d Coefficients	Standardized Coefficients		
M	odel		В	Std. Error	Beta	t	Sig.
1		(Constant)	,286	,244		,000	1,000
		AcknowledgingRisks	,714	,292	,655	2,449	,040

Dependent Variable: Risksharing

Table 4.17: Perceived risks coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = .286 + .714x1$. Where x1 =Perceived risks.

The influence of our independent variable, perceived risks, is positive and significant. P<.04. There is a more than 95% certainty there is a negative influence of perceived risks on the intention to disclose personal data. This means our fourth hypothesis, Perceived risks have a negative impact on the volume of data disclosure by SNS users, is accepted.

Notable is that SNS users in the age 18-30 are less likely to stop sharing personal data when they perceive a higher level of risks than older SNS users (table 4.15). Table 4.18 (appendix C) shows that the R-squared value is .707, so 71% of the variance in the volume of data disclosure when perceiving risks by SNS users can be explained by the variable age.

		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,647	,278		-2,329	,048
	Ageintv	,029	,006	,841	4,398	,002

Dependent Variable: Risksharing

Table 4.19: Volume risks coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = -.647 + .029x1$. Where x1 = age

The influence of our independent variable, age, is significant. P<.002. There is a more than 95% certainty there is an influence of age on the volume of personal data disclosure when still perceiving risks. This means the hypothesis, SNS users in the age 18-30 are showing more risky behavior than older SNS users, is accepted.

4.5.1. Perceived trust

49% of the respondents is willing to share personal data if there is a feeling of trust, even if there is slightly increased level of perceived risk. Reason for this is the social reassurance applied

by for instance friends and family. Studies of interpersonal exchange situations confirm that trust is a precondition for self-disclosure, because it reduces perceived risks involved in revealing private information (Metzger, 2004).

Dinev and Hart the define trust, in correlation with privacy calculus, as the reflecting confidence that personal data submitted to entice beliefs that networking sites will handle this data competently, reliably, and safely. Interview results show that all ten participants were not willing to share personal data at that a specific social platform if they did not perceived (internet) trust. Research done by Dinev and Hart (2005) confirmed this statement, that internet trust is indirectly related to a willingness to disclose personal data. So a lower level of internet trust in SNS will be negatively associated with the intention to disclose personal data.

Perceived risks results (Point-Biserial Correlation)

Independent variable	Dependent variable	df	Point Biserial Correlation	Sig.(2- tailed)	Confidence int.	
Perceived risks	Volume of data disclosure when perceiving risks	8	.655	.04*	95%	Significant
Age	Volume of data disclosure when perceiving risks	8	.841	.002**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed.

Table 4.15: Perceived risks results

Bounded rationality results (Point-Biserial Correlation)

Independent variable	Dependent variable	df	Point Biserial Correlation	Sig.(2- tailed)	Confidence int.	
Reading user conditions	Volume	183	.463	.000**	95%	Significant
Age	Reading user conditions	183	.636	.000**	95%	Significant

^{*} p < .05, two-tailed; * * p < .01, two-tailed. Table 4.20: Bounded rationality results

4.6. Bounded rationality

The information element of Simon's (1995) bounded rationality theory implies that an individual cannot make rational decisions because they do not have enough information and do not have the cognitive ability to deal with this information. Kahneman and Tversky (1979) also state that individuals are not rational decision makers.

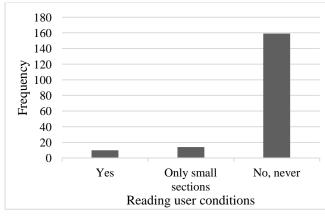


Figure 4.6: User condition readings.

Survey results show that 87% of the respondents do not have complete information about the SNS service they utilize, because they do not read any terms, conditions and privacy policies of the specific social networking site. Limited knowledge means that the matrix of objects by cues has missing entries (i.e., objects, cues, or cue values may be unknown). People will become more selective and critical on what they think and what precedes their preferences. (Gigerenzer & Goldstein, 1996).

Statistics show that there is a significant positive correlation between reading user conditions (independent variable) and the volume of personal data disclosure (dependent variable). SNS users that do not read the user conditions, and therefore have incomplete information about the service, tend to share personal data more frequently than SNS users that do tend to read the user conditions r(183) = .463, p<,000 (table 4.20).

Table 4.21 (appendix C) shows the R-squared value is 0.215, so 21.5% of the variance in the variable volume can be explained by the variable reading user conditions.

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	3,493	,106		32,909	,000
	UserConditions	1,742	,247	,463	7,054	,000

Dependent Variable: FrequencyData

Table 4.22: Bounded rationality coefficients. The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = 3.493 + 1.742x1$. Where x1 = Reading users conditions

The influence of our independent variable, reading user conditions, is positive and significant. P<.000. There is a more than 95% certainty there is a positive influence of limited knowledge on the volume of personal data disclosure by SNS users. This means the hypothesis, limited knowledge has a positive influence on the volume of data disclosure by SNS users, is accepted. The SNS users that tend to read the user conditions, and therefore have more complete information, are sharing personal data less frequently than SNS that do not read the user conditions.

The survey results also show that there is a significant correlation between age (independent variable) and the tendency to read the user conditions (dependent variable), r(183)=.636, P<.000 (table 4.20). The tendency to read the agreements and user conditions becomes more prominent when the age of the SNS user increases.

Table 4.23 (appendix C) shows the R-squared value is 0.405, so 41% of the variance in the variable reading user conditions can be explained by the variable age.

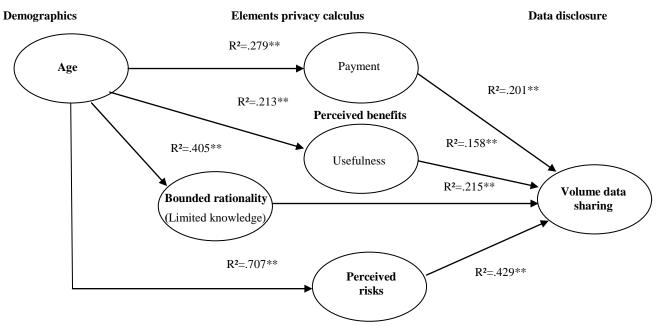
		Unstandardize	d Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	-,396	,056		-7,014	,000
	Age	,018	,002	,636	11,160	,000

Dependent Variable: UserConditions

Table 4.24: Bounded rationality coefficients.

The model that is constructed with the calculated coefficients and constant results in: $\hat{y} = -.396 + .018x1$. Where x1 = Age

The influence of our independent variable, age, is significant. P<.000. There is a more than 95% certainty there is an influence of age on the limited knowledge of SNS users. This means our final hypothesis, SNS users in the age 18-30 have more limited knowledge than older SNS users, is accepted. The SNS users of a younger age (18-30) have less tendency to read the user conditions, and therefore have more limited knowledge than older SNS users that do tend to read the user conditions.



* p < .05, two-tailed; * * p < .01, two-tailed. Figure 4.7: Regression model.

5. Conclusion, discussion and implications

The final chapter exists out of three sections. First the conclusion, after that the discussion will be elaborated. At the end of the chapter the implications, limitations and the recommendations for future research are mentioned.

5.1. Conclusion

The goal of this study was to investigate whether SNS users are willing to share more personal data if they receive a payment from SNS services.

Most Dutch SNS users are not willing to share more personal data when they receive a payment. SNS users that are interested in sharing more personal data in exchange for a payment from SNS services are the users within the age 18-30. Prominent is

that this active group is willing to take more risks regarding the disclosure of data, but tend to have more incomplete information than older SNS users.

5.2. Discussion

The results of the conceptual model culminated in expected and unexpected results. All variables mentioned in figure 4.7 influence the privacy calculus, the volume of data sharing and are associated with the research variable payment. Other demographic characteristics also have influence on these variables, for example the level of education. Results show that SNS users with a higher education find user conditions and privacy more important than SNS users with a lower education. Age also influences the privacy importance level; privacy becomes more important when getting older. Due to time limitations these concepts are not implemented in our

conceptual model. Age has an influence on all variables within the privacy calculus, most of which are displayed in figure 4.7. The R-squared value of the correlation between age and the willingness to receive a payment is .279, so 28% of the payment figures can be explained by age. An R-squared value of 28% is relatively low, but human behavior is harder to predict than physical processes. So predicted values below the 30% or lower are relatively normal and age is not the only contributor to the willingness to receive a payment from SNS services. As predicted the predicted value of the correlation between perceived risks and age is high, 71% of perceiving risks can be explained by age. Older SNS users perceive and acknowledges more risks than younger SNS users, they show more risky behavior than older SNS users. Research shows that individuals below the age of 25 show more risky behavior than older individuals. Individuals become more rational and aware of decision making within the age 18-25. (Reyna & Farley, 2006). Age also explains 41% of the individuals that have limited knowledge. Besides age other external variables influence the know-how of a SNS user, for example education. The level of education can have positive influence on the tendency to read user conditions, which leads to more information. Trust is also a variable that relies within the faces of the perceived risks. This variable also influences the variables volume of personal data disclosure, the privacy calculus and payment. Due time limitations these relationships have not been researched.

The volume of data sharing has been explained for the most part by the variables mentioned in figure 4.7. But, as mentioned, there are external variables that contribute to the volume of personal data sharing, for example fairness; transparency and the comprehensibility are the two significant reasons when SNS users perceive an agreement as fair. Another example is the influence of the intrinsic benefit, enjoyment; the pleasure an individual feels when committing a particular behavior (Moon & Kim, 2001). Only one motivation for using SNS has been discussed, which is usefulness. The usefulness only explains 16% of the volume of personal data sharing. Putting more motivation variables, for example boredom, into the model it would give better predicted values.

The R-squared value of the correlation bounded rationality and the volume of personal data sharing is low, 21% of the volume of personal data sharing is explained by bounded rationality. In this study one element of Simon's (1955) bounded rationality theory has been implemented, which is the information element. So when putting more bounded rationality variables into the model the predicted value will increase. Prior experiences and comprehensibility are the main reason for not reading the agreements according to Milne and Culnan (2004). Based on the theory of bounded rationality, the information element (Simon, 1972) is lacking. Literature shows that when individuals perceive more limited knowledge they observe more uncertainty. This uncertainty leads to more risks awareness and could lead to less personal data sharing (Metzner-Szigeth, 2009; Drake, 1985). Types of risks a SNS user can perceive are that something gets posted people do not want others to see or convenience risks (Muhammad (2012), Yet our study predicted the opposite. The survey results confirm the statement that SNS users that do not read the terms, conditions and privacy policies are less selective (Gigerenzer & Goldstein, 1996) of what they share and how frequent they share. The tendency to read the terms, conditions and policies increases when the SNS user gets older. These statements reject the literature results, only 50% of the SNS users that acknowledges the risks of using SNS disclose less information when perceiving risks.

The main research subject in this study is receiving payments from SNS services in exchange for more personal data disclosure. All variables mentioned above influence the decision on whether to disclose more data when receiving a payment. Expected was that most individuals are willing to share more personal data when they received a reward or payment from SNS services (Hogan, 2014), yet only 47% of the SNS users are willing to disclose more personal data in exchange for a payment from the SNS service. The largest part of this percentage are the SNS users in the age 18-30. The hypothesis second hypothesis, the correlation between the willingness for payment and the volume of data disclosure, also resulted in unexpected findings. 40% of the SNS users that are willing to disclose more personal in exchange for a payment from SNS services are currently very active on SNS. Whereas all SNS users that are not interested in receiving payments from SNS services are not very active on SNS. So the current activity on SNS influences the decision whether to disclose more data when getting paid.

But the question that stays important is; how much is our data actually worth? According to marketers not so much, that is if you are not a highly influential person.

5.3. Practical implications

The practical implications are mentioned in this section. When SNS users are getting paid for sharing their personal data an issue will arise. Individuals can change their answers or data input make their data appear to be worth more. Data selling companies have to link bank account details, credit reports and other personal details to ensure they're getting a true picture of a SNS user's personal data, this can reduce their privacy of the individual even further.

Another implication is that when individuals do want to receive a payment in exchange for more data disclosure they have to sign up for accounts and provide more data to SNS, which takes time and energy.

Setting a price is also an implication. How does a SNS knows what's a fair offer and how much your data is actually worth? And how do they encourage SNS users to keep providing personal data even when it seems it may not be worth their time?

5.4. Future research

The limitations and recommendations for future research are mentioned in this section. This study defines a broad spectrum of topics, but due to time limitations all concepts, theories and correlations could not be discussed in detail, so only the essence of the variables is covered. A recommendation for future research is to split the research up into smaller parts. Next to that, only the Dutch SNS users are the unit of observation. The statements and correlations cannot be generalized over an international population. Also the sample size has an impact on the measurement of the effect and significance of correlations. The sample results are extracted to all SNS users and later on to all individuals that disclose information on the internet, but this study does not contain children and elderly. Many SNS users, according to this study, are reluctant against the idea of receiving a payment from SNS services in exchange for more personal data disclosure. Studies showed that individuals below the age of 18 are showing even more risky behavior on SNS than individuals in the age 18-30. A recommendation for future research is to include the children within the research sample to study their risky behavior and decision making more precise.

There is also no certainty if the personal data revealed by the SNS users was accurate. It is possible that many SNS users gave false or non-accurate information. Giving false

information could be significantly related to trust and privacy concerns. All these elements need to be taken in account when interpreting the results.

6. References

- 1) Acquisti, A., & Grossklags, J. (2005). Privacy and rationality in individual decision making. *IEEE Security & Privacy*, (1), 26-33.
- 2) Babbie, E. (2001). *The practice of social research* (9th ed.). California: Wadsworth/Thomson Learning.
- 3) Arthur, W. B. (1994). Inductive reasoning and bounded rationality. *The American economic review*, 406-411.
- Boyd, D. M., & Ellison, N. B. (2008). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210–230.
- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: a research note. SAGE Publications
- Culnan, M. J. and Bies, R. J. (2003) Consumer privacy: Balancing economic and justice consideration. *Journal of Social Issues*, 59(2), 323-342.
- Dommeyer, C.J., & Gross, B. (2003). Consumer Knowledge, Awareness, and Use of Privacy Protection Strategies. *Journal of Interactive Marketing*, 17(2), 34–51.
- Drake, R. A. (1985). Decision making and risk taking: Neurological manipulation with a proposed consistency mediation. *Contemporary Social Psychology*, 11, 149-152.
- 9) Ehrenberg, B. (2014). How much is your personal data worth? Retrieved from (http://www.theguardian.com/news/datablog/2014/apr/22/how-much-is-personal-data-worth).
- /22/how-much-is-personal-data-worth).

 10) Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook friends: Social capital and college students' use of online social network sites.

 Journal of Computer-Mediated Communication, 19(4), 1143–1168.
- 11) Fontana, A. & Frey, J. (2000). The interview: From structured questions to negotiated text.
- 12) Field, A. (2013). *Discovering statistics using SPSS*. 4th ed. London: Sage.
- 13) Gigerenzer, G., & Goldstein, D. G. (1996). Reasoning the fast and frugal way: models of bounded rationality. *Psychological review*, 103(4), 650.
- 14) Gross, R., & Acquisti, A. (2005, November). Information revelation and privacy in online social networks. In *Proceedings of the 2005 ACM workshop* on *Privacy in the electronic society* (pp. 71-80). ACM
- Jaccard, J., & Becker, M. A. (2002). Statistics for the behavioral sciences. Wadsworth Publishing Company.
- 16) Kahneman, D. (2003). A perspective on judgment and choice: mapping bounded rationality. *American psychologist*, 58(9), 697.
- 17) Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica: *Journal of the Econometric Society*, 263-291.
- 18) Kehr, F., Kowatsch, T., Wentzel, D., & Fleisch, E. (2015). Thinking Styles and Privacy Decisions: Need

- for Cognition, Faith into Intuition, and the Privacy Calculus. *Thinking*, 3, 4-2015.
- 19) Knijnenburg, B.P. and Kobsa, A. (2013) Making Decisions About Privacy: Information Disclosure in Context-Aware Recommender Systems. ACM Transactions on Intelligent Interactive Systems: Special Issue on Human Decision Making and Recommender Systems, 3.
- 20) Knijnenburg, B. P., & Kobsa, A. (2013). Helping users with information disclosure decisions: potential for adaptation. In *Proceedings of the 2013* international conference on Intelligent user interfaces, 407-416.
- Larnier, J. (2014). Who owns the future? Simon & Schuster.
- 22) Li, H., Sarathy, R., and Xu, H. (2010). Understanding Situational Online Information Disclosure as a Privacy Calculus. *Journal of Computer Information Systems*, 51(1), 62-71.
- 23) Laufer, R. S. and Wolfe, M. (1977). Privacy as a concept and a social issue: A multidimensional development theory. *Journal of Social Issues*, 33(2), 22-42.
- 24) Luce, R. D., Rai, H (1957). *Games and Decisions*. Wiley, New York.
- 25) Milne, R,D., Culcan, M. (2004). Strategies for reducing online privacy risks: Why consumers read (or don't read) online privacy notices. Wiley Periodicals, Inc.
- 26) March, J.G., (1978). Bounded Rationality, Ambiguity, and the Engineering of Choice. The Bell Journal of Economics, 9(2), 587-608.
- 27) Marshall, M. N. (1996). Sampling for qualitative research. *Family practice*, *13*(6), 522-526.
- 28) Metzger, M. J. (2004) "Privacy, Trust, and Disclosure: Exploring Barriers to Electronic Commerce. Journal of Computer-Mediated Communication (9) 4.
- 29) Metzger, M. J. (2007). Making sense of credibility on the Web: Models for evaluating online information and recommendations for future research. *Journal of* the American Society for Information Science and Technology, 58(13), 2078-2091.
- Metzner-Szigeth, A. (2009). Contradictory approaches? On realism and constructivism in the social sciences research on risk, technology and the environment. *Futures*, 41(3), 156-170.
- 31) Milne, G. R., & Culnan, M. J. (2004). Strategies for reducing online privacy risks: Why consumers read (or don't read) online privacy notices. Journal of Interactive Marketing, 18(3), 15-29.
- 32) Mohammad, H.; Hossein, R.; Mojtaba, N.; Amir, P.; & Ahmad, R. (2012). An analysis of factors affecting on online shopping behavior of consumers. International. *Journal of Marketing Studies*. 4(5), 81-98
- 33) Molm, Linda D., Jessica L. Collett, and David R. Schaefer. (2006). Conflict and fairness in social exchange. *Social Forces*, 84.4, 2331-2352.
- 34) Monica, C. Balfanz, D. Laurie, B. (2008). (Under)mining Privacy in Social Networks.
- 35) Moorman, C. (1990). The Effects of Stimulus and Consumer Characteristics on the Utilization of Nutrition Information. *Journal of Consumer Research*, 17(3), 362–374.
- 36) N. Denzin & Y. Lincoln (Eds.). *Handbook of qualitative research*. Thousand Oaks: Sage.

- 37) Fong, N. H., & Yazdanifard, R. The impacts of social media market, perceived risks and domain specific innovativeness on online consumer behavior. Global institute for research & education.
- 38) OECD (2013). Exploring the Economics of Personal Data: A Survey of Methodologies for Measuring Monetary Value. OECD Publishing.
- O'Neil, D. (2001). Analysis of Internet users' level of online privacy concerns. Social Science Computer Review, 19(1), 17-31.
- 40) O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, 127(4), 800-804.
- 41) Pallant, J. (2013). SPSS survival manual. 5th ed. Buckingham: Open University Press.
- 42) Powell, J. (2009). 33 Million People in the room: How to create, influence, and run a successful business with social networking. *NJ: FT Press*.
- 43) Reyna, V. F., & Farley, F. (2006). Risk and rationality in adolescent decision making implications for theory, practice, and public policy. *Psychological science in the public interest*, 7(1), 1-44.
- 44) Sako, M. (1998). Does trust improve business performance. Organizational Trust: A Reader, 88-117
- 45) Schoenbachler, D.D., & Gordon, G.L. (2002). Trust and Consumer Willingness to Provide Information in Database-Driven Relationship Marketing. *Journal of Interactive Marketing*, 16(3), 2–16.
- 46) Shea, C. (2011). "Thinking, Fast and Slow," by Daniel Kahneman. Retrieved from http://www.washingtonpost.com/entertainment/books/thinking-fast-and-slow-by-daniel-kahneman/2011/12/08/gIQAmyh4yO_story.html

- 47) Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69(1), 99–118.
- 48) Simon, H. A. (1972). Theories of bounded rationality. Decision and organization, 1(1), 161-176.
- 49) Simonite, T. (2014). Sell Your Personal Data for \$8 a Month. Retrieved from http://www.technologyreview.com/news/524621/sell-your-personal-data-for-8-a-month/
- 50) Simonite, T. If Facebook Can Profit from Your Data, Why Can't You? Retrieved from http://www.technologyreview.com/news/517356/iffacebook-can-profit-from-your-data-why-cant-you/
- 51) Steel, E. Locke, C. Cadman, E & Freese, B. (2013). How much is your personal data worth? Retrieved from http://www.ft.com/cms/s/2/927ca86e-d29b-11e2-88ed-00144feab7de.html#axzz3W40HTZq1
- 52) Stone, E. F., Gueutal, H. G., Gardner, D. G., and McClure, S. (1983). A field experiment comparing information privacy values, beliefs, and attitudes across several types of organizations. *Journal of Applied Psychology*, 68, 459-468.
- 53) Taylor, S. & Bogdan, R. (1984). Introduction to qualitative research methods: The search for meanings. New York: John Wiley and Sons.
- Thibaut, J., & Walker, L. (1978). A theory of procedure. *California law review*, 541-566.
- 55) Wamba, S. F. (2014, August). Perceived usefulness, ease of use and risk in Social Media Adoption within Workspace: An Empirical Study Integrating Assessment of Unobserved Heterogeneity in PLS Path Modeling. In Proceedings of the Sixteenth International Conference on Electronic Commerce (p. 20). ACM.

7. Appendix A

THE WILLINGNESS TO SHARE

Een onderzoek naar de bereidwilligheid om data te delen.

* vereist

Wat is uw geslacht?*	Man
	Vrouw
Wat is uw leeftijd?*	< 18
	18-30
	31-40
	41-50
	51-60
	60+
Wat is op dit moment uw hoogst genoten opleiding?	Geen
	Basis onderwijs
	lager beroeps onderwijs of voorbereidend middelbaar beroepsonderwijs (LBO of VMBO)
	Middelbaar beroepsonderwijs (MBO)
	Hoger algemeen voortgezet onderwijs of voorbereidend wetenschappelijk onderwijs (HAVO of VWO)
	Hoger beroepsonderwijs (HBO)
	Wetenschappelijk beroepsonderwijs (WO)
Maakt u gebruik van Social Media sites?*	Ja
Bijvoorbeeld Facebook, Twitter, Instagram, LinkedIn	Nee
etc.	
Deelt u veel persoonlijke gegevens op Social media of andere sites?	Meerdere keren per dag
of andere sites:	Elke dag
	1x per week
	1x per maand
	Weinig
	Nooit
Wat is uw motivatie om persoonlijke gegevens te delen?	Om op de hoogte blijven
deen	Omdat iedereen het doet
	Om mensen mijn interesses te laten zien
	Tegen verveling Om contact te houden met familie en vrienden
Wie kunnen uw berichten en gegevens zien?	Anders
vite kunnen uw bettenten en gegevens zien:	1 = -
	Iedereen.
	Beperkte groep, vrienden van vrienden.
	Beperkte groep, vrienden van vrienden.
	Beperkte groep, vrienden van vrienden. Zeer selecte groep, alleen vrienden. Weet ik niet.
Laat u iedereen toe in als contact in uw netwerk?	Beperkte groep, vrienden van vrienden. Zeer selecte groep, alleen vrienden. Weet ik niet. Ja, iedereen
Laat u iedereen toe in als contact in uw netwerk? Hebben anderen weleens iets op uw netwerk	Beperkte groep, vrienden van vrienden. Zeer selecte groep, alleen vrienden. Weet ik niet.

achtergelaten dat nadelig voor u was?	Nee			
In welke mate vindt u privacy belangrijk?	Niet belangrijk 1-2-3-4-5 Erg belangrijk			
Denkt u dat andere partijen dan Facebook/ LinkedIn/Twitter rondkijken op uw sociaal netwerk?				
Denkt u dat andere partijen dan Facebook/ LinkedIn / Twitter uw gegevens gebruiken?	Ja Nee			
Social media sites verzamelen alleen gegevens van mij die ik zelf bewust deel. Bent u het met deze stelling eens of oneens?	Eens Oneens			
Aan welke bedrijven bent u eerder bereid data te delen?	Bedrijven die vallen onder het Nederlandse rechtsstelsel Bedrijven die vallen onder het Amerikaanse rechtsstelsel Geen verschil			
Erkent u de risico's van het delen van gegevens op internet?	Ja Nee Weet ik niet			
Leest u altijd de gebruikersvoorwaarden?	Ja, helemaal Ja, globaal Nee, nooit			
Ik accepteer dat de functies op een sociaal netwerk een inbreuk op mijn privacy kunnen betekenen. Bent u het met deze stelling eens of oneens?	Eens Oneens			
Vindt u dat de overheid genoeg handelingen verricht om u privacy te beschermen?	Pan Ja, de overheid zet zich goed genoeg in. Nee, absoluut niet. Weet ik niet.			
In welke sector bent u werkzaam?	Administratieve beroepen Ambachten Detailhandel Defensie Financiële dienstverlening Horeca, catering en verblijfsrecreatie Informatie en communicatie Land- en tuinbouw Metalectro en metaalnijverheid Overheid Procesindustrie Schoonmaak Vervoer en opslag Welzijn, jeugd en kinderopvang			

	Zorg
	Ik doe vrijwilligerswerk
	Werkloos
	Anders;
Hoeveel denkt u dat al uw persoonlijke gegevens waard zijn?	€0,05 - €0,50
	€0,51 - €1,00
	€5,00 - €20,00
	€20,00 - €50,00
	+€50,00
Bent u bereid meer persoonlijke gegevens te delen	Ja, ik ben bereid om meer gegevens te delen.
als u hiervoor betaald krijgt?	Nee, ik ben absoluut niet bereid om meer gegevens te delen.
	Weet ik niet.

ING CASE

Stel, U bent al jaren trouw lid van ING. De bank wil, natuurlijk met toestemming van u, uw gegevens verkopen aan andere bedrijven, om zo hun dienstverlening optimaal te verbeteren.

ING zou mijn persoonlijke data mogen doorverkopen. Bent u het met deze stelling eens of oneens?	Eens Oneens
Wat verstaat u onder een eerlijke overeenkomst? In hoeverre vindt u uzelf een rationele denker?	Als geen van de partijen slechter worden door de overeenkomst Als de overeenkomst transparant is Als aan de verwachtingen van beide partijen worden voldaan. Als de overeenkomst inzichtelijk is Weet ik niet Anders: Irrationeel 1-2-3-4-5 Rationeel
U heeft interesse in een product van €20 in winkel A, maar winkel B verkoopt het product voor maar €10,00. Zou u 10 kilometer extra rijden voor het product uit winkel B? U heeft interesse in een product van €1000 in winkel A, maar winkel B verkoopt het product voor maar €990,00. Zou u 10 kilometer extra rijden voor het product uit winkel B?	Ja, het scheelt toch 50% Nee, kost teveel moeite. Ja, het scheelt toch €10,- Nee, kost teveel moeite.

Appendix B

Semi-constructed interview

Wat is uw leeftijd?	
Wat is op dit moment uw hoogst genoten opleiding?	
Maakt u gebruik van social media sites? Bijvoorbeeld Facebook, Twitter, Instagram, LinkedIn etc.	
Deelt u veel persoonlijke gegevens op social media?	
Wat is uw motivatie om persoonlijke gegevens te delen?	
Wat verstaat u onder het begrip 'eerlijkheid'?	
Wat verstaat u onder een 'eerlijke overeenkomst'?	
Bent u bereid data te delen als u de overeenkomst niet eerlijk vindt?	
Wat verstaat u onder het begrip vertrouwen?	
Volgens twee onderzoekers weerspiegelt vertrouwen het gevoel dat persoonlijke data vakkundig door netwe gebruikt wordt (Dinev & Hart). Bent u bereid persoonlijke data te delen als hier niet aan wordt voldaan?	erksites
Erkent u alle risico's van het gebruik van social media sites?	
Neemt u wel eens risico's waar tijdens het gebruik van social media?	
Bent u dan nog bereid om persoonlijke gegevens te delen in dit soort situaties?	

Appendix C

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,201	,197	,44832

Predictors: (Constant), Frequency Data

Table 4.6: Model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,279	,276	,42598

Predictors: (Constant), Age

Table 4.8: Model summary.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,158	,154	1,34602

Predictors: (Constant), Reasons

Table 4.11: Model summary

Model Summary

			Adjusted R	Std. Error of
Model	R	R Square	Square	the Estimate
1	a	,213	,209	,41930

Predictors: (Constant), Age

Table 4.13: Model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,429	,357	,42258

Predictors: (Constant), AcknowledgingRisks

Table 4.16: Model summary.

Model Summary

	D.	D.C.	Adjusted R	Std. Error of
Model	K	R Square	Square	the Estimate
1	a	,707	,671	,30239

Predictors: (Constant), Ageintv

Table 4.18: Model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,215	,210	1,30007

Predictors: (Constant), UserConditions

Table 4.21: Model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a	,405	,402	,30039

Predictors: (Constant), Age

Table 4.23: Model summary