

LIVE STREAMING VIDEO AND SAFECITY

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ANR: 172611

HAIT Master Thesis series nr. 11-009

THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN COMMUNICATION AND INFORMATION SCIENCES,
MASTER TRACK HUMAN ASPECTS OF INFORMATION TECHNOLOGY,
AT THE FACULTY OF HUMANITIES
OF TILBURG UNIVERSITY

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August, 2011

PREFACE

I am happy to present the tangible results of five months of hard work. There were ups and downs, learning experiences and global knowledge. It is the culmination of two years studying at Tilburg University. Two years that were to me as one big learning curve. Not only 'knowledge wise' I was reinvented, also on the personal level I have grown considerably. My two-year presence at Tilburg University helped me to identify my strengths, weaknesses, likes, and dislikes.

One of these weaknesses regretfully caused me unnecessary stress. Mainly, because I was in some cases not sufficiently assertive. It resulted in the inability to take some important opportunities although, I believe, they were somewhat hidden. I was privileged that my mentor Prof. Dr. H.J. van den Herik was willing to open my eyes to support me to complete this thesis otherwise.

Overall, Professor Van den Herik was a big help. He gave me the necessary inspiration to discover new insights and improve my English writing skills. His unbridled commitment and preparedness to encourage me have continuously motivated me to perform as best as possible. Next to him, I would also like to mention Jan Otten, who gave constructive feedback, and helped me to master the topic that was both scientific in nature and connected to social structures. His support ensured social relevance which motivated me in doing the research and writing this thesis.

In sum, I hope you enjoy reading this thesis as much as I enjoyed writing it. For me it was a learning full experience. It made me ready for a jumpstart in my professional career.

August, 2011

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ABSTRACT

If individuals are in need of emergency assistance and want to contact the needed emergency services such as the police organization, the fire brigade, or the medical department, they traditionally use a (mobile) phone to dial the emergency phone number. Currently, there is a new tool: SafeCity. It is an application that can be installed on almost all mobile phones. It complements the well known primarily verbal-driven routine by adding live streaming video. This creates a combination of verbal feedback and digital video that ensures professionals in the emergency room to be provided with a large amount of information.

The problem statement that coordinates this thesis uses the ‘technological determinism’ versus the ‘social constructivism’ debate as its starting point. The problem statement is formulated as follows: *“To what extent does SafeCity have the ability to cause a social change in the behavior of citizens who are in need for emergency assistance?”* The research describes that the actual usage of SafeCity depends on a variety of perceptual characteristics. These characteristics are examined and tested using two research questions that are discussed below.

The first research question reads as follows: *“To what extent is the attitude towards using SafeCity influenced by an individual’s perception of need for privacy, feelings of safety, and affinity with technology?”* The investigation involved to examine the effects of the perceptual characteristics (1) need for privacy, (2) feelings of safety, and (3) affinity with technology. A review of the results showed that only a person’s feelings of safety influenced the willingness to use SafeCity. The two other characteristics ‘need for privacy’ and ‘affinity with technology’ did not show any significant effects.

Complementary to the perceptual characteristics, the second research question reads: *“To what extent does the severity of an emergency assistance demanding situation affect the attitude towards using SafeCity?”* The results show that in situations categorized as ‘being severe’, the willingness to use SafeCity was lower than in situations that were less severe. In comparison to the emergency phone number, SafeCity was continuously preferred in less severe situations. Possible explanations for this outcome are discussed in the concluding chapter.

The results described above are the main inputs for answering the problem statement. The problem statement investigates if SafeCity has the capability to cause a social change. Insights into the answers of the two research questions provide arguments for both a positive and a negative conclusion. For that reason the thesis provides an ambiguous final conclusion. A positive conclusion indicates that in less severe situations there is a preference for SafeCity. This can be seen as a first step of a complete change in the social routine. However, a negative conclusion is that the research results are convulsions from a technological development which society is not ready for.

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1 INTRODUCTION

This thesis takes as its starting point that the world is fully technology driven. It is an extreme side in the technology versus society debate. The technology-driven side is supported by ICT and the current developments. The society-driven side believes that technology should be invoked when the community needs it.

The technology-driven side believes that technological developments are the enablers for a social change. They help the society to adapt to the emerging opportunities it produces. As originally presented by the American sociologist Thorsten Veblen (1859-1929), the theory of ‘Technological determinism’ states that technological artifacts “are not simply inventions which people employ but are the means by which people are re-invented.” (McLuhan, 1962). A recent example supporting this judgment is the way WikiLeaks shakes up the economical, cultural, and political world. It provides individuals with a platform to share anonymously classified documents which subsequently can be viewed by all strata of society. It denounces irregularities and gives the average working-man an insight into economical, cultural, and political issues. WikiLeaks is a new method for citizens to gain information that is normally unavailable; it influences the entire society and in particular the behavior of its leading figures.

Though the WikiLeaks example clearly shows what impact technology has on social circumstances and how it advances the way we live, the society-driven side is still in opposition to the ‘the world is technology-driven’ viewpoint by stating that ‘the world is society driven’. They do so, by basing themselves on the ‘Social construction of technology’ (SCOT) theory (Pinch and Bijker, 1984). This theory states that technology is driven by social demands to be harnessed for personal growth and wisdom. SCOT argues that the implementation of technological artifacts is not a matter of society adapting to its emerging opportunities, but is a collaborating process between technology and society negotiating up to a certain level of fit, practices, and action. It redefines ‘Technological determinism’ as ‘Social constructivism’ which presumes that technology assists our society in a way that we want.

The influence of both paradigms is evident. Currently, we may say that the technology versus society debate is still undecided. With that in mind, we base the thesis on the technology-driven viewpoint. The thesis assumes that, as mentioned in the title, live streaming video and SafeCity are technological developments that should be considered as autonomous influencers that have the ability to affect the attitude of individuals towards social standards. Sections 1.1 and 1.2 elaborate on that assumption by explaining the opportunities that emerge from live streaming video and SafeCity. After that, in section 1.3 we discuss the relevance of this study. Next, we formulate the problem statement and

research questions in section 1.4, followed by the research methodology in section 1.5. Finally in section 1.6 we provide an outline of the thesis.

1.1 Live streaming video

The explosive growth of the internet enables technicians to invent new technological artifacts that – according to ‘technological determinism’ – provide society with all sorts of opportunities. One of those artifacts is live streaming video; it has many characteristics that generate additional advantages in contrast to conventional video. Four advantages are mentioned below.

1. Live streaming video enables users to view video in real time.
2. Faster views are made possible with the use of an internet connection.
3. Because streaming happens in real time it is impossible for the video to be modified.
4. It becomes possible to track the audience.

The four advantages together lead to the main characteristic of live streaming video: the possibility to broadcast live events to anyone who requests it. The content of the video is digitalized and passed through different telecommunications networks. So, it becomes possible for the end-user to watch the streamed video directly. So far, the internet is the type of telecommunications network most used to broadcast video, a new type of network is engaging in live streaming video: 3G (GPRS or UMTS). 3G stands for 3rd-generation. 3G is a standard for voice telephone, video calls, mobile TV, and mobile internet access that outperforms its predecessors by differentiating itself on the basis of its peak data rates of at least 200 kilobyte per second (kbit/s), determined by International Mobile Telecommunications-2000. Since the introduction in 2001, 3G has evolved in reaching much higher data speeds which has led to a broad scope of new technological opportunities.

1.2 SafeCity

An application of live streaming video is SafeCity. The scope of the technological opportunities that is enabled by live streaming video is manufactured by persons who use SafeCity. Basically, SafeCity provides mobile phones with an application that allows its users to stream directly videos to a secured website which is continuously monitored by emergency services. For example, if an individual experiences a severe situation outside their home and emergency assistance is demanded, the individual is likely to use a mobile phone to contact the emergency services. Without SafeCity, an individual would dial an emergency phone number (e.g., 1-1-2 or 9-1-1), asks for help and explains the characteristics of the situation; SafeCity replaces this verbally offered description by images provided by live streaming video. These live video feeds demand for a certain reaction that normally consists of two elements. The first element covers the operating staff to give direct feedback to the person that sends the message. This

feedback can consist of (1) the assistance with needed actions, (2) the reassurance of the person, and (3) other types of interactions. The second element covers the emergency services to interpret the situation and its needed assistance; they inform and pass through the situation's characteristics to the police organization, the fire brigade, or the medical department.

1.3 Relevance

In case of emergency, a citizen must choose between the use of SafeCity on one hand and dialing the emergency phone number (1-1-2 or 9-1-1) on the other hand. It is likely that this decision is influenced by a variety of perceptual and situational characteristics. To restrict the research, we limit these characteristics to three perceptual, and one situational characteristic. The three perceptual characteristics are (1) need for privacy, (2) feelings of safety, and (3) affinity with technology. The three perceptual characteristics are based on consequences that originate from the following key attributes of SafeCity.

1. SafeCity influences a person's privacy feelings.
2. The probability of using SafeCity is influenced by a person's feelings of safety.
3. The probability of using SafeCity is influenced by an individual's affinity with technology

The situational characteristic is determined by the situation itself; it deals with the severity of a situation. It is debatable that a situation's severity should be considered as a situational characteristic, because people, from an individual perspective, differ in their interpretations of a 'severe situation'. Yet, we consider a situation as 'severe' when a situation has a high potentiality of resulting in a criminal action, or a when a situation causes actual physical casualties. This argument is understandable but difficult to operationalize. Therefore, we use different types of scenarios to distinguish the 'severe' and 'less severe' situations. All of the scenarios are based on the scientific literature that will be presented in the theoretical and methodological framework.

1.4 Problem statement and research questions

When we refer to the technology versus society debate, it is appropriate to determine what influence SafeCity will have on our society. We presume, in accordance with the technology-driven side, that SafeCity enables individuals to change their attitude of how to handle in a situation where emergency assistance is demanded. Hence, we have formulated the problem statement (PS) of the study as follows.

PS: To what extent does SafeCity have the ability to cause a social change in the behavior of citizens who are in need for emergency assistance?

In order to answer the problem statement two research questions are defined based on the distinction between perceptual and situational characteristics as mentioned in section 1.3.

RQ1: To what extent is the attitude towards using SafeCity influenced by an individual's perception of need for privacy, feelings of safety, and affinity with technology?

RQ2: To what extent does the severity of an emergency assistance demanding situation affect the attitude towards using SafeCity?

Insight into both research questions will help us to set a basis from where the problem statement can be answered. It determines whether SafeCity has the ability to change social behavior that exists since the introduction of the emergency phone number (Holtackers, 1992).

1.5 Research methodology

We examine the two research questions and the problem statement with the help of a research methodology that consists of five phases. Phase 1 is to underpin theoretically - from a perspective of technological determinism - all perceptual ('need for privacy', 'feelings of safety', and 'affinity with technology') and situational characteristics ('situation's severity'); it is realized by a literature review. We use phase 1 to provide a better understanding of all relevant aspects so that design issues in phase 2 and 3 can be resolved. Phase 2 includes investigations that determine how the participants feel about the perceptual characteristics mentioned in research question 1. After phase 2, phase 3 presents the participants with scenarios to examine how they would react in situations where emergency assistance is demanded. Then, in phase 4 we integrate the results of phase 2 and 3 to answer both research questions. Subsequently, we complete the study in phase 5 by an evaluation of the analysis in phase 4. After that, we end phase 5 by an elaboration on the problem statement and we provide recommendations for future research. In summary, the research methodology is designed as follows.

Phase 1: Literature review

Phase 2: Investigation

Phase 3: Scenarios

Phase 4: Analyzing the results of phase 2 and 3

Phase 5: Evaluating the analysis of phase 4 and answering the problem statement.

1.6 Outline

In chapter 1 we introduced the topic, the research questions and the problem statement of the thesis. Chapter 2 covers the first phase of the research methodology in three steps. First, it elaborates on ‘technological determinism’. Second, it explains the perceptual and situational characteristics and their potential influence on the use of SafeCity. Third, it provides an overview of theoretical arguments that are used to underpin these characteristics. In chapter 3, we execute the second and third phase of the research methodology. So, we discuss the design, sampling strategy, dependent variables, independent variables, operationalization, the fieldwork procedure, the participants, and the method of analysis. In chapter 4 we then interpret the results of phase 2 and 3 by statistically analyzing the outcomes of the survey and the other data that are collected. On the basis of these results, we evaluate the empirical tests for both research questions; this discussion, complemented by (1) a reflection and (2) the limitations of the research, is given in chapter 5. Finally, chapter 6 answers the research questions by a summary of inputs from the chapter conclusions given in the chapters 2 to 5. Moreover, it answers the problem statement through the results obtained from the research questions. Of course, the answers are followed by recommendations for future research.

2 BACKGROUND AND THEORETICAL FRAMEWORK

In this chapter we provide a background of the topic and an outline of the theoretical framework for the research. In section 2.1 we start with an extensive explanation of the technology versus society debate, supported by examples. The debate is used as the input for the production of various theoretical and practical implications in reference to SafeCity, e.g., “does SafeCity have the ability to start a social change?” Later, in sections 2.2 to 2.4, we clarify and support the three perceptual characteristics (1) need for privacy, (2) feelings of safety, and (3) affinity with technology by the use of theoretical arguments. Then, in section 2.5, we introduce a conceptual model. It is based on the arguments that show the relationship of the characteristics with respect to SafeCity. The model incorporates the concept of ‘situation’s severity’ that we will discuss in section 2.6.

2.1 Technology and social change

As already put forward shortly in the introduction, we use the technology versus society debate as a stepping stone to examine the potential influence of SafeCity on society. In subsection 2.1.1 we use the labor market as an example of ‘technological determinism’. In subsections 2.1.2 we elaborate on ‘technological determinism’ by virtue of its grammatical composition. After that, in subsection 2.1.3, we discuss the opposite side of ‘technological determinism’: ‘social constructivism’. We end the section with by ‘technology’ versus ‘society’ debate in relation to SafeCity in subsection 2.1.4.

2.1.1 Example: technological determinism and the labor process

In history, technology has been an important force for social change. This change occurred in a variety of areas within the social environment. An example of these areas that we use in this subsection is the labor market.

Adam Smith was one of the first to observe changes in the labor market that were driven by technology. In his book *Wealth of Nations* (1776) he stated that technological advantages form a driving force for the increase of production and the lowering of production costs. He explained how technology contributes to the effectiveness of organizational processes. Even though Smith considered technological developments as mainly positive influencers with economical benefits, he posited one important caveat: does the simplification of tasks for the working class not end up with drudgery consequences? Karl Marx believed it did. In his *Communist Manifesto* (1848) he described that economical benefits derived from technological advantages only apply to the happy few. The working class is affected adversely; they become alienated to their work, their colleagues and even themselves.

We believe that the discussion about the influence of technology on the social environment will always remain. A recent example of how technology affects the labor market is ‘cloud computing’ (Bogaert, 2011). Cloud computing is a new technological development that enables companies to store data, software, networks, servers, and services in a ‘cloud’. The ‘cloud’ can be approached via the internet ensuring greater mobility. Especially in relation to ‘the new way of working’ (‘het nieuwe werken’) cloud computing generates great advantages. The necessity for employees to come to the office becomes minimized. Social circumstances such as personal (time) planning, commuting, social interactions and others types achieve greater flexibility and liberty. Supporters of the ‘technological determinism’ side of the ‘technology versus society’ debate would argue that ‘cloud computing’ clearly shows the influence that technology has on society, the supporters of the ‘social constructivism’ side would believe otherwise.

To date, there are still three camps that all differ in their opinion of how technology, the labor process, and social circumstances interact.

The first camp, with Braverman (1974) as one of the most important members, argues that technology simplifies and monotonizes work tasks; the work process is degraded and individuals in the social environment are less challenged. The second camp opposes this judgment. They posit that technology attributes to the complexity and versatility of work (Bell, 1973), with as a result that the work is more satisfactory. The third camp positions itself in between; they consider the influence of technology on organizational processes to occur at various segments in various ways. For example, they argue that for the higher positions, the everyday work becomes more complex and challenging. For the lower positions, the reverse is the case as their work is mainly dominated by IT and technology (Kern and Schumann, 1984; Zuboff 1988).

Though the example of how technology influences the social environment and organizational processes might be considered as somewhat beyond the specific framework of this research, it, in line with the scope of the research, clearly shows what impact technology has on processes in the social environment. All of the above mentioned viewpoints should - with that in mind - be considered as technologically deterministic.

2.1.2 Technological determinism

The way technology causes social change is described within science along various lines (Smith, 1776; Marx, 1848; Feenberg, 1991). The diversity of mindsets makes it difficult to formalize unambiguously the concept of technological determinism. For that reason, we attempt to do so with the use of a grammatical interpretation of ‘technological determinism’.

Obviously the term ‘technological determinism’ consists of two components. First, the technology component can be interpreted in many ways due to a large amount of approaches available. Technology

beholds artifacts, processes and our knowledge about them. It covers appliances and objects we use, factories and laboratories we build, and knowledge and ideas we generate (van den Boomen, 2003). A term such as ‘technology’ shapes a black box that forces individuals to approach it from their own knowledge and experience; everyone differs in his¹ ideas about what technology actually comprises. Yet, defining technology on the basis of a black box is in our opinion (too) behavioristic (Skinner, 1974). Hence, Olsen, Pedersen, and Hendricks (2009) materialize the concept of technology by relating it to seven companions, each covering an area where technology has proved to have its impact. The areas they put forward are (1) history, (2) science, (3) philosophy, (4) environment, (5) politics, (6) ethics, and (7) future. They emphasize that “technology is not a ‘thing’ but a complex of practices, methods, hopes, intentions, goals, needs, and desires, besides all the actual technologies in hand.” For that, in line with the principle of a black box, technology has no single definition. Technology only lets itself explain when it is related to a companion.

The second component, ‘determinism’, is such a companion. Technology related to a deterministic approach learns that, in relation to all pillars described by Olsen et al. (2009) technology influences the society considerably. Scientists who support the view that technology is far from socially neutral argue that technology has significant influence on all seven areas mentioned above. So, the only topic of discussion that remains undecided within the deterministic approach is the ‘amount of determinism’ (Feenberg, 1991). Technological determinism in its purist form would mean that the society has no free will and all human actions are determined by technological developments. Logically, this judgment is far from reality. Van den Boomen (2003) explains that pure determinism leads to a paradox; if someone argues that society only acts on the basis of technological developments and does not rely on free will, then the possibility exists to argue that judgment would not even be possible assuming that technology is unwilling to accept the notion of a free will. A balanced judgment is much more appropriate. The assumption, which generally prevails in this matter, is then that technology is an autonomous influencer which changes us and the world around us. This assumption is what describes the deterministic approach at its best. Still, we believe that it remains quite natural to allow questions on how these technologies are actually developed and how they relate to technological determinism.

2.1.3 Technological determinism versus social constructivism

As shown in the previous subsection (2.1.2), technological determinists believe that technology is developed outside of human expectations and demands. So, technological developments erupt and the social environment needs to adapt to its emerging opportunities, even if they lack positive outcomes

¹ For brevity, we use ‘he’ and ‘his’ whenever ‘he’ or ‘she’ and ‘his’ or ‘her’ are meant.

(Marx, 1848). As stated at the end of the subsection, this assumption may be weak, mainly because of another widely supported viewpoint that should be taken into consideration: the viewpoint of ‘social constructivism’.

Thoughts and ideas developed by Pinch and Bijker (1987) and MacKenzie and Wajcman (1999) advocate ‘social constructivism’ by using the theory of ‘Social Construction of Technology’ (SCOT). The theory claims that human expectations and demands shape technological developments. SCOT is based on the assumption that technology can only be seen in the context of its social usage. In fact, this aligns with the need for companionship between technology and other concepts as described in subsection 2.1.2. Social constructivists argue that the meaning of technology is shaped by social dynamics, the same as these dynamics influence the development and implementation of its forthcoming artifacts. To date, in relation to SCOT and ‘social constructivism’, two domains investigate how technology is (1) developed, and (2) implemented (Leonardi and Barley, 2010). The ‘development’ domain examines how human-nature interactions and social demands shape a technological novelty. The ‘implementation’ domain subsequently looks at how such a technological novelty is accepted by the society.

Domain 1: development

SCOT would support the approach that technological artifacts are shaped to fill a certain social demand. Only when society demands a certain advancement driven by technology, it has an actual chance for success. Hughes (2004) attributes to this approach by arguing that “technology is a productive activity that utilizes artifacts and is a result from human creativity”. Hughes indicates that technology is the outcome from a shaping process of human-nature interactions. MacKenzie and Wajcman (1999) frame it as follows: “technology is not about how we adapt to it, technology is about how we shape it.”

The process that shapes technology based on human-nature interactions considers four related concepts defined within SCOT (Pinch and Bijker, 1984, 1987, 1995). The first concept is known as ‘interpretative flexibility’, it states that the developing process of technology is ‘open’ and for that reason one that varies due to social circumstances. Second, the concept of ‘relevant social groups’ indicates that the potential groups of users are separate embodiments that all differ on the basis of their social norms, values, and meanings. The different ‘social groups’ negotiate on the terms of use and meanings of a technological artifact which generally results in a consensus that determines the actual application of that development. Third, the concept of ‘closure and stabilization’ is the achieving state that succeeds the previous concepts by modifying and stabilizing the artifact in its final form. The last concept, often mentioned as the least important aspect of SCOT (Russell, 1986; Klein and Kleinman, 2002), is known as ‘the wider context’. This concept indicates the “wider sociocultural and political milieu in which artifact development takes place” (Klein and Kleinman, 2002). Pinch and Bijker (1984) believe that the four

concepts ('interpretative flexibility', 'relevant social groups', 'closure and stabilization', and 'the wider context') are interrelated and influence the technological development process in the way that is described above.

Domain 2: implementation

Based on SCOT and in relation to the 'development' domain, technological artifacts should be considered as developments based on social demands that derive from human-nature interactions. Nevertheless, the fact remains that there are still developments that arise from science, economics, or technology itself without the support of the society. Social constructivists believe, in alignment with (a) the concept of 'closure and stabilization' (Pinch and Bijker, 1984) and (b) the domain 'implementation', that the adoption of such developments that are not directly the result of human-nature interactions still is determined by the society (Leonardi and Barley, 2010). For instance, in the late 1990s, scooters were reinvented with the goal to enable elderly people to transport themselves in a low-threshold fashion. Despite extensive marketing strategies to ensure the goal to succeed, the exact opposite target group (Dutch youth) started to exploit the benefits of scooters for their own betterments. Nowadays, teenagers form the main market for the deposition of scooters. The 'scooter example' shows, in line with the argument framed by MacKenzie and Wajcman (1991), how certain products based on technological developments evolve based on human actions and social demands.

2.1.4 SafeCity and technological determinism versus social constructivism

In the thesis, we examine how an existing application ('SafeCity') is influenced by three social perceptual characteristics: (1) need for privacy, (2) feelings of safety, and (3) affinity with technology. For that reason, 'SafeCity' can be approached from both technological paradigms: technological determinists would argue that it changes society autonomously and social constructivists would argue that society determines its usage and form.

Though the basis of both paradigms is evident, the 'technology complex' as developed by Fleck and Howells (2001) allows further concretization of the technology versus society debate in relation to 'SafeCity'. They state that a technological development consists of roughly two parts: (1) the technological artifact and (2) the social context. In most cases, the artefactual component is considered automatically as being the most important one. It results in a short-sighted approach that considers the overall technological development as 'the technology'. Except, in line with the assumption from subsection 2.1.2 which stated that the concept of 'technology' in itself is meaningless, and a companionship to other pillars such as history, science, and philosophy is necessary, the suggestion that the artifact itself is the most important misses the social context entirely. The consideration that a

technological novelty consists of a combination of, as Fleck and Howells name it, ‘soft’ and ‘hard’ parts is essential. The ‘soft’ part represents the part that links to the social environment of a technological artifact. The ‘hard part’ consists of the features that are applicable to the technological artifact itself. With respect to ‘SafeCity’ this means that the social interactions of the application are ‘soft’ and the application and the features by itself are ‘hard’.

2.2 Need for privacy

As the technology and information revolution expands, personal anonymity and privacy shrink. We believe that advances in technology also bring inevitable privacy issues to the surface. Admittedly, individuals differ in their perceptions of ‘need for privacy’. To determine to what extent the technological developments influence social behavior, a thorough definition of ‘privacy’ is crucial. Ironically, as is the case for technology, ‘privacy’ does not let itself define unambiguously; relationships to other concepts influence its referential framework. In the next subsections the most important definitions of ‘privacy’ are elaborated. We start with a legal definition in subsection 2.2.1, and then in subsection 2.2.2 we introduce four pillars to define privacy. In subsection 2.2.3 we end by a definition of privacy from a technological context.

2.2.1 Legislation and definition

From a legal perspective, as defined in ‘The European Convention on Human Rights’, we know the following: “Everyone has the right to respect for his private and family life, his home and his correspondence. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.” (Ovey et. al, 2006).

The Dutch government registered in 2000 the ‘Law protection of personal data’, which came into effect at the end of 2001. Personal data is “information that can be traced to a particular individual” (Pearson and Charlesworth, 2009). The most important statement that is included in the ‘Law protection of personal’ is that usage of personal data is only allowed when unambiguous consent is given by the directly involved person. The law adds that the gathered personal data is only for purposes as originally stated, and the gathering of information should occur correctly and accurately. All data should be secured and excluded from access by third parties (Wet bescherming persoonsgegevens, 2000) .

2.2.2 *Types of privacy*

The legal definitions that were introduced in the subsection 2.2.1 form in itself a comprehensive definition of privacy. Except in terms of privacy in relation to technology and social circumstances there are more factors that need to be taken into consideration. The factors in question can be divided into four pillars (Global Internet Liberty Campaign, 1998; Hendrickx, 2000; Koops et al., 2005):

- *Territorial (spatial) privacy*; boundaries in relation to the invasion of the domestic situation and other types of territorial grounds such as work- or public space.
- *Relational (communicational) privacy*; boundaries related to the freedom of developing relationships and performing communicational efforts for continuous maintenance of these relationships.
- *Physical privacy*; the protection of an individual in respect to his physical condition.
- *Information privacy*; the boundaries that are formulated regarding the storage and processing of personal data.

In the study we mainly focus on the fourth pillar, information privacy. Information privacy was originally presented by Westin (1967) and defined as “the claim that individuals, groups or institutions are able to decide by themselves when, how and what information is used and communicated with others.” But from the year 1967 when ‘information privacy’ was first defined until now, much has changed. Where in 1967 the collection of personal data was only performed by large governmental organizations, to date, all sorts of public and private organizations are maintaining their own databases. The growing amount of databases leads to an increase in the circulation of personal data (Orito and Murata, 2005). Additionally, the expansion of the digital era and its forthcoming technological developments increase the circulation even more. The next subsection explains how the digital era and the technology influence the concept of privacy.

2.2.3 *Technology and need for privacy*

The influence that technology has on privacy varies greatly and can be emphasized by three recent examples. For instance, the European law (Data Retention Directive, 2006/24/EC) that obliges telecom companies to store personal data such as traffic, location, and other types of personal information with the aim to prevent or solve serious crime, is in a recent investigation (European Digital Rights, 2011) heavily criticized. The report argues that Europe is unable to prove the necessity of the data storage, and for that reason violates the privacy rights of 500 million Europeans. The other two examples also demonstrate how technology causes privacy infringements. The examples are (1) the way Google Street view collected

street images and WiFi-data (De Volkskrant, 2011; De Telegraaf, 2011) and (2) how Sony² lost valuable credit card information of its users (De Volkskrant, 2011).

Solove (2004) describes that “the growing use and dissemination of personal information creates a Kafkaesque world of bureaucracy, where we are increasingly powerless and vulnerable, where personal information is not only outside our control but also is subjected to a bureaucratic process that is itself not adequately controlled.” Meanwhile, interest groups such as Bits of Freedom³ (BOF) and European Digital Rights⁴ (EDRI) are established to raise privacy questions in relation to technology.

Though, sometimes the need to store personal information in order to use technological artifacts is obvious. If we look at SafeCity, the obligation for users to register prevents any potential abuse. However research (Fogel and Nehmad, 2001) shows that registering for online purposes increases an individual’s feelings of privacy violation. To prevent the feelings of violation from prevailing and thereby obstructing users to register, technological developments usually inform potential users with a statement. The so-called ‘privacy statement’ claims that all personal information is treated confidentially and is stored secured. The users are obliged to accept the statement before they register, but as Prins (2009) claims “the bigger the amount of data files, the bigger the necessary (financial) measurements to secure them.” The organization that asks its users to register is in a continuous balancing act in which both the costs and the demanded security measures are mutually weighed.

The above described circumstances evidently influence an individual’s perceptions of privacy. For that reason, in the thesis we discuss the remaining question how these perceptions of privacy affect the usage behavior of ‘SafeCity’.

2.3 Feelings of safety: Security and safety

‘Security’ and ‘safety’ are two concepts that were indicated as ‘needs’ by Maslow in his hierarchy of needs (1943). Maslow assumed that all people have certain basic needs that must be fulfilled. It is not surprising that the need for security and safety form one of the needs that, next to physical well-being, Maslow considers as the most important. In the hierarchy Maslow combined the concepts of ‘security’ and ‘safety’. Yet, we believe that the concepts of ‘security’ and ‘safety’ differ quite extensively. For that reason, we approach both concepts separately in subsections 2.3.1 (security) and 2.3.2 (safety). We end in subsection 2.3.3 with a more in-depth description of security and safety in view of technology and SafeCity.

² <http://www.sony.com>

³ <http://www.bof.nl>

⁴ <http://www.edri.org>

2.3.1 *Security*

The concept of ‘security’ can be defined in various ways. We restrict ourselves to (1) ‘security’ in relation to our inner selves, (2) ‘security’ in relation to technology, and (3) the combination of the components ‘security in relation to our inner selves’ and ‘security in relation to technology’.

First, the relation of security with our inner selves directly penetrates Maslow’s (1943) hierarchy of needs. ‘Security’ can be considered as a feeling of, as the Germans say ‘geborgenheit’, a feeling that represents “a positive sense of sheltered-ness, nested-ness, and well-being” (Hutta, 2009). ‘Geborgenheit’ demonstrates the need for human beings to feel comfortable about who they are and what they represent.

Second, in case of ‘security’ in relation to technology, the relation differs on the perspective that is used. Schneier (2003), for instance, uses the perspective that elaborates on security as the protection of human beings in respect to terrorism and threats to society. Technological developments such as fingerprints and iris scans should, in his theory, enhance environmental (perceptions of) security. In earlier work, Schneier (2000) approached security from a different perspective; namely its relationship to information technology and computer networks. He described that the increasing amounts of data circulation demanded explicit safety matters to secure the data from falling into hands of unauthorized third parties.

Third, if we consider security in relation to technology from the perspective of ‘geborgenheit’, both of Schneier’s (2000, 2003) perspectives are examples that only connect indirectly to the fundamental needs and desires of individuals. In fact, the impact of technology on ‘Geborgenheit’ is quite subtle. For instance, in a workplace environment where people often feel secure (German: ‘geborgen’), changes forced by technology decrease the already limited willingness to change (Benson and Dundis, 2003). The fact that individuals differ in their feelings about change in the workspace environment, causes great ambiguity in how the total staff is affected. For that reason, the exact impact of technology on ‘geborgenheit’ remains hard to determine.

2.3.2 *Safety*

According to Maslow, ‘safety’ means more or less the same as ‘security’. However, we consider ‘safety’ as a detached concept that deserves separate attention. Unlike security, safety is less ambiguous and somewhat easier to concretize.

Safety is a broad term that relates, from the perspective of a human being, to someone’s emotions, conceptions and opinions (Oppelaar and Wittebrood, 2006). ‘Safety’ can be distinguished in ‘social safety’ and ‘individual safety’ (Furstenberg, 1971; Oppelaar and Wittebrood, 2006). Social safety deals with safety aspects that relate to the society. This comes down to how social circumstances such as crime rates and media reports influence someone’s general feelings of safety. Individual safety is merely a result of personal characteristics. Characteristics such as personal experience and personality ensure a certain

degree of feeling safe. Though, as described by Vanderveen (2006), both social safety and individual safety are always subject to mutual interaction.

The mutual interaction between social safety and individual safety can be influenced by two aspects. First, individuals vary on their safety feelings because one is, easily stated, more fearful than the other. For instance, where someone negligently walks the streets of a blighted area without any sense of anxiety, others are in a continuous state of awareness. Second, a broad concept such as ‘feelings of safety’ can be interpreted in many ways. It represents how people reflect their own vulnerability and victimization (individual safety), but also how they perceive problems in their neighborhood, their previous experience with crime, and the level of trust they conceive by their local community (social safety). Both these aspects influence the interaction of social safety and individual safety which ensures people to differ in their feelings of safety.

2.3.3 Technology and feelings of safety

Technology and feelings of safety mutually interact. Research has shown (Nasar, Hecht and Wener, 2007) that technology assists individuals and society to increase their feelings of safety; technology acts as a nutrient for social safety in obvious and less obvious ways. An obvious example of technological artifacts in relation to safety feelings are cameras in public spaces and mobile phones. Two less obvious examples are (a) data mining and (b) biometrics. Data mining is a technique that combines large amounts of data so that certain patterns become visible within these data files. Subsequently, these patterns can be used to prevent, detect or solve crime (Bell, 2006; Taniar, 2008). Biometrics is used increasingly to identify individuals in a variety of ways. Iris and fingerprint scanners are able to determine who is who on the basis of their unique visual characteristics. The examples show that technology enhances feelings of safety, though it is not always recognized (Forte, 1998).

Be that as it may, we alternate the above described viewpoint by rotating the common causal explanation of technology influencing a person or societies safety feelings, to safety feelings influencing the probability of acceptance and usage of technological artifacts. In respect to this alternative viewpoint, previous research is scarce. The only research that deals with the influence of safety feelings on the adoption of technology reconstructs existing technology acceptance models with a pillar named ‘feelings of safety’. We will discuss these technology acceptance models in section 2.4. In itself an understandable expansion, though for the present research we believe it would be a bridge to far. We restrict ourselves to the investigation how the perceptions of personal safety affect the usage behavior of ‘SafeCity’.

2.4 Affinity with technology

We presume that the adoption of a technological artifact mainly depends on two factors: (1) someone's affinity with technology, and (2) the characteristics that belong to the artifact.

Research and models that define someone's affinity with technology are rather limited. One theory that comes closest is the theory of 'diffusion of innovations' (Rogers, 1962). The theory assumes that – viewed from a technological perspective - individuals can be divided into five categories. Each category represents a certain willingness to use technology. The categories are, presented in order from very willing to very unwilling, (1) 'innovators', (2) 'early adopters', (3) 'early majority', (4) 'late majority', and (5) 'laggards'. For example, an individual that fits into the category of 'early adopters' is more likely to use a technological artifact than an individual who fits in the frame of 'late majority'. With his 'diffusion of innovations', Rogers adds one important consideration. He states that the willingness to use technological artifacts is not the only ingredient that influences the 'technology adoption process'; characteristics of the artifact also determine if an artifact is put into use.

There are various models that determine the chance of adoption of a technological artifact. Models like these are based on the characteristics that an artifact holds. One model is The Technology Acceptance Model (TAM). TAM was originally presented by Davis (1986, 1989) and predicts and infers technology adoption based on 'perceived usefulness' and 'perceived ease-of-use' of the artifact. The model was the first to be broadly accepted (Lederer et al., 2000). It constituted a basis for further extension which followed in the subsequent years. The extension made to add various pillars such as 'subjective norm', 'image', 'job relevance', 'output quality', and 'result demonstrability' and resulted in TAM2 (Venkatesh and Davis, 2000). Further formalization of TAM2 ended up in an unambiguous and widely accepted model named the 'Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003). UTAUT uses four concepts (performance expectancy, effort expectancy, social influence, and facilitating conditions) to predict acceptance and usage of technology. Its main strength comes forward out of another aspect of the model, the aspect which assumes that personal and behavioral characteristics are also important to take into consideration. UTAUT shows that personal and behavioral characteristics are important factors to predict if an artifact has a chance of success.

The assumption that indicates personal and behavioral characteristics as considerable factors to determine the chance of success of an artifact brings us back to the perceptual characteristic that investigates someone's affinity with technology. We assume that the willingness to use SafeCity is also influenced by the perceptual characteristic 'affinity with technology'. We restructure the ideas of UTAUT on the basis of the aspects as mentioned in the theoretical framework. The conceptual model as shown in section 2.5 is a formalization of this assertion.

2.5 Conceptual model

Based on the personal perception characteristics ‘need for privacy’, ‘feelings of safety’, ‘affinity with technology’ as introduced in research question 1, we formalize the mutual relations of the characteristics in figure 2.1.

Figure 2.1 - conceptual model

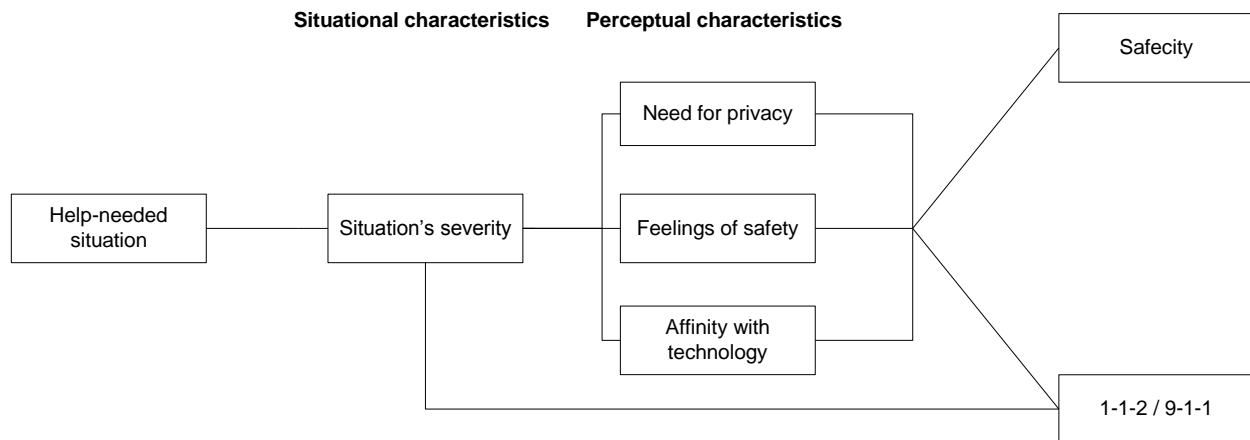


Figure 2.1 suggests, in line with research question 2, that the severity of a situation and the three perceptual characteristics influence the potential use of SafeCity. The model is structured with the severity of the situation as a starting point because it is the most influential factor in respect to social routine. We consider that if a situation is severe, people tend to switch to autopilot and automatically dial the emergency phone number. If not, then individuals start to consider the option to use SafeCity, depending on their perceptual characteristics.

2.6 Situation's severity

As stated in the previous section, the severity of a situation can be quite deterministic. For that, we suggest that the severity of a situation has a potential influence on the decision whether or not to use SafeCity. Eventually, when an individual embarks upon a severe situation where emergency assistance is demanded, it is the individual who decides what the appropriate actions are. The individual has to make a decision to use SafeCity or to dial the emergency phone number. A probable causality that influences this decision is the severity of the situation. A person who walks the streets and feels unsafe is, due to social standards, highly unlikely to call the emergency number; however, if the same person embarks upon a situation where he witnesses a car accident, the probability that the emergency number is contacted is high. For that reason, we raise the question to what extent SafeCity fills the gap between less severe and severe situations.

3 METHODOLOGICAL FRAMEWORK AND FIELDWORK

In this chapter, we discuss the methodological framework that we used and the fieldwork that we performed for the present research.

In the methodological framework we explain how we established our research's design (section 3.1), what the independent (section 3.2) and dependent (section 3.3) variables were and how they were operationalized (section 3.4).

In the fieldwork we exploit the methodological fieldwork to execute the second and third phase of the five research phases that we introduced in the research methodology (section 1.5): (a) the investigation phase (second phase) and (b) the 'cases' phase (third phase). We combine the two phases because of their mutual dependency and their concurrent execution. We discuss the composition of the respondents (section 3.5), and the mapping of the procedure (section 3.6).

3.1 Research design

The research design consists of two parts. The first part consisted of a questionnaire that examined the extent to which an individual experienced the perceptual characteristics 'need for privacy', 'feelings of safety', and 'affinity with technology'. In the second part the participant was exposed to various scenarios. The participant was asked to rate the extent to which they would use (1) SafeCity and (2) contact the emergency phone number. The eighteen scenarios that we used were all based on emergency assistance demanding circumstances and were distinguished into nine 'severe' and nine 'less severe' situations.

The research focuses on the relationship between the three perceptual characteristics and their influence on decision making in an episode where emergency assistance is demanded. The demographics of the participant are for that reason a fairly trivial aspect; the influence of the perceptual characteristics on the attitude towards the use of SafeCity is the main research element.

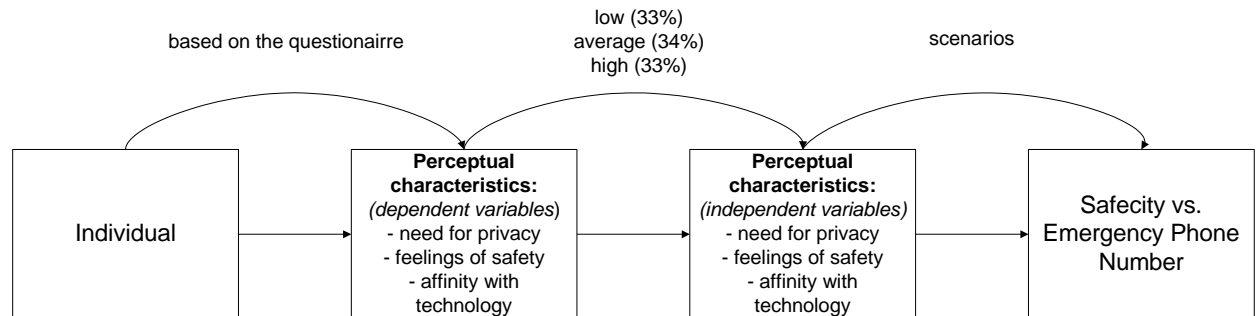
3.2 Four independent variables

There were four independent variables: (1) 'need for privacy', (2) 'feelings of safety', (3) 'affinity with technology', and (4) 'situation's severity'.

The first three variables ('need for privacy', 'feelings of safety', and 'affinity with technology') were originally presented as dependent variables and were based on the perceptions of the participants. The variables were derived from the answers given by the participants in the questionnaire. To assure a decent examination of research question 1, the dependent variables were redefined into independent variables that indicated the quantity of a particular variable which an individual possessed. Subsequently,

each independent variable was made explicit with the use of a ‘low’, ‘average’ or ‘high’ qualification. Figure 3.1 shows a graphical representation of this process.

Figure 3.1 - graphical representation definition of independent variables



We used the total amount of respondents who participated in the research as the criterion to define the ‘low’, ‘average’, or ‘high’ categories. The categories indicated how someone scored on the particular variable. The categorization of ‘low’ scorers, ‘average’ scorers, and ‘high’ scorers was based on a mutual comparison of all the scores from the 100 respondents. In the ideal situation, the 33 people who scored the worst in comparison to the other respondents are categorized as ‘low’, the 33 people who scored the highest of all the respondents are categorized as ‘high’ and the remaining others (34) are categorized as ‘average’. The probability that the ideal situation where the categories’ intersections are exactly between two different scores would actually occur, was due to the limited quantity of participants relatively small. In chapter 4 (results), we discuss the exact distribution of each independent variable.

The fourth independent variable, defined as ‘situation’s severity’, was not derived from the questionnaire but was manipulated in the cases that were presented to the participant. The ‘situation’s severity’ characterized the seriousness of a given situation. The degree of seriousness in the presented situation was based primarily on (1) the need for direct emergency assistance, and (2) the probability for causing physical casualties.

Table 3.1 provides a total overview of the above mentioned independent variables.

Table 3.1 – independent variables

Independent variables		
<i>Variable</i>	<i>Definition</i>	<i>Dimensions</i>
Need for privacy	The extent to which an individual values and experiences his privacy.	1 – Low 2 – Average 3 – High
Feelings of safety	The extent to which an individual feels safe in various occasions.	1 – Low 2 – Average 3 – High
Affinity with technology	The extent to which an individual uses and is interested in technology.	1 – Low 2 – Average 3 – High
Situation's severity	The severity of an emergency assistance demanded situation.	1 – Less severe 2 – Severe

3.3 Two dependent variables

There were two dependent variables, (1) SafeCity, and (2) the emergency phone number. They refer to the decision which a participant made when he encountered an emergency assistance demanding situation. The participant was asked to rate the probability that he would use (1) SafeCity and (2) the emergency phone number. In all the presented situations, he also had the option to “withdraw and do nothing or take matters in their own hands”. Table 3.2 shows the dependent variables with the various dimensions.

Table 3.2 – dependent variables

Dependent variables		
<i>Variable</i>	<i>Definition</i>	<i>Dimensions</i>
SafeCity	The attitude towards the use of SafeCity in a given situation.	1 – Attitude (scale 1-5) 1 – Do nothing
Emergency phone number	The probability that the participant would use the emergency number (1-1-2) in a given situation.	1 – Probability (scale 1-5) 1 – Do nothing

3.4 Operationalization

The purpose of the study is to answer the problem statement and the research questions. For that reason, the operationalization of the perceptual characteristics has been executed thoroughly; the perceptual characteristics acted as a basis from where the presented cases were compared. The variables were operationalized based on previous research that was used to guarantee the validity of each characteristic. Subsections 3.4.1 to 3.4.4 describe how each variable was operationalized. Appendices A to I show the actual questionnaire.

3.4.1 Need for privacy

The perception of privacy in relation to information technology was measured in two parts.

First, as proposed in the research by Smink et al. (1999), the perception of privacy was measured on the basis of nine values (independence, freedom of movement, equality, free from stigma, undisturbed life, free from manipulation, self-esteem, integrity, autonomy). In the ‘nine values test’, we presented ten statements to the participants (the value ‘freedom of movement’ was measured in two statements). The participants were asked to rate the extent to which they agreed with the statements. Based on the answers, the perception of privacy was categorized into three categories.

- Individuals who experience privacy as a safe component of information technology that is not violated in substantial quantities (using two values: independence, freedom of movement).
- Individuals who experience privacy as a component that is not always safe but is a necessary part of information technology (using four values: independence, freedom of movement, equality, and free from stigma).
- Individuals who experience privacy as a component that is violated substantially by information technology (using all nine values).

The nine values test indicates that the higher the respondent scores on the nine values, the higher his general concerns about privacy are (Appendix C).

Second, a small case was drawn that described the OV-chipkaart⁵. The OV-chipkaart is a technological novelty that was introduced in the Netherlands in 2005. In relation to that case, the participant received five statements that all described the OV-chipkaart in a certain manifestation. The statements were formulated in a hierarchical manner; the first statement described a manifestation that uses almost no personal information and the last statement described a manifestation that uses a considerable amount of personal information and caused additional privacy infringements. The participants were asked to rate on a 5-point Likert scale to what extent they considered it desirable that the OV-chipkaart is used in the described manifestation (Appendix D).

Thereby, in convergence with the results of the ‘nine values test’, the respondents could be categorized according to their privacy perception.

3.4.2 Feelings of safety

Similar to the perception of privacy, the variable that indicated someone’s ‘feelings of safety’ was measured in two parts.

The first part was based on previous research that studied an individual’s feelings of safety. Because that research has been performed in multiple disciplines, to ensure the right (‘the Netherlands’) discipline, the study was based on earlier research performed by the Central Bureau of Statistics (CBS).

⁵ <http://www.ov-chipkaart.nl>

The CBS annually examines an individual's general feelings of safety in what is named the 'safety monitor' (CBS, 2011). The safety monitor provides two types of questions: (1) questions such as 'Do you feel safe in your own city?', and 'Do you feel safe in your own house?', (2) questions that examine the extent to which the participants believe that they would become a victim of burglary, mistreatment, and theft in the year 2012 (Appendix E).

The second part consisted of a scenario that forced the participant to choose between two routes; Route B, which was formulated as a 'perfectly safe' route, and route A, that was a faster but also a less safe route. Six hierarchical statements determined the 'degree of how less safe' route A was, investigating the willingness of the participant to use the faster but less safe route. The willingness to use an unsafe route determined to what extent the participant feels unsafe quickly (Appendix F).

The integration of the first and second part resulted in a categorization of an individuals' perception of safety feelings.

3.4.3 Affinity with technology

To measure the extent of 'affinity with technology', the items in the questionnaire were based on the 'Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003). As stated in the theoretical framework, UTAUT defines four concepts (performance expectancy, effort expectancy, social influence, and facilitating conditions) that influence the preparedness to use a technological novelty. The perceptual characteristic 'affinity with technology' was measured using the four concepts of UTAUT in a hierarchical manner. Five statements were presented about the OV-chipkaart that step by step increased in the quantity of concepts that were applicable. For instance, the first statement presented the OV-chipkaart with none of the concepts applicable to it (the performance expectancy was unclear, the expected effort was high, the social influence negative, and the facilitating conditions were low). The last statement was contrary to the first statement, it presented the OV-chipkaart with all the concepts of UTAUT applicable to it. The final qualification of 'affinity with technology' was based on the logical assumption that individuals who trust technology highly are more prepared to use a technological development (with fewer concepts applicable to it) than individuals who have less trust in technology (Appendix G).

3.4.4 Situation's severity

In contrast to the three variables that were derived from an individual's perceptual characteristics, the 'situation's severity' variable was manipulated within the cases itself. Two crucial differences were introduced to distinguish the 'severe' and 'less severe' cases. The first difference was based on the need for immediate emergency assistance. While some scenarios were in direct need for emergency assistance, other scenarios did not, and only were asking for a registration of the occurring events. The second

difference involved the variety in the potentiality for physical casualties. Half of the scenarios were more likely to cause physical casualties than the other half.

So, each scenario consisted of a statement that varied in its severity. For instance, ‘you are sure that while you are in bed a burglar is in your house’ is a statement that should be considered as very severe, while ‘you are the witness of burglars who are active in your neighbors’ house’ is a statement that is less severe. In total, nine of the presented scenarios were severe, and nine of the presented scenarios were less severe (Appendix I).

3.5 Participants

We approached 100 participants to fill out the questionnaire. Though extensive research has been inquired to determine the validity and reliability of using students as participants for scientific research (Beltrami, 1983; Shuptrine, 1975; Park and Lessig, 1977), the debate if students form an ecologically valid group remained undecided. While one study concludes that students form, although in a homogenous matter, a representative group (Peterson, 2001) others contrast that by stating “Student response patterns do not accurately reflect those of other consumers” (Cunningham, Anderson, and Murphy, 1974). So, to guarantee an ecologically valid group of participants, we assured that various types of participants took part in the research. Table 3.3 displays the distribution of the participants.

Table 3.3 - distribution of participants

<i>Amount</i>	<i>Type</i>
15	Female students
15	Male students
15	Working mothers
15	Elderly people
40	Working individuals (40 years or over)

3.6 Procedure

As shown by De Leeuw (2010), an online questionnaire is not always the best solution to conduct a research. De Leeuw (2010) argues that not all social groups have the same skills and opportunities to connect to online information. As table 3.3 illustrates, the thesis demanded a decent variety of social groups. For that reason, all of the questionnaires were conducted face-to-face, except the ones that were filled out by male and female students, because logically they always have the opportunity to use and connect to the internet. During four weeks, the participants were approached and filled out the questionnaire. The results of the questionnaire are presented in chapter 4.

4 RESULTS

In this chapter we present the results of the research. The three perceptual characteristics are tested in relation to the attitude towards the use of SafeCity. The outcomes are obtained from the tests described in the next sections. The structure of the chapter is as follows. Sections 4.1 shows how the perceptual characteristics ‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’ are redefined into independent variables. Section 4.2 introduces the three types of comparisons that we made to examine the relationship between the perceptual characteristics, SafeCity, the emergency phonenumber, and a situation’s severity. Sections 4.3 to 4.5 provide the results of the perceptual characteristics in relation to the attitude towards the use of SafeCity. Next, in section 4.6 we examine if the situation’s severity forms an additional predictor for the probability of SafeCity’s use. In section 4.7, we review the relation between SafeCity and the emergency phone number. Finally, in section 4.8, we revisit the conceptual model that was first introduced in the theoretical framework and provide a graphical overview of all the results discussed so far.

4.1 Definition of independent variables

As we indicated in section 3.2, we defined four independent variables: (1) ‘need for privacy’, (2) ‘feelings of safety’, (3) ‘affinity with technology’, and (4) situation’s severity. The first three variables are defined based on the results from the present research itself. The definition was performed using two steps.

4.1.1 Step 1

During the first step, we summed all the results from the questionnaire for each perceptual characteristic. The characteristics ‘need for privacy’ (Appendices C and D) and ‘feelings of safety’ (Appendices E and F) were measured in two parts, the characteristic ‘affinity with technology’ was measured in one part (appendix G). In case of ‘need for privacy’ and ‘feelings of safety’ we first got the results from both separate parts (appendices J and K). After that, we combined these parts into one overall score on a particular characteristic (appendices M and N). The explanation of the scores is given in table 4.1.

Table 4.1 - need for privacy and feelings of safety score explanations

<i>Perceptual characteristic</i>	<i>Type of score</i>	<i>Meaning of the score</i>
Need for privacy	Low score	Not concerned about privacy
	High score	Very concerned about privacy
Feelings of safety	Low score	Feeling very safe
	High score	Feeling very unsafe
Affinity with technology	Low score	Low affinity with technology
	High score	High affinity with technology

In case of ‘affinity with technology’, we measured the scores in one part so we obtained the results immediately (appendix O). What a high score represents for ‘affinity with technology’, and what a low score represents is also illustrated in table 4.1.

4.1.2 Step 2

During the second step, for each perceptual characteristic we mutually compared the total scores from step 1 (appendices M, N, and O). We used the total score of each respondent to examine (in comparison to the other respondents) if the score belonged to the 33 worst scores (category; low), the 34 averages scores (category; average), or the 33 best scores (category; high). Because of the complexity of this process, we explain it with the example of ‘need for privacy’ in table 4.2 on the next page.

Table 4.2 - 'need for privacy' scores frequencies




<i>Score</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>	
4,40	1	1,0	1,0	 'Low'
4,80	1	1,0	2,0	
5,20	1	1,0	3,0	
5,30	3	3,0	6,0	
5,40	3	3,0	9,0	
5,50	4	4,0	13,0	
5,60	2	2,0	15,0	
5,70	3	3,0	18,0	
5,80	1	1,0	19,0	
5,90	1	1,0	20,0	
6,00	3	3,0	23,0	
6,10	3	3,0	26,0	
6,20	9	9,0	35,0	
6,30	4	4,0	39,0	 'Average'
6,40	9	9,0	48,0	
6,50	5	5,0	53,0	
6,60	1	1,0	54,0	
6,70	6	6,0	60,0	
6,80	1	1,0	61,0	
6,80	4	4,0	65,0	
6,90	9	9,0	74,0	
7,00	6	6,0	80,0	
7,10	3	3,0	83,0	 'High'
7,20	3	3,0	86,0	
7,30	3	3,0	89,0	
7,60	2	2,0	91,0	
7,70	5	5,0	96,0	
7,80	1	1,0	97,0	
8,00	1	1,0	98,0	
8,30	2	2,0	100,0	
Total	100	100	100	

Table 4.2 shows how the 100 respondents scored on 'need for privacy'. As we explained the lowest score (4.40) means that someone is not concerned about his privacy, and the highest score (8.30) means that someone is very concerned about his privacy. On the basis of these results we created the three categories 'low', 'average', and 'high'. The three categories are distinguished by the dotted lines. In the ideal situation, the groups are all equal in size; the 'low' category consists of 33 respondents, the average category consists of 34 respondents and the 'high' category consists of 33 respondents. In our research, the categories vary in size because the intersections of the 33% categories are exactly within a group of respondents who have a similar score. In case of 'need for privacy', the intersection between the 33 lowest scores and the 34 average scores lays exactly in the nine individuals who scored '6.20'. We had two options to solve this issue: (1) split the group of nine respondents so that some of them belong to the

‘low’ category and some of them belong to the ‘average’ category, or (2) keep the group of nine respondents intact and accept some inequalities in group size. We chose the second option because we believe this is the most accurate and assures no loss of data. Table 4.3 illustrates the distribution of the categories.

Table 4.3 – independent variables

Independent variables			
<i>Variable</i>	<i>Categories</i>		
	<i>Low</i>	<i>Average</i>	<i>High</i>
Need for privacy	N = 35	N = 39	N = 26
Feelings of safety	N = 37	N = 35	N = 28
Affinity with technology	N = 37	N = 33	N = 30

The categorization of ‘feelings of safety’ and ‘affinity with technology’ is shown in appendices N and O.

4.1.3 Situation’s severity

We manipulated the situation’s severity by the cases that we presented. The ‘situation’s severity’ characterized the seriousness of a given situation. The degree of seriousness in the presented situation was based primarily on (1) the need for direct emergency assistance, and (2) the probability for causing physical casualties. As described in section 3.2, we used nine ‘less severe’ and nine ‘severe’ situations.

4.2 Framework of comparisons

In this section, we introduce the three types of comparisons that we made. We examine the relationship between the three perceptual characteristics, SafeCity, the emergency phonenumber and a situation’s severity. We do so in subsections 4.2.1 to 4.2.3. The three comparisons are as follows.

- (A) Perceptual characteristics (‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’) in relation to the attitude towards the use of SafeCity.
- (B) Perceptual characteristics (‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’) in relation to the attitude towards the use of SafeCity and the emergency phone number.
- (C) The preference for SafeCity or the emergency phone number depending on the severity of a situation.

4.2.1 Perceptual characteristics in relation to the attitude towards the use of SafeCity

We tested the relationship between the three perceptual characteristics ‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’ and the attitude towards the use of SafeCity. We examined if the

three categories for each characteristic ('low', 'average', and 'high') varied in their attitude towards the use of SafeCity (see sections 4.3, 4.4, and 4.5). Each characteristic acts as an independent variable. 'The attitude towards the use of SafeCity' is the dependent variable and is expressed on a 1-to-5 point scale; '1' represents a negative attitude towards the use of SafeCity, and '5' represents a very positive attitude towards the use of SafeCity. If the respondent indicated that he would "withdraw and do nothing or take matters in their own hands", that particular scenario was excluded from the results. Table 4.4 provides an overview of the independent and dependent variables that we used to execute this comparison.

Table 4.4 - perceptual characteristics in relation to the attitude towards the use of SafeCity

The three perceptual characteristics in relation to the attitude towards the use of SafeCity.		
	<i>Definition</i>	<i>Dimensions</i>
<i>Independent variables</i>		
Need for privacy	The extent to which an individual values and experiences his privacy.	1 – Low 2 – Average 3 – High
Feelings of safety	The extent to which an individual feels safe in various occasions.	1 – Low 2 – Average 3 – High
Affinity with technology	The extent to which an individual uses and is interested in technology.	1 – Low 2 – Average 3 – High
<i>Dependent variables</i>		
SafeCity	The attitude towards the use of SafeCity in a given situation.	1 – Attitude (scale 1-5)

4.2.2 *Perceptual characteristics in relation to the attitude towards the use of SafeCity and the emergency phone number*

To investigate if the three perceptual characteristics vary in their preference for SafeCity or the emergency phone number, we also tested for *each* category of *each* characteristic if it influences the preference for SafeCity or the emergency phone number. We employ the results from the 'attitude towards the use of SafeCity' (subsection 4.2.1) and investigate how they differ from the 'willingness to dial the emergency phone number'. Similar to 'the attitude towards the use of SafeCity', the results are expressed on a 1-to-5 point scale; '1' represents 'absolutely not willing to contact the emergency phone number', and '5' stands for 'very willing to contact the emergency phone number'. If the respondent indicated that he would "withdraw and do nothing or take matters in their own hands", that particular scenario was excluded from the results. Table 4.5 provides an overview of the independent and dependent variables that we used for this comparison.

Table 4.5 - the three perceptual characteristics in relation to the preference of SafeCity and the emergency phonenumber

The preference for SafeCity or the emergency phonenumber depending on the severity of a situation.		
	<i>Definition</i>	<i>Dimensions</i>
<i>Independent variables</i>		
Need for privacy	The extent to which an individual values and experiences his privacy.	1 – Low 2 – Average 3 – High
Feelings of safety	The extent to which an individual feels safe in various occasions.	1 – Low 2 – Average 3 – High
Affinity with technology	The extent to which an individual uses and is interested in technology.	1 – Low 2 – Average 3 – High
<i>Dependent variables</i>		
SafeCity	The attitude towards the use of SafeCity in a given situation.	1 – Attitude (scale 1-5)
Emergency phone number	The probability that the participant would use the emergency number (1-1-2) in a given situation.	1 – Probability (scale 1-5)

4.2.3 *The preference for SafeCity or the emergency phone number depending on the severity of a situation*

In the final tests we examine, irrespective of the perceptual characteristics, if the severity of a situation influences the attitude towards the use of SafeCity and the willingness to contact the emergency phonenumber. We examined two types of situations: (1) less severe and (2) severe situations. To gain additional insights we also execute tests for ‘all situation’s (combination of less severe, and severe situations). The results from both of the dependent variables are expressed on a 1-to-5 point scale. Table 4.6 provides an overview of the independent and dependent variables that we used.

Table 4.6 - the three perceptual characteristics in relation to the preference of SafeCity and the emergency phonenumber

The three perceptual characteristics in relation to the preference of SafeCity and the emergency phonenumber.		
	<i>Definition</i>	<i>Dimensions</i>
<i>Independent variables</i>		
Situation’s severity	The severity of an emergency assistance demanded situation.	1 – Less severe 2 – Severe 3 – All situations
<i>Dependent variables</i>		
SafeCity	The attitude towards the use of SafeCity in a given situation.	1 – Attitude (scale 1-5)
Emergency phone number	The probability that the participant would use the emergency number (1-1-2) in a given situation.	1 – Probability (scale 1-5)

4.3 Need for privacy

In this section, we discuss the results of the tests that examine (1) the relationship between ‘need for privacy’ and the ‘attitude towards the use of SafeCity’ (Comparison A, subsection 4.2.1) and (2) the relationship between ‘need for privacy’, the ‘attitude towards the use of SafeCity’ and the ‘willingness to contact the emergency phone number’ (Comparison B, subsection 4.2.2). We end with a short conclusion at the end of this section.

As shown previously, we categorized the privacy perception of an individual (based on the respondents (N=100)) into three categories: (1) low (N=35), (2) average (N=39), and (3) high (N=26). The three categories are based on the idea that an individual ‘low’ on privacy is not concerned with his privacy, an individual who is categorized as ‘average’ is concerned averagely about his privacy, and an individual who is categorized as ‘high’ is very concerned about his privacy.

Comparison A: Need for privacy and SafeCity

We start with the tests that examine if someone’s ‘need for privacy’ influences the attitude towards the use of SafeCity. Table 4.7 shows the results.

Table 4.7 - ‘need for privacy’ in relation to SafeCity

<i>Category</i>		Attitude towards the use of SafeCity	
		<i>Mean</i>	<i>Std. Deviation</i>
Privacy	Low	3.30	0.84
	Average	3.22	0.67
	High	3.19	0.90

Based on a one-way ANOVA, no significant difference is present between the three privacy categories ($F(99,2)=0.166$, $p=.847$) and the influence on the use of SafeCity. This indicates that the attitude towards the use of SafeCity is not influenced by someone’s need for privacy. Though, when we observe the means more deeply, it reveals a trend which indicates that individuals who are low ($M = 3.30$, $SD = 0.84$) or averagely ($M = 3.22$, $SD = 0.67$) concerned about their privacy are more prepared to use SafeCity than individuals who are very concerned ($M = 3.19$, $SD = 0.90$) about their privacy.

Comparison B: Need for privacy, SafeCity, and the emergency phone number

We performed additional tests to examine the relationship between ‘need for privacy’, the ‘attitude towards the use of SafeCity’ and the ‘willingness to contact the emergency phone number’. Table 4.8 shows the results.

Table 4.8 - ‘need for privacy’ in relation to SafeCity and the emergency phone number

<i>Category</i>		Attitude towards the use of SafeCity		Willingness to contact the emergency phone number	
		<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
Privacy	Low	3.30	0.84	3.70	0.73
	Average	3.22	0.67	3.47	0.56
	High	3.19	0.90	3.54	0.64

The results demonstrate that individuals who score low on concerns about privacy differ significantly ($T(34) = 2.63$, $p < .05$ (two-tailed)) in their preference to contact the emergency phone number ($M = 3.70$, $SD = 0.73$) over SafeCity ($M = 3.30$, $SD = 0.84$). Individuals ‘averagely’ concerned about privacy show the same significant difference ($T(38) = 3.33$, $p < .01$ (two-tailed)). Individuals who are concerned highly about their privacy do not differ ($T(25) = 2.00$, $p = .057$ (two-tailed)) in their willingness to contact the emergency services ($M = 3.54$, $SD = 0.64$) or to use SafeCity ($M = 3.19$, $SD = 0.90$).

Conclusions

The results indicate that, though not significant, the individuals who are not concerned about privacy have a more positive attitude towards the use of SafeCity than individuals who are very concerned about privacy. Additional results indicate that someone who is not concerned, or averagely concerned about his privacy, prefers to use the emergency phone number over the use of SafeCity. Someone who is very concerned about his privacy, is even likely to use SafeCity as to contact the emergency phone number. We provide possible clarifications for this contradictory result in chapter 5 (section 5.1).

4.4 Feelings of safety

In this section, we discuss the results of the tests that examine (1) the relationship between ‘feelings of safety’ and the ‘attitude towards the use of SafeCity’ (Comparison A, subsection 4.2.1) and (2) the relationship between ‘feelings of safety’, the ‘attitude towards the use of SafeCity’ and the ‘willingness to contact the emergency phone number’ (Comparison B, subsection 4.2.2). We end with a short conclusion at the end of this section.

In accordance with the perceptual characteristic ‘need for privacy’, the perception of an individual’s safety feelings was categorized into three categories. The three categories determine that, in respect to this thesis, one can feel himself: (1) not safe, (2) averagely safe, or (3) very safe.

Comparison A: Feelings of safety and SafeCity

Table 4.9 shows the results of the three categories in relation to the attitude towards the use of SafeCity.

Table 4.9 - 'feelings of safety' in relation to SafeCity

Category		Attitude towards the use of SafeCity	
		Mean	Std. Deviation
Safety	Low (very safe)	3.23	0.73
	Average	3.00	0.86
	High (very unsafe)	3.55	0.66

The means of the three categories show that, according to one-way ANOVA and an additional Tukey-test, people who feel unsafe ($M = 3.55$, $SD = 0.66$) have a more positive attitude ($F(97,2)=4.17$, $p<.05$) towards the use of SafeCity than individuals who feel safe averagely ($M = 3.00$, $SD = 0.86$). Tukey tests show that the difference between 'very unsafe' and 'very safe' ($M = 3.23$, $SD = 0.73$) is not significant.

Comparison B: Feelings of safety, SafeCity, and the emergency phone number

Further analysis that investigate the relationship between 'feelings of safety', the 'attitude towards the use of SafeCity' and the 'willingness to contact the emergency phone number', lead to additional results that are shown in table 4.10.

Table 4.10 - 'feelings of safety' in relation to SafeCity and the emergency phone number

Category		Attitude towards the use of SafeCity		Willingness to contact the emergency phone number	
		Mean	Std. Deviation	Mean	Std. Deviation
Safety	Low (very safe)	3.23	0.73	3.50	0.72
	Average	3.00	0.86	3.53	0.57
	High (very unsafe)	3.55	0.66	3.69	0.66

People who are categorized as feeling 'very' safe are more likely ($T(36) = 2.88$, $p<.01$ (two-tailed)) to contact the emergency phone number ($M = 3.50$, $SD = 0.72$) than to use SafeCity ($M = 3.23$, $SD = 0.73$). This is similar to the people who are feeling 'averagely' safe, they are also more willing ($T(34) = 3.16$, $p<.01$ (two-tailed)) to use the emergency phone number ($M = 3.53$, $SD = 0.57$) than SafeCity ($M = 3.00$, $SD = 0.86$). People who are feeling very unsafe show no significant difference ($T(27) = 1.50$, $p=.145$ (two-tailed)).

Conclusions

The results indicate that someone who feels very unsafe has a more positive attitude towards the use of SafeCity than someone who feels averagely safe. Additional results indicate that the emergency phone number is preferred by individuals who feel unsafe and individuals who feel averagely safe. Only

individuals who feel very unsafe show no preference for SafeCity or the emergency phone number. A possible explanation is that individuals who feel very unsafe are willing to use anything at hand to contact the emergency services. We elaborate on this explanation in the ‘discussion’ chapter (5).

4.5 Affinity with technology

In this section, we examine (1) the relationship between ‘affinity with technology’ and the ‘attitude towards the use of SafeCity’ (Comparison A, subsection 4.2.1) and (2) the relationship between ‘affinity with technology’, the ‘attitude towards the use of SafeCity’ and the ‘willingness to contact the emergency phone number’ (Comparison B, subsection 4.2.2). We end with a short conclusion. We have created three categories of someone’s affinity with technology. The first category considers individuals as not very willing to use new technological opportunities. The second category consists of individuals that are ‘averagely’ willing to use new technology. The third and last category holds individuals that are very willing to adopt new technology.

Comparison A: Affinity with technology and SafeCity

Table 4.11 shows the results of the three categories in relation to SafeCity.

Table 4.11 - ‘affinity with technology’ in relation to SafeCity

Category		Attitude towards the use of SafeCity	
		Mean	Std. Deviation
Technology	Low	3.30	0.70
	Average	3.03	0.78
	High	3.39	0.86

A one-way ANOVA shows that no significant results were present ($F(97,2)=1.88$, $p=.16$) among the categories low ($M = 3.30$, $SD = 0.70$), average ($M = 3.03$, $SD = 0.78$), and high ($M = 3.39$, $SD = 0.86$) in relation to the probability of use of SafeCity.

Comparison B: Affinity with Technology, SafeCity, and the emergency phone number

Table 4.12 - technology perceptions in relation to SafeCity and the emergency phone number

Category		Attitude towards the use of SafeCity		Willingness to contact the emergency phone number	
		Mean	Std. Deviation	Mean	Std. Deviation
Technology	Low (very safe)	3.30	0.70	3.53	0.65
	Average	3.03	0.78	3.46	0.51
	High (very unsafe)	3.39	0.86	3.72	0.76

As table 4.12 illustrates, individuals who could be categorized as ‘average’ and ‘high’ on their perceptions of technology are both more likely ($T(32) = 3.32, p < .01$ (two-tailed); $T(29) = -2.52, p < .05$ (two-tailed)) to contact the emergency phone number ($M = 3.46, SD = 0.51$; $M = 3.72, SD = 0.76$) than to use SafeCity ($M = 3.03, SD = 0.78$; $M = 3.39, SD = .86$), respectively. People who score ‘low’ on technology show no differences ($T(36) = 1.79, p = .082$ (two-tailed)).

Conclusions

The results indicate, in contrast with our expectations, that someone’s affinity with technology not influences the attitude towards the use of SafeCity. Additional results show that someone who has no affinity with technology is equally prepared to use SafeCity than to contact the emergency phone number. This remarkable result is discussed in chapter 5 where we provide possible clarifications.

4.6 Situation’s severity and SafeCity

As we mentioned in the theoretical framework (section 2.6) and the conceptual model (section 2.5) the relation between the severity of a situation and the attitude towards the use of SafeCity is worth to be examined (comparison C, subsection 4.2.3). The questionnaire consisted of two types of situations: (1) severe situations, and (2) less severe situations.

Comparison C: SafeCity and the severity of a situation

Table 4.13 - SafeCity and the severity of a situation

Variable	Category	Mean	Std. Deviation
Attitude towards the use of SafeCity			
Situation’s severity	Less severe	3.28	0.87
	Severe	3.20	0.95

The results indicate that SafeCity is, according to the average scores, more likely to be used in a situation that is less severe ($M = 3.28, SD = 0.87$) than in a situation that is very severe ($M = 3.20, SD = 0.95$). Though this difference is, according to a paired T-sample test, not significant ($T(99) = -.948, p = .345$ (two-tailed)).

4.7 Emergency phone number and SafeCity

Finally, we compare the results from the attitude towards the use of SafeCity in general (irrespective of the perceptual characteristics) to the results from the willingness to contact the emergency phone number (comparison C, subsection 4.2.3). The respondent was asked to rate the expectancy that they would use

the emergency phone number and SafeCity in 18 situations; nine ‘less severe’ and nine ‘severe’ situations. Table 4.14 shows the results.

Comparison C: SafeCity, the emergency phone number and the severity of a situation

Table 4.14 - situation’s severity in relation to SafeCity and the emergency phone number

Variable		Attitude towards the use of SafeCity		Willingness to contact the emergency phone number	
		Mean	Std. Deviation	Mean	Std. Deviation
Situations	All	3.24	0.79	3.57	0.64
	Less severe	3.28	0.87	2.96	0.86
	Severe	3.20	0.95	4.17	0.67

Statistical analysis show that individuals who encounter emergency assistance demanding situations are more likely ($T(99) = 4.37, p < .001$ (two-tailed)) to contact emergency services using the emergency phone number ($M = 3.57, SD = 0.64$) than SafeCity ($M = 3.24, SD = 0.79$). Though, further analysis show that this only goes for severe situations ($T(99) = 9.89, p < .001$ (two-tailed)). Situations that are less severe demonstrate the exact opposite; individuals then are more likely ($T(99) = -3.58, p = .001$ (two-tailed)) to use SafeCity ($M = 3.28, SD = 0.87$) than to contact the emergency phone number ($M = 2.96, SD = 0.86$).

In sum, the results indicate that in situations that are less severe, individuals prefer to use SafeCity; in situations that are severe the emergency phone number is preferred. This is a positive outcome for SafeCity, the implication of the results are discussed in chapter 5.

4.8 Conceptual model

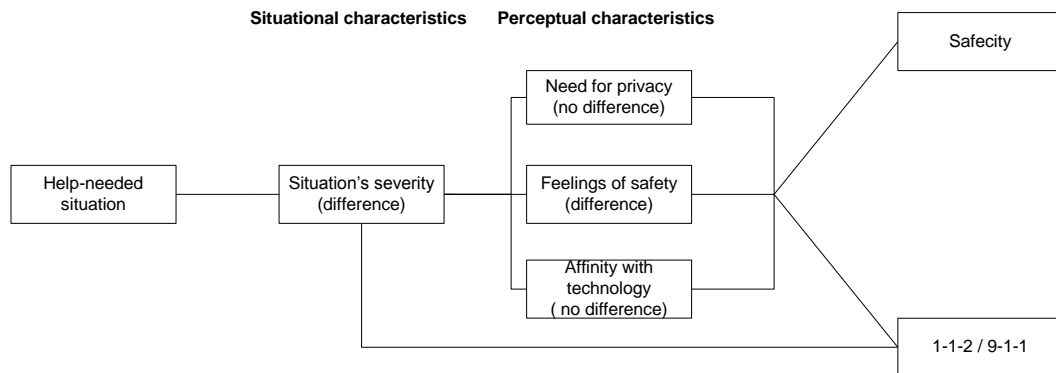
The five prominent results of the previous consecutive sections (section 4.3 to section 4.7) are:

- ‘Need for privacy’ shows no significant difference on the attitude towards the use of SafeCity. This indicates that the attitude towards the use of SafeCity is not influenced by an individual’s need for privacy.
- ‘Feelings of safety’ is the only perceptual characteristic that shows significant difference on the attitude towards the use of SafeCity. This indicates that the attitude towards the use of SafeCity is influenced by an individual’s feelings of safety.
- ‘Affinity with technology’ shows no significant difference on the attitude towards the use of SafeCity. This indicates that the attitude towards the use of SafeCity is not influenced by an individual’s affinity with technology.
- In less severe situations, significant differences were demonstrated. This indicates that SafeCity is preferred over the emergency phone number in less severe situations.

- In severe situations we observed the significant differences which indicate that people still prefer to contact the emergency phone number over SafeCity in severe situations.

When we incorporate the results from this chapter in the conceptual model, it results in figure 4.1.

Figure 4.1 - conceptual model



The results that are shown are based on the relationship between the three perceptual characteristics, the severity of a situation, and the probability of use of SafeCity. In the next chapter (chapter 5) we discuss the results more deeply with an overview of the results in light of the differences and the similarities between our expectations (as introduced in the theoretical framework) and the actual outcomes from this chapter.

5 DISCUSSION

In this chapter, we discuss the outcomes of the empirical investigations presented in chapter 4. All obtained results are summarized in the light of the differences and similarities between the expected outcomes (as introduced in the theoretical framework) and the actual outcomes (as discussed in the results chapter). To obtain the actual outcomes, we used three types of comparisons (section 4.2):

- (A) Perceptual characteristics ('need for privacy', 'feelings of safety', and 'affinity with technology') in relation to the attitude towards the use of SafeCity.
- (B) Perceptual characteristics ('need for privacy', 'feelings of safety', and 'affinity with technology') in relation to the attitude towards the use of SafeCity and the emergency phone number.
- (C) The preference for SafeCity or the emergency phone number depending on the severity of a situation.

The perceptual characteristics are reviewed in the same order as used throughout this thesis. First, in sections 5.1, 5.2, and 5.3, the perceptual characteristics 'need for privacy', 'feelings of safety', and 'affinity with technology' are discussed on the basis of the results from comparisons A and B. In section 5.4, the severity of a situation is taken into account when the results of comparison C are discussed to gain complementary perspectives regarding the attitude towards the use of SafeCity. Finally, by the coordinating nature of the topic, section 5.5 discusses the relation of SafeCity in reference to the technology versus society debate.

5.1 Need for privacy

The 'need for privacy' section is constructed as follows. We start with a short recall of the most important considerations from the theoretical framework (paragraph 2). After that, we discuss the results from comparison A; we examine 'need for privacy' in relation to the attitude towards the use of SafeCity (paragraph 3). Then in paragraph 4, we investigate the results of the comparisons between 'need for privacy', SafeCity, and the emergency phone number (comparison B). We end with a comprehensive interpretation of the results in an overall context (paragraph 5).

In the theoretical framework, we posited the expectation that an individual's perceptions of privacy would affect the attitude towards the use of SafeCity. Technological developments frequently lead to new privacy issues (Solove, 2004) that, influenced by a person's privacy perceptions, alter the willingness to employ new technological opportunities. We indicated that if individuals are obliged to register

themselves in order to use a certain technological novelty, as is also the case for SafeCity, it may generate feelings of privacy violation (Fogel and Nehmad, 2001). Additionally, it is important to highlight that the feelings of privacy violation focus on one particular concept of privacy; the concept defined as 'Information Privacy' (Westin, 1967). Information privacy deals with personal information that is stored in databases that are beyond of our personal control.

Comparison A: Need for privacy and SafeCity: When we interpret the outcomes that were produced in chapter 4 no evidence for the assumption that someone's perception of privacy would influence the attitude towards the use of SafeCity was shown. Comparisons of the three categories of privacy perceptions (1) 'very concerned', (2) 'averagely concerned', and (3) 'not concerned' did not show significant differences in relation to the potential use of SafeCity. Based on this outcome, we may conclude that the attitude towards the use of SafeCity is not determined by how someone feels about his privacy. Still, when we leave the argument of significance aside, the means show a noticeable trend which indicates that individuals who are less concerned about privacy show a slightly more positive attitude towards the use of SafeCity than individuals who feel more concerned about privacy.

Comparison B: Need for privacy, SafeCity, and the emergency phone number: When we gain complementary insights by adding the emergency phone number to investigate its relation to SafeCity and 'need for privacy', the following result was observed. Individuals who are very concerned about privacy are equally prepared to use SafeCity and to contact the emergency phone number. Individuals who feel 'averagely' or 'not concerned' about privacy, in opposite of individuals who are very concerned' do show a certain preference. They prefer to use the emergency phone number over SafeCity. To rephrase, people who are highly concerned about privacy judge SafeCity and the emergency phone number fairly equal, but individuals who are averagely concerned or not concerned about privacy prefer to contact the emergency phone number.

In sum, the results as described in the previous two paragraphs align partly with the expectancy that an individual's perceptions of (information) privacy affect the potential use of SafeCity. The fact that some of these differences are not significant, make it obligatory to note that we should consider the discussed outcomes merely as a trend and not an indisputable result. Momentarily, until more research is completed, plausible explanations for the outcomes remain hard to determine: considering the research, the absence of quantity within the 'highly concerned' category (N=26) is in comparison to the more represented 'not concerned' (N=35) and 'averagely concerned' (N=39) categories the only possible clarification of the mismatching outcomes. Future research is essential to ensure greater reliability.

5.2 Feelings of safety

To investigate if the results of the perceptual characteristic ‘feelings of safety’ align with what we assumed in the theoretical framework, we start in the second paragraph with a short recap of our expectations. After that, in paragraph 3 we make some important considerations in respect to ‘feelings of safety’. In the fourth (comparison A) and fifth (comparison B) paragraph, we discuss the results that compare ‘feelings of safety’, SafeCity, and the emergency phone number. In paragraph 6, we end the discussion by a short summary of what we discussed in this section.

We posited the expectation that the attitude towards the use of SafeCity will be influenced by the perceptual characteristic ‘feelings of safety’ on the basis of two observations: (1) SafeCity is unique by the feature that helps individuals to improve their feelings of safety; (2) although research that investigates the influence of safety feelings on the use of technological opportunities is scarce, existing technological models are extended increasingly with pillars that focus on feelings of safety (Venkatesh et al., 2003). The merger of these two observations contributes to our expectation that feelings of safety affect the potential use of SafeCity. Despite what we expected of ‘feelings of safety’ in relation to SafeCity, two remarks derived from the theoretical framework (subsection 2.3.3) should be made: (1) the urge to improve personal feelings of safety does not pertain to everyone, (2) safety feelings can be latent; the fact remains that some people are not aware of their (lack of) safety feelings.

‘Feelings of safety’ is a broad concept that, in the theoretical framework (section 2.3), was distinguished into two components. These components are (1) ‘security’ (Schneier 2000, 2003), and (2) ‘safety’ or ‘feeling safe’ (Furstenberg, 1971; Oppelaar and Wittebrood, 2006; Blokland, 2009). The ‘security’ component merely relates to the possibility to fulfill your primary needs in terms of ‘geborgenheit’ (Maslow, 1943; Hutta, 2009). The ‘safety’ component consists of feelings that individuals possess in line with discomfort that is the result of crime rates, emotions, conceptions, and opinions. In the subsequent discussion, it is vital to consider that whenever we discuss the concept of ‘feelings of safety’, the elaboration that follows reserves primarily to the ‘safety’, and not the ‘security’ component.

Comparison A: Feelings of safety and SafeCity: To examine the actual effect of ‘feeling safe’ in relation to the potential use of SafeCity, we discuss the outcomes from chapter 4 next. First, three categories were classified in order to test the various effects: (1) people who feel unsafe, (2) people who feel averagely safe, and (3) people who feel very safe. Tests showed, as demonstrated in the results chapter (chapter 4), that individuals who belong to the ‘feeling very unsafe’-category are significantly more prepared to use SafeCity than individuals who feel ‘averagely safe’. Remarkably, this only goes for these two categories; the difference in the attitude towards the use of SafeCity between people who are feeling ‘very safe’ and people who feel ‘very unsafe’ was present but not significant. To frame it more explicitly; the results demonstrate that someone who feels very safe is even likely to use SafeCity as one

who feels very unsafe, but someone who feels averagely safe is less likely to use SafeCity than someone who feels very unsafe. Nevertheless, the fact remains that a trend is observed which indicates that our expectation is partly correct. We expected that all the categories would be different, only if the results show that this is not the case. We think that additional research enables the slight differences that are currently present to become more polarized.

Comparison B: Feelings of safety, SafeCity, and the emergency phone number: We now discuss additional comparisons that examine the extent to which a preference for the emergency phone number or SafeCity in relation to safety feelings is present. The comparisons show a significant difference between people that feel ‘averagely’ or ‘very’ safe. Individuals who feel averagely or very safe are still more likely to contact emergency services by phone instead of using SafeCity. Surprisingly, this result was not present in relation to the remaining category; individuals in the ‘feeling very unsafe’ category show no particular preference for SafeCity or the emergency phone number. A credible explanation for this observation is in accordance with the discussion from the previous paragraph; people who feel unsafe hold a more positive attitude towards the use of SafeCity than people who feel very safe.

In broader terms the discussion in the preceding two paragraphs indicates that individuals who feel unsafe are often willing to use anything at hand to lessen these feelings of discomfort. Individuals who feel ‘averagely-’ or ‘very safe’ are less likely to profit by these resources. Nevertheless, the outcomes provide a basis to agree on the assumption which expected that feelings of safety would influence the attitude towards using SafeCity; people who feel unsafe are more prepared to use SafeCity than others who feel safe. Still, two nuances that arise from the complementary outcomes are inevitable: (1) the emergency phone number is, whatever your safety feelings are, still preferred over SafeCity. (2) The insignificant difference for the ‘feeling unsafe category’ indicates that individuals who feel very unsafe are prepared to use every tool at hand to guarantee that these feelings are enhanced.

5.3 Affinity with technology

In chapter 1 we proposed the expectation that someone’s ‘affinity with technology’ affects the attitude towards the use of SafeCity. Below, we will examine this expectation by repeating the most important theoretical arguments in relation to ‘affinity with technology’ (paragraph 2). In paragraph 3, we parallelize the three categories ‘low’, ‘average’, and ‘high’ with the ‘diffusion of innovations’ model that originates from Rogers (1967). In the paragraphs 4 (comparison A) and 5 (comparison B) we discuss the actual outcomes. We end in paragraph 6 with a short summary of the discussion.

As the theoretical framework indicates, SafeCity uses technological novelties to redefine the process of contact with the emergency services. Consequently, an individual’s affinity with technology should be a fairly good predictor of his attitude towards the use of SafeCity. Rogers (1967) distinguishes

this ‘affinity with technology’ into five categories, varying from ‘innovators’ (who are very keen on technology) to ‘laggards’ (who are very indifferent on technology). To exemplify, based on logical reasoning, it is permissible to assume that ‘innovators’ are more willing to use SafeCity than ‘laggards’.

We used the three categories ‘low’, ‘average’, and ‘high’ to measure the perceptual characteristic ‘affinity with technology’. When we parallelize the three categories with the five that were mentioned by Rogers (1967), it results in the following disposition.

- ‘Low’ category: laggards, late majority.
- ‘Average’ category: late majority, early majority.
- ‘High’ category: early adopters, innovators.

Comparison A: Affinity with technology and SafeCity: The results show that someone’s affinity with technology has no significant influence on the attitude towards the use of SafeCity. Though, leaving the issue of significance aside, comparisons show that individuals with a high affinity with technology are more likely to use SafeCity than individuals who have a low affinity with technology. The fact that the results are not significant and for that reason not acceptable in all circumstances, indicate that the results should be considered as a trend and not an indubitable predictor.

Comparison B: Affinity with technology, SafeCity, and the emergency phone number: Complementary tests that examine the relation of ‘affinity with technology’ to the preference for the emergency phone number on one hand or to use SafeCity on the other hand show results which imply that only people ‘low’ on affinity with technology have no preference for one or the other. Individuals who score ‘average’ or ‘high’ on affinity with technology do show a preference for the emergency phone number.

In sum, the results showed no influence of the perceptual characteristic ‘affinity with technology’ on the attitude towards the use of SafeCity. Only when we add the emergency phone number as an additional option to be employed for contact with emergency services the results indicated that, surprisingly, only people who score ‘low’ on ‘affinity with technology’ do not show a certain preference for SafeCity or the emergency phone number. We believe that this unexpected difference among the three categories lays in the variance of the tested sample sizes; high (N=30), average (N=33), and low (N=37). Future research maybe brings complementary insights that lead to further clarification (see the end of the next chapter).

5.4 SafeCity, the emergency phone number, and the severity of a situation

In this section we discuss the expectation that the severity of a situation would influence the decision to use SafeCity or to contact the emergency phone number. We start in paragraph 2 by repeating what distinguished the ‘severe’ and ‘less severe’ situations. After that, in paragraph 3, we discuss the results

that were obtained from comparison C, followed by a summary and a global interpretation of the results in the last paragraph.

To investigate the severance of a situation that was foreseen to affect the attitude towards the use of SafeCity we defined 18 scenarios that were representing ‘severe’ and ‘less severe’ situations. The scenarios were distinguished on the basis of: (1) the amount of potentiality to cause physical casualties (high potentiality for severe situations and low potentiality for less severe situations), and (2) the need to acquire immediate emergency assistance (high need for severe situations, low or even no need for less severe situations). We disclose the results of the investigations in the subsequent paragraph.

Comparison C: SafeCity, the emergency phone number, and the severity of a situation: In situations that demand emergency assistance, the preference of the emergency phone number over SafeCity is significant. In situations that are ‘less severe’ the exact opposite result was demonstrated. In less severe situations, people rather choose to use SafeCity than to contact the emergency phone number. The results indicate that, in short, people prioritize contact with the emergency phone number in severe situations, but in situations that are less severe people prefer to use SafeCity. These outcomes are in line with our expectation that the severance of a situation would influence the decision between SafeCity and the emergency phone number; a possible explanation is as follows.

As explained at the start of this section, the scenarios that we used to indicate the less severe situations were not always in need for direct emergency assistance, they sometimes demanded only registrations of the occurring events. Hence, a certain degree of prudence should be taken into consideration when conclusions such as ‘SafeCity is used in all less severe situations that demand emergency assistance’ are drawn. Yet, too excessive degrees of prudence would only access a negative conclusion. A positive conclusion would consider the outcome that indicates the preference of SafeCity in less severe situations as a first step into SafeCity to gain the necessary support to become a substitute for the emergency phone number. Still, additional investigations are necessary to pinpoint what approach is the most appropriate. To initialize this investigation, the preferred use of SafeCity in less severe situations needs to be examined in light of the ‘technology’ versus ‘society’ debate.

5.5 SafeCity: Technological determinism versus Social constructivism

In this section, we combine the insights from sections 5.1 to 5.4 to examine SafeCity in light of the ‘technology’ versus ‘society’ debate. We start in the second paragraph with a brief recap of the debate. Then, in the third paragraph, we propose a conclusive question that originates from the problem statement: *Does SafeCity has the capacity to initiate an alteration in social behavior and should on that account be assigned to the ‘technological determinism’ side of the debate?* In the next four consecutive paragraphs (paragraphs 4 till 6) we propose three crucial factors that need to be considered in review of this question.

In the three last paragraphs, we end with a summary that reviews the issue of SafeCity and the ‘technology’ versus ‘society’ debate.

In the introduction of the thesis we briefly presented the concepts of ‘technological determinism’ and ‘social constructivism’. Subsequently, the theoretical framework discussed a more in depth exposition of the two concepts by means of the ‘technology’ versus ‘society’ debate. The debate sorts out the impact that technology has on the society (technological determinism) or the impact that the society has on technology (social constructivism). Thus far the debate remains undecided, but in perspective of SafeCity and the results that showed the preference of SafeCity in less severe situations, it raises one intriguing, yet wide-ranging question; *does SafeCity has the capacity to initiate an alteration in social behavior and should on that account be assigned to the ‘technological determinism’ side of the debate?*

To review this question, we use the result that designated SafeCity as the preferred instrument to contact emergency services in less severe situations as a starting point. We argue that SafeCity’s favored use in less severe situations provides a basis to believe that in future circumstances the assumption that SafeCity can become the preferred instrument in all situations is, although premature, legitimate. Whether future circumstances are able to reduce the prematurity of this assumption will be, in our opinion, determined to a large extent by three crucial factors.

First, shortage in general knowledge about SafeCity currently influences SafeCity’s usage potential among the members of society negatively. As constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003) indicate, most people, generally speaking, only show preparedness to use technological novelties based on two remarks (1) they need to understand the advantages of using such a novelty (effort expectancy), and (2) they need to know that those around them also use it, or are also known to it (social influence). The two indicators illustrate that a positive reputation is the key element in gaining the sufficient support for SafeCity to shift from being used in less severe- to being used in all situations.

Second, and supplementary to the previous paragraph, the reputation of SafeCity benefits from real-life examples that demonstrate the general public what opportunities SafeCity carries. It is crucial to provide clarity about how SafeCity attributes to the process of contact with the emergency services. UTAUT (Venkatesh et al., 2003) introduces in that matter the concept of ‘performance expectancy’. ‘Performance expectancy’ states that individuals are more eager to employ a technological novelty if history has proven that it works.

Third, as various models like TAM, TAM2, and UTAUT (Davis, 1986, 1989; Venkatesh and Davis, 2000; Venkatesh et al., 2003) confirm, the deployment of technological novelties also depends on the characteristics it possesses. It implies that if SafeCity itself is very hard to master, the process of it becoming a worthy alternative for the emergency phone number severely runs the risk to fail in advance.

The three mentioned factors that determine whether SafeCity has a chance for success should be aligned with the two parts of which a technological development consists of: (1) 'soft parts', and (2) 'hard parts' (Fleck and Howells 2001). As the theoretical framework argued, the 'soft' and 'hard' parts of a development determine if the artifact is actually used. The 'soft part' is the part that links to the social environment of the technological artifact (factors 1 and 2). The 'hard part' consists of the features of the technological artifact itself (factor 3).

The 'soft' and 'hard' parts need to be fulfilled properly to meet SafeCity's overall requirement to establish the necessary support to act as an alternative to the emergency phone number: SafeCity needs to be fully accepted. But even then, in future circumstances with SafeCity being fully accepted, unpredictable factors continue to ensure a certain level of prematurity when SafeCity is assigned to the 'technological determinism' side of the debate. After all, the fact remains that the exact meaning of all results in relation to the 'technology' versus 'society' debate stays hard to determine, especially because the effect of the behavioral characteristics on the usage probability of SafeCity is only demonstrated partially and, 'safety' is left aside, it is not present significantly.

All in all we argue, with the prominent difference between 'severe' and 'less severe' situations and the best-case scenario that fully accepts SafeCity in mind, that a final (although carefully phrased) argument is permitted to conclude this chapter: *"SafeCity has the ability to act indeed as an enabler for a social change, though the consideration that (initially) this holds only for less severe situations is essential. In future circumstances, when the overall requirement of full acceptance is satisfied, it might go for all situations."*

6 CONCLUSIONS

In this chapter, we answer research questions 1 and 2 in order to gain the necessary input to examine conclusively the problem statement. In section 6.1 the perceptual characteristics ‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’ are reviewed one by one (subsections 6.1.1 to 6.1.3) to answer research question 1. Subsequently, section 6.2 reviews research question 2. In section 6.3 we answer our problem statement by the incorporation of the answers from the research questions 1 and 2. Finally, in subsection 6.4, the limitations of the research and its recommendations for future research are discussed.

6.1 Research question 1

To what extent is the attitude towards using SafeCity influenced by an individual’s perception of need for privacy, feelings of safety, and affinity with technology?

6.1.1 Need for privacy

The results of the research suggest that feelings of an individual’s need for privacy do not affect the attitude towards the use of SafeCity. Though the measurements indicated variety among the categories (1) ‘not concerned’, (2) ‘averagely concerned’, and (3) ‘highly concerned’, the differences appeared not to be significant. For that reason, controversial statements such as “someone who feels not concerned about his privacy has a higher potential to deploy SafeCity than someone who feels very concerned about his privacy” should to be regarded as designating a trend, and not an undisputed argument that goes for all situations. Nevertheless, it remains at least noteworthy that complementary research is recommended. It may be expect to lead to new results that might redefine the observed trend to an uncontroversial predictor. The main foundations for additional research should be larger sample sizes and more general knowledge about SafeCity from the public (see section 6.4).

6.1.2 Feelings of safety

In alignment with an individual’s need for privacy, the perceptual characteristic that indicates a person’s feelings of safety was also foreseen to affect the attitude towards using SafeCity. Research that was fostered in the theoretical framework generated the presumption that someone who feels very safe is less likely to deploy SafeCity than someone who feels very unsafe. From all results we may conclude that this presumption proved to be true. Significant differences were observed between two of the three categories of someone feeling (1) ‘unsafe’, (2) ‘averagely safe’ or (3) ‘safe’. The difference emerged in comparisons

between the ‘unsafe’ and ‘averagely safe’ categories. The results demonstrate that the likelihood to use SafeCity is greater for people who feel unsafe than for people who feel safe.

6.1.3 Affinity with technology

The perceptual characteristic that reflects someone’s affinity with technology was, similar to ‘need for privacy’ and ‘feelings of safety’, expected to have an effect on the usage probability of SafeCity. However, the results of the research showed no support for this expectation; only insignificant results were observed when an individuals’ affinity with technology was examined in relation to the usage attitude towards SafeCity. The outcome implies that the decision to employ SafeCity is unconnected to someone’s technological involvement.

6.2 Research question 2

To what extent does the severity of an emergency demanding situation affect the attitude towards using SafeCity?

Significant results revealed that, irrespective of the perceptual characteristics ‘need for privacy’, ‘feelings of safety’, and ‘affinity with technology’ people tend to prefer the emergency phone number over the use of SafeCity. But if we look at the core of this research question, we discover that in emergency situations that are less severe, someone rather chooses to use SafeCity than to contact the emergency phone number. A noteworthy remark in relation to the outcomes is the consideration that the scenarios used to pronounce less severe situations sometimes only asked for a registration of the occurring event, and not for direct emergency assistance. For that reason, the favoring of SafeCity in less severe situations is evident but perhaps a bit ambiguous. The most appropriate conclusion is as follows. In severe situations a mobile phone is used as a device to contact the emergency services by its telephone number(s). In situations that are less severe, SafeCity is preferred and the mobile phone is employed to facilitate emergency helpers with additional visual information.

6.3 Problem statement

To what extent does SafeCity have the ability to cause a social change in the behavior of citizens who are in need for emergency assistance?

The results of the thesis demonstrate that, in less severe situations, SafeCity is preferred over the emergency phone number. In severe situations, contrary outcomes were observed which revealed that people then rather contact the emergency phone number than use SafeCity. As discussed in the end of the

previous chapter, the results imply that the use of SafeCity is endorsed with a positive attitude from its (potential) users. Though a positive attitude is a decent first step, it alone is at present times insufficient. Factors such as reputational conditions, unique features, and additional indicators that were mentioned in section 5.5, show that SafeCity should firstly be fully accepted to become a worthy alternative for contact with emergency services. Only SafeCity's full acceptance can ensure that in all types of emergency situations that demand assistance the decision between SafeCity and the emergency phone number is settled in favor of the SafeCity. Yet, the great hopes for SafeCity need to be nuanced by two remarks. First, the scenarios that represented less severe situations sometimes indeed only asked for registration of the occurring events and not for direct emergency assistance. Second, unpredictable circumstances in the future always remain lurk. Hence to date, as a consequence of the remarks, statements about SafeCity and the 'technology' versus 'society' debate are still pursued by a certain level of ambiguity.

So, two questions remain: Does technology drives the future? Or does the society drives the future? If it were up to SafeCity, its preferred use in less severe situations would be expanded to a preferred use in all situations. But the influence of technology in this wanted shift is yet to be determined. It is one more example that shows that the technology versus society debate is still undecided. The influence of technology in the above mentioned direction should be investigated more deeply; section 6.4 provides a basis for the investigation by the recommendation of various considerations that should be contemplated.

6.4 Limitations and recommendations for future research

The interpretation of the results of the research as shown in the 'discussion' and the 'conclusion' chapters (chapter 5 and 6) are subject to some limitations that should be taken into consideration. The limitations will eventually result in directions for future research, some already mentioned in earlier parts of the research.

The first limitation is the limited quantity of the investigated population. It is the main limitation of the research. Yet, several remarkable differences between the various measured items have been demonstrated; the desirable significant alteration could not always be assured. Consequently, further research with larger samples may produce additional perspectives that most likely deliver deeper insights into the conclusions that were drawn so far.

The second limitation is the circumstance that required the respondents to be the core factor to determine the 'low', 'average', or 'high' categories. The limitation derives from the processes that mutually compared all the scores of the respondents (section 4.1). The judgment to follow this method originates from the supposition that, in the worst-case scenario, all respondents would belong to one category. After all, one category does not enable comparisons. On that ground, the insurance to achieve decent comparisons with sufficiently large samples had priority. Hence, the formation of relative

categories based on mutual comparisons was an insurmountable choice. Large samples would cause no difference since the distribution of the participants would always remain approximately identical. Therefore, our recommendation for future research is that the same design and procedure that was used in the present research should be preserved; it ensures validity and reliability.

Third, the questionnaire itself was relatively long and challenging. The results, especially those derived from the end of the questionnaire, are potentially somewhat affected by possible tiredness, decrease in concentration, or the reduction of motivation. Factors such as these might have triggered gradual changes in the mindset of the respondent.

The fourth limitation, as explained in section 6.3, is the dynamics that would shift the positive attitude to use SafeCity only in less severe situations to a positive attitude to use SafeCity in all situations. The precise dynamics that analyze this modification is yet to be determined. The success of this prospected shift is primarily determined by the necessity for SafeCity to meet two essential requirements: (1) SafeCity needs to be widely known and (2) SafeCity needs to confirm that it attributes the process of communication with emergency services. Comprehensively expressed, it demonstrates the need for SafeCity to be fully accepted. Pending the fulfillment of these two requirements, a carefully stated assumption which indicates that these factors are in the present research negative influencers (because until now SafeCity does not meet these requirements), as well positive influencers in future research (when people are fully accepting SafeCity) is permitted.

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APPENDICES

In the appendices, we display the full questionnaire, and the results of the questionnaire. We structured the appendices as follows.

QUESTIONNAIRE

APPENDIX A: INTRODUCTORY TEXT

APPENDIX B: DEMOGRAPHICS

APPENDIX C: PRIVACY PART 1: NINE VALUES TEST

APPENDIX D: PRIVACY PART 2: OV-CHIPKAART SCENARIO

APPENDIX E: FEELINGS OF SAFETY PART 1

APPENDIX F: FEELINGS OF SAFETY PART 2

APPENDIX G: AFFINITY WITH TECHNOLOGY

APPENDIX H: INTRODUCTORY TEXT SAFECITY

APPENDIX I: SCENARIOS

RESULTS OF THE QUESTIONNAIRE

APPENDIX J: NEED FOR PRIVACY SEPARATE RESULTS PART 1 AND PART 2

APPENDIX K: FEELINGS OF SAFETY SEPARATE RESULTS PART 1 AND PART 2

APPENDIX L: AFFINITY WITH TECHNOLOGY RESULTS

APPENDIX M: NEED FOR PRIVACY COMBINED RESULTS AND CATEGORY DISTRIBUTION

APPENDIX N: FEELINGS OF SAFETY COMBINED RESULTS AND CATEGORY DISTRIBUTION

APPENDIX O: AFFINITY WITH TECHNOLOGY RESULTS AND CATEGORY DISTRIBUTION

APPENDIX A: INTRODUCTORY TEXT

Geachte mevrouw, meneer,

Als student menselijke aspecten van de informatie technologie aan het TiCC (Tilburg center for Cognition and Communication) van Tilburg University houd ik mij bezig met het onderzoek naar het gebruik van een nieuw veiligheidsmiddel SafeCity. Graag wil ik uw medewerking vragen voor een enquête. In mijn onderzoek word ik begeleid door Prof. dr. H.J. van den Herik en Dhr. J.Otten. Het onderzoek gaat over SafeCity (veilige stad). Daarover heb ik later een apart informatieblad voor u.

U leeft in een veilige stad, hoewel er af en toe iets gebeurt. SafeCity wil de stad nog veiliger maken. Voor het gebruik van SafeCity moet u zich registreren, het kost u niets, de gemeente betaalt. Mijn onderzoek voor Tilburg University richt zich op de belevingskenmerken van de mensen die in deze stad wonen. De te onderzoeken belevingskenmerken zijn privacy, veiligheid en technologie. Om een idee te krijgen hoe de inwoners in Tilburg deze kenmerken in het algemeen beleven, wil ik u graag een vragenlijst voor leggen. Het beantwoorden van de vragen doet u vanuit uw eigen interpretaties en ervaringen. U wordt verzocht per vraag één goed antwoord aan te kruisen. Als u per ongeluk een kruisje bij het verkeerde antwoord zet, maakt u dan het blokje bij het verkeerde antwoord volledig zwart en zet een kruisje bij het juiste antwoord. Op deze manier is het voor mij duidelijk welk antwoord u bedoelt.

Indeling

De vragenlijst bestaat uit twee delen. Het eerste deel gaat in op de drie belevingskenmerken. Het tweede deel bestaat uit een aantal scenario's waarbij u gevraagd wordt aan te geven of u SafeCity wel of niet zal gebruiken.

Deel 1

Deze vragenlijst bevat vragen over drie belevingskenmerken. Per kenmerk vindt u een aantal uitspraken waarvoor u gevraagd wordt naar uw mening of uw vermoedelijke handelswijze. Dit doet u aan de hand van de aangegeven keuzemogelijkheden. De onderwerpen privacy, veiligheid en technologie komen in deze volgorde aan de orde. Aan het einde van deel 1 wordt u gevraagd enkele achtergrondkenmerken aan te geven.

Deel 2

Na het invullen van deel 1 wordt u kort geïntroduceerd in het product 'SafeCity' (zie de eerste regels). Vervolgens wordt u gevraagd aan te geven of u wel of geen beroep doet op SafeCity in een bepaalde situatie.

Anonimiteit

De antwoorden op de vragen worden volstrekt anoniem verwerkt.

Het invullen van de vragenlijst duurt ongeveer 10 minuten tot een kwartier. Graag bedank ik u voor uw medewerking.

Deze vragenlijst is gebaseerd op eerder onderzoek van het CBS (2011) en het Rathenau Instituut (1999).

Smink, G.C.J., A.M. Hamstra, H.M.L. van Dijk. Privacybeleving van burgers in de informatiemaatschappij. Den Haag: Rathenau Instituut, 1999. Werkdocument 68.

Centraal Bureau voor de Statistiek (2011, 1 maart) Integrale veiligheidsmonitor 2010. Geraadpleegd op 18 april 2011.

APPENDIX B: DEMOGRAPHICS

1. **Bent u** ☐ man ☐ vrouw

2. **Bent u**

- ☐ 18 - 30 jaar
- ☐ 31 - 40 jaar
- ☐ 41 - 50 jaar
- ☐ 51 - 60 jaar
- ☐ 61 jaar of ouder

APPENDIX C: PRIVACY PART 1: NINE VALUES TEST

1. Onderstaand vindt u een aantal uitspraken. Deze stellingen inventariseren uw mening over de rol van informatietechnologie in relatie tot privacy. U wordt verzocht per stelling aan te geven in hoeverre u het eens bent, dan wel oneens bent, met de weergegeven stelling.

	helemaal niet mee eens	niet mee eens	neutraal	mee eens	helemaal mee eens
Wanneer het gaat om het verspreiden van persoonlijke informatie, wil ik zelf de beslissing kunnen nemen welke informatie ik wel, en welke informatie ik niet deel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ik stoort mij aan allerlei organisaties die persoonlijke informatie van me willen, ik wil anoniem kunnen zijn wanneer ik dat wens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ik ben van mening dat technologische ontwikkelingen ons mensen steeds vaker negatief beïnvloeden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologische ontwikkelingen zorgen voor toenemende onderlinge verschillen tussen individuen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologische ontwikkelingen stimuleren het 'in hokjes' denken.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Het stoort mij wanneer ik geconfronteerd word met persoonlijke informatie die ik in het verleden ergens heb moeten delen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologische ontwikkelingen dwingen ons mensen bepaalde keuzes te maken waar we niet achter staan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Het stoort me als ik word geconfronteerd met ongevraagde post of telefoon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wanneer ik word verplicht persoonlijke informatie te delen die vervolgens wordt opgeslagen in een geautomatiseerd systeem, voel ik me meer een nummer dan een persoon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technologische ontwikkelingen hebben een bepaalde invloed die het lastig maakt je eigen mening te vormen en te onderbouwen (bijvoorbeeld door 'in hokjes' denken).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D: PRIVACY PART 2: OV-CHIPKAART SCENARIO

2. In 2005 is in Nederland voor het eerst de OV-chipkaart geïntroduceerd. Deze kaart vermindert de noodzaak een kaartje te kopen bij het gebruik van het openbaar vervoer. Het is een universeel systeem, dat technologische hulpmiddelen gebruikt om het openbaar vervoer te vereenvoudigen en overal hetzelfde doet zijn. Kunt u per stelling aangeven in hoeverre u de genoemde vorm van de OV-chipkaart wenselijk acht.

	helemaal niet wenselijk	niet wenselijk	neutraal	wenselijk	volledig (uiterst) wenselijk.
Iedereen krijgt een eigen ov-chipkaart, die volledig anoniem te gebruiken is.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iedereen krijgt een eigen ov-chipkaart. Deze chipkaart staat geregistreerd met uw NAW-gegevens. Uw reisinformatie wordt niet opgeslagen, enkel wanneer u de kaart verliest worden de gegevens opgevraagd om de kaart aan u te kunnen retourneren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iedereen krijgt een eigen ov-chipkaart. Deze chipkaart staat geregistreerd met uw NAW-gegevens. Uw reisinformatie wordt opgeslagen in een landelijke database. Deze informatie wordt gebruikt om openbaar vervoer trajecten naar drukte te kunnen inventariseren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iedereen krijgt een eigen ov-chipkaart. Deze chipkaart staat geregistreerd met uw NAW-gegevens. Uw reisinformatie wordt opgeslagen in een landelijke database. Deze informatie wordt voor verschillende doeleinden gebruikt. Zo wordt de drukte van trajecten gemeten, worden bepaalde wetenschappelijke onderzoeken uitgevoerd en kan met u contact worden gezocht voor uiteenlopende vragenlijsten om het openbaar vervoer te verbeteren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iedereen krijgt een eigen ov-chipkaart. Deze chipkaart staat geregistreerd met uw NAW-gegevens. Uw reisinformatie wordt opgeslagen in een landelijke database. Deze informatie wordt gebruikt voor wetenschappelijk onderzoek, om gebruik van trajecten te inventariseren en als contactmiddel voor reizigers. Tevens wordt u persoonlijk gevolgd, en krijgt u bepaalde aanbiedingen op basis van uw reisgedrag. Wanneer u bijvoorbeeld veel tussen Breda en Tilburg reist, krijgt u vanzelf een kortingskaart aangeboden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX E: FEELINGS OF SAFETY PART 1

1. Voelt u zich veilig in uw stad?

- ☐ vaak
- ☐ soms
- ☐ zelden
- ☐ nooit

2. Voelt u zich veilig in uw eigen buurt?

- ☐ vaak
- ☐ soms
- ☐ zelden
- ☐ nooit

3. Voelt u zich veilig in uw eigen huis?

- ☐ vaak
- ☐ soms
- ☐ zelden
- ☐ nooit

4. U wordt verzocht per onderstaande uitspraak aan te geven in hoeverre u de kans aanwezig acht dat u in het jaar 2012 het volgende overkomt.

	heel kleine kans	kleine kans	neutraal	grote kans	heel grote kans
De kans dat u zelf slachtoffer wordt van inbraak in uw eigen woning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De kans dat u zelf slachtoffer wordt van mishandeling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De kans dat u zelf slachtoffer wordt van diefstal van uw portemonnee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX F: FEELINGS OF SAFETY PART 2

4. Stelt u zich de volgende situatie voor: U bent alleen, het is middernacht en u loopt te voet naar huis na een verjaardag van een goede bekende. Onverwacht blijkt dat op uw route huiswaarts de brug kapot is gegaan waardoor u niet de snelste route naar huis kunt gebruiken. U hebt twee mogelijkheden, route A of route B. Iedere route heeft een eigen veiligheidsprofiel. Route B is een erkend veilige route die 20 minuten duurt. Route A wordt hieronder verschillend beschreven, hij duurt 10 minuten, graag wil ik van u weten welke veiligheidsafweging u maakt.

Ik kies route A...	absoluut niet	waarschijn lijk niet	neutraal	waarschijn lijk wel	absoluut wel
Route A loopt via open gelegen en uitstekend belicht park, waar verschillende mensen lopen die allen dezelfde omleiding als u moeten volgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route A loopt via een open gelegen en slecht belicht park waar verschillende mensen lopen die allen dezelfde omleiding als u moeten volgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route A loopt via een bebost en uitstekend belicht park welke verlaten is en geen activiteit van andere mensen laat zien.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route A loopt via een bebost en slecht belicht park, welke verlaten is en geen activiteit van andere mensen laat zien.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route A loopt via een bebost en slecht belicht park, welke verlaten is, geen activiteit van andere mensen laat zien, en bekend staat om een moord die in het verre verleden (langer dan 10 jaar) heeft plaatsgevonden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route A loopt via een bebost en slecht belicht park, welke verlaten is, geen activiteit van andere mensen laat zien, en tevens bekend staat om een moord die in het recente verleden (in de laatste 2 jaar) heeft plaatsgevonden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX G: AFFINITY WITH TECHNOLOGY

1. In 2005 is in Nederland voor het eerst de OV-chipkaart geïntroduceerd. Deze kaart vermindert de noodzaak een kaartje te kopen bij het gebruik van het openbaar vervoer. Het is een universeel systeem, dat technologie inzet om het openbaar vervoer in Nederland te vergemakkelijken. Ondanks een lange aanloop, zijn er tot op heden diverse problemen met de chipkaart naar voren gekomen. Onderstaand vindt u vijf scenario's. Kunt u per scenario aangeven in hoeverre u de OV-chipkaart zal gaan gebruiken wanneer aan de genoemde voorwaarden wordt voldaan.

Ik kies voor het gebruik van de OV-chipkaart...	absoluut niet	waarschijn lijk niet	neutraal	waarschijn lijk wel	absoluut wel
De OV-chipkaart is nog niet overal te gebruiken, daarnaast is het gebruik ervan nog complex, bent u de eerste in uw omgeving die het gaat gebruiken? Het blijkt overigens dat de overheid nog continu aan verbeteringen werkt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De OV-chipkaart is overal te gebruiken, daarnaast is het gebruik ervan nog complex, bent u de eerste in uw omgeving die het gaat gebruiken? Het blijkt overigens dat de overheid nog continu aan verbeteringen werkt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De OV-chipkaart is overal te gebruiken, tevens is het gebruik ervan eenvoudig, bent u de eerste in uw omgeving die het gaat gebruiken. Het blijkt overigens dat de overheid nog continu aan verbeteringen werkt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De OV-chipkaart is overal te gebruiken, tevens is het gebruik ervan eenvoudig, heeft u diverse mensen in uw omgeving die het ook gebruiken. Overigens blijkt het dat de overheid continu aan verbeteringen werkt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De OV-chipkaart is overal te gebruiken, tevens is het gebruik ervan eenvoudig, heeft u diverse mensen in uw omgeving die het ook gebruiken. Het blijkt dat de overheid helemaal tevreden is over het product.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX H: INTRODUCTORY TEXT SAFECITY



SafeCity

Introductie

SafeCity is een mobiele applicatie die nieuwe technologie gebruikt om een directe communicatie tussen burger en meldkamer mogelijk te maken. Na het laden van deze speciale App op je mobiele telefoon kun je live video zenden naar en realtime in contact komen met de meldkamer. Hierdoor heb je een extra middel voor je eigen veiligheid. Dus wanneer een onveilige situatie aandacht vereist, heb je een extra middel om direct in contact te komen met de meldkamer, die live met je meekijkt, hoort en weet waar jij je bevindt. Ook kan de meldkamer jou berichten zenden die jij op je scherm van je telefoon kunt zien.

SafeCity kan onder andere ingezet worden voor noodoproepen, medische hulp, onveilige situaties, bedreiging, oproer. Een druk op de noodknop en je video gaat rechtstreeks naar de meldkamer. Professionals met een publieke taak kunnen hiermee realtime ondersteuning bieden.

Vier voorbeelden waarbij SafeCity gebruikt kan worden:

1. Je voelt je onwel en weet niet wat te doen.
2. Je denkt achtervolgd te worden.
3. Je bent gevallen en je been is gebroken.
4. Je bent slechthorend en wilt een moeilijke situatie melden.

De video's worden live gezonden en opgeslagen op een beveiligde website. Deze website is alleen te benaderen is door aangewezen meldkamers en personen. Zodra een video binnenkomt wordt de video getoond op de website met daarbij een kaart van de plaats van waar de video wordt verstuurd. De meldkamer kan live meeluisteren en meekijken en via een chatbox kunnen instructies gegeven worden, die op het scherm van de mobiele telefoon te zien zijn.

(bron: www.safecity.nl)

Scenario's

Op de volgende pagina's krijgt u een aantal scenario's aangeboden waarvan u gevraagd wordt te beoordelen wat u zou doen.

APPENDIX I: SCENARIOS

Kunt u de onderstaande 18 situaties beoordelen door aan te geven in hoeverre u het genoemde hulpmiddel (1-1-2 en SafeCity) zou gebruiken om contact te zoeken met de hulpinstanties. Ga er bij iedere situatie vanuit dat u de enige bent die de situatie of meemaakt of er getuige van is. Wanneer u in de genoemde situatie geen actie zou ondernemen of u zou er zelf op af gaan, kiest u dan voor de mogelijkheid 'zelf- of geen actie'.

SCENARIO'S

1. U voelt zich onwel, er is niemand in de buurt en u weet niet wat te doen.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. U bent getuige van een auto-ongeluk waarbij 4 auto's betrokken zijn, het is duidelijk dat er niet alleen blik schade is maar dat er ook lichamelijk gewonden zijn.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Terwijl u in de trein zit, bent u getuige van een drugsdeal.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. U bent er van overtuigd dat terwijl u op bed ligt er bij u wordt ingebroken.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. U bent gevallen en uw been is gebroken, er is niemand in de buurt die u kan helpen.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. U bent getuige van een ongeluk tussen een fietser en brommer, de fietser heeft duidelijk lichamelijk letsel.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. U ziet dat een 18-jarige jongen in elkaar wordt geslagen door een groep jongeren.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. U raakt betrokken bij een auto-ongeluk, u en de andere persoon zijn beide ongedeerd. Uw beide auto's blokkeren de weg waarop het ongeluk heeft plaatsgevonden volledig.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Uw oud-buurman heeft een straatverbod vanwege huiselijk geweld, nu ziet u deze oud-buurman in de straat.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. U bent getuige van een auto-ongeluk waarbij 4 auto's betrokken zijn, het is duidelijk dat er alleen blik schade is.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Uw partner wordt onwel, en is buiten bewustzijn geraakt, hij/zij reageert nergens meer op.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. U ziet een aantal graffiti spuiters die een muur van een kantoor aan het bespuiten zijn.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Tijdens een picknick krijgt uw metgezel een allergische reactie waarbij hij/zij stroef begint te ademen en niet meer overal op reageert.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Terwijl u aanwezig bent in een winkel, wordt deze overvallen door twee gemaskerde overvallers.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Op een weg ziet u een aantal mensen chemisch afval storten in de natuur.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. U ziet dat bij uw overburen die op vakantie zijn, wordt ingebroken.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Een ambulance medewerker wordt door een groep jongeren tegen gehouden en in zijn/haar werk belemmerd.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. U raakt betrokken bij een auto-ongeluk, uzelf bent ongedeerd, de andere persoon heeft zichtbaar licht lichamelijk letsel.

Ik gebruik:	absoluut niet	waarschijnlijk niet	neutraal	waarschijnlijk wel	absoluut wel	zelf- of geen actie
Alarmnummer 1-1-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SafeCity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Einde vragenlijst. Nogmaals hartelijk dank voor uw medewerking.

APPENDIX J: NEED FOR PRIVACY SEPARATE RESULTS PART 1 AND PART 2

Below, we present the results of both parts (Appendix C and D) that investigated the respondents' 'need for privacy'. The scores represent the extent to which someone is concerned about his privacy. A low score indicates that someone is not concerned about privacy; a high score indicates that someone is very concerned about his privacy.

Results part 1 (Appendix C)

Scores	Frequency	Percent	Cumulative Percent
Valid 2,30	2	2,0	2,0
2,40	1	1,0	3,0
2,60	1	1,0	4,0
2,70	5	5,0	9,0
2,80	4	4,0	13,0
2,90	6	6,0	19,0
3,00	5	5,0	24,0
3,10	4	4,0	28,0
3,20	8	8,0	36,0
3,30	10	10,0	46,0
3,40	11	11,0	57,0
3,50	7	7,0	64,0
3,60	10	10,0	74,0
3,70	3	3,0	77,0
3,80	5	5,0	82,0
3,90	1	1,0	83,0
4,00	3	3,0	86,0
4,10	3	3,0	89,0
4,30	11	11,0	100,0
Total	100	100,0	

Results part 2 (Appendix D)

Scores	Frequency	Percent	Cumulative Percent
Valid 1,80	2	2,0	2,0
2,00	2	2,0	4,0
2,20	2	2,0	6,0
2,40	4	4,0	10,0
2,60	11	11,0	21,0
2,80	8	8,0	29,0
2,90	1	1,0	30,0
3,00	21	21,0	51,0
3,20	17	17,0	68,0
3,40	17	17,0	85,0
3,60	3	3,0	88,0
3,80	3	3,0	91,0
4,00	6	6,0	97,0
4,20	1	1,0	98,0
4,40	1	1,0	99,0
5,00	1	1,0	100,0
Total	100	100,0	

APPENDIX K: FEELINGS OF SAFETY SEPARATE RESULTS PART 1 AND PART 2

Below, we present the results of both parts (Appendix E and F) that investigated the respondents' 'feelings of safety'. The scores represent the extent to which someone generally feels safe or unsafe. A low score indicates that someone feels very safe; a high score indicates that someone feels very unsafe.

Results part 1 (Appendix E)

Scores	Frequency	Percent	Cumulative Percent
Valid 2,33	1	1,0	1,0
2,50	17	17,0	18,0
2,67	8	8,0	26,0
2,83	24	24,0	50,0
3,00	29	29,0	79,0
3,17	8	8,0	87,0
3,33	8	8,0	95,0
3,50	3	3,0	98,0
3,67	1	1,0	99,0
3,83	1	1,0	100,0
Total	100	100,0	

Results part 2 (Appendix F)

Scores	Frequency	Percent	Cumulative Percent
Valid 1,17	3	3,0	3,0
1,33	2	2,0	5,0
1,67	7	7,0	12,0
1,83	5	5,0	17,0
2,00	7	7,0	24,0
2,17	6	6,0	30,0
2,33	1	1,0	31,0
2,33	7	7,0	38,0
2,50	2	2,0	40,0
2,67	12	12,0	52,0
2,83	2	2,0	54,0
3,00	13	13,0	67,0
3,17	7	7,0	74,0
3,33	2	2,0	76,0
3,50	1	1,0	77,0
3,67	6	6,0	83,0
3,83	1	1,0	84,0
4,00	2	2,0	86,0
4,17	3	3,0	89,0
4,33	4	4,0	93,0
4,50	2	2,0	95,0
4,67	2	2,0	97,0
5,00	3	3,0	100,0
Total	100	100,0	

APPENDIX L: AFFINITY WITH TECHNOLOGY RESULTS

Below, we present the results of the respondents' 'affinity with technology' (Appendix G). The scores represent the extent to which someone has an affinity with technology. A low score indicates that someone has a low affinity with technology; a high score indicates that someone has a high affinity with technology.

Scores		Frequency	Percent	Cumulative Percent
Valid	1,00	2	2,0	2,0
	1,20	2	2,0	4,0
	1,40	2	2,0	6,0
	1,60	5	5,0	11,0
	1,80	9	9,0	20,0
	2,00	5	5,0	25,0
	2,20	5	5,0	30,0
	2,40	7	7,0	37,0
	2,60	9	9,0	46,0
	2,80	3	3,0	49,0
	3,00	5	5,0	54,0
	3,20	12	12,0	66,0
	3,40	4	4,0	70,0
	3,60	8	8,0	78,0
	3,80	6	6,0	84,0
	4,00	4	4,0	88,0
	4,20	1	1,0	89,0
	4,40	3	3,0	92,0
	4,60	6	6,0	98,0
	5,00	2	2,0	100,0
Total		100	100,0	

APPENDIX M: NEED FOR PRIVACY COMBINED RESULTS AND CATEGORY DISTRIBUTION

Below, we present the sum of both parts that investigated the respondents' 'need for privacy'. The scores represent the extent to which someone is concerned about his privacy. A low score indicates that someone is not concerned about privacy; a high score indicates that someone is very concerned about his privacy.

Additionally, we present the subdivision in categories that we used to determine the 'low', 'average', and 'high' categories. This process is explained in section 4.1.

	Scores	Frequency	Percent	Cumulative Percent	
Valid	4,40	1	1,0	1,0	'Low' (N = 35)
	4,80	1	1,0	2,0	
	5,20	1	1,0	3,0	
	5,30	3	3,0	6,0	
	5,40	3	3,0	9,0	
	5,50	4	4,0	13,0	
	5,60	2	2,0	15,0	
	5,70	3	3,0	18,0	
	5,80	1	1,0	19,0	
	5,90	1	1,0	20,0	
	6,00	3	3,0	23,0	
	6,10	3	3,0	26,0	
	6,20	9	9,0	35,0	
	6,30	4	4,0	39,0	'Average' (N = 39)
	6,40	9	9,0	48,0	
	6,50	5	5,0	53,0	
	6,60	1	1,0	54,0	
	6,70	6	6,0	60,0	
	6,80	1	1,0	61,0	
	6,80	4	4,0	65,0	
	6,90	9	9,0	74,0	'High' (N = 26)
	7,00	6	6,0	80,0	
	7,10	3	3,0	83,0	
	7,20	3	3,0	86,0	
	7,30	3	3,0	89,0	
	7,60	2	2,0	91,0	
	7,70	5	5,0	96,0	
	7,80	1	1,0	97,0	
	8,00	1	1,0	98,0	
	8,30	2	2,0	100,0	
	Total	100	100,0		

APPENDIX N: FEELINGS OF SAFETY COMBINED RESULTS AND CATEGORY DISTRIBUTION

Below, we present the sum of both parts that investigated the respondents' 'feelings of safety'. The scores represent the extent to which someone generally feels safe or unsafe. A low score indicates that someone feels very safe; a high score indicates that someone feels very unsafe.

Additionally, we present the subdivision in categories that we used to determine the 'low', 'average', and 'high' categories. This process is explained in section 4.1.

	Scores	Frequency	Percent	Cumulative Percent	
Valid	3,67	2	2,0	2,0	'Low' (N = 37)
	3,83	1	1,0	3,0	
	4,33	1	1,0	4,0	
	4,50	3	3,0	7,0	
	4,67	2	2,0	9,0	
	4,83	4	4,0	13,0	
	5,00	9	9,0	22,0	
	5,17	15	15,0	37,0	
	5,33	5	5,0	42,0	'Average' (N = 35)
	5,50	6	6,0	48,0	
	5,67	6	6,0	54,0	
	5,83	9	9,0	63,0	
	6,00	9	9,0	72,0	
	6,33	4	4,0	76,0	'High' (N = 28)
	6,50	5	5,0	81,0	
	6,67	7	7,0	88,0	
	7,00	3	3,0	91,0	
	7,33	2	2,0	93,0	
	7,50	1	1,0	94,0	
	7,67	3	3,0	97,0	
	7,83	1	1,0	98,0	
	8,00	2	2,0	100,0	
	Total	100	100,0		

APPENDIX O: AFFINITY WITH TECHNOLOGY RESULTS AND CATEGORY DISTRIBUTION

Below, we present the results of the respondents' 'affinity with technology'. The scores represent the extent to which someone has an affinity with technology. A low score indicates that someone has a low affinity with technology; a high score indicates that someone has a high affinity with technology.

Additionally, we present the subdivision in categories that we used to determine the 'low', 'average', and 'high' categories. This process is explained in section 4.1.

	Scores	Frequency	Percent	Cumulative Percent	
Valid	1,00	2	2,0	2,0	'Low' (N = 37)
	1,20	2	2,0	4,0	
	1,40	2	2,0	6,0	
	1,60	5	5,0	11,0	
	1,80	9	9,0	20,0	
	2,00	5	5,0	25,0	
	2,20	5	5,0	30,0	
	2,40	7	7,0	37,0	'Average' (N = 33)
	2,60	9	9,0	46,0	
	2,80	3	3,0	49,0	
	3,00	5	5,0	54,0	
	3,20	12	12,0	66,0	
	3,40	4	4,0	70,0	'High' (N = 30)
	3,60	8	8,0	78,0	
	3,80	6	6,0	84,0	
	4,00	4	4,0	88,0	
	4,20	1	1,0	89,0	
	4,40	3	3,0	92,0	
	4,60	6	6,0	98,0	
	5,00	2	2,0	100,0	
	Total	100	100,0		

