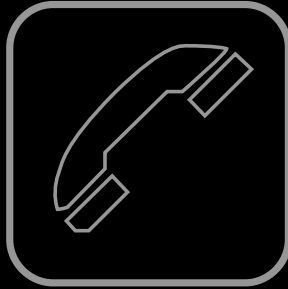
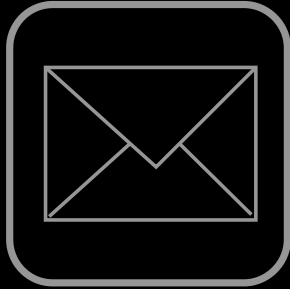
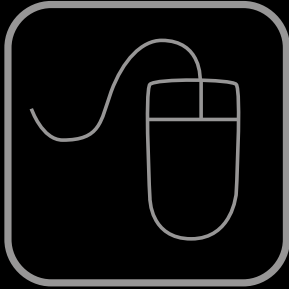


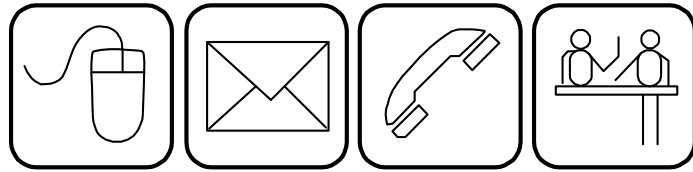
# Channel Choice



Citizens' Channel Behavior and  
Public Service Channel Strategy



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The studies described in this thesis were financially supported by the Dutch Tax and Customs Administration. Some of the findings result from the research project "Kanalen in Balans", led by Novay (former Telematica Instituut).

Thesis, University of Twente  
ISBN 978-90-365-2807-8  
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Printed by: Gildeprint B.V., Enschede

# CHANNEL CHOICE

CITIZENS' CHANNEL BEHAVIOR AND PUBLIC SERVICE CHANNEL STRATEGY

PROEFSCHRIFT

ter verkrijging van  
de graad van doctor aan de Universiteit Twente,  
op gezag van de rector magnificus,  
prof. dr. H. Brinksma,  
volgens besluit van het College voor Promoties  
in het openbaar te verdedigen  
op donderdag 26 maart 2009 om 16:45 uur

door

Willem Jan Pieterse  
geboren op 9 april 1980  
te Almelo

Dit proefschrift is goedgekeurd door

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Don't waste your time or time will waste you

*M. Bellamy*  
(Muse-the Knights of Cydonia)





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“Mankind are governed more by their feelings than by reason.”  
(Samuel Adams)

# 1 Introducing Channel Choice

## 1.1 Introduction

Nowadays, citizens have a wide array of channels at their disposal for their contacts with governmental agencies. If I have a question about my taxes, I can look on a website, phone the tax agency or visit a front desk in order to get the information I need. Suppose that I decided to phone the tax agency: why did I do that? Was it because I thought that this was the fastest or most convenient way to get an answer? Or was it because I thought that the call center agent would give me the best answer? I might have even chosen the phone because of the simple fact that I was holding a phone in my hand. In short, I might have had many reasons to choose a certain channel, but which factors determine the channel choice of a citizen in a certain situation? This basic question is the starting point of this dissertation.

Knowledge about behavioral motives is becoming more and more important to government agencies: citizens are becoming more and more diverse in their behavior, and their expectations of service delivery are ever-increasing. Yet money can only be spent once, so specific choices have to be made about the channels to deploy and how to design them. Furthermore, new media are still emerging. Twenty years ago, we only had the possibilities of visiting a front desk, telephoning, or writing a letter; the advent of the Internet gave us e-mail, and the birth of the World Wide Web in 1993 gave us websites to search for information. SMS and chat are new applications that are still awaiting their large-scale breakthrough in public service delivery. Should government agencies deploy these channels? If so, for what purposes? Knowledge about citizens' behavior may assist in the design of the ideal channel mix and may help in guiding citizens to the channels preferred by the government agency.

However, there is currently very little knowledge available about citizens' channel choices. Some knowledge is available about channel choices in private sector settings. Also, media and channel choices in general have received some attention. However, we lack a clear picture of citizens' motivations to choose and consequently use a channel. Furthermore, we lack theories that describe or predict why and how people choose among different service channels. The main goal of this study is twofold. The first goal (the theoretical goal) is to improve the theoretical understanding of the behavioral process underlying channel choices. The second goal (the practical goal) is to provide government agencies with the knowledge to better design their service channels according to citizens' behavior.

In this chapter, we will elaborate on these goals and define our research questions. First (§1.2), we will discuss developments in public service delivery and channel choice that lead to the practical goal. Next (§1.3), we will elaborate on the theoretical issues that lead to the theoretical goal of this research. After presenting the two main aims of this dissertation, we will define and discuss some of the main terms of the study: service channels (§1.4), services, (§1.5) and channel behavior (§1.6). The chapter will conclude with a description of the research questions that form the guideline for the contents of this dissertation (§1.7) and an overview of the contents of the dissertation (§1.8).

## 1.2 Public service delivery and channel choice

During the 1990s, use of the Internet rapidly diffused around the world, first in North America, followed by Europe and then the rest of the world. Given the technical characteristics of the Internet and inspired by the commercial success of the private sector during the dot-com hype, it is no surprise that the public sector embraced the Internet as *the* means to improve public service delivery (Bekkers, 2000). A quotation from Silcock (2001, p. 88) is a perfect illustration of the way in which ICT was believed to transform the way we live:

*"The explosive entry of technology into every aspect of life has changed how people live, how they work, how companies do business – and how governments serve their people. For the first time since the creation of the modern welfare state, there is now a real opportunity to 'reinvent' government"*

At that time, government agencies were in the middle of this process of "reinvention". Due to the tendency to apply private sector management techniques to public management, government agencies became more market-oriented. It was believed by many that this would lead to greater cost-efficiency for governments as well as a more citizen-centered orientation of public service delivery. During the rise of the Internet, it seemed that agencies' ambition to become more citizen-centered by deploying of various applications of ICT—like the Internet, network technologies, computer matching and mobile telephony—was realized at last (van Duivenboden, 1999). Or as Borins (2002, p. 4) wrote: "The internet may well be an ideal medium for many public sector transactions." Perhaps one of the best examples of the optimism about the Internet as the ideal channel for public services is found in the Dutch governmental paper "De Digitale Delta", which says (translated from Dutch):

*"And the technological opportunities the medium (internet) is offering right now are just a tiny reflection of what can be reality in the beginning of the next millennium."*  
(Ministerie van Economische Zaken *et al.*, 1999, p. 4)

Now, about 15 years after the invention of the World Wide Web, more than 80 percent of all Dutch citizens file their taxes electronically (in 2008), and the number of hits on the website of the Tax and Customs Administration has risen dramatically in the past few years. However, the number of telephone contacts has also increased in the past few years. In New Zealand in 2005, the website of the Inland Revenue Service received an average of 150,000 page views per day, an increase of 113% in comparison with the previous year, yet in New Zealand, the telephone remains the most important means of contact for citizens. Accenture (2005) concluded in its 2005 e-government benchmark that the telephone is the dominant service channel in the countries that it studied. Results from the study show that 63% of the respondents had used the telephone in 2004 for service interactions with governments, in contrast to 31% who used the Internet. In Switzerland, people still prefer to have face-to-face contact with the authorities (Bernier Fachhochschule & Unisys, 2005). Although Internet usage in Switzerland is increasing, this is only leading to a decrease in the use of print media, not in the use of face-to-face and telephonic services.

The conclusion seems obvious: the Internet is not replacing other channels, but is rather another channel in the mix of service channels, just as the telephone, physical and postal channels are (Van Deursen & Pieterse, 2006). Other organizations have drawn the same conclusion. After years of reducing the number of front desks, a number of Dutch banks are opening new branches: the Rabobank has the goal of upgrading the number of (physical) contact points to 3200 (from 2942), and ABN AMRO, one of the leading Dutch banks, announced in 2006 that it would expand the visiting hours of its offices to serve its customers better.

In reaction to the notion that the Internet is not replacing all other channels, many government agencies are trying to answer the question of how the Internet should be positioned among the other service channels. According to Accenture (2005, pp. 50-51), this is one of the most important questions to ask at this moment for all governments working on their e-Government plans:

*"Governments will achieve leadership in multichannel service when citizens' interactions with government agencies are fast, efficient and hassle free, and when citizens get consistent service through the combination of channels that makes the most sense to them. Governments need to develop the service delivery channels and operational models that are appropriate to each service and that meet the needs of citizens while remaining efficient and cost-effective."*

Not only do the aforementioned findings show that the Internet on a channel level is not replacing other channels, it has also become clear that citizens use different channels for different purposes (Ebbers *et al.*, 2008; Pieterse & van Dijk, 2006). Thus, a citizen may very well search for information online and then use the telephone to verify this

information. These findings call for a deeper understanding of what makes citizens choose a service channel in a given situation. Proper design and positioning of service channels based on citizens' behavior will most likely result in greater satisfaction and might lower the cost of service delivery. Furthermore, knowledge of citizens' behavior may be used to influence citizens to use the most efficient and cost-effective channels. However, there are few studies available on channel choice. The following subsection provides a short overview.

### 1.2.1 Research on channel choice

Channel choice has been a field of study in various disciplines. In public administration, few studies have focused on channel choice. Most of these studies took place before the arrival of the electronic service channels (e.g. Hirlinger, 1992; Jones *et al.*, 1977; Thomas, 1982; Zuckerman & West, 1985). More recently, a number of studies have examined citizens' channel choices. Reddick (2005b) examined citizen interactions with e-government, but he focused only on the use of the Internet and paid no attention to the traditional channels and to motives for choosing a certain channel. Thomas and Streib (2003) also studied citizen-initiated contacts in the era of e-government. Although their quantitative study focuses primarily on the Internet, they test some hypotheses that are important for channel choice. The relevant findings of their study are that citizens use websites for specific purposes (searching for information), meaning that the type of task at hand may be a determinant of channel choice, as well as the personal characteristics of the website visitor. Website users tend to have higher incomes and to be more educated, younger, and Caucasian, in comparison to non-website users.

Reddick's (2005a) study is the most relevant one in the field of government. He compared differences between citizen-initiated contacts with government using phones and those that used websites. Like Thomas and Streib (2003), Reddick found the task at hand to be an important factor in channel choice: when people have a problem, they actually contact government by phone. For information and transactions, citizens choose the web. Similarly, Reddick also found support for the influence of personal characteristics. Furthermore, Reddick found evidence for the influence of *trust* (the more trust, the more people prefer the telephone) and *having a satisfactory experience* (more important for websites than the telephone) on channel choice. Schellong and Mans surveyed German citizens and found *time*, the *age* of the respondent and the *emotional state* of the respondents to be factors influencing channel preference.

Other disciplines have also studied how and why people choose service channels or communication media. The first of these disciplines is human-computer interaction (especially on the topic of information search behavior). In models of information-seeking behavior (Ellis, 1989; Marchionini, 1995), the selection of an information channel is an important phase, and some studies have focused specifically on the choice process (see for example Choo *et al.*, 2000; Savolainen & Kari, 2004). Most studies in this field have

focused on the relationship between task characteristics and channel (or information source) characteristics.

The second field is that of adoption of technology. Models such as the Technology Acceptance Model (TAM), first introduced by Davis (1986), are specifically designed to model user acceptance of information systems. But TAM has also been used to predict channel choices (see for example Black *et al.*, 2002; Deveraj *et al.*, 2002; Yang *et al.*, 2007), yielding the general result that the two main factors from TAM, *perceived usefulness* and *perceived ease of use*, influence channel choices. However, no evidence is available that relates the TAM factors to citizens' channel choices.

The third field is marketing; in no other field than marketing has channel choice received so much attention, although this is relative. The literature on consumer behavior has addressed the issue of channel choice, but often as a more peripheral topic. Berman (1996) has suggested that different types of goods require different channels of sale. He suggests that perishable goods require short channels (short in terms of time and effort) and non-perishable goods require long channels. Tauber (1972) and Barczak *et al.* (1997), for example, argue for considering the motivation for behavior, and more of those factors exist. Black *et al.* (2002) review a large body of literature covering factors that might influence channel choice, mainly in the field of financial services. Among the factors they discuss are: perceived risk, propensity, convenience, transaction costs, ease of use, preference for dealing with a real person, concerns about safety and risk, complexity, trust and flexibility. Other factors that have been suggested are interactivity, (Alba & Lynch, 1997), the 'fit' between service and channel (Morrison & Roberts, 1998), experiences (Frambach *et al.*, 2007) and costs (Broekhuizen, 2006; Keen *et al.*, 2004; Verhoef *et al.*, 2007). However, in marketing, we lack theories and models that combine different factors and different channels. Furthermore, it is uncertain to what extent lessons learned in marketing can be applied to public sector transactions.

Out of all the fields, communication is the most noteworthy, given the state of the art in theory building. It has been the field in which specific channel choice theories have been developed (such as Media Richness Theory (MRT) (Daft & Lengel, 1984, 1986)). These theories have often been used in other fields of research (see for example Brunelle & Lapierre, 2007; Järveläinen, 2003; Rodriguez Cano *et al.*, 2005) and can therefore be seen as the theoretical foundation of most channel choice research. Hence, we use these communication theories as the theoretical basis for this study. We shall discuss these theories in section 1.3 of this chapter.

### 1.2.2 Practical research goal

Governmental agencies lack knowledge about their citizens' behavior regarding channel choices. This knowledge may be useful for two reasons. First, a deeper understanding of channel choice determinants may help in designing better service channel strategies in

which citizens' behavior is taken into account. This may make the service delivery process more efficient and effective (both in terms of citizens' satisfaction as well as cost-effectiveness (Ebbers et al., 2008)). Second, government agencies expect increased usage of service delivery through digital channels to improve efficiency, overall costs and customer service. Hence, government agencies are trying to entice their citizens into using electronic service channels. However, knowledge about citizens' behavior is a prerequisite for enticing them successfully. Hence, the practical goal of this study is to increase understanding of citizens' behavior regarding channel choice.

### 1.3 Theory and channel choice

Not only are practitioners such as governmental agencies searching for deeper understanding of channel choices, but theorists struggle with the topic as well. There is no theory or model that directly describes public service channel choice processes. Only a few studies exist that examine channel choice in the public sector context, and within this context, no theory has yet been built. This might have to do with the relatively low level of knowledge about channel choice. Scholars in the field have already acknowledged that the available level of knowledge is low. Both Reddick (2005a) and Venkatesh (2006) argue that more (qualitative) research is needed to get a full understanding of channel choice. They specifically call for more qualitative research to gain insight into the behavioral processes, before quantitative testing and modeling are done.

In regard to theory building, most work has been done in the field of communication or media studies. Here, a number of theories have been developed that describe or prescribe media or channel choices. The most well-known theory in this field is the "Media Richness Theory" (MRT) (Daft & Lengel, 1986), which is to some extent derived from "Social Presence Theory" (Short, Williams, & Christie, 1976). MRT states that media differ in 'richness' based on their capacities to provide immediate feedback, language variety, personalization, and multiple channels or cues. According to the theory, face-to-face contact is the richest, followed by the telephone, e-mail, and websites. The theory states further that different tasks require different media in order for communication to be most effective. Equivocal tasks require rich media, whereas uncertain tasks require lean or poor media. Originally, this theory was meant to describe media usage within organizations; however, the theory has received a lot of attention as a choice theory (see for example Trevino, Webster and Stein, 2000; El-Shinnawy and Markus, 1997). Media Richness Theory (MRT) has found mixed empirical support. Dennis and Kinney (1998, see also Rice, 1992) argue that this might be because MRT is not a choice theory, but a use theory. The main difference between choice and use theories is that use theories generally make statements about the performance (or outcome) of the communication process. Choice theories are occupied with prescribing which channels to use in a given situation, so use theories become relevant *after* the choice has happened and therefore complement choice theories.



Besides being a use rather than a choice theory, there are two other major points of critique of MRT. The first is that research findings fail to support MRT with respect to new media, such as email (see for example Markus, 1994). According to Daft and Lengel's qualification, e-mail is a 'poor' medium, not being able to do equivocal tasks, a kind of task that requires 'rich' media. Nevertheless, e-mail is successfully being used for tasks requiring rich media (Dennis & Kinney, 1998; El-Shinnawy & Markus, 1998). The second point of critique is that MRT is often found to be too simplistic, and moreover too "rationalistic" (Webster & Trevino, 1995). MRT assumes that people can choose the medium that fits the task that they have to perform. With simple, generic tasks (such as passing data), people choose a poor medium; with ambiguous tasks (like problem solving), people choose a rich medium. Actually, it has been argued that people do not think and act so rationally when they think about what medium to choose to fit the task (Fulk *et al.*, 1990). Apparently other factors besides just the characteristics of the medium and the nature of the task determine the choice of a medium.

Fulk *et al.* (1990) present the Social Influence Model, a model based on the assumption that the choice and use of media are a subjective process, based not on the objective characteristics of task and media, but on perceptions of task and media characteristics. These perceptions are largely socially determined, so a person's social environment mainly influences his or her media use. Choice processes are not always (individually) rational but occur in a historical and social context. Evidence for the Social Influence Model is delivered by Markus, who found that senior managers pressure lower level managers to reply quickly to emails, thus suggesting that use of media is socially constructed rather than based on the features of the media and the task. Schmitz and Fulk (1991), Fulk (1993) and Carlson and Zmud (1999) also found positive relationships between social influence and perceived media richness. Non-supportive evidence also exists (Rice, 1993; Rice & Aydin, 1991).

Carlson and Zmud (1994) propose the Channel Expansion Theory as a means to improve MRT. They state that when experience with a medium increases, its richness increases as well. For example, when I am a novice in using a communication mechanism, I may have little knowledge about its functionality and capabilities. As my experience increases, I may discover more functionality, and hence, the richness of the medium increases. This is what they call the 'channel expansion effect'. The Channel Expansion Theory (CET) is a logical theory that follows from both MRT and the Social Influence Model. The creators of both theories always argued that their approaches are complementary rather than opposing views. CET incorporates both theoretical approaches in one model so that one of the main criticisms of MRT, that richness is a social and mental variable rather than a fixed property, is addressed. However, CET is not specifically designed as a choice theory: it focuses on perceptions concerning a given channel, not the channel selection process (Trevino *et al.*, 2000).

Channel Expansion Theory has received little empirical attention so far. Carlson and Zmud

(1999) tested the Channel Expansion Hypothesis and found general support. Their research, consisting of two studies among personnel and students at a university, yielded support considering experience with the organizational context and experience with the communication co-participants. Support for the two other types of experience (channel and message topic) was only marginal. Their study only involved e-mail as a communication channel. Despite the fact that the Channel Expansion Theory has not been tested for other media, it is a promising direction for future research offering a supplementary view of the other known perspectives.

Although these (inter)subjective models, such as the Social Influence Model and channel expansion theory, take a different perspective than MRT, the original theorists have always argued that factors from each of the different perspectives need to be included in order to understand channel choice or usage fully. For example, Daft and Lengel (1986, p. 559) argued that "*managers work under conditions of bounded rationality and time constraints*".

There has been some research that tries to combine elements from both theoretical perspectives. Among this research are studies that extend Media Richness Theory with, for example, symbolic and situational influences (Trevino *et al.*, 1990) and social influences (Fulk, 1993; Rice, 1993). However, although the original theorists have been rather integrative in their approach, researchers using the theories have been polarized. Both theory and practice show us that both rationalistic and (inter)subjective perspectives on media use stand far away from each other, leaving us very few empirical data as well as models about their combination. Webster, Trevino and Klein (2000) argue that future work should incorporate both perspectives, as well as the contingencies under which rational or (inter)subjective factors may be more important. Others have tried to create their own integrated models. Bozeman (1993), for example, proposed the Limited Rationality Media Selection Model (LRMSM), which combines objective and subjective characteristics of media. He also pointed to the idea that media choices may be rational on the one hand and irrational (or rationally ignorant as Bozeman calls it) on the other hand. Although Bozeman's idea is interesting, no empirical evidence for his model exists so far.

### 1.3.1 Theoretical research goal

We think it is fair to conclude that there is no suitable theory at hand that helps us to explain service channel choice processes. Attempts to integrate objective and (inter)subjective theories of channel choice have been unsuccessful so far. Moreover, existing theories do not clearly focus on either channel choice or channel use. Therefore, the (theoretical) problem underlying this research proposal is that there is no appropriate model or theory to explain individual public service channel choice processes. The main (theoretical) goal of this study is to increase understanding of channel choice determinants by further developing a channel choice model that integrates objective and social theories.

## 1.4 Service Channels

Normally, citizens can interact with governments in multiple ways. There are three general types of service encounters: remote encounters, phone encounters, and face-to-face encounters (Dialogic, 2004). Depending on the type of service, a citizen can use the telephone, go to a counter to get forms, or download these forms from a website. Though various means of interaction exist, generally four different types of service channels are distinguished from each other:

- Personal (e.g., counter)
- Electronic (e.g., the World Wide Web or e-mail)
- Printed or written (e.g., letters and faxes)
- Telephone

These service channels differ in their characteristics, for example, the central means of interaction. Personal service delivery mainly relies on face-to-face communication, the telephone on telephonic interaction and written services on print media. However, electronic services use multiple media: websites and e-mail mainly use text, similarly to those in print media, while web-conferencing, for example, uses both audio and video and is therefore similar to videoconferencing.

Although these four channels are the most commonly used in service interaction, the printed or written channel seems to be used less and less. Research from the Netherlands (Dialogic, 2001, 2004) shows a decline in the use of the written channel from 31% (2001) to 13% (2004). Declining patterns are also observable in other countries, such as Switzerland (Berner Fachhochschule & Unisys, 2005). Although use of this channel is decreasing, it is not expected to disappear. According to Noble, Griffith and Weinberger (2005), catalogs do have some value in a retail context, especially for information attainment and price comparison. However, the rapid decline in the use of the written channel by citizens has led to some to exclude the written channel from their multi-channel models (Ebbers et al., 2008).

### 1.4.1 The nature of contacts

Although ICT has led to new service channels (e-mail, the World Wide Web), it has also changed the nature of contacts via implementations in the back office. Kellog and Chase (1995) describe five conceptual archetypes of customer contact in relation to technology, as displayed in Figure 1.1. The first type of contact is a technology-free contact, as we often see in face-to-face contact. The second type is technology-assisted customer contact, whereby the service representative or civil servant uses technology. An example is a front desk where the civil servant has access to a desktop computer to give the citizen information. The third interaction type is the technology-facilitated customer contact: for example, a citizen and a civil servant who both browse the Internet, whereby the civil servant helps the citizen find the information that the he or she needs by the telephone.

An example of the fourth type, technology-mediated contact, is e-mail. The World Wide Web is a striking example from the last type of interaction: technology-generated contact. In this type, no human contact whatsoever is involved in the service delivery process.

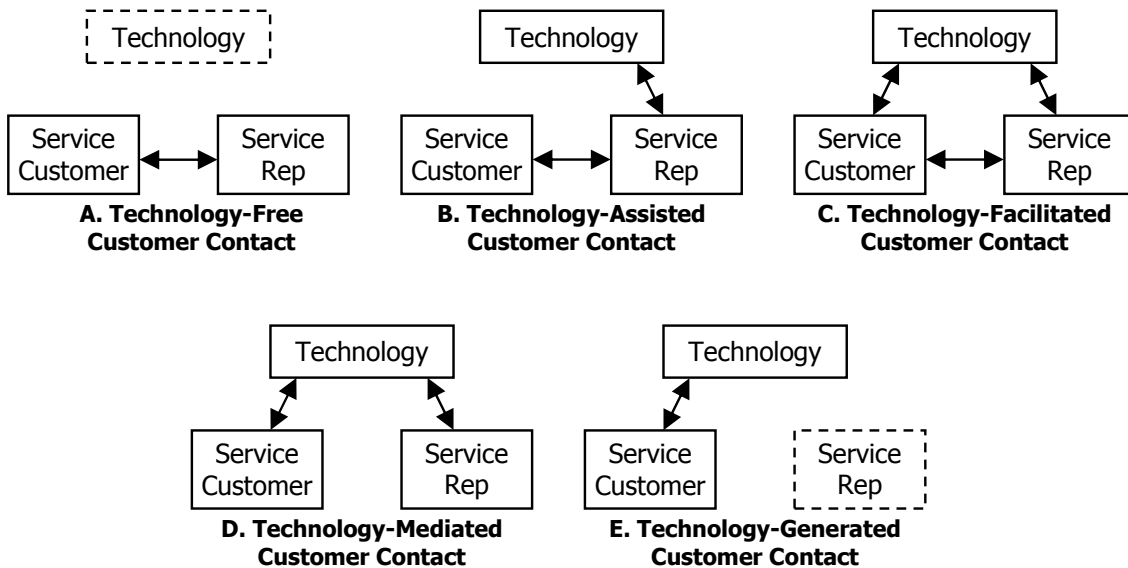


Figure 1.1: Archetypes of customer contact

What the conceptual archetypes of Kellogg and Chase mainly make clear is that ICTs have affected the entire environment of public service delivery, both front and back offices. So, although citizens still commonly use the telephone, the design of the telephone channel has changed tremendously, IVR menus are now common in most organizations and call center agents have various technological aids at their disposal to help citizens. In the same vein, service delivery via the front desk has also changed through ICTs: for example, civil servants have computers, databases and other IT driven tools at their disposal to aid clients.

#### 1.4.2 Channel vs. Medium

The terms 'channel' and 'medium' are often used interchangeably. For example, Carlson and Zmud's Channel Expansion Theory uses the term 'channel' (Carlson & Zmud, 1994), whereas Media Richness Theory (Daft & Lengel, 1986) relies on the term 'medium', but both theories assign the same meaning to the concept. The exact meaning of the two terms is unclear. Some people, like Shannon and Weaver (1949), see the medium as the carrier of information; others see the channel as the means of carrying a signal and see the medium as being broader, to be an intermediate agency (O'Sullivan *et al.*, 1994), whereas others see medium and channel as equivalent (Trevino *et al.*, 2000).

Shannon and Weaver (1949) were among the first to use the word 'channel' in a communication context, along with Laswell (1948). They invented a technology model to describe information flow from a source via an encoder, channel and decoder to a receiver.

This model has become one of the standard models to describe information flows in linear communication processes. The communication model is shown below.

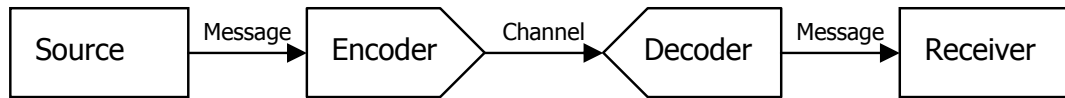


Figure 1.2: Shannon and Weaver's model of communication

Analogously to the model of Shannon and Weaver, Berlo (1960) developed the "S-M-C-R" model, which describes the information flow (message) from a sender via a channel to a receiver. He viewed the channel as the pipeline through which the information is pushed. This is a very narrow interpretation of the term "channel". Broader interpretations also exist. Heath and Bryant (2000, p. 79) argue that channels 'are typically defined as any means by which a message is sent by a source or obtained by a receiver'. In this sense, channels are often associated with technologies such as print, radio, television, film, faxes, pagers, or the Internet (Heath & Bryant, 2000). This definition encourages viewing the communication process as one by which people choose channels depending on the nature of the message that they want to send. A further broadening of the concept of "channel" is that of the channel as related to the key elements of human reception. For example, people send and receive messages through their senses (such as receiving a message through hearing). Berlo (1960) argued that if we see channels this way, then every way in which people experience reality becomes a communication channel. Other classifications of media are whether the media are so-called push media, where the senders communicate content actively towards the receivers, or pull media, where the receivers have to find the information themselves (Kollock & Smith, 1999); whether the medium is fast or slow (in terms of time between an event has occurred and the communication of this event) (Windahl *et al.*, 1999) and finally, the old-fashioned but famous distinction between hot (with great influence) and cold (with less influence) media (McLuhan, 1964). McLuhan has even taken the meaning of "channel" even more broadly by claiming that the message can be equal to the channel itself: "The Medium is the Message." In essence, this claim means that the channel that is used adds meaning to the contact itself. Breaking up a relationship face-to-face is quite different than breaking up the relationship via e-mail.

In this dissertation, we take a rather broad perspective on the word "channel" by sticking to the typical interpretation that the channel is the means by which a message is sent by a source or obtained by a receiver. In this perspective, the medium is treated as an equal of the word "channel". Furthermore, since the word "channel" is the more common one within the service delivery context, it is the preferred term in this dissertation.

## 1.5 Services

The term 'service' is a term that can be found in many instances, thereby having different meanings. For example, we know that the 'service sector', has 'service firms' selling

services. On the other hand, being at a firm that is not part of the 'service sector' (such as a factory); I may get 'service' when I buy products. Although most firms today are labeled as "service-firms" (Kotler, 2000), the remainder are not service firms but focus on, for example, production. Yet almost all of these firms try to increase their value with customers by offering services, thus being service providers. The same holds for governments: 'public services' is a term regularly used for services governments delivers. So what is a service?

The term "service" has many definitions, some of which are as follows:

- Any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product (Kotler, 2000).
- A change in condition or state of an economic entity (or thing) caused by another (Hill, 1977).
- Deed, act, or performance (Berry, 1980).
- Characterized by its nature (type of action and recipient), relationship with customer (type of delivery and relationship), decisions (customization and judgment), economics (demand and capacity), mode of delivery (customer location and nature of physical or virtual space) (Lovelock, 1983).
- The business transactions that take place between a donor (service provider) and receiver (customer) in order to produce an outcome that satisfies the customer (Ramaswamy, 1996).
- Deeds, processes, performances (Zeithaml & Bitner, 1996).
- An activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees or systems of the service provider, which are provided as solutions to customer problems (Grönroos, 2000).
- A time-perishable, intangible experience performed for a customer acting in the role of co-producer (Fitzsimmons & Fitzsimmons, 2001).

Yong (2000) reviewed numerous definitions of "service" and pointed out that three features of service are noteworthy in order to better understand the concept. First, service is a performance. It happens through the interaction between consumers and service providers. Second, other factors such as physical resources or environments play an important role in the process of service production and consumption. Third, and finally, consumers need service to provide certain functions such as problem-solving. The three features together lead to the conclusion that "a service, combined with goods products, is experienced and evaluated by customers who have particular goals and motivations for consumers for consuming the service" (Yong, p.43).

Although definitions vary, most of them do share some common characteristics, mainly aimed at separating services from 'goods'. The reason why a service needs to be seen as

different from a good lies in the existence of a number of characteristics of services that are consistently cited in the literature (Parasuraman *et al.*, 1985b; Parasuraman *et al.*, 1988): intangibility, inseparability of production and consumption, heterogeneity (also labeled 'variability' (Kotler, 2000)), and perishability.

Other classifications are based on typologies. Aichholzer (2001), for example, distinguishes between three types of electronic services (the same distinction also applies to non-electronic services): information, communication and transaction services. The goal of information services is simply to supply information. This goes for not only information on a website but also for forms that can be downloaded. Communication services are services that require interaction between two parties: in this case, citizens and civil servants. Examples are a citizen who asks a question by telephone or who tries to launch a conversation by e-mail. Finally, transaction services are about transactions between governments and citizens: for example, a citizen getting a driver's license or a passport. To the three, Van Dijk and Van Deursen (2006) also add registration services, which they describe as a type of service in which a government institution asks an individual for certain information. The main aspect is that citizens provide information for the benefit of the government. These services are slightly more complex than information services because they require a citizen to interpret the question from the government. With information services, citizens just get information (allocution) or answers to questions that they formulated themselves (consultation). With registration services, they have to interpret the question correctly and provide the correct answer.

Another classification is that of Bitner, Brown and Meuter (2000), who describe three forms of services that exist in marketing contexts. The first type is customer service, such as responding to customer inquiries or taking orders. The second type is 'free value added services', which can accompany, support and enhance the utility of a good. The third type is the service as the product that is being offered for sale. Finally, Scheepers and Kommers (1994) distinguish between services as 'information provision' and services as 'products and concrete goods'. Others have tried not to classify services, but to find dimensions to measure service quality. The most well-known of these is SERVQUAL (Parasuraman *et al.*, 1988) and the related Gap-Analysis model (Parasuraman *et al.*, 1985a); another well-known model of service quality is the distinction between technical and functional quality of Grönroos (1984). Peterson (1986), finally, argues that two types of citizen contact with governmental agencies exist: "inputs" and "outtakes". Input behavior represents an individual's effort to get some government agency to respond to a particular problem. In this type of behavior, the citizen takes the initiative and is an active participant. The second type consists of citizens of clients of programs or recipients of services. In this type, the citizen is passive and dependent on the service provider. Although the two types are theoretically distinct, in practice, they may overlap.

Laing (2003) discusses the use of the service concept in the public sector and concludes that public services are not homogeneous; they are diverse and different from the private sector. He proposes a model to categorize public services based on the balance between private and societal benefit and the balance between consumer and professional judgment. Although this is a sensible distinction, it is not suitable for the purposes of this dissertation since private benefit is always the focal point of the citizens' channel choice. Furthermore, all the definitions and classifications point to different aspects of services and service types, and none of the definitions are specifically formulated for the public sector. Moreover, none of the existing classifications is fully applicable to the public sector. What is a transaction in the public sector? What is a value-added-service in the public sector context? The public sector does not sell goods, as the private sector does. Moreover, it is very unlikely that citizens feel as though they are the recipients of a "service" when taxes are collected or when they are paying a traffic fine. In short, existing classifications seem unsuited for the purposes of this dissertation. Ebbers, Pieterse and Noordman (2008) suggest stepping away from the word 'service', given its ambiguity within citizen-government interactions, and suggest using the term "channel mode" instead. Next, we will discuss these modes briefly.

### 1.5.1 Channel modes

In some situations, governments take the initiative for the interaction: for example, in an advertising campaign to encourage citizens to pay their taxes. In other instances, citizens take the initiative, for example, when they encounter a problem in relation to their tax duties. The difference in who takes the initiative is an important variable in who controls the interaction. A second important factor in channel interactions is whether or not the interaction is one- or two-sided. The World Wide Web, for example, is a medium that does not give an answer: people have to find the answer themselves, and therefore, an interaction via a website is one sided, whereas going to a front desk results in a reply from an employee of the government agency.

Ebbers *et al.* (2008) distinguish between four modes of channel interaction with an informational nature. These are loosely based on the scheme of information flow patterns of Bordewijk and Van Kaam (1982), who designed a matrix containing four modes of information flow based on the source of the information (organization or user) and the power of the interaction. Ebbers *et al.* use the same terms to describe interaction modes, but their classification differs fundamentally. The two axes on which we classify interaction modes are the *initiation* of the interaction (both organizations and users can be the initiator of an interaction) and the *interactivity* of the interaction (interactions can be one-sided, where an organization or user transfers information, or two-sided, where actual interactions (questions-responses) take place). Table 1.1 displays these four modes of interaction.



Initiator	Organization User	Interactivity	
		Single-sided	Two-sided
		Allocation	Registration
		Consultation	Conversation

Table 1.1: Modes of information flow (Ebbers et al., 2008).

In *Allocation*, an organization sends information to the citizens. An example of this form of interaction is a TV commercial. This form of communication is usually associated with push media. The second form is *Registration*, in which a citizen sends information to the organization. An example of this mode is returning a filled-out tax form: this form contains user information that is required and registered by the organization; because a user sends information on request, this mode is two-sided. We call these modes 'government initiated'. The third mode is *Consultation*: in this mode, a user connects to an information source of the organization to find the required data. Although the organization supplies the information, the users have to select and transfer the necessary information themselves, so no actual interaction takes place. The final mode is *Conversation*: in this mode, a user requests information, and the organization provides the requested information, tailored to the user's needs. An example of conversation is when citizens phone their municipalities with questions and get responses to their questions.

The four modes described above have an informational nature, but not all interactions that citizens have with governmental organizations are information exchanges: parties exchange money as well. For example, when my taxes are filed, I may have to pay or receive money. Another example is a citizen requesting a new passport. The passport itself has an informational nature: it is nothing more than personal information tagged to an information carrier, but in order to receive the passport, the citizen has to pay a fee. These types of interactions, exchanges where financial matters play a part, we call *transactions*.

So, in sum, five channel modes exist in which interactions take place: four of them have an informational nature, and one has a financial nature. The five channel modes are: *Conversation*, *Consultation*, *Allocation*, *Registration* and *Transaction*. Figure 1.3 shows the five channel modes combined with the three most important channel types.

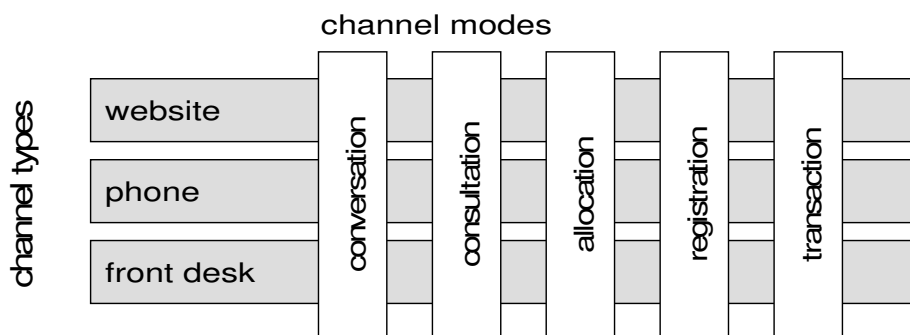


Figure 1.3: Channel types and Channel modes combined (Ebbers et al., 2008)

We limit the scope of this study in several ways. First, we limit ourselves to interactions with an informational nature. This means that we exclude transactions from our research. Next, we limit ourselves to the channel modes whereby the citizen takes the initiative in the interaction; hence, we only focus on conversation and consultation. Furthermore, we limit ourselves to citizen-government interactions. This implies that we exclude such interactions as business-government interactions and government-government interactions from the study.

## 1.6 Channel Behavior

What is channel choice, and how does it relate to channel use? Building on the work of media theorists, we can decompose the general concept of channel behavior in a number of steps. Trevino, Webster and Stein (2000) define the concept of 'Media behavior' as the product of general use and specific choice. Here, general use refers to an individual's broad pattern of medium use over time. Trevino, Webster and Stein (2000) further define choice as follows:

*"Choice is an individual's specific decision to use a medium in a particular communication incident."*

Use and choice can also be seen as 'using the communication medium for a certain task (use)' and 'the picking of a medium' (choice). We want to extend this interpretation with an extra step of 'channel evaluation' in which the citizen evaluates his or her channel choice. The experience acquired influences both channel perceptions (as argued by Channel Expansion Theorists (Carlson & Zmud, 1994, 1999)) and future channel choices (Pieterse & Van Dijk, 2007). Figure 1.4 shows a very simple model of channel behavior. Although it shows the common steps of the process, it is a simplified version of reality. Channel behavior in real life is far more complex, because, for example, citizens can use multiple channels simultaneously. Furthermore, information seeking usually consists of more stages. Chapter 3 will further elaborate on this.

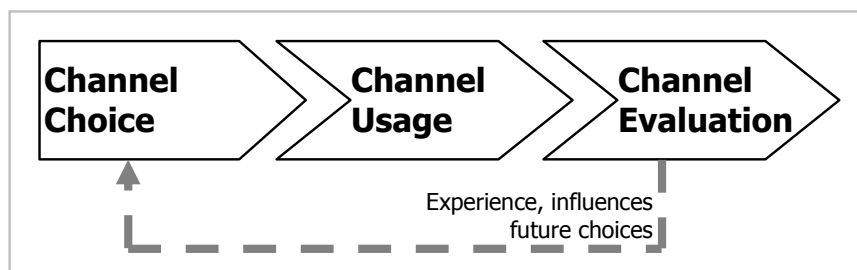


Figure 1.4: The basic model of channel behavior

Currently, there are no specific media choice theories. Well-known theories such as Media Richness Theory that are discussed in Chapters 4 and 5 are originally 'use' theories that

were formulated to explain and describe media choices in retrospect. However, over the years, these theories received the label of 'choice' theories (Pieterse, 2008b). Hence, we use the term 'choice' theories to refer to the media theories discussed in the theoretical chapters of this dissertation.

## 1.7 Research Questions

The main aim of this dissertation is to provide insights into channel choice processes. This aim can be subdivided into two research goals. The first goal of the study is to increase theoretical insight into channel choice in order to further develop the integrative theory of media choice (Webster, Trevino & Stein, 2000). The second main goal of this work is to provide government agencies with knowledge about citizens' behavior that may help them provide services. A deeper understanding of the forces shaping citizens' behavior may help in designing channel management strategies as well as influencing citizens' behavior. However, in this study, we do not attempt to draw a full picture of the channel choice determinants for citizens. The lack of insight in general about citizens' behavior excludes such ambitions at present. This study answers calls from Reddick (2005b) as well as Venkatesh (2006) for a better understanding of channel choice by exploring the determinants of channel choice processes. From the two goals of this study, we derive the following research questions<sup>1</sup>:

Research Question 1:

*What is the current state of the art in research regarding citizens' channel behavior? (Chapter 3)*

Research Question 2:

*What are the most important insights on channel choice that we can draw from existing theories? (Chapter 4, 5 and 6)*

Research Question 3:

*Which factors determine the channel choice of Dutch citizens in current online government service provision? (Chapter 7)*

Research Question 4:

*How can the theoretical and empirical (qualitative) insights be modeled in a preliminary framework on channel choice? (Chapter 8)*

Research Question 5:

*Which channel choice determinants from the preliminary model are most important in channel choice decisions, and how do these factors relate to each other? (Chapter 9)*

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<sup>1</sup> Between parentheses the chapter in which the Research Question will be answered.

The main purpose of these research questions is to structure and guide the exploratory process on our way to a channel choice theory reported in this dissertation. For each of the empirical studies (in Chapters 7, 8 and 9), we formulate specific (empirical) research questions and hypotheses.

### 1.7.1 Scope of the study

The scope of this study is limited to citizens' channel choices. This has a number of consequences. First, the study does not address the issue of channel choice by organizations. Organizations decide what channels to offer, so organizations also have "channel choices" to make. In this study, we pay no attention to the behavioral motives behind those choices. However, the implications of citizens' behavior for organizational channel strategies are discussed throughout the dissertation.

Second, this dissertation is limited to citizens' channel choices. This has some implications: there is no ambition to generalize the findings to either the private sector or the organizational communication setting. Although citizens' channel choices may bear some similarity to a consumer choosing a channel from a business, there are some differences between the public and private sectors that hinder full comparison between the two (see Chapter 2). Furthermore, although most of the (communication) theories discussed in this dissertation (see Chapters 4 and 5) stem from the organizational communication context (in which intra-organizational, such as manager-employee communication, is being studied), this study does not aim to improve organizational theory or to prescribe organization members' communication behavior. It is, however, possible that some of the insights of this study apply to both commercial and organizational communication settings. This remains for future work.

Third, and finally, this study is limited to service channels for information of communication purposes that are initiated by citizens (consultation and conversation). Information need is the key concept here, so citizen-government interactions that deal with transactions, financial matters or even the exchange of physical products do not get attention in this study because non-informational interactions have different (interaction) requirements. Including them would make the study too complex. As mentioned above, business-government interactions and government-interactions are also excluded from the study.

It should be noted that in this study, we do not try to build *the* definitive model on channel choice. The study is aimed at theory-building. The current level of knowledge about (citizens') channel choice determinants and their interrelations is so low that it would go beyond ambition to build and test the definitive channel choice model. The theory laid out in the final chapters of this dissertation needs to serve as the foundation of a model that needs further testing and replication in order to become generalizable.

## 1.8 Contents of the Dissertation

This dissertation is divided into four parts. Part 1 explores the context of this study: public sector service provision. Chapter 2 gives an overview of the most important developments and issues in governmental service provision, such as public management principles, the rise of ICT and differences between the public and private sector. In Chapter 3, we discuss the conceptual process of channel behavior in more detail. Furthermore, we will discuss in more detail the state of the art in channel choice research. The first part of the dissertation therefore serves as a description of the background of the research questions and the practical problem.

Part 2 deals with theoretical issues. In Chapter 4, we will discuss the rational or objective stream of theories, such as Media Richness Theory. Chapter 5 will contain a discussion of the social or (inter)subjective theories, such as the Social Influence Model and Channel Expansion Theory. Whereas Chapters 4 and 5 focus on (media) choice theories rooted in communication science, Chapter 6 focuses on choice and decision making in general. In this chapter, we will discuss general decision-making theories. Based on the various lines of thought in choice literature on channel choice, we will discuss the complementarity of the objective and (inter)subjective media choice theories.

Part 3 is the empirical part of the dissertation. Chapter 7 will present a study that explores the main determinants of channel choices by citizens in the Netherlands. Chapter 8 will present a new theory on channel choice that integrates objective and (inter)subjective factors. Based on previous research and theory and the exploratory study, we will discuss the main elements of a channel choice framework. Furthermore, we present the results of two quantitative studies that aim to test some of the basic relationships in our framework. Chapter 9 describes the quantitative study that we performed in order to test the hypotheses derived from the framework. This study has two parts: the first is a study about citizens' perceptions towards channel choice determinants. We used this study to test hypotheses and to construct and validate a Structural Equation Model using MPlus. The second study is a vignette study. The main benefit of vignette studies is that, in their quasi-experimental setting, they can capture more natural "real-life" decision making than in survey studies. In the scenarios designed, we manipulated a number of channel choice variables in order to test their relative influence and their interrelations.

The final part, Part 4, consists of the concluding chapter of this dissertation. Chapter 10 discusses the results and implications of the study. Herein, we will first summarize the previous chapters. Furthermore, we will discuss the theoretical value of the dissertation. Next, we will elaborate on the practical implications of the study in this chapter, including the implications for the design and management of service channels in the public sector, as well as the possibilities to influence citizens' behavior. Finally, we will make some

## CHAPTER 1

suggestions for future research in this field, both in order to further test the propositions laid out in our own theory and to gain more insight on how to use this study for channel management in influencing strategies.

PART 1:  
PUBLIC SECTOR SERVICE DELIVERY







“I am not an adventurer by choice but by fate.”  
(Vincent van Gogh)

## 2 Public sector service provision<sup>2</sup>

### 2.1 Introduction

Governmental agencies are dynamic and so are policies and visions towards service channels. To gain insight in citizens' channel choices, we first need insights in the service channel strategies of governmental agencies. Many developments explain why certain channels are offered to citizens and therefore these developments, albeit indirect, influence citizens' channel choices. Further, an analysis of historical developments can help us in our predictions for the future and the prospective applicability of the empirical part of this thesis. Therefore, this contextual chapter provides an analysis of governmental service provisioning.

Two important developments have altered the service channel landscape fundamentally in the past decades. The first development is the change in governmental agencies themselves: the shift from bureaucracy to customer centeredness. Nowadays, governmental agencies pay loads of attention to public services and the improvement of the services (Bekkers *et al.*, 2005). However, this is no common situation. Before thinking about services became popular, governmental agencies were merely occupied with the implementation of policies and maintenance of the law (Bekkers *et al.*, 2005). Where governmental agencies until the 1970's could be characterized as Weberian bureaucracies, influences such as Managerialism and New Public Management caused governmental agencies to start thinking about services and paying attention to the demand of citizens. For a long time, governmental agencies thought in terms of supply, rather than demand (van Dijk & van Deursen, 2006). Change in management approach caused organizations to think more in terms of the needs of their citizens, rather than merely the supply of services. This development caused governmental agencies to develop specific (multi)channel strategies and determine largely how services and channels are perceived by the public sector.

A second development is the impact of ICT in governmental agencies. ICT did not only impact organizational aspects of the public sector, such as new ways of information handling and new work tools that affected how service provision is organized, but, more important, ICT has given us new service channels, such as the World Wide Web, e-mail

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<sup>2</sup> Parts of this chapter have been previously published in: Pieterse & Van Dijk (2006), Ebbers, Pieterse & Noordman (2008) and Pieterse *et al.* (2007b)

and more recently chat and sms. The arrival of these new channels has led to more thought about the different characteristics of service channels and the ways in which channels are positioned in an ideal service channel mix.

### 2.1.1 Overview of this chapter

Main purpose of this chapter is to give an overview of the developments of public service delivery, these developments largely explain the current status quo in public service delivery and therefore this chapter serves as a background for the actual study. This chapter starts with an analysis of the changes in the public sector that led to more service orientation (§2.2). Second, the rise of ICT and its impact on the service channel landscape are examined (§2.3). Next, the impacts of these developments on the service channel strategies will be elaborated upon (§2.4). The chapter ends with a number of concluding remarks (§2.5).

## 2.2 Public Services; historical overview

Usually, governmental organizations are seen as “bureaucratic” organizations. This Weberian type of organization focuses on such aspects as departmentalization, specialization, standardization and routinization of the production process (Simon, 1976). Consequence of this focus is that “cost-efficiency” is a central goal of bureaucratic governmental organizations (Tat-Kei Ho, 2002). Further, this bureaucratic orientation allows for a reduction in the changes for error, fraud, negligence, opportunistic behaviors by citizens and most importantly; it guarantees the equal treatment of citizens (Tat-Kei Ho, 2002; Williamson, 1975). Furthermore, governments believed that society would function best through decision made by qualified politicians and civil servants (Bekkers et al., 2005). The primary focus on internal processes and procedures leads to a low service orientation in the public sector until the 1970’s. As a consequence, within the public sector, there was little attention for the relationship with its environment; why ask citizens about their needs if you are able to assess those needs yourself?

This perception changed slightly in the 1970’s, when the traditional Weberian bureaucracy became increasingly criticized. Main points of critique on the Weberian bureaucracy are that it is a rigid organization type characterized by proceduralism and the incapability to treat customers as humans who have preferences and feelings (Bozeman, 2000). Further, during the 1970’s the realization emerged that the quality of the policymaking process influences the final policy effects (Bekkers et al., 2005) and citizens’ input in this process may very well help in improving this process and the final effects after implementation. At the same time, external influences also put pressures on governmental agencies, there were economic and fiscal pressures, due to budget deficits and citizens and businesses increasingly demanded good services, resulting from service delivery developments in the private sector. Albeda and Van Bijlert (2001) argue that in total three external reasons for the increasing attention for the customer orientation in the public sector exist:

- Changed expectations; citizens expect results. Citizens increasingly compare governments with businesses and demand the same treatment in public sector service interactions than in business interactions.
- Changed environments that demands new forms of steering. Trends of individualization of citizens, privatization of governmental functions and deterritorialization (see for an explanation of these trends Albeda & van Bijlert, 2001) have caused governments to be just a partner in a network of players. This has increased the needs for governments to streamline their organizations and to find new ways to steer and orient them externally.
- Changed offerings through information and communication technology. In back-offices, ICT has helped the process of rationalization (or *bureaucratization*) of governmental agencies and in the front-office, new channels have emerged (such as the WWW and e-mail) that offered new choice options for citizens.

Since the 1970's various, more or less original, public management doctrines have emerged that challenged the traditional Weberian perspective on public administration. Managerialism, for example, emerged during the Reagan administration in the United States. A key trademark of Managerialism is a dominant emphasis on financial and managerial performance ahead of any other indicator of public sector performance. It further stresses the belief in generic private sector solutions to public sector problems (Feldheim, 2001). Another doctrine that argued *against* private sector principles is known as the paradigm of "progressive public administration". This paradigm argued "to keep the public sector sharply distinct from the private sector in terms of continuity, ethos, methods of doing business, organizational design, people, rewards and career structure (Hood, 1995, pp. 93-94). Nevertheless, the most influential of the developments was the New Public Management (NPM) that builds upon the ideas of Managerialism. It has impacted the functioning of the public sector in general in most Western countries and most notably the service orientation in the public sector. Even today, many policy programs are rooted in the NPM principles. The influence of NPM on government's channel perceptions and channel strategies are therefore noteworthy.

### 2.2.1 New Public Management

In the 1980's, the term *New Public Management* was introduced (Osborne & Gaebler, 1992). The focus of this public sector management approach was the relationship between governments and their citizens. Citizens were no longer seen as subjects of the state, but had to be treated as clients (Hood & Peters, 2004). In new Public Management, the emphasis of the way governments influence their citizens shifted from reinforcement of the law towards service provision. A more service oriented approach would not only improve the relationship between citizens and governments, but should also lead to higher levels of compliance to the law. The impact of New Public Management was great and the concept spread around the Western world during the course of the 1980's and 1990's. In the second half of the 1990's, most Western countries followed a strategy to improve their

public services based on the ideas of New Public Management (Duivenboden & Lips, 2001).

New Public Management primarily aims at reducing the size of government, to reduce its costs, and improve its performance (Kettl, 2000). Concerning general performance and public service delivery, Osborne and Gaebler (1992) formulated a single most important principle, which is to incorporate the vision of the citizen as a customer. This is the vision of *Customer-Driven Government*. This vision postulates that citizens should be seen as customers and should be treated likewise. Governments should reach the goal of 'Meeting the Needs of the Customer, Not the Bureaucracy' (Osborne & Gaebler, 1992, 166-167).

Basically, this means that the government should better serve its citizens (Hood & Peters, 2004). Keywords are transparency and customer friendliness. But, governmental agencies should also work more (cost) efficient, earning more and spending less, as Osborne and Gaebler (1992, 203-206) call it. These are not the only principles NPM, to run governments as businesses; governmental agencies should comply with ten principles, according to Osborne and Gaebler:

1. Catalytic Government. This means that the government should steer in stead of row.
2. Community-owned Government. Governments should empower citizens rather than serve them.
3. Competitive Government. The government should create competition within service delivery.
4. Mission-driven Government. Governments should work according to a mission in stead of (bureaucratic) rules.
5. Results-oriented Government. Funding of governmental agencies should be based on outcomes, not inputs.
6. Customer-driven Government. Basically, governments should work according to the needs of the customer, in stead of the bureaucracy.
7. Enterprising Government. Governmental agencies should be encouraged to earn money, rather than just spending it.
8. Anticipatory Government. The government should prevent problems in stead of just 'repairing' problems.
9. Decentralized Government. Governmental organizations should be flattened and be made less hierarchical. Employees should get more responsibilities.
10. Market-oriented Government. Changes in service provision should be leveraged via the market rather than via bureaucratic mechanisms.

The United States' government was among the first to adopt the ideas of the NPM (in the US, often labeled as "Reinventing Government"). Under the slogan "Creating a Government That Works Better and Costs Less" (National Performance Review, 1993), vice president Gore from the Clinton administration formed the National Performance Review

(NPR) that copied NPM principles such as customer service, empowerment of employees, reinvention labs, downsizing and cutting red tape (Ingraham & Moynihan, 2001). The first point "customer service" was perhaps the most important external ambition of the NPR, although internal considerations also played a role:

*"Our goal is to make the entire federal government both less expensive and more efficient, and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment. We intend to redesign, to reinvent, to reinvigorate the entire national government"* (National Performance Review, 1993, p. 1).

Other countries were swift to follow the adoption of the NPM ideas; in the second half of the 1990's, most western countries followed a national strategy to improve governmental performance, based upon New Public Management, often involving ICT (see also §2.3.3) (van Duivenboden & Lips, 2002). Although NPM can be seen as just another 'new' management philosophy, such as Managerialism, the main difference is that "the New Public Management has become a normative model, one signaling a profound shift in how we think about public administrators" (Denhardt & Denhardt, 2000, p. 550).

One of the consequences of the New Public Management is that it strongly emphasizes the needs of the citizen. But to be able to satisfy the need of the citizen, one has to know what the citizen wants. Fountain (2001) argues that governmental agencies too often assume what the needs of the citizen are, she points out that "assumptions regarding citizens preferences in the National Performance Review, like those of the New Public Management, tend to be those of rational choice theory. They assume that preferences are clear, stable and exogenous to the behavior of political institutions" (p. 66). In reality, it is rather difficult to assess the preferences of citizens. Intrapersonal tradeoffs among preferences make it difficult to understand what citizens want, because there are so many ways in which people make those tradeoffs (Sen, 1982). This might explain why the level of knowledge within governmental agencies about the behavior of citizens is rather low (Pieterse, 2008).

Nevertheless, the focus on the citizen as customer has enhanced the attention for service delivery and hence the attention for service channels and the behavior of citizen. Governmental programs aimed at improving public service delivery, such as the Dutch "Overheidsloket 2000" (OL2000) are strongly based upon the ideas of NPM. In this project, the national government worked for several years on a project to provide all citizen services using a one stop (physical) counter (Programmabureau Overheidsloket 2000, 2000). The project's foundation was formed by four pillars:

- A demand orientation
- Collaboration in public services
- Integrated services
- Deployment of ICT

In this and similar programs in other countries explicit statements were made about service channels and the behavior of citizens. Further, although it started as a project to improve services through the creation of a physical one-stop shop, it gradually shifted to a more ICT oriented project ending in a transition to a one-stop shop on the Internet. It nevertheless makes clear how the NPM has impacted the thought about services and services channels and the needs of the citizen as a 'customer' of public organizations.

There is, however, an important drawback in the view of the citizen as a customer. A citizen is more than just a customer of (public) services. Citizens have different roles in their contacts with governmental agencies and therefore administrators should primarily see citizens *as* citizens (King & Stivers, 1998). In the next section, we will examine the roles of citizens and governments.

### 2.2.2 Roles of citizens and governments

Citizens can have contact with governmental agencies in various ways; as a citizen I have rights, for example, I may receive healthcare or education, but I also have duties and if I don't comply by the rules I may have to pay a fine or go to jail. Further, I can vote or participate in policy making processes. I can also contact governmental agencies when I have questions or problems. The different relations citizens have with governmental agencies determine how contacts within these relations look like; a prisoner is treated different than a *customer*. But what kinds of roles do citizens and governments have?

A common (see for example Bekkers, 1998; Ringeling, 2001; van Duivenboden, 2002) distinction between the different roles of citizens is the division in:

- Citizens as *voter*
- Citizens as *subjects of the state*
- Citizens as *citoyen*
- Citizens as *customers* of public services

#### *Citizen as voter*

This first role applies to the possibilities the citizens have to express their wishes and needs in a direct (via for example referenda) or indirect way: by choosing representatives at local, regional, national and international level (Van Duivenboden, 2002). During the years, very little has changed in the voting; votes have always been cast in person, mostly via a (paper) ballot.

At present initiatives to introduce electronic voting are blossoming. In France online voting has been successfully tested with the Conseil Supérieur des Français de l'Étranger election, and several French cities used kiosk voting for the European Union election in June 2004 (Accenture, 2004). In the US, one of the first experiments was the 2000 Arizona Democratic primary (Borins, 2002). In January, 2003, the small Swiss village of Anieres outside Geneva held its first legally binding Internet vote (Caldow, 2004). However, most

initiatives stick to experiments or small scale elections. Large electronic elections (e.g. nationwide) are not there yet. A reason mentioned by Borins (2002) why electronic voting might not become a success is that it would eliminate the communal aspect of voting at a polling station. Going to the polls along with one's neighbors is likely felt by many to be a visible, public expression of citizenship. So, besides the actual vote, there's a social aspect connected to voting.

### *Citizen as Citoyen*

The second role is that of a citizen as a citoyen. A citoyen is an individual who is – within certain limits – able to participate directly in policy processes, political parties and social movements (Van Duivenboden, 2002). Very few people participate in the political process. Strong political leadership and loyal grassroots support made direct political participation to some extent less necessary (Ringeling, 2002). As a result of the decreasing importance of political parties and the growing individualization in society, the role of the citizen as citoyen seems to get renewed attention.

ICT has also impacted this role; technology has various functions within this role. First function is informing citizen about policies. Dutch government puts online all its official paperwork, making it accessible for everyone. Second function is participation in discussions on important political issues. Networking technologies make it easier to participate in – for example – online discussions. Other functions are also imaginable but these functions are not there yet. In future it might be very well possible to experiment with ict facilitated interactive policy making. The next step would be a kind of 'electronic democracy' where citizens can give their opinion about various political issues and political leaders can consult citizens (Van Duivenboden, 2002; Ringeling, 2002).

There are certain risks to involving citizens in the political process via electronically facilitated networks. Experiments with online discussions learn that mainly the higher educated, more motivated citizens tend to participate in online discussions (Van Dijk, 2001). This poses the risk that 'consulting citizens' via e.g. the Internet actually means 'consulting higher educated motivated citizens'. This can hardly be called an electronic democracy. It shall be difficult to motivate the entire population to participate in political processes and it shall be difficult to teach the entire population how to work with computers and other network devices. This problem, however, applies to all roles and is certainly relevant for the channel choice context. Citizens who are unable to use the electronic channels have, naturally, fewer channels to choose from.

### *Citizen as subject of the state*

The citizen as a subject of the state is part of a vertical relation with the government. As subject of the state you have to abide by the law. Not complying with the rules can lead to different penalties that vary from reprimands to imprisonment (Thomassen, 1979). Citizens

have duties to which they have to comply, they have to pay their taxes, you have to wear your seatbelt and you are not allowed to speed up etcetera.

Governments supervise what we do and new technologies offer them more means than ever before. Databases offer a better way of organizing data about citizens than old fashioned paper archives. Data selection is made more easily by computer interfaces and data processing goes faster and faster. Even better it gets when all kinds of systems are integrated. For example the system of enforcing traffic regulations in the Netherlands (Bovens & Zouridis, 2002). In the early days offense could only be established via observation from a police officer. A license plate had to be noted or a driver had to be stopped to fine him. The system was inaccurate and very inefficient (for further analyses of the process, see Bovens & Zouridis, 2002). Nowadays cameras register license plates of offenders and fully automatically an invoice is generated.

### *Citizen as customer*

The final role of citizens to be discussed is the role of citizen as customer. This is the most well known role and the role that gets the most attention in the public sector. In this view, the citizen is the same as a client from the private sector; a recipient of goods and services (Ringeling, 2001). Traditionally citizens have always been 'customers' of the state while using social and public benefits. However, the attention for the citizen as a customer has increased largely due to NPM in which the 'citizen' was almost narrowed down completely to become merely a customer. Equating citizens to customers may lead to a neglect of the other roles that citizens have. But, there are other reasons why this very business oriented focus might not be totally justified. In most cases the public sector customer is much different from the private sector customer role (Van Duivenboden, 2002).

Allison (1980) distinguishes three fundamental differences between the public and private sector. First both sectors operate in different environments. The private sector operates on a market and aims to make a profit. The public sector is bound by legal duties based on politics' will. This also relates to the fact that public sector customers are seldom voluntarily using a government's service (Lipsky, 1980). Second reason is responsibility. A company only has to justify its policy to private stakeholders, whereas governments are being watched by the entire nation and its public representatives. Third reason is the difference in organizational factors, e.g. legal status of the personnel (civil servant vs. private sector employee) or political influence on public organizations (Allison, 1980). Lipsky (1980) adds a fourth difference between public and private sectors: public organizations have a duty to deliver a service (and citizens have the right to receive public services). Citizens have the right for education and the government cannot refuse to give education to a citizen. Finally, Van Dijk (1997) adds a fifth reason; unlike most businesses, the government is not a simple or straightforward organization, such as an enterprise, but a gigantic complex of several, more or less cooperating, organizations on



all levels and of all kinds. This entails that service delivery in most cases is far more complex in the public than in the private sector.

Differences between the public and private sector make it necessary to rethink the customer role within citizen-government relationships. Focus should be on reshaping the boundaries of public service relationships and on redefining the concept "customer" with respect to public sector relationships. Ringeling (2001) suggest to use the term 'customer oriented plus', but this initiative has attracted little attention. It might be better to stick to the term 'customer' as long as it is made clear that the public sector customer differs from the private sector 'customer'. Noteworthy is the finding that citizens expect higher service levels from governmental organizations than from private sector businesses. The third Citizen First survey in Canada showed that 55 percent of all respondents found that the quality of services delivered by governments should be higher than that of the private sector (Erin Research, 2003).

Besides the distinction mentioned above in citizens as *voter*, *citoyen*, *subject of the state*, and *customers* Wirth (1986) also describes a number of roles of citizens, but his distinction is not based on the purpose of the interaction (such as voting, obtaining services, etc.) but on the level of interaction and power in the relationship between citizen and government. These roles are the following:

- **Citizens as objects of control**

Here, the civil servants are in control of the situation and of the client. The civil servant defines the cause and procedure of the bureaucratic encounter. In this situation, the citizen is passive and complies with the orders. In practice, this role is found in personal encounters in control and correctional agencies, where street level bureaucrats are able to use strong measures of coercion. An example of this kind of encounter is a citizen who receives a speeding ticket from a police officer.

- **Clients as cases to be administered**

Main difference between this role and the role mentioned above is that the encounter in this context may also be initiated by clients. Therefore, citizens have some steering potential. However, in the proceeding concrete performance, clients have no active influence. This role can be found mostly in service arrangements where bureaucrats have a monopolistic position or where clients face discriminating stigmatization. In practice, this role is found e.g. at executive agencies or in nursing situations. An example is a citizen who applies for a subsidy, such as rental support. Here the citizen takes the initiative, but has no real power.

- **Clients as consumers**

Within this role, citizens exercise a more active behavior and have more autonomy, although the executive power of the street-level bureaucrats is not contested. There

is a distinction between the producer of the service and the consumer that, more or less, demands an output to satisfy his or her needs. In this role, the consumer is still passive in the 'production' process, but induces administrative activities by giving initial inputs in terms of his demand. An example is the tax filing, citizens (at least in the Netherlands) have the option to choose whether to use the tax filing software from the tax administration itself, but may also use software from a commercial vendor. By using the "exit" option in switching to commercial software a citizen may exert influence on future developments. For advice tax-payers may also resort to commercial vendors. In the educational system, citizens also have the option what school to send their children to and in many cases educational courses are tailored towards the specific inputs from citizens.

- **Clients as active co-producers**

The amount of activity on the client side further increases in this role, here the distinction between consumer and producer becomes blurred. Within this context, the client must be considered both an intentionally active consumer and producer of services at the same time. In practice this role can be found most likely in personal social services that require repeated face-to-face contact, such as intensive healthcare arrangements. In this relationship, the bureaucratic has little formal power, but bases his authority mostly on his professional knowledge. A patient can listen to his general practitioner, but the doctor has no power, he cannot force the patient into a treatment. Although this is the role where citizens have the most power, the control over the interaction remains with the street-level bureaucrat.

It is likely that the roles (within both typologies) have different requirements on the service delivery process. As Wirth (1986) argues, the co producing role requires a lot of face-to-face contact, whereas this most likely is not the case in the case administration role. Therefore, it is likely that, if the citizen is aware of his role, this influences his channel choices. This also leads to the notion that this awareness is an important factor in the channel choice process of citizens. Within the public administration context, this awareness is closely related to the concept of bureaucratic competence. This means that citizens know what their rights and duties are, further, that they know how they have to realize these rights and duties and finally that they master the needed pattern of behavior to effectuate the rights and duties (Daemen & Thomassen, 1989). In terms of channel choice, it is likely that bureaucratic competences are displayed through a) a recognition of the characteristics of the problem (knowing what the right or duty is), b) knowledge of the available channels (knowing how to realize the right or duty) and c) choosing the proper channel (the needed pattern of behavior).

On behalf of the governmental agency, it is important to offer the right channels for the right roles. If a service delivery process requires co-production, channels should be offered that allow for this co-production. If an organization decides to just offer those channels

that are cost-efficient (such as the electronic service channels), the risk arises that the loss of effectiveness in the process overshadows the (financial) efficiency gains. Scheepers and Kommers (1994) argue that the *McDonald's effect* may occur when cost-efficiency is chosen above a proper alignment to the roles of citizens and governments; smooth and efficiently satisfying superficial short term needs may lead to a neglect of the complex, fundamental and long-term needs (p. 327).

### 2.3 The rise of ICT and the emergence of new channels

In the Netherlands, the government is one of the pioneers in the use of ICT's, in the 1950's, the Dutch government was upon the first to deploy computers (Donk & Meyer, 1994). The role of ICT's have been described in various plans since then, whereby the focus slowly shifted from ICT's as a tool for the design and functioning of the public sector to the possibilities of ICT's to improve public service delivery. Arguably this shift is due to the influence of NPM on public management practices. New public management advocates have been eager in the adoption of e-government to realize their ambitions. One of the first governmental programs specifically on ICT's in this context was the US' National Performance Review. Vice president Gore who led this program was among the first to acknowledge the potential of ICT the better serve citizens and reduce the costs of ICT. Hence, there are apparent similarities between the two movements, or as Bellamy and Taylor (1998, p. 37) argue

*"The patterns of organizational change which are so commonly associated with the information age are remarkably consistent with the patterns associated with current forms of managerialism in public administration"*

In the United States, the afore mentioned National Performance Review (NPR), encouraged governments to employ Internet in order to improve service levels, cut red tape and make access to governments more easy (Gore, 1997). The basic ideas of the NPR continued to dominate in the succeeding program; the National Partnership for Reinventing Government's *AccessAmerica* (National Partnership for Reinventing Government, 1997). An important difference is that the Internet itself receives relatively little attention in the NPR, but becomes a major factor in *AccessAmerica*, where the Internet is marked as a dominant tool to change and improve the relationship between government and citizens. The goals set in the NPR and *AccessAmerica* to reinvent and re-engineer government accumulated in 2000 in the launch of the FirstGov portal. One of the important characteristics of the plans in the United States is the focus on the citizen as customer (Chadwick & May, 2003), whereby the Internet is primarily seen as a tool to improve public service delivery.

Whereas NPM found it's way in American public administration under the title "reinventing government", the UK used the label "joined-up government" (Bogdanor, 2005). Britain's

"joined-up government" project was founded in the 1996 *Government Direct* prospectus (Central Information Technology Unit, 1996), which noticed the possibilities of the Internet to a) provide better and more efficient services to businesses and citizens, b) improve the efficiency and openness of government administration and c) realize cost savings for taxpayers. The two key aims in the joined-up government plans for the use of ICT and the Internet thereby became efficiency (control costs) and effectiveness (better policies, programs and services) (Cabinet Office, 1999). Furthermore, also the UK government reduced the citizen to a customer or consumer of services. In more recent plans from the UT (during the Internet hype), such as the 2000 *E-Government* report, ICT is still seen as a tool for "better services for citizens and businesses and more effective use of the Government's information resources".

Similar initiatives can be found elsewhere, such as *Connecting Government* in Canada (Roy, 2007) and the European Union in its Information Society Project (Liikanen, 2001). More recent plans still rely on NPM principles. In April 2006, for example, the European Commission adopted the "i2010 eGovernment Action Plan" (Commission of the European Communities, 2006). Although one of the pillars of this plan entails (e-)participation, this plan also focuses primarily on improving service delivery (and increasing efficiency). As the five major objectives from the i2010 clarify:

1. No citizen left behind: advancing inclusion through eGovernment so that by 2010 all citizens benefit from trusted, innovative services and easy access for all;
2. Making efficiency and effectiveness a reality – significantly contributing, by 2010, to high user satisfaction, transparency and accountability, a lighter administrative burden and efficiency gains;
3. Implementing high-impact key services for citizens and businesses - by 2010, 100% of public procurement will be available electronically, with 50% actual usage, with agreement on cooperation on further high-impact online citizen services;
4. Putting key enablers in place - enabling citizens and businesses to benefit, by 2010, from convenient, secure and interoperable authenticated access across Europe to public services;
5. Strengthening participation and democratic decision-making - demonstrating, by 2010, tools for effective public debate and participation in democratic decision-making (Commission of the European Communities, 2006, p. 4).

### 2.3.1 The Dutch Situation

In the Netherlands, the country of the focus of this study, a number of plans surfaced during the years. Since the 1990's the Dutch government, published a number of policy papers that focus on ICT as a means to improve public service delivery. Table 2.1 gives an overview of these plans.

Year	Title	Main Points
1990	BIOS-II	For the first time ICT is recognized as a means to improve service delivery.
1994	BIOS-III	Primary function of ICT becomes service delivery.
1995	Elektronische Snelwegen (Electronic Highways)	New channels (Internet, GSM) gain attention. Internet is seen as a tool to improve services and improve internal efficiency.
1996	OL2000	Introduction of the "one-stop-shop" idea. First aimed at the physical counter, later on the online channel.
1998	Boven NAP, Herijking Actieprogramma Elektronische Snelwegen (Above NAP, Recalibration Program Electronic Highways)	Focus on the possibilities of ICT's for international collaboration and service delivery.
1998	Elektronische Overheid (Electronic Government)	Extension of the thought about making government more efficient and affective, focal point is the Internet.
1999	Digitale Delta (Digital Delta)	Specific attention for the Internet as a means to improve communication.
2002	Beter Bestuur voor Burger en Bedrijf (Better Administration for Citizen and Business)	Again attention for the possibilities of ICT/ the Internet) to reduce costs and improve customer satisfaction.
2003	Andere Overheid (Different Government)	ICT to improve services, lower costs and administrative burdens. Targets for e-service delivery (supply)
2006	Antwoord© (Answer©)	Municipalities as main portal for governmental service delivery. Although not specifically aimed at ICT, ICT is an important instrument.

*Table 2.1: Overview programs and policy papers on ICT / e-Government in the Netherlands 1990-2006*

The first Dutch policy program exclusively dealing with new technologies was the 'Electronic Highways' action program (Tweede Kamer, 1994). In this program the opportunities Internet technologies offer to achieve the goals of New Public Management played a central role; the Internet was believed to be crucial for government, both internal (efficiency) as external, towards citizens. The successor from Electronic Highways; "Elektronische Overheid" (Electronic Government) from 1998 focused even more on the Internet as a tool to improve public service delivery proposed and aimed at a 25% online availability of all public services in 2002. The most recent plans, the "Andere Overheid" [different government] plan from 2003 and the Antwoord© [Answer©] plan from 2006 still primarily focus on improving service delivery and rely heavily on ICT.

When ICT's became more and more influential in government organizational strategies, the term e-Government, derived from e-Commerce became in fashion to describe aspects of the implementation of ICT in public administration. Although e-Government is the most

fashionable term, the term "digital government" has (mostly in the US) been used as well since the 1990s.

### 2.3.2 e-Government

There are probably as many definitions of E-Government as there are governments. Some definitions of e-Government include the following:

*"the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees" (Deloitte, 2000).*

*"E-Government refers to the delivery of government and services online through the internet or other digital means" (West, 2004).*

Definitions usually vary on three aspects; the exact meaning of 'Electronic' (the "E" in E-Government), the focus (internally and/or externally) of E-Government and the scope of E-Government. Although the first and second aspects certainly are relevant for defining the concept of E-Government, it is the third aspect that is most important. The first two aspects focus on the means of realizing E-Government whereas the third aspect focuses on the goals set by E-Government.

First aspect is the definition of the term "Electronic"; this concerns the "how" of E-Government. Here we can distinguish between broad definitions and small definitions. In broadest sense Electronic Government is seen as everything within governments that uses ICT (Boyle, 2000). This definition would also imply the use of telephone within E-Government. Bekkers (2001) explicitly states that E-Government requires networks. Van Dijk (2006, p. 104) uses a definition that can also be defined as broad. In Van Dijk's definition "All processes of information processing, communication and transaction that pertain to the tasks of the government (the political and public administration) and that are realized by a particular application of ICT" are part of E-Government.

In the smallest sense, E-Government is limited to the use of the Internet (Momentum Research Group, 2000). Gartner also sees the Internet as the most important aspect of E-Government (Baum & Di Maio, 2000). McClure (2000) expressed his views before the U.S. Congress by stating that particularly web-based Internet applications are the most important technologies behind E-Government.

In my opinion, Bongers, Holland & Vandeberg (2003) rightly emphasize that E-Government probably has to be positioned somewhere in between the two extremes. It is more than just the Internet. E-Government is also about the use of for example interactive television to interact with citizen or using SMS technology to warn citizen that they have to file their taxes. However, E-Government is less than "everything concerning ICT". The fact that Governments use a computer simply to store my address has little to do with E-

Government. However, when this computer is connected to a governmental network and my address is used by multiple organizations in various ways, to optimize the working processes of the Government, there might be E-Government. Hence, e-Government implies not the use of single computers and databases but their connection in networks and Information systems. This creates the organizational dimension required to talk about e-government, or e-governance.

The second aspect of E-Government refers to the "where" of E-Government; this implies the focus of E-Government. E-Government can have an internal focus, where it applies to the government itself and it can have an external focus where it applies to citizens. Most definitions do not depict the focus of E-Government, but in practice most plans aim on the external side of Governments. So does the UN, their five guiding principles on E-Government objective are as follows:

1. Building Services around citizens' choices
2. Making government and its services more accessible
3. Social inclusion
4. Providing information responsibility
5. Using IT and human resources effectively and efficiently (United Nations, 2002)

The internal side of e-Government has not been stated explicitly. The final point suggests attention for internal aspects of ICT, but this remains unclear (while the external side in e.g. point number one is stated very clear). Same thing that goes on for the UN's principles applies to the OECD's view of e-Government. The internal side of e-Government is not mentioned (Riley, 2003). Authors describing frameworks for e-Government also mainly focus on the external side of e-Government (Baum & Di Maio, 2000; Sharma & Gupta, 2003).

Authors mentioning the internal side of e-Government are scarce, but available. Caldow (Caldow, 2001) and Layne & Lee (2001b) mention the need for system integration from governments in need to create successful service provision. Integration of systems is important for connection front-offices and back-offices from governments. In many cases the website becomes the front-office. In order to provide advanced services, it is needed that front-offices and back-offices are well integrated (Bos & de Vuijst, 2001; Ebbers, 2002). Besides integration of systems and a proper connection of front- and back-offices other, more organizational factors are important on the internal side of e-Government. The Commission of the European Communities (2003) stresses the need for organizational change and the proper incorporation of ICT within Governments to reach E-Government.

Models that assess growth or development of e-Government apply mostly to e-Service development. Most well known models concerning the development of e-Services are from Gartner (Baum & Di Maio, 2000) and Layne & Lee (2001b). Gartner's model is described as 'a road map to achieve the desired levels of constituency service' (Baum & Di Maio, 2000),

the model consists of four phases. In phase one its all about presence on the web by means of a website containing information. In the second phase the website becomes interactive; forms become downloadable, e-mail functions are built and links are added to other sites. In phase three there's the possibility to complete transactions on the web e.g. fining taxes. The fourth and final phase is the phase of transformation. In this phase the entire governmental service delivery will be revised. Ultimate goal is the one stop office. One place where are governmental affairs can be dealt with.

Layne & Lee (2001) state that e-Government consists of technical organizational and managerial aspects. E-Government is an evolutionary process and initiatives on the field of ICT have to be approached in such a manner. Layne & Lee propose a model that has an evolutionary nature, their model consists of four phases. Phase one is the catalogue phase in which there is an online presence with a catalogue presentation and downloadable forms. Phase two is the transactions phase in which services and forms are available online. Working databases should support online transactions. Phases three concerns vertical integrations. In this phase systems of local regional (state) and national level are connected creating one nationwide system for transactions within similar functionalities. Final phase is the phase of horizontal integration. This means that at the same level systems are integrated across different functions. An example of horizontal integration is conditional access techniques (user names and passwords used in every service), such as the Dutch DigiD systems that allows for a single logon for many governmental services. As well as in Gartner's model the ultimate goal of Layne & Lee's model is a real one stop shop for citizens, portals such as the US' usa.gov are heading in that direction. The Layne & Lee (2001a) model is shown below (Figure 2.1).

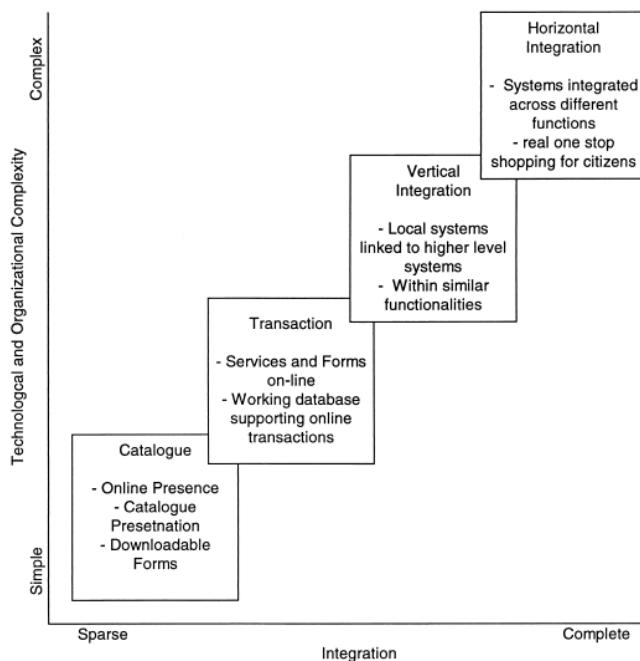


Figure 2.1: The Layne and Lee (2001a) model of e-Government development.



The third aspect on which many definitions differ is the scope of e-government. This concerns the application of e-government. In many definitions e-government is narrowed to merely the delivery of electronic services (Bekkers & Thaens, 2002), thereby narrowing e-Government down to just the role of the citizen as customer. For example, the Irish Information Society Commission sees e-Government as "a radical convergence of government and technology that has the potential to radically transform the public service and the citizen's experience of it" (Information Society Commission, 2003, p. 6). Other definitions such as that of Gartner (Baum & Di Maio, 2000) also include participation and governance in their definition. However, also in practice e-Government is typically restricted to electronic service delivery, for example, the German e-Government strategy wants to "ensure that citizens and enterprises are able to use the services of the federal administration more simply, faster and cheaper" (Accenture, 2004) and Canada wants to be "known around the world as the government most connected to its citizens, with Canadians able to access all government information and services online at the time and place of their choosing" (Accenture, 2004).

ICT's have impacted many aspects of the functioning of governmental agencies, not only in the interactions with citizens via the electronic media, but also within governmental processes. The electronic channels facilitate the connection between the internal organization and the outside world. The internet, for example, allows citizens to do direct transactions in the back-offices of governmental agencies. Choosing a too narrow definition of e-government may not only hinder the full potential of ICT's but may also ignore the impact of ICT's on processes and procedures in public administration. Hence, in this thesis, we see e-Government as *broad* (not just the Internet, but ICT's in general), *internal* and *external* oriented (not merely on the 'outside' of governments, but also intraorganizational) and not limited to the role of citizens as *customers*, but addressing all roles of citizens. This means that channel choice essentially is an e-Government issue. Even with the traditional service channels, such as the telephone and the front desk, ICT's have impacted their design and organization and therefore channel choice can be characterized as an e-Government topic. Hereby we believe Gartner's definition suits my purposes best. In this definition, e-Government is seen as:

*"the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet and new media" (Baum & Di Maio, 2000)*

In sum, the rise of ICT in governmental agencies, resulting in the 'e-Government' movement in the late 1990's led to enormous enthusiasm about the possibilities of ICT to improve public service delivery. It is apparent that e-Government seems to be narrowed down to just the delivery of services. The other roles of citizens seem to be neglected and the possibilities of ICT to improve the (internal) processes seemed to be neglected at the

end of the past millennium. There was, however, a sheer sense of optimism about ICT's, not in the least inspired by the commercial sector, and the new electronic service channels.

### 2.3.3 Optimism about the new channels

When new technologies are introduced there is always some kind of arousal, especially amongst those enthusiastic about it. ICT's are, of course, no exception. A general example of the enthusiasm is provided by Tom Stonier revealing an utopian view of the impact of ICT's on society:

*"In late industrial society, we stopped worrying about food. In late communicative society, we will stop worrying about material resources. And just as the industrial economy eliminated slavery, famine and pestilence, so will post-industrial economy eliminate authoritarianism, war and strife. For the first time in history, the rate at which we solve problems will exceed the rate at which they appear. This will leave us to get on with the real business of the next century. To take care of each other. To fathom what it means to be human. To explore human intelligence. To move out into space. (Stonier, 1983, p. 214)*

This utopian view about ICT's in general is not that much different than the optimism about ICT's and especially the new service channels to improve public service delivery and reduce the costs of government. In chapter one of this dissertation, already a number of quotations are cited that reflect the optimism about the new service channels, but more quotes can be found, such as the one of Symonds:

*"Within the next five years the internet will transform not only the way in which most public services are delivered, but also the fundamental relationship between government and citizen. After e-commerce and e-business, the next internet revolution will be e-government"*(Symonds, 2000, p. s3).

Fountain is also optimistic about ICT's and their potential to transform bureaucracies, as she argues that ICT has the potential "to substantially redistribute power, functional responsibilities, and control

within and across federal agencies and between the public and private sectors" (Fountain, 1999, p. 150). Not only scholars have formulated optimistic statements about ICT's, practitioners in the field of public administration have expressed their optimism as well. Stephen Goldsmith, at the time an advisor of President George W. Bush argued that "electronic government will not only break down boundaries and reduce transaction costs between citizens and their governments, but between levels of government as well" (cited in West, 2005, p. 4).

Based on a number of associated characteristics, the internet was believed to be an ideal medium to realize those aims. A first characteristic is the cost-efficiency of this channel. Studies of the Canadian Customs and Revenue Agency (CCRA) have shown that electronic

services are, on average, 20 times less expensive than in-person services. A second reason is formed by the positive characteristics of the internet that are associated with improving service levels. Van Dijk (2006) reviews numerous theories that deal with characteristics of media or channels, and presents his model of "communication capacities" based on these theories. His framework describing the different characteristics of channels is shown below (Table 2.2).

Communication Capacity	Old Media				New Media	
	Face-to-face	Print	Broadcasting	Telephone	Computer Networks	Offline Multimedia
Speed	Low	Low/medium	High	High	High	High
Reach (geographical)	Low	Medium	High <sup>1</sup>	High <sup>1</sup>	High <sup>1</sup>	Low
Reach (social)	Low	Medium	High <sup>1</sup>	High <sup>1</sup>	Low	Low
Storage capacity	Low	Medium	Medium	Low	High	High
Accuracy	Low	High	Low/medium	Low	High	High
Selectivity	Low	Low	Low	High	High	High
Interactivity	High	Low	Low	Medium	Medium	Medium
Stimuli Richness	High	Low	Medium	Low	Low	Medium
Complexity	High	High	Medium	Medium	Low	Medium
Privacy Protection	High	Medium	High	Medium	Low	Medium

<sup>1</sup>In developed countries only

Table 2.2: Communication Capacities of different media (van Dijk, 2006).

Van Dijk distinguishes ten characteristics of types of media, which he divides in the old and new media. Each medium can score high, medium or low on each of the characteristics. As the table makes clear, the new media differ greatly from the old media when it comes to the speed, storage capacity, accuracy and selectivity (van Dijk, 2006). The focus on the positive characteristics of the Internet that dominate the perceptions of governmental organizations towards the web is perfectly expressed in the previously mentioned Dutch governmental program OL2000:

*Electronic services are efficient for the organizations (less citizens coming to counters), effective (citizens' effort requirements decrease, since they do not have to travel and it is possible to customize services) and citizen friendly (no more constraints in time and place)[translated] (Programmabureau Overheidsloket 2000, 2000).*

As the previous paragraphs already make clear; the enthusiasm about the new media and especially the Internet was fed by these positive characteristics. In most cases, the Internet was seen as the channel with unlimited possibilities, rendering all other channels obsolete. Potential advantages for citizens of electronic government are summarized by Michael Cross (Guardian Online 16.07.98): Round the clock government, one-stop shops (tell the government only once instead of form filling for different departments), electronic benefits (no more queuing and information-sharing across departments reducing fraud)

and open and cheaper government (better public access to information encouraging efficiency and democracy).

However, not everyone was this optimistic about how the new media would replace the old traditional media. Some scholars have been more cautious towards this thesis. Hall (1998) already argued before the end of the past millennium that the diffusion of ICT could lead to stimuli for personal contact. An increase in ICT use and the need for understanding would e.g. call for courses, and a person seeing a video clip online might want to see the artist in real life. The ambiguities arising from ICT use need to be addressed via other (traditional) means of communication. Various authors argue that the new means of communication are strongly linked to the old means, or as Mitchell puts it: "bits meet the body" (Mitchell, 1995), thereby stressing the idea that ICT's are not replacing old means, but providing strong linkages to them (Baym, 1998; Jones, 1998). Wellman (1997) thereby argues that many of our online relations are embedded in the offline relations, many people use computers at work or at schools and develop online relations next to the existing relations with friends, colleagues and family.

Further, there is some evidence that some of the associated benefits of the Internet haven't become reality. A survey by Moon (2002) among municipalities showed that, even in municipalities with online transaction services, there were hardly any cost-savings in service delivery. Next, chief administrators on the municipalities indicated that their e-government initiatives increased, rather than decreased their staff demands.

It has been argued that the strategies followed by governmental agencies, to just 'electronify' existing traditional services will not result in much organizational benefit. Pavlichev and Garson (2006) argue that the productivity potential of ICT initiatives will not be achieved as long as governmental agencies merely automate their existing process. Reason for this might be that governments mostly transpose existing procedures to the electronic environment. It has been argued that, despite the different characteristics and possibilities of ICT as opposed to the traditional means, the bureaucratic "maze" has simply been duplicated on the web (Davis, 1999). This means that the bureaucratic ways of working are also reflected online. This tendency is also observable in a more general sense. Margolis and Resnick (2000), for example argue that the Internet in many instances is a reflection and reinforcement of the behavioral patterns in the real world.

Nevertheless, the general tendency at the end of the past millennium is that of positivism towards the electronic service channels. Although the crash of the Internet bubble led to most businesses revise their channel strategies, most governmental agencies remained focused on the electronic channels (Pieterse & van Dijk, 2006). Today, many governmental agencies still have a favorable attitude towards the internet and aim their channel strategies mainly at those channels. Others have chosen to mix all their channels in an integrated multi-channel management strategy, but what strategies are

distinguishable and which strategy is most popular? In the next section we will take a closer look at the various channel management strategies.

## 2.4 Overview of (Multi)Channel strategies

Currently, many governmental organizations follow different strategies in the management of their service channels. Some public agencies still stick to the model in which the Internet is the preferred channel for public service delivery. For example, for service delivery, the Internet is the primary service channel for both the Canadian and UK Inland Revenue Agencies. The Dutch Tax and Customs administration also follows this strategy but goes even further; it has made the electronic delivery for business taxes mandatory. Other governmental agencies follow different strategies. The central governments of Canada and Australia for example want to integrate all channels in one service delivery concept. Under the label 'Multi-channeling' various initiatives are deployed for this integration of channels, but what exactly is multi-channeling and what types of channel strategies can be distinguished?

We can distinguish between four different service channel strategies (Pieterse & van Dijk, 2006). Table 2.3 shortly summarizes these strategies.

Nr	Name	Explanation
1	Parallel positioning	Channels are positioned next to each other. Citizens are free to choose their channels and services are available through each channel.
2	Replacement positioning	Channels can replace each other. Assumption is that channels can be superior or inferior to each other. Customers would prefer to use the best channel and therefore one channel would replace another.
3	Supplemental positioning	Channels have supplemental values; each channel has its own characteristics that make it suitable for certain types of services. Therefore, governments should offer services via the best suited channels.
4	Integrated positioning	All channels are integrated in the entire service delivery process. This means that all services are offered via all channels, but that strengths and weaknesses of channels are used in their design. Citizens are guided to the 'best' channels and channels seamlessly refer to each other.

*Table 2.3: Channel Management Strategies (Pieterse & van Dijk, 2006).*

In time these strategies are linked to different (historical) phases in channel positioning, as will be discussed below. Both supplemental and integrated positioning can be seen as multi-channel management strategies. But what is multi-channeling?

### 2.4.1 Multi-channeling

Kotler (2000) defines multichanneling as the use, by one single firm, of two or more marketing channels to reach one or more customer segments. Although the idea of using multiple channels to reach customers or citizens is not new, there has been very little

research on this topic. For example, in marketing most research focuses on consumer behavior in a single channel.

Only recently a few studies have been conducted that explore multi-channel retailing (Noble *et al.*, 2005). These studies (e.g. Alba & Lynch, 1997; Mathwick *et al.*, 2001), all focus on aspects dealing with customer satisfaction or experience with channels. Verhoef *et al.* (2007) are among the few that have actually compared channels, their comparison of the Internet and (brick and mortar) shops revealed that the Internet in general is seen as having a high information value, making the channel convenient for information retrieval purposes. Stores are seen to have a high transaction value, making them the most appropriate channel to actually buy goods. A similar conclusion is drawn by Noble, Griffith and Weinberger (2005).

This perspective on multi-channeling stresses the supplemental characteristics of service channels. Channels have different characteristics that make them suitable for different tasks or different phases in the service delivery process. This strategy of multi-channeling is what we call supplemental service-channel positioning.

As Kotlers definition suggests, utilizing more than one channel to reach customers is multichanneling. This would mean that (unless an organization uses only one channel), every organization deploys a multichannel strategy and it means that all channel positioning strategies we described so far in this chapter (parallel and replacement) are multi-channel strategies. Therefore, we believe Kotlers definition is too simple, we believe multi-channeling distinguishes itself from other strategies in that it relies on at least some form of relation between the service channels. In the public service context, we define multichanneling as:

*The use of multiple service channels within one public service delivery process or the use of different channels for different service delivery processes, whereby the different channels relate to each other.*

This definition emphasizes the fact that channels have different characteristics which makes them useful for purposes with different requirements. Multichanneling is not about using multiple channels, alongside each other, but is about multiple channels that relate to each other and to the service requirements.

Canada for example plans to further improve its e-government services by an integrated multi channel service delivery, but it does not mention how. In its plan it merely refers to 'Canada Service' ([www.servicecanada.gc.ca](http://www.servicecanada.gc.ca)). This 'one-stop portal' however integrates internet and phone only by making the same information available via both channels (see <http://www.servicecanada.gc.ca/en/about/about.html>, October 2006). Another is Australia's guide for 'the strategic assessment and development of service delivery

channels' (Australian Government, 2006). Although this guide mentions that citizens differ in what channel types they prefer when interacting with government, it does not tell why they prefer it and what channel type attributes they perceive as useful in which situation.

As becomes clear from the section above, different organizations follow different channel management strategies. We can also assign the different strategies to phases in history.

#### 2.4.2 Parallel positioning

Until the arrival of the Internet, the public sector deployed three channels; telephone, face-to-face and written/print. There was not really a specific strategy behind the positioning of service channels. In most cases, service interactions could be dealt with via all channels. For example, when having a question, you could write a letter, phone the organization or go to a counter to ask your question. In some cases specific services were offered via a specific channel. Forms, for example, should be sent via mail, but when it comes to information and communication services all channels provided the same functionality. Therefore, we call this strategy parallel channel positioning.

#### 2.4.3 Replacement positioning

As the previous paragraphs already make clear; the enthusiasm about the new media and especially the Internet were fed by these positive characteristics. In most cases, the Internet was seen as the channel with unlimited possibilities, rendering all other channels obsolete. This led to the so-called replacement channel positioning strategy (Pieterse & van Dijk, 2006). An example of this strategy is the mandatory electronic tax filing system for entrepreneurs in the Netherlands. Traditional channels may no longer be used to file taxes, but these are replaced by the Internet. Another example is television commercials where no longer the address and telephone number of the sender are displayed, but only the website address.

Some public agencies still stick to the model in which the Internet is the preferred channel for public service delivery. For example, based on its cost efficiency, the goal of the Canadian Customs and Revenue Agency (CCRA) is "to encourage clients to choose more affordable channels, such as TELEFILE (filing your taxes via the phone (see: <http://canadaonline.about.com/cs/personalincometax/a/telefile.htm>)) and the Internet. To support the move to electronic services over more traditional channel, we continued to move towards assisted self-service in 2004-2005". For service delivery, the Internet is the primary service channel for the CCRA, as stated in the CCRA Annual Report to Parliament 2004-2005. The UK Inland Revenue Service follows the same strategy; the online channel should be seen as the preferred medium for conducting tax business, such as carrying out transactions, but also communicating and receiving information, as the 2005 annual report depicts.

#### 2.4.4 Supplemental positioning

Multichanneling, as it is being used at present in the private sector (as well as research in marketing) relies on the supplemental value of service channels, as described in the previous section. Basically this strategy implies that services should be offered via the channel that is most suited for the type of service. Information services and transaction services with low levels of complexity and ambiguity should be offered via the Internet, whereas more complex services should be offered via the phone and services with high levels of complexity and ambiguity should be dealt with face-to-face. So this strategy is based on a division of labor between channels in which one channel supplements another adding its strong characteristics. This strategy would have two important benefits. First, it would enhance the efficiency and effectiveness from the supply side. Offering only a selected number of services via a channel instead of all services would result in large cost savings and a less complex, thus more manageable, service system. Second, it would be of interest for customers. Website visits would no longer result in an information-overload, with all kinds of services stuffed into a single website, and they would be more convenient. These important benefits could make this strategy of interest for governmental organizations as well.

The first recommendations to apply this strategy in the public sector environment have appeared just recently. For example; Accenture has shifted the focus of its periodically e-Government benchmark, from a traditional assessment of the breadth and maturity of online services to focus on the multiple facets of leadership in customer service: citizen-centered, multi-channel, cross-government services and proactive communications and education about government services (Accenture, 2005). However, as Accenture points out, achieving this new leadership based on multichanneling is one of the main challenges for the future. To give another example; the Dutch government in 2006 launched the previously mentioned Antwoord© concept. This concept aims at the bundling the services of all Dutch governmental agencies in a multi-channel contact center, hoping to improve citizen satisfaction.

A strategy of supplemental service channel positioning would be beneficial from the perspective from citizens, and it has advantages for public organizations as well. However, some drawbacks must be noticed. In contrast to the private sector, some obstacles to supplemental channel positioning hinder full deployment of this strategy (these differences are discussed in section 2.2.2).

#### 2.4.5 Integrated positioning

On account of the differences between public and private sector, such as the obligation of governments to deliver services to all citizens, it is impossible to fully adopt a supplemental strategy in the public sector. A new strategy has to be developed that goes one step beyond the supplemental strategy and takes one step back in the direction of traditional parallel channel positioning.



Ebbers, Pieterse and Noordman (Ebbers *et al.*, 2007) suggest a new and preliminary integrated multi-channel management model, as shown in Figure 2.2. The proposed model contains three channel types and two channel modes (for a discussion of the concepts channel modes and channel types, see Chapter one), these modes are types of services or information flows. These channel modes and types have already been discussed in chapter one. The two main characteristics of tasks they distinguish are *complexity* and *ambiguity*. Problem ambiguity has to do with *meaning*, it is about not feeling sure of how to interpret information telling what to do. For example, many citizens have problems with the words and language used in laws and law texts, simply because they don't know the meaning of many terms. This leads to ambiguous situations whereby the citizen does not understand the meaning of information. To remove or reduce problem ambiguity government needs to confirm whether or not a citizen's interpretation is correct. As desk and phone are better fit for story telling and for receiving multiple cues than a website, desk and phone are the preferred channels when removing *problem ambiguity*.

Problem complexity is about the number of interrelated actions a citizen has to take in order to solve one's problem. The more interrelated actions are the more complex a problem becomes. For example, in order to fill in a tax form, a citizen has to make many decisions that are often intertwined (if situation *a* changes then does situation *y* change as well). This makes information complex. The higher problem complexity becomes, the more information an individual has to process in order understand a problem. The more extensive the amount of information becomes, the more structure it needs in order to remain understandable. Speech lacks the many structural elements that writing, or for instance electronic simulation tools, has. Think of tables of content, tables, figures, hyperlinks, headlines, etc. For that reason, complex problems should not be handled over the phone as this channel lacks the characteristics (i.e. the many structure elements) that are needed to handle complexity. This is impracticable as it simply takes too much time to explain it over the phone. Below (Figure 2.2), we have a figure of the different channel modes and channel types (see Figure 1.3) but we added the two characteristics of tasks.

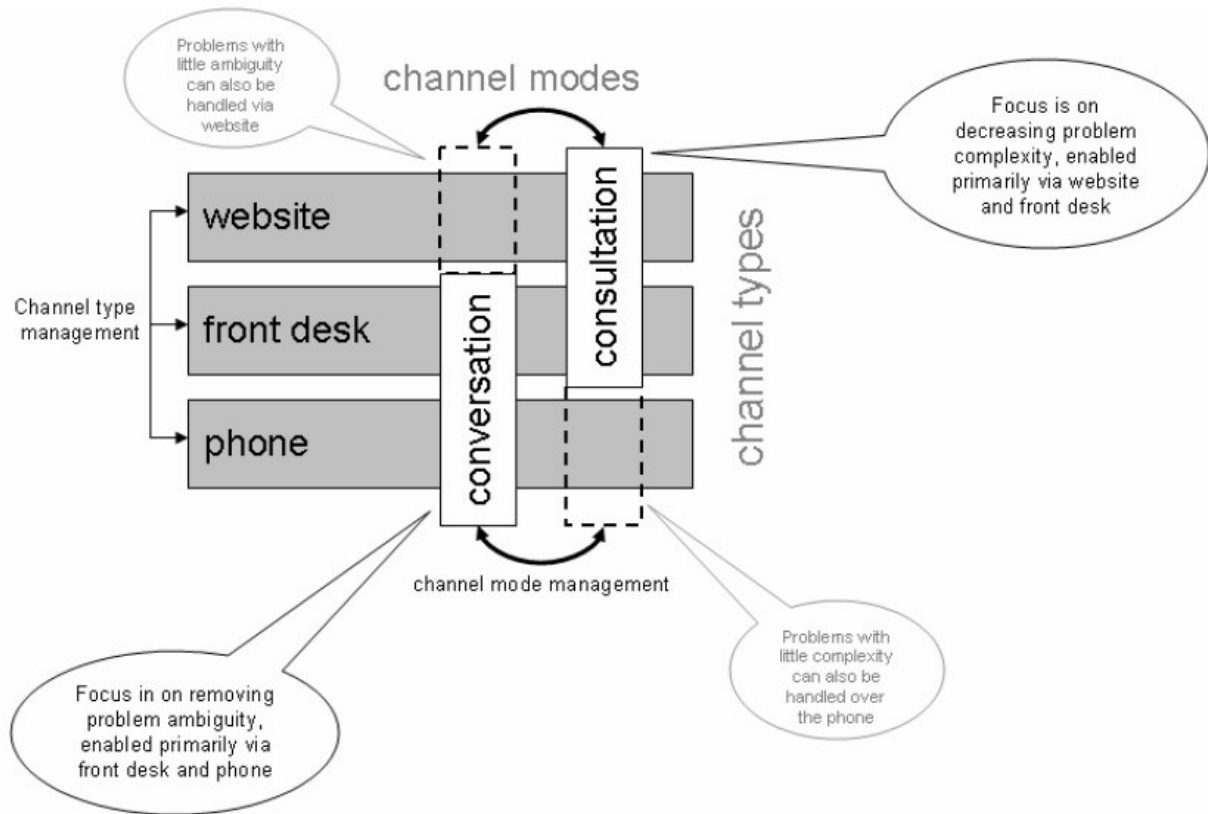


Figure 2.2: Ebbers' et al. (2007) Model of Multi-channel Management.

The OECD also presents a multi-channel model that has been elaborated in some detail (OECD, 2007), their model is based on an analysis of service delivery among various tax organizations. This model also relies on an integrated and coordinated approach towards multi-channel service delivery. Their integrations and coordination does not directly focus on linking different tasks to different channels, but to integration of data in the back office. The basic idea behind this strategy is that the data used by all front office applications are centrally stored and are shared with other applications (via the mid-office). This central storage in the first place refers to the idea that data are collected once and then shared by different organizations and second it also means that users can access the services they want from the location they want. In addition the OECD approach thus holds that different channels are able to complement each other, thereby improving the quality of the service delivery. The OECD model is displayed in Figure 2.3 below.

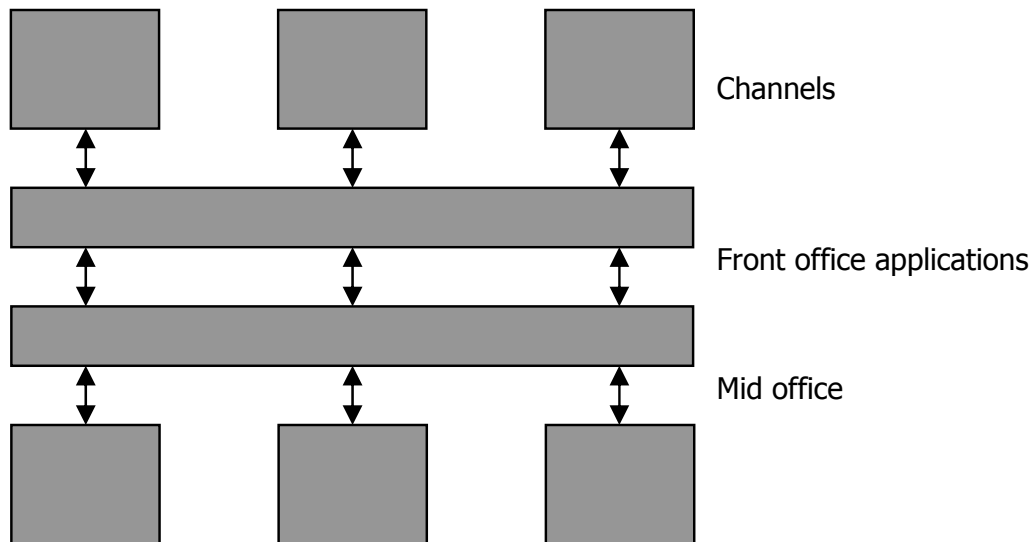


Figure 2.3: The OECD Model of Multi-channel Service Delivery (OECD, 2007).

Some interesting differences exist between the two approaches to integrated multi-channeling described in this section. Whereas the first approach relies on the integration of different channels with different types of services (the idea of combining the strengths of the channel with the requirements of the task), the second approach relies on integrating back-offices whereby the different front offices are fed from the thus integrated back-office and mid offices systems. Second, the first approach takes a behavioral perspective towards channel management; adjusting channel management towards the behavior (tasks, needs and wants) of the citizen, the second approach takes a far more technical approach: synchronizing the data, creating centrally stored data, etc. This approach is not based on the actual needs of the citizen, but on the assumption that pushing the same data through different channels is the best approach towards channel management. One might conclude that when it comes to optimizing citizen satisfaction and rendering service delivery more efficient, the Ebbers et al. (2007) model, currently is the best defined.

Governmental agencies have been very enthusiastic about the possibilities of the electronic service channels to improve public service delivery. Most of their channel strategies (still) focus on the Internet as primary channel or see the Internet as the most important channel in the mix of channels.

## 2.5 Conclusions

In this chapter, it has been argued that governmental service strategies have changed through the years. Where governmental agencies before the 1970's were internally focused on their own procedures and maintenance of the law, this focus shifted in the post 70's period to an external 'customer' orientation. Especially the New Public Management has influenced current practices, such as the shift from the 'supply' to the 'demand' of

public services. Although it is undeniable that NPM (and its predecessors such as managerialism) have influenced the public sector, and have changed to some extent how governments think and work, it is questionable how great big this influence is and how far governments have moved away from the Weberian bureaucracy to open and flexible business-run organizations run like a business. It has been argued that some of the elements of the Weberian 'ideal-type' bureaucracy are important for governmental agencies, even in the NPM era (Gregory, 2007). Others say that an 'infocracy' (authority based upon and integrated in information systems) has replaced bureaucracy (Zuurmond, 1994). Some even argue that the foundation of governmental organizations must be based on the principles of legal-rational authority (Hughes, 2003). Empirical research has shown that, in practice, governmental agencies still remain bureaucratic (Parker & Bradley, 2004). This suggests that Weber's process of bureaucratization might still be going on. About this development he states the following:

*[The] specific nature [of bureaucracy], which is welcomed by capitalism, develops the more, the more perfectly the bureaucracy is 'dehumanized', the more completely it succeeds in eliminating from official business love, hatred, and all purely personal irrational, and emotional elements which escape calculation (Weber, in Gerth & Mills, 1974, p. 216)*

If governmental agencies develop into these bureaucratic organizations based on purely rational motives and lines of thought, it is very likely that the approach of governmental services becomes as-rational as well. And if this approach is rational, isn't it reasonable then that citizens' behavior is perceived as lacking emotions and irrational components? The supposed rationality of governmental agencies (in terms of bureaucracy) will very likely influence how governmental agencies perceive citizens' behaviors, needs and preferences. Reading statements in policy papers about these needs and behaviors it appears that this rational way of thinking indeed holds. For example, as mentioned before, the Dutch program OL200 (Programmabureau Overheidsloket 2000, 2000) was very positive about the possibilities of the Internet to improve service delivery:

*Electronic services are efficient for the organizations (less citizens coming to counters), effective (citizens' effort requirements decrease, since they do not have to travel and it is possible to customize services) and citizen-friendly (no more constraints in time and place) [translated from Dutch] (Programmabureau Overheidsloket 2000, 2000, p. 11).*

The quotation merely reflects refers to citizens' behavior in terms of (positive) channel characteristics and the rational argument for choosing a channel based on it's alleged features. It does not take into account such drivers of behavior as habits, emotions and needs such as the need for certainty or closure or the need to just talk to a person.

Although it has been speculated by some that ICT would breakdown organizational barriers and would give the bureaucracy the so much desired flexibility, others argue that the bureaucratic character of government has merely been transposed to the digital world. In any case, the public sector has judged the new electronic service channels very positive, based on a number of positive characteristics of these channels, such as their 24/7 accessibility. Citizens however did not share this enthusiasm entirely, as already pointed out in the first chapter of this thesis. The electronic channels did not replace the traditional service channels. People seem to use the channels for different purposes and citizens use channels for different types of services. This seems to imply a rather rational point of view, matching a task to a certain medium. However, as shown in the previous chapter, other motives, such as the urgency or uncertainty may also play a role when using channels. Governmental judgment of channels based upon the rational trade-off of channel characteristics and thereby picking the absolute 'best' channel therefore seems to be an unsuccessful strategy. Citizens might not behave in such rational ways as wished and thought. Hence, in order to realize the public sector ambitions of better service provision to citizens, a deeper understanding of citizens' channel choices is required.

“Government is not reason, it is not eloquence, it is force; like fire, a troublesome servant and a fearful master. Never for a moment should it be left to irresponsible action.”  
(George Washington)

## 3 Channel Behavior

### 3.1 Introduction

After discussing governmental service provision in the past chapter, we will take a closer look at citizens channel behavior in this chapter. Developments in the channel usage of citizens during the years have impacted governmental strategies towards the design and positioning of service channels and serves therefore as a background against which this study takes place. Furthermore, this chapter will discuss the previous research on channel behavior in detail. Hence, the purpose of this chapter is to answer the first research question:

*What is the current state of the art in research regarding citizens' channel behavior?*

The chapter begins with a discussion of the concept of channel behavior (§3.2). Next the three components of channel behavior will be discussed; channel choice (§3.3), channel usage (§3.4) and channel evaluation (§3.5). The chapter finishes with a number of conclusions (§3.6) regarding the research question.

### 3.2 Channel Behavior

Channel behavior is a part of entire bureaucratic encounter between citizen and government. As argued in chapter one, we limit ourselves in this study to those encounters whereby the citizen takes the initiative: the so-called 'citizen initiated contacts'. Several scholars have dealt with citizen initiated contacts, within this line of research, two streams can be distinguished. The first stream deals with citizen initiated contacts for political purposes, e.g. contacting congressmen about political opinions (see for example Mladenka, 1981; Moon *et al.*, 1993). The second stream deals with citizen initiated contacts for service purposes, e.g. contacting an organization with questions or problems about service delivery or compliance processes (see for example Reddick, 2005a, 2005b; Thomas & Streib, 2003). The focus of this study lies at the second type; contacts around service interactions. Thomas (1982) argues that within these contacts a citizen usually seeks 1) a relatively specific response 2) in the very immediate near future (p. 504). Although the relativity of 'relatively specific response' can be subject to debate, the core concept is that the citizens need some kind of information. This specific type of behavior has been studied in the research field of 'information seeking'; hence we shortly elaborate on such research.

In information seeking models the information need the starting point of the encounter that should lead to problem solving. Steehouder (1994), for example, presents the following schema (Figure 3.1) of information seeking events:

- 1 | Detecting the need for information
- 2 | Formulating the problem
- 3 | Selecting the information source
- 4 | Locating the relevant information
- 5 | Understanding the information
- 6 | Inferring an action plan
- 7 | Evaluating the action plan

*Figure 3.1: Steehouder's (1994) information seeking model*

Based on research in organization science, Choo *et al.* (2000) present a more general model of information seeking. This model comprises of four possible modes of information seeking: undirected viewing, conditioned viewing, informal search, and formal search.

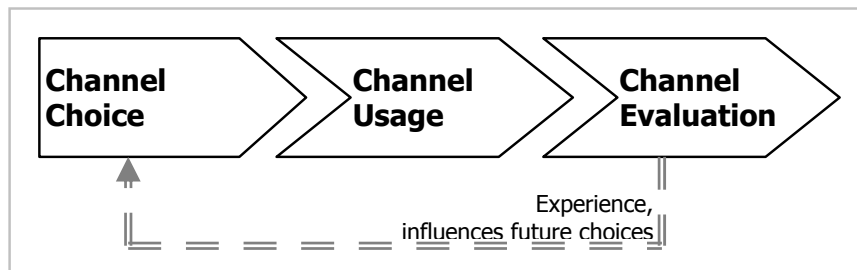
Undirected viewing means that a person is exposed to information without a specific information need. For example, someone may be browsing on a website just for fun, without a specific question. The purpose of this mode of information seeking is mainly to "detect signals of change early" (Choo *et al.*, 2000, p. 151). Conditioned viewing means that the individual directs information about selected topics or to certain types on information. Purpose of this type of behavior is to evaluate the significance of the information. Informal search means that the individual actively looks for information to deepen the knowledge and understanding of a specific issue and during formal search finally, the individual makes a deliberate or planned effort to obtain specific information. This happens when an individual has some kind of information need and starts looking for information to satisfy his needs.

Marchionini (1995) developed an information seeking model in the context of electronic browsing. His model falls in the second category; it consists of eight steps with a clear starting point and finish. The eight steps he distinguishes are:

1. recognition and acceptance of the information problem
2. defining and understanding the problem
3. choice of the search system
4. formulation of a query
5. execution of the search
6. examination of the results
7. extraction of information
8. reflection/iteration/stop (Marchionini, 1995 p. 49-60)

All these models share a few commonalities, after the first stage of problem recognition; usually the next stage is that of the selection of an information source. After the choice of the information source the actual search for the information begins. The user searches information and interprets it. Finally, the user evaluates his actions.

Assuming that all citizens have an information need in their (service related) citizen initiated contact. We can propose a three stage model of channel behavior (*Figure 3.2*). In the first stage, a user chooses a service channel, in the second stage of channel use, the citizen actually deploys the channel to gather, receive and or interpret the information. Finally, in the third phase the citizen evaluates his behavior and gathers some experience regarding the channel he chose. The experience acquired influences both channel perceptions, as argued by Channel Expansion Theorists (Carlson & Zmud, 1994, 1999), and future channel choices (Pieterse & van Dijk, 2007).



*Figure 3.2: The model of channel behavior*

In the next sections, we will discuss the current state of the art in research on all three stages in the model of channel behavior.

### 3.3 Previous Research on Channel Choice

Although the choice and use of service channels seems to be an important factor in service channel management, for example in 'multi-channeling' (Pieterse & van Dijk, 2006), it is noticeable that "Most of the existing research in public administration has not combined the citizen-initiated contact and e-government literatures" (Reddick, 2005a, p. 28). Citizen initiated contacts have been a field of study in public administration, but most of the studies in this field date from before the introduction of the internet as a service channel (e.g. Hirlinger, 1992; Jones *et al.*, 1977; Thomas, 1982; Zuckerman & West, 1985). Another limitation of the research on citizen initiated contacts is that they do not focus on the reasons for contact, but on the frequency of contacts. We shall discuss these theories briefly.

#### 3.3.1 Citizen initiated contacts; frequency theories

Thomas (1982) has compared three theories that might be used to study citizen initiated contacts, although Thomas' study was primarily aimed at the effects of the citizen initiated contacts on political participation, the theories deployed might shed some light on channel



choice. First theory is the "socioeconomic model of participation" (Verba & Nie, 1972). This theory suggests that contacts might increase as socioeconomic status increases, because a higher socioeconomic status means greater economic and psychological resources, the relationship suggested in the socioeconomic model is linear. Second theory is the "parabolic model of citizen initiated contacts", devised by Jones et al. (1977). This model is aimed at describing citizen initiated contacts in the light of service delivery. Jones et al. argue that citizen initiated contacts should be a function of both a) the need for a service as well as b) awareness of governmental agencies able to provide the services. Jones et al. argued that needs are inversely related to "social well-being" (a higher status would imply less needs), whereas awareness would yield a direct positive relations (more awareness would imply more contacts). Hence they hypothesized that the mix between needs and awareness would yield a parabolic curve regarding the number of contacts, as shown in the figure below (Figure 3.3). The lower social groups would thus have high needs for services, but would struggle with low awareness, whereas the higher social groups would have a high awareness and low needs.

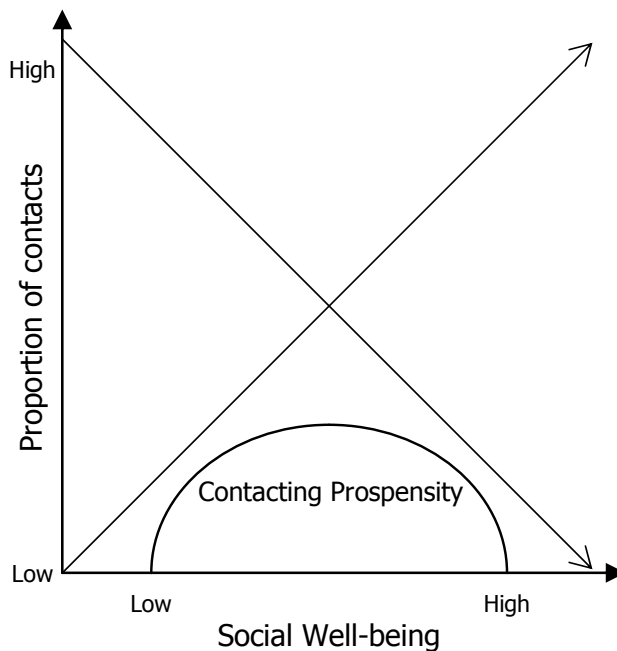


Figure 3.3: The parabolic model of citizen initiated contacts.

The third model is the "clientele participation interactive model". In this model, Thomas (1982), posits that citizen-initiated contacts are primarily a function of the perceived needs of the citizen and secondarily of the general political attitudes. An empirical test in the United States proved that the perceived needs proved to be a stronger predictor of citizen initiated contacts than the socio-economic status. Sharp (1982, 1984) also studied the effects of socio economic status on citizen-initiated contacts. Sharp (1982, 1984) discovered an interaction effect between the socio economic status of the citizen and the perceived need for contact, when the perceived need was high, socio-economic status was

of negligible importance, however, when the perceived need was low, socio-economic status proved to be a significant predictor of contacting behavior.

In sum, these theories do provide us with valuable knowledge on the frequency of contacts of (groups of) citizens. They may have some value regarding channel choice determinants in that they provide the insight that different groups of citizens have different contacts (in terms of type and volume) and hence these personal (or group) characteristics may determine different channel choices. However, this conclusion is inferred and not based on empirical findings. Fortunately some studies on channel choice do exist in the public-administration context.

### 3.3.2 Citizen-government interaction research

After reviewing the, at that time available literature on the field of citizen contacts, Peterson (1986) concludes three sets of variables had been used in most studies explaining citizen contacts. First variable is 'need' (as in 'service need'), second variable is 'awareness', third variable is the assumption that citizen initiated contacts are a form of political participation (p. 349).

Research on this topic in the era of e-Government is scarce. Reddick (2005b) has examined citizen interactions with e-government, but thereby, he focuses only on the use of the Internet and pays no attention to the traditional channels and to the motives to choose a certain channel. Thomas and Streib (2003) also studied citizen initiated contacts in the era of e-government. Although their quantitative study focuses primarily on the Internet, they test some hypotheses that are important for channel choice. The relevant findings of their study are that citizens use Websites for specific purposes (search information), meaning that the type of task at hand may be a determinant of channel choice, as well as the personal characteristics of the Website visitor. Website users tend to have higher incomes, be higher educated, younger and Caucasian.

The most relevant study in the field of e-Government is the study of Reddick (2005a). He compared differences in citizen-initiated contacts with government using phones and Websites. As in Thomas and Streib (Thomas & Streib, 2003), Reddick found the task at hand to be an important factor in channel choice; when people have a problem, they actually contact government by phone. For information and transactions citizens choose the web. Similarly, Reddick also found support for the influence of personal characteristics. Furthermore, Reddick found evidence for the influence of *trust* (the more trust, the more people prefer the phone) and *having a satisfactory experience* (more important for web than phone) on channel choice. Schellong and Mans (2004) surveyed German citizens and found the use situation in terms of *time*, the *age* of the respondent and the *emotional form* of the respondents to be factors influencing channel preference.

Although from the studies above a number of determinants (personal characteristics, task characteristics, trust and fun) can be distinguished. It is unlikely that these factors are all the determinants of channel choice. We draw this conclusion on the basis of our observations about the developments in interactions between citizens and governments. The number of total contacts via service channels has increased at most governmental organizations (van Deursen & Pieterse, 2006), indicating that more and more people need contacts and that many people use multiple channels in one service delivery process. How is this finding to be explained? People haven't changed that much, neither did tasks. So, no explanation for this finding can be formulated based on the existing literature on channel choice and although the research field of public sector service interactions sheds some light on the possible determinants of channel choice, studies in this field are scarce and no full blown picture can be drawn.

Other disciplines have also studied how and why people select service channels or communication media. For example, Media Richness Theory (MRT) (Daft & Lengel, 1986), that was already mentioned in chapter one has been the focal point of both theoretical and practical research on (communication) channel choices. Additional theories such as the Social Influence Model and Channel Expansion Theory have also been used to study channel or media choice. Research on these theories, which are aimed at testing the premises of the theories, shall be discussed in the chapters four and five.

### 3.3.3 Marketing research

In marketing, many researchers have tried to find the answer why people choose a certain channel for aspects like 'customer service' or information search, but mostly for shopping. Since the burst of the internet bubble multi-channeling has gained attention in the field of marketing, because: *Predictions that nimble, virtual sellers will replace inefficient brick-and-mortar retailers are fading as analysts realize that markets of the future will contain a mix of channels* (Balasubramanian *et al.*, 2005a p. 13). Although this field is predominated by shopping, we may find some useful insights in this field, especially when it comes to service marketing. Berman (1996) has suggested that different types of goods require different channels of sale. He suggests that perishable goods require short channels (short in terms of time and effort) and non-perishable goods require long channels. Further, he suggests that high value goods should be sold via direct channels, whereas low-value goods are to be sold via the indirect channels. Tauber (1972) and Barczak *et al.* (1997), for example argue to take into account the motivation for behavior, and more of those factors exist. Black *et al.* (2002) review a large body of literature covering factors that might influence channel choice, mainly on the field of financial services. Among the factors they discuss are: perceived risk, propensity, convenience, transaction costs, ease of use, preference for dealing with a real person, concerns about safety and risk, complexity, trust and flexibility.

Alba *et al.* (1997) discuss interactivity as a factor, they conceptualize it as "a continuous construct capturing the quality of two way communication" (p. 38). Interactivity in this case has two dimensions, response time and response contingency. Response contingency in this situation refers to the degree in which "the response by one party is a function of the response made by another party" (Alba *et al.*, 1997, p. 38), also, the proximity of branch offices is still considered when customers choose a bank (Kwast *et al.*, 1998). Morrison and Roberts (1998), studied the determinants of consumers' consideration for new channels of delivery of banking services. The model they present is based on consumers' preference for the banking service, the preferences for the distribution method, and the perceived fit between the distribution method and the banking services. Bateson (1985) studied customers' preferences for different channels. He found out that certain customers prefer personal channels and other customers prefer electronic channels, given the same cost and location Lee (2002) discusses demographic differences between adopters and non-adopters of new ICT involved methods of service delivery, such as ATM's and electronic banking. He notes that the adopters are younger, more affluent, more likely to be married and homeowners (p. 241).

Interestingly, most studies focus on the straightforward effects of certain factors on channel choice or usage. Very little studies assess how different factors may interrelate. Balasubramanian *et al.* (2005a) are among the view who elaborate on this. They argue that a consumer pursuing purely economic goals would base channel choice on a careful trade-off of the costs and benefits of using specific channels at the different stages of the purchase process (Balasubramanian *et al.*, 2005a). Although objective expertise generally results in better shopping decisions, subjective expertise is more likely to give people confidence in their decisions, or satisfaction with them (Balasubramanian *et al.*, 2005a). Furthermore, people consider themselves to be more expert than they actually are, especially in product categories for which it is difficult to assess the expertise objectively, as Balasubramanian argues. By invoking schemas, consumers alter their responses to external stimuli that could influence their agendas, the constraints they use in selecting or eliminating choice alternatives (Balasubramanian *et al.*, 2005a, p. 25)

What can be summarized from marketing research is that (in the first place), although there are more studies, no full blown picture of the channel choice issue exists too, or as Black *et al.* (2002) note, "...the existing literature on consumer choice has yet to explain how such a variety of factors may affect the consumers decision making process" (p. 164), meaning that about the exact influence of the factors, let alone the interaction between the factors no knowledge whatsoever exists, even in the field of marketing. In the second place is the private sector different from the public sector in this respect. Most marketing research has focused on the shopping process (e.g. Alba *et al.*, 1997; Black *et al.*, 2002; Morrison & Roberts, 1998). This 'customer decision making process' (Blackwell *et al.*, 2001) is quite different from service delivery processes in general, let alone the public sector service delivery processes. The latter are fundamentally different since they are

often initiated by law enforcement processes and furthermore the laws and regulations for governmental organizations are fundamentally different from business processes (Pieterse *et al.*, 2007a). Further, marketing research, especially goods marketing mostly studies different types of channels than eGovernment research, like catalogues. More alike is the field of service marketing, some studies in this context have been conducted, especially when it comes to financial services (e.g. Bateson, 1985; Lee, 2002; Morrison & Roberts, 1998). However, the state-of-the-art in this area is not that different from the governmental context, 'knowledge of consumer behavior and managerial strategies in multichannel environments is sketchy' (Balasubramanian *et al.*, 2005a p. 13). So, no fundamental lessons from this context can be drawn.

#### 3.3.4 Human-computer interaction research

The area of human-computer interaction has also discussed the topic of channel choice, especially on the topic of information search behavior. Traditionally, research into information seeking regards information seeking from a systems perspective, and sees information users as passive, situation-independent receivers of objective information (Dervin & Nilan, 1986). In different models of information seeking behavior (Ellis, 1989; Marchionini, 1995), the selection of an information channel is an important phase and some studies have been conducted that focus specifically on the choice process. Especially the rise of networked media, such as the Internet, has given a new impulse to the research of how and why people search for information via what channels. From all networked media, in particular e-mail and the World Wide Web have attracted an increasing number of information seekers both in job-related and nonwork contexts (Savolainen & Kari, 2004). Given the fact that people have more and more channels at their disposal, the question of how people prioritize information sources is gaining importance (Savolainen & Kari, 2004).

Savolainen and Kari (2004) studied the ways in which people search for information from networked services, especially the World Wide Web, in nonwork contexts such as hobbies. Thereby they paid attention to the ways in which information sources and channels are valued and prioritized in the context of everyday life information seeking. The criteria on which they base the value of the channels are 'perceived source accessibility' and 'perceived source quality'. They interviewed 18 computer (on average 5 years of computer experience) users about these topics. The respondents were asked to think about possible information sources they use in information seeking and to classify them as significant sources, intermediate sources or peripheral sources (Sonnenwald & Wildmuth, 2001). Savolainen and Kari found that of the most important sources, 31% were human information sources, 29 percent were networked, 26% were print media and 14% were other sources. Of the intermediate sources, 28 percent were human, 24 percent were print, 17 percent were broadcast, 13 percent were networked and 16 percent were other sources. In the peripheral zone, both human, broadcast, organizational and print sources were equally important with 17 percent, followed by networked sources (13%) and other

sources (20%). In sum, the most important source of information for information seeking tasks are human sources, followed by print media, networked sources, broadcast media, organizational sources and other sources. Important conclusion that Savolainen and Kari draw is that (concerning the important information sources) their study confirmed that importance of the "principle of least effort" in everyday life information seeking (p. 431).

Different other studies in this field have yielded different factors of importance for the selection of information sources. Choo, Detlor and Turnbull (2000) determined the influence of perceived accessibility and quality of information sources and channels. Savolainen and Kari added to this; peoples general values about information carriers, actual experiences, the views of relevant peers, situational demands of information seeking (like a shortage of free time), perceived competence (skills in searching and knowledge of the sources) and the characteristics of the task or problem at hand. A strong predictor of source use, according to the research of Allen (1977) is the perceived accessibility of the source. Perceived accessibility in this context is seen as the amount of effort and time needed to make contact with and use a source. In addition, Choo (1998), found that when the ambiguity of the situation is high and when the reliability of the information is important, the role of the perceived accessibility declines. In those situations, less accessible sources may be consulted as well. Combined with the afore mentioned study of Savolainen and Kari (2004) this is a further indication of the effects of effort on decision making.

In working contexts, a lot of research with both theoretical and empirical natures have been conducted that explore the relationship between information needs, information seeking and the workers' task characteristics (see for example Belkin *et al.*, 1982; Ingwersen, 1992). Byström and Järvelin (1995) found a specific relationship between the complexity of a task and the ways in which information is being sought.

One important drawback of the studies focusing solely on the application of networked media is that they do not focus on the ways in which people prioritize information sources. As Savolainen and Kari (2004) point it: there is no detailed picture of how people position the Internet as an information source as compared to informal contacts, television, newspapers, libraries, and other sources of information (p. 416).

Finally, related to human-computer interaction is the field of adoption of technology. Technology Acceptance Model (TAM), first introduced by Davis (Davis, 1986) is specifically designed for modeling user acceptance of information systems. TAM has been widely applied in various research of information systems use (see: Legris *et al.*, 2003) it has however been widely applied for IT in a broader sense and there is a large number of studies that support the technology acceptance model (e.g. (Adams *et al.*, 1992; Davis, 1989; Szjana, 1996; Venkatesh & Davis, 1996)). TAM posits that two particular beliefs, *perceived usefulness* and *perceived ease of use* are of primary relevance for computer

acceptance behaviors. Perceived usefulness is defined as the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context. Perceived ease of use refers to the degree to which the prospective user expects the target system to be free of effort (Davis, 1989). Black et al. (2002) found, in a channel choice context that the ease of use of a channel was relevant for using a channel for financial services. Although this leads to the expectation that the factors from the technology acceptance model are relevant form the channel choice decision in the context of government-citizen interaction, we have no evidence, about this relationship.

In general, this field is also characterized by its fragmented nature. The focus is (in most studies) on the characteristics of the tasks, but we found no studies that combine multiple tasks with multiple channels. Although on the field of theory building (like the Technology Acceptance Model) this field has made more progress than marketing, we can draw very little conclusions regarding the determinants of channel choices.

### 3.3.5 Concluding remarks on channel choice

The review of the literature on channel choice in the various disciplines leads to a number of conclusions. In the first place is the research very fragmented, virtually all studies focus on one or two channels and there are no studies that examine all common channels. Further, most studies try to determine the effects of one or two possible determinants on channel choice in stead of first exploring the relevant behavioral determinants and then testing them. Thirdly, the majority of all studies do not take into account the effects of such factors as personal characteristics on channel choice and the evaluation of the channel choice determinants. Finally, the proposed effects are (linear) straightforward and possible interaction effects are not taken into account in these studies, although they may very well be there. The field of information seeking has thought us that, depending on the situation people make different trade-offs, hence the situational context influences the channel choice characteristics (Allen, 1977; Choo, 1998; Swanson, 1987).

If we try to assess which factors are mentioned most in the different studies, we can group the (possibly endless list of) possible channel choice determinants into four groups. The first group consists of *task characteristics*, such as complexity (see for example Belkin et al., 1982; Byström & Järverlin, 1995; Ingwersen, 1992) and ambiguity (Choo, 1998; Daft & Lengel, 1986). The second group consists of *channel characteristics*, such as personalization (Black et al., 2002), interactivity (Alba et al., 1997) and ease of use (Black et al., 2002; Davis, 1989). The third group consists of *personal characteristics*, such as the demographic characteristics (Lee, 2002; Reddick, 2005a; Schellong & Mans, 2004). The final group consists of *situational characteristics*, such as time (Berman, 1996; Schellong & Mans, 2004) and distance (Kwast *et al.*, 1998).

One field of research that might supply us with further insights on channel choice, is the field of communication. In this area, media choice and media usage have been researched extensively. This is the field in which most theories exist that are used in channel choice studies. Given the amount of theory in this field, we decided to describe these separately, beginning with chapter four.

### 3.4 Previous Research on Channel Usage

As mentioned before, governmental agencies had high hopes of the possibilities of the Internet to improve service levels and the expectations were that citizens would turn to these channels *en masse*. Has this promise become reality? To answer this question, we take a close look at the current channel usage of citizens. We do this on different levels. First, we analyze on a national and international level what channels citizens use in general. Hereby we look to studies that investigate the contacts citizens have with 'government' in general and channel usage data from individual organizations, we also explore how channel usage has developed over time. Secondly, we take a closer look at the usage of channels for different purposes. Finally, we take a look at the satisfaction of citizens with the different channels.

#### 3.4.1 Actual use and developments in use

Millard (2006), although specifically focusing on the channel choice process, did also study some of the aspects of citizens initiated contacts. His study, which was carried out among 10 EU members states and 10.000 respondents, revealed a number of interesting aspects about citizen initiated contacts. First he found that face-to-face contact remains the most important channel for contact, second a majority of citizens use multiple channels in their contacts with governmental agencies. Furthermore, people that use the electronic channels tend to use more services in all. This indicates, as Millard concludes that users of the electronic channels are quite different than the users of the non-electronic channels. Millard (2006) also found evidence for country differences (especially their so-called eGov maturity) and the impact of Internet skills, whereas the only socio-demographic variable of influence on the use of the electronic channels was the employment situation of the citizens.

What channels do citizens generally use nowadays to contact governmental agencies? Various studies in various countries have been conducted that shed light on this issue. On an international level, the European eUser project has investigated channel use. The eUSER data show that the media channel used when contacting government is still overwhelmingly face-to-face. However, there are very large differences between countries, so that Denmark is the leading country in the sample in terms of digitization with over 40% of government users using eChannels, whilst in the Czech Republic the figure is less than 9%. Also, in the UK and Ireland the use of the postal services and the telephone has overtaken face-to-face channels. Overall, new ICT media provide access for about 20% of



all contacts with government, 17% of this via the Internet or e-mail and about 3% via SMS (2006).

Accenture (2005) takes a global perspective and concludes in their yearly e-government benchmark that the telephone prevails as the dominant service channel, a majority (63%) of the respondents had used the telephone that year in contrast to 31% using the Internet. Furthermore, citizens in all countries, except for Japan, said that citizens should be able to access government services by their preferred channel, regardless of the cost to government. Thus, e-Government's preeminence as a service delivery channel is clearly influenced as much by notions of equity as it is about physical access to infrastructure. Few citizens currently seem willing to be forced into any one particular communication channel. In general, governments should be moderate in their attempts to encourage online access. One way of doing this may be to convince citizens that "access to all channels regardless of the cost" translates into something they must pay for from their own pockets through taxes (Accenture, 2005).

Various studies in a number of countries have been conducted in recent years that focus the channel usage for governmental agencies. In such countries as Australia, the US, Switzerland, Canada and the Netherlands studies have been conducted that asked citizens about their channel usage. The table (Table 3.1) below gives an overview of the channels used in the different countries.

<b>Country**</b>	<b>United States</b>	<b>Switzerland</b>	<b>Canada</b>	<b>Australia</b>	<b>Netherlands</b>
<b>Channel*</b>	(2004)	(2005)	(2003)	(2005)	(2006)
Personal	20%	55%	48%	46%	25%
Telephone	42%	54%	55%	28%	32%
Post (and/or Fax)	17%	24%	25%	13%	23%
The Internet	29%	14%	30%	19%	20%

\* Percentages may exceed 100% when added up, due to the fact that people may have more than one service encounter per year

\*\* Data used originate from different years: Switzerland (Berner Fachhochschule & Unisys, 2005) and Australia (Australian Government, 2005), 2005; The Netherlands, 2006(van Dijk *et al.*, 2006); United States (Horrigan, 2004) and Canada (Erin Research, 2003), 2003.

*Table 3.1: Usage levels of service channels for public service interactions in Switzerland, Canada, Australia and the Netherlands (percentages referring to the level of usage for each channel)*

As Table 3.1 shows, the personal channel remains the most prominent means of interaction in three out of four countries. Only in Canada, the telephone is being used more frequently. In two countries (Canada and Australia) the Internet ranks third, whereas in Switzerland and the Netherlands the Internet takes fourth position.

Two of the five studies displayed in the table compare current channel use and past channel use. The Swiss study provides a comparison of usage between 2004 and 2005, which shows that the use of the personal channel didn't change, the use of the telephone remained almost the same (54% in 2005, versus 53% in 2004), the use of the Internet

increased (14% in 2005 versus 12% in 2004) and usage of the written channel (Post and/or Fax) decreased from 26% (2004) to 24% (2005). The Dutch study compares 2001 with 2004 and found that usage of the personal channel and the telephone changed only slightly: personal, 33% (2004) versus 36% (2001); telephone, 28% (2004) versus 26% (2001). The use of the Internet increased to a larger extent, showing a rise from 7% (2001) to 24% (2004), while the use of written channels decreased from 31% (2001) to 13% (2004).

The United States' study also asked citizens what their preferred means of interaction is, 40% of the respondents thereby declared that they preferred the phone, 13% said they preferred in person contact and 24% indicated to favor the web. Furthermore, the study from Switzerland revealed that citizens claim that they will continue to use the traditional channel to a far greater extent than the electronic channels. German research indicates that, although nearly 80% of Bavarian citizens wants to have contact with governmental organization via the Internet, both in person and telephone contact are perceived by a majority of citizens to be important means of citizen-government interaction (Accenture, 2002).

The paragraphs above focus on citizen initiated contacts with government in general. On an organizational level also a number of studies have been conducted. Especially Inland Revenue / Tax Organizations have been at the forefront of collecting data on channel usage. Hence, in the next paragraphs, we take a closer look to channel usage on an organizational level.

The website of the Australian Tax Office received 93 million visits, which is, as with all countries a strong increase in comparison with previous years. The Australian Tax Office received 11 million phone calls in 2004-2005, which is a small decrease (4%) in comparison with one year earlier. The number of visits to the front desk has lowered, no exact numbers are available. The same tendencies are observable at other tax agencies world wide. The website of the New Zealand IRS received in 2004-05 on average 150.000 page views per day, an increase of 113% in comparison with the previous year. However, the telephone remains important, also in New Zealand. Most of IRS customers contact this organization through telephone services. The face-to-face front desk channel also remains essential: since 2000 the number of advisory hours has increased every year (source: Annual Report 2005). In 2004-2005, the website of the Canada Customs and Revenue Agency (CCRA) received more than 24 million visits, an increase of 27.6% over the previous year. Electronic tax filing also seems to be a great success in Canada, the number of electronic filing for individuals has grown each year since 2001. In 2004-2005 nearly 50% of all tax forms were filed electronically. But, as with the situation in New Zealand: "The telephone remains the most popular service channel for client enquiries" (source: Annual Report 2005).

As the following table shows, similar patterns of service channel use can be seen at the Dutch Tax and Customs Administration. The use of the Internet grows strongly whereas contacts via the traditional channels do not alter that much.

	<b>2002</b>		<b>2003</b>		<b>2004</b>		<b>2005</b>	
	n	%	n	%	n	%	n	%
Telephone	8.700	63,2	8.550	59,3	8.225	48	11.325	37,6
Counter	875	6,3	870	6	884	5,2	924	3
Internet	4200	30,5	5000	34,7	8000	46,8	17.900	59,4
<i>Total</i>	<i>13.775</i>	<i>100</i>	<i>14.420</i>	<i>100</i>	<i>17.109</i>	<i>100</i>	<i>30.249</i>	<i>100</i>

Note: The rapid increase in the total number of channel interactions from 2004 to 2005 is partly due to the fact that the Tax and Customs administration has been responsible for a growing number of tasks since 2005, like rental subsidies.

*Table 3.2: Channel Usage by clients of the Dutch Tax and Customs Administration 2002-2005*

From the fact that the total number of interactions in most countries, and with most organizations only increases, we can hypothesize that people use more and more channels in their interactions. This hypothesis seems to be confirmed in various studies. Pieterse and Ebbers (2007) did a survey among Dutch citizens and found that citizens in practice are multi-channelers: on average, they have contact with governmental organizations via three different channels. But citizens do not only use an increasing number of channels in general, they use more than one channel within the same service-delivery process. American research found that 22% of all Americans had used multiple channels during their last service encounter with a governmental organization (Horrigan, 2004). Further, the Citizen First study from Canada found that citizens used an average of 1.9 channels to obtain the last used service. One half used a single channel, while the other half used two or more channels.

#### 3.4.2 Channels used for specific services

The previous section has explored the channels used *in general* for contacts with governments or governmental agencies. Various studies in a number of countries have been conducted in recent years that focus on what services citizens use via which channel. In Switzerland, Canada and the Netherlands (Berner Fachhochschule & Unisys, 2005; Bongers *et al.*, 2004; Erin Research, 2003) studies have been conducted that asked citizens for what purpose the Internet is being used. Although each country has different purposes in their top five, the most important factor in all three countries is gathering information from the website. Number 2 in two out of three countries is downloading forms. An Australian study (Australian Government, 2005) explores in more detail the relationship between the type of channel and the purpose for which it is used. This study distinguishes between information related services (obtaining information and giving information) and communication services. Table 3.3 shows which channel respondents use for what kind of service.

<b>Channel</b>	<b>Information (obtain)</b>	<b>Information (give)</b>	<b>Communication</b>
Personal	30%	41%	52%
Telephone	36%	28%	26%
Post (and/or Fax)	0%	20%	13%
The Internet	33%	16%	15%

*Table 3.3: Channels used for different tasks in Australia (Accenture) in 2005*

As the table shows, the Internet is mostly used to obtain information. To give information and to actually communicate, the more personal channels are deployed more often. In general, a majority of all citizens (61%) sees information online as a replacement of information via the traditional written channels such as newspapers and brochures (Bongers & Vermaas, 2006).

The Australian study explores the relationship between the type of channel and the purpose for which it is used in more detail. This study distinguishes information related services (which we call information, registration and communication) and transaction services. Table 3.4 shows which channel respondents use for what purpose.

<b>Channel</b>	<b>Information</b>	<b>Registration</b>	<b>Communication</b>
Personal	30%	41%	52%
Telephone	36%	28%	26%
Post (and/or Fax)	0%	20%	13%
The Internet	33%	16%	15%

*Table 3.4: Channels used for different tasks in Australia in 2005*

As the table shows, the 'rich' channels (personal and to a lesser extent the telephone) are increasingly used when services are increasing in complexity. When communication is involved, more than half of the respondents use personal channels. The 'poor' channels are used less when services get more complex

The basic conclusion drawn in the Australian study is that there is a relationship between the (perceived) characteristics of the task involved, the levels of complexity and ambiguity, and the channels citizens prefer to use, as shown in Table 3.5.

<b>Level of Complexity</b>	<b>Low Ambiguity</b>	<b>High Ambiguity</b>
Low complexity	Prefer Internet (usage already high)	Prefer Phone
Moderate complexity	Use Internet if confident (increasing usage over time)	Prefer Face-to-Face or Phone
High complexity	Lower usage of Internet (there is willingness if shown how, levels are expected to increase)	Prefer Face-to-Face

*Table 3.5: The relation between task characteristics and channel (Australian Government, 2005).*

The Pew Internet and American Life Project (2004) also found a relationship between citizens' preferred means of interaction and the nature of the problem. For those people who classify the reason why they contact the governmental agency as very complex or urgent; the telephone and front desk are the most valued forms of interaction. However, for seeking information, the electronic channels are of increasing importance, as the table (Table 3.6:) below clarifies.

<b>Preferred means of contacting Government – by Reason for Contact</b>				
	Problem was very complex or urgent	Contacted government to solve problem	Contacted government for transaction	Contacted government to get information
Telephone	46%	47%	40%	41%
Website	14%	17%	30%	33%
In person	16%	15%	15%	10%
Email	10%	9%	6%	10%
Letter	11%	9%	7%	4%

Source: Pew Internet & American Life Project Survey, July 2003 (<http://www.pewInternet.org/>)

*Table 3.6: The relation between tasks and channels preferred*

Finally, in the Netherlands, Pieterse et al. (2007) also explored in more detail the relationship between different tasks and situations on the one hand and the channel used on the other hand. Their research has yielded two important findings. First, they found that people in many instances choose the same channel for all situations. This general channel preference can be deduced from the different socio-demographic characteristics of the respondents. Men generally use the Internet more often than women, the younger people also tend to use the Internet more, as well as the higher educated. The lower educated tend to visit the front desk more often. In line with the results of education is the finding that the lower income classes are less likely to use the Internet. Households consisting of just two people tend to have a higher preference for visiting the front desk than all other household compositions. These findings do not divert from other research findings (e.g. Ebbers et al., 2007; van Dijk et al., 2006), except for the finding concerning gender; other studies reported no difference between men and women (Pieterse & Ebbers, 2007). This may be due to a different use of the internet between men and women that exists only in the Netherlands, although there is no direct reasons to assume that gender differences do play a role in the Netherlands but not in the surrounding countries. However, although people have general preferences for a certain channel in general, people do use different channels for different tasks and in different situations.

### 3.4.3 Concluding remarks on channel usage

A number of important conclusions can be drawn regarding the channel usage of citizens. First, the traditional channels remain the most important means of interaction, both for contacts with governments in general as with specific governmental agencies. The use of the internet grows tremendously over the years. This mostly affects the written channel and to a far lesser extent the face-to-face channel (front desk) in which on some occasion

a decline in usage has been reported. Second, citizens use the different channels for different purposes. The electronic channels seem to be used for more simple, standard tasks, whereas the traditional channels appear to be used for more complex and ambiguous tasks.

It appeared to be difficult to compare the (scarce) available material. Measurements used in the different studies varied and many studies were conducted in different periods of time. This explains some of the (smaller) variances in outcome. Nevertheless, the general conclusions appear in most studies allowing us to generalize these findings.

### 3.5 Previous Research on Channel Evaluation

Of the three stages in the process of channel behavior, channel evaluation has received the least attention in both scholarly and practical research. One of the few academic publications in which channel evaluation is mentioned, is one of our own (Pieterse & Ebbers, 2008). Here we found that the electronic channels were evaluated higher than the traditional channels. This is in contrast to earlier findings from the non-academic setting. In different studies, face-to-face contact is higher evaluated than the electronic channels (Bongers et al., 2004). This might be due to the fact that our study stems from 2007, whereas most other studies are older.

In two of the nationwide studies discussed in the section above, channel evaluation has been measured. Channel satisfaction has been measured for all four channels in Canada and The Netherlands. In Canada, respondents were asked whether or not they were satisfied with the use of the service channel, using percentages based on the responses.

<b>Channel</b>	<b>Canada</b>
The Internet	68%
Personal	62%
Telephone	56%
Mail	55%

*Table 3.7: Channel evaluation in Canada (Erin Research, 2003)*

Here we can see that 68% of all respondents indicated to be satisfied with the usage of the Internet. This is in sharp contrast to a mere 55% being satisfied with the usage of traditional mail. In the Netherlands, satisfaction was measured on a scale from 1 to 10. Respondents had to give a grade for their satisfaction with each of the channels.

<b>Channel</b>	<b>The Netherlands</b>
The Internet	7,2
Personal	6,8
Telephone	6,6
Mail	6,1

*Table 3.8: Channel evaluation in The Netherlands (van Dijk et al., 2006)*

The findings from the Netherlands are similar to those in Canada; with the Internet being the most satisfactory channel, followed by personal service interactions, telephone and mail. It appears that people are most satisfied with the electronic channels. Cohen (2006) also found higher satisfaction for the electronic channels, with 91% of all web visitors being either "Somewhat" or "Very" satisfied with the contact with government, as opposed to 80% of all face-to-face and 74% of telephone contactors. However, as Cohen rightfully argues; measuring channel satisfaction is no easy task. Many factors may influence the evaluation of a given channel. The design of the channel, previous experiences with the channel, the degree to which an answer was obtained via the contact and expectations towards the contact may all affect channel satisfaction (Cohen, 2006).

In the same study, Cohen (2006) investigated how the demographic characteristics of the citizen, the reasons for contacting government, the level of government contacted and the outcome and processes of the contact experience affect channel evaluation. With the reasons for contacting government, Cohen does not refer to the determinants of channel choice, but the information or contact need. In his study he finds effects of all variables on channel satisfaction. It is unclear how these factors affect channel choice, but, as argued in the model. The satisfaction or evaluation of the channel will likely influence the next channel choice.

In a study of the use of services and service channels for citizen-government interactions, Van Dijk, Hanenbug and Pieterse (2006) found that the electronic channels were evaluated highest, followed by the front desk and telephone. In their study, they related channel satisfaction to the use of services. They found interesting (and significant) relations between usage and satisfaction for each of the channels. More usage seems to lead to more satisfaction for the electronic channels, whereas this correlation is negative for the front desk, as the table below (Table 3.9) shows.

	<b>Front Desk</b>	<b>Telephone</b>	<b>Post/Written</b>	<b>Website</b>	<b>E-mail</b>
Use of Services					
- None of low	6,8	6,3	6,4	6,6	6,3
- Medium	6,4	6,0	6,3	7,0	6,4
- High	6,4	6,3	6,1	6,9	7,0

*Table 3.9; Channel satisfaction in relation to service usage (van Dijk et al., 2006)*

The Dutch tax and customs administration has measured channel satisfaction with both the telephone and the website in a number of consecutive years (Belastingdienst, 2005, 2006, 2007, 2008, 2009). Their findings do not divert that much from other findings.

<b>Channel evaluation</b>					
	2004	2005	2006	2007	2008
Website	7,1	7	6,8	6,6	6,6
Telephone	6,7	6,3	6,2	6,2	6,2

*Table 3.10: Channel evaluation at the Dutch Tax and Customs Administration; longitudinal view*

In the table (Table 3.10) we see both declining satisfaction with website and telephone, however, relative to the telephone did the website perform better. Therefore do these findings to a fairly large degree resemble those of other studies. The website is evaluated more positive than the telephone.

In sum, it appears that channel satisfaction has changed through the years. Whereas people evaluated the traditional channels highest until, say, five years ago. This has changed in recent years. Experiences with the electronic channels might have led to a higher evaluation in the course of the years.

### 3.6 Conclusions

This chapter has explored Channel Behavior and thereby *channel choice*, *channel usage* and *channel evaluation* have been discussed. In this chapter we tried to answer the following research question:

*What is the current state of the art in research regarding citizens' channel behavior?*

Regarding channel choice we can conclude that the previous research is fragmented and too much limited to the analysis of singular relationships. Further, there is a lack of theory development on channel choice; put simply, there is no theory on channel choice and the various studies did no attempt at all to build such theory. Although the list of possible channel choice determinants is possibly endless, it appears that a number of groups of determinants can be distinguished; *task characteristics*, *channel characteristics*, *personal characteristics* and *situational factors*. However, what exact factors determine the channel choice for citizen initiated contacts remains unknown. In sum, Reddick (2005a) rightly argues that more qualitative research is needed to get a full understanding of citizen-initiated contacts. Further, we need to further explore those theories that might help in answering the research questions. As argued above, no (public sector) channel choice theories exist, but media choice theories from the field of communication might serve as a basis.

Regarding channel usage we can conclude that, despite the rise of the electronic channels, the traditional channels remain the most important means of interaction. Given the developments in usage, it is unlikely that the electronic channels will replace the traditional channels in the near future, if this replacement will occur at all. Further, citizens use the



different channels for different purposes. This conclusion is in line with channel choice research where the argument is put forward that task characteristics determine channel choice.

Finally, although the traditional service channels remain the most used, citizens generally evaluate the electronic channels more positive. During the years evaluations of the electronic channels have risen, whereas those of the traditional channels declined. However, although it is proposed that the experience gained in previous contacts (Carlson & Zmud, 1994, 1999; King & Xia, 1997) affects future choices, we have too little knowledge at present to assess this relationship. It seems plausible, though, that the positive evaluation of the electronic channels has a causal effect on the increase of use in these channels.

This chapter did not aim at generating a full picture of all research on channel behavior. It was aimed at giving an overview of the state-of-the-art in channel behavior (RQ1). The main answer to that research question is that the state-of-the-art is too ambiguous to draw final conclusions from. A deeper understanding of the (theoretical) mechanisms is needed as well as more (exploratory) qualitative research in order to draw more definitive conclusions.



PART 2  
THEORIES OF CHANNEL CHOICE





“Man is a rational animal who always loses his temper  
when called upon to act in accordance with the dictates of reason.”  
(Orson Welles)

## 4 Rational theories of media choice<sup>3</sup>

### 4.1 Introduction

In the previous chapter (three) we discussed earlier studies on channel choice from different fields of science (public administration, marketing, etc.). Chapter three was the concluding chapter of the first part of this dissertation that served as a background for the study. The second part, consisting of chapters four, five and six, explores the relevant theories on channel choice. In these chapters we try to answer the second research question of the study. This research question is:

*What are the most important insights on channel choice we can draw from existing theories?*

The three chapters will all focus on different theoretical approaches to channel choice (we will clarify which approaches below). In the concluding remarks of chapter six, we will try to formulate an answer to the second research question.

For our discussion of the theories on channel choice, we go back in time until we find the first (theory building) ideas on channel choices. First thoughts about people using channels to obtain information or to communicate stem from the 1960's, when researchers like Galbraith (1973) and Woodward (1965) tried to answer the question “Why do organizations process information?”. This was, and is, a relevant question for organizations given the link between organizational strategy, uncertainty and information processing. It has been argued that the strategy chosen by an organization determines to a large degree the uncertainty with which the organization has to cope (Govindarajan, 1988; Miles & Snow, 1978). This uncertainty has arguably been one of the most prominent reasons why organizations engage in information seeking and processing behaviors (Daft & Lengel, 1986; Daft & Wiginton, 1979; Ford & Slocum, 1977; Weick, 1979a). Therefore it is no surprise that organizational communication has been the research field where the role of information seeking, resulting in media choice, as a means to reduce such factors as uncertainty was the first to gain considerable attention. This discipline then, is the field where many of the channel choice theories stem from.

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<sup>3</sup> Parts of this chapter (especially the part discussing the Media Richness Theory) have been previously published in Pieterse (2008b)

One of the first to try to answer the question why organizations process information was Galbraith (1973), who proposed that specific structural characteristics and behaviors would be associated with information requirements. Following this argument, a number of theories have been proposed that try to fit information requirements with some kind of behavior. Primarily these theories intended to fit a certain information need (the information requirement) with the use of a certain medium (the behavior). Since these theories are aimed at fitting a certain task with a certain medium; they take a contingency approach of 'fit as matching' (Venkatrama, 1989). Given the roots of contingency theory (organizational theory), it is no surprise that these media theories all find their roots in organizational theory as well. Media Richness Theory (Daft & Lengel, 1986), for example was originally aimed at the study of information processing in organizations, thereby trying to find ways in which information processing might aid in organizational design (Daft & Lengel, 1986). During the years, however, these general theories (and most notably Social Presence Theory and Media Richness Theory) have evolved to more generally applied media (choice) theories. It has even been suggested that Media Richness Theory (MRT) belongs to the most widely known and used media theories (Dennis & Kinney, 1998). A review of the available studies on media richness (Pieterse, 2008b) confirms not only that MRT is one of the most popular media theories, but also that it has gradually shifted towards a media choice theory (El-Shinnawy & Markus, 1997; Webster & Trevino, 1995).

This contingency based line of theorizing, which has also been labeled the 'objective', but most notably the 'rational' line (Webster & Trevino, 1995) line has been criticized almost immediately since its confinement. Most notably the Rational Theories of Media Choice have been criticized for its rationality, while not taking into account such aspects as social influences (Webster & Trevino, 1995). These critiques have led to a second line of theories, which we can label the "(inter)Subjective Theories of Media Choice". First, and most prominent of these theories is the Social Influence Model (Fulk *et al.*, 1990) that argues that a) media and task characteristics are not fixed, but are perceptions and b) channel choices are socially constructed. These two lines of theories have often been placed as dichotomies against each other, although the original theorists as well as some other later researchers were far more integrative in their approach. Nevertheless, given the fact that the two lines of theorizing do stem from different viewpoints, axioms and theorems, we will discuss the two separately. In this chapter we will discuss the rational theories, whereas we will discuss the (inter)subjective theories in chapter five<sup>4</sup>. Attempts to integrate the two perspectives from media theorists will be discussed in chapter five. This chapter will start with a discussion of contingency theory in general. Next we will turn to media theories, starting with Social Presence Theory (Short *et al.*, 1976), followed by a

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<sup>4</sup> Although we discuss the, as we see it, most prominent theories on media behavior, we will not discuss all theories. Less prominent theories in the context of individuals' media choice such as the Uses and Gratifications Approach (Rosengren, 1974) and Adaptive Structuration Theory (Desanctis & M.S., 1994), although their theoretical value is by no means denied, are not discussed.

discussion of Media Richness Theory (Daft & Lengel, 1984, 1986). The chapter will finalize by drawing a number of conclusions.

## 4.2 Contingency Theory

The contingency theory of organizing stems from the work of organizational psychologists and sociologists (Burns & Stalker, 1961; Lawrence & Lorsch, 1969; Thompson, 1967). It is rooted in organizational science, in which advocates of traditional organizational theories argued they found the one best way to organize (Conrad & Poole, 2005). However, researchers showed that there was no such thing as the best way of organizing, but depending on the situation a different type of organization might be required (Burns & Stalker, 1961). This resulted in the basic idea behind contingency theory of 'fit': a state of variable A should match a state of variable B. For example, Burns and Stalker (1961) found that a bureaucracy was the best organization type in stable conditions, whereas the bureaucracy was too slow to adapt to unstable situations. Other organizational types (such as the relational type) should lead to better organizational effectiveness (and thus 'fit') in the latter situation.

Weill and Olson (1987) discuss a number of important assumptions that underlie the contingency approach:

1. Fit. The better the fit among contingency variables (such as task and medium), the better the performance of the organization.
2. Rationality. Organizational actors perform in ways that are coherent with the main goal of organizational effectiveness. Hence, decision making follows a rational process.
3. Situational determinism. The use situation is a given, which cannot be influenced by managers or organizations.
4. Deterministic models. Assumptions about clear causal inferences are often made.
5. Cross-sectional and non-historical empirical research methods
6. A linear model of contingency variables; most empirical work relies on general linear models such as (linear) regression.

Although contingency theory is primarily an organizational theory, there are contingency theories that guide individual behavior. Especially Media Richness Theory is a well known example from a contingency theory for individual behavior (Conrad & Poole, 2005), but Social Presence Theory also rests on the same foundations as (general) contingency theory. Both theories share the assumption that there should be some kind of fit between communication channel and communication incident in order for communication to be effective and both theories are built<sup>5</sup> on the assumption of rationality of the decision maker. Further, both theories assume situational determinism, although Short et al. (1976)

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<sup>5</sup> Daft and Lengel (1986, p. 559) did argue that managers "work under conditions of bounded rationality", but nevertheless the theory has been criticized for its rational approach of behavior (Fulk et al., 1990).

assert that social presence is a subjective quality, both MRT and SPT regard the channel's characteristics to be fixed and invariant to the situation.

### 4.3 Social Presence Theory

First of the "rational" theories is Social Presence Theory (SPT) (Short et al., 1976). Originally, it was developed as a seminal theory of the social effects of communication technology. However, it has been studied a lot in the context of media behavior (Bradner & Mark, 2001; Keil & Johnson, 2002; Rice, 1993). Social presence can be defined as the "degree of salience of the other person in a mediated communication and the consequent salience of their interpersonal interactions" (p. 65).

The central idea of the theory is that the medium's social effects are principally caused by the degree of social presence which it affords to users. Social Presence is a subjective quality of a communication medium, it relates to the social psychology concepts of intimacy and immediacy. 'Immediacy' is a measure of psychological distance, the concept was developed by Mehrabian (1969), who defined immediacy as a kind of communication behavior that enhances "closeness to and nonverbal interaction with another" (1969, p. 213). Examples of such behavior are nonverbal behaviors such as smiling and nodding. This concept of immediacy is somewhat related to the "immediacy of feedback" concept of Media Richness Theory that will be discussed further on. Short et al. regard this concept of immediacy as very closely related to Argyle and Dean's (1965) concept of "intimacy." Argyle and Dean argued that people are equally attracted to and repelled by other people in a communication situation and hence they strive for equilibrium of intimacy through for example seating position (the more intimate people are the closer they sit). Factors that affect the level of intimacy are the (physical) distance, smiling, eye contact and the topic of communication (Argyle & Dean, 1965).

Short et al (1976) see social presence as a single dimension that represents a cognitive synthesis of both the intimacy and immediacy factors. Factors determining social presence are, non-verbal cues, proximity and orientation, physical orientation, facial expression, eye gaze, posture and the congruence between verbal and visual communication. Next, the different media can be classified according to their degree of social presence. Face-to-face communication is highly intimate, physical distance is low, it is possible to have eye-contact and non-verbal communication such as facial expressions (smiling). The ranking of media according to social presence is similar to the ranking of media according to MRT. Face-to-face communication has the highest social presences, whereas written formal communication has a low social presence.

Studies using Social Presence Theory have yielded mixed results. There are studies that found support for the relationship between media choice and use and social presences (Ochsman & Chapanis, 1974; Holland, Stead & Leibroch, 1976), whereas others do not



(Bradner & Mark, 2001; Rice, 1993). Despite the mixed research findings, SPT did receive considerable attention from scholars and practitioners. However, in popularity it was soon to be overshadowed by its 'bigger'<sup>6</sup> brother; Media Richness Theory.

#### 4.4 Media Richness Theory

Trying to answer the question why organizations process information, Daft & Lengel (1986) present 'uncertainty' and 'equivocality' as the two major forces that influence information processing in organizations. Source of uncertainty and equivocality are technology, interdepartmental relations, and the environment (Daft & Lengel, 1986). Although equivocality seems to be the same as uncertainty, they are not the same. Uncertainty can be seen simply as the absence of information (Shannon & Weaver, 1949), or "the difference between the amount of information required to perform the task and the amount of information already possessed by the organization" (Galbraith, 1973), equivocality means that there may be more than one interpretation of task related information. Simply adding more information, as with uncertainty, may lead to even more ambiguity. Equivocality means ambiguity, the existence of multiple and conflicting interpretations about an organizational situation (Daft & Lengel, 1986; Weick, 1979a). Managers reduce equivocality by defining or creating an answer rather than by learning the answer from the collection of additional data (Weick, 1979a).

The link with choosing channels lays in the second question Daft & Lengel (1986, p. 559) try to answer in their article: "how can organizations be designed to meet the needs for uncertainty and / or equivocality reduction?" This is where the concept of information richness is being introduced, as Daft and Lengel argue that "organizational design can provide information of suitable richness to reduce equivocality as well as provide sufficient data to reduce uncertainty". Reduction of uncertainty thus is done by providing exact the necessary amount of information required. This can be done by formal and structured forms of communication. Reduction of equivocality is done not by the amount of information, but by means of the richness of information:

*Information richness is defined as the ability of information to change understanding within a time interval.*

As uncertainty and equivocality are different forces, with different characteristics, distinctive channels are required to reduce uncertainty or equivocality. The amount of information is the key to uncertainty reduction. Communication transactions that can overcome different frames of reference or clarify ambiguous issues to change understanding in a timely manner are considered 'rich'. Communications that require a long time to enable understanding or that cannot overcome different perspectives are

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<sup>6</sup> In terms of popularity

lower in richness. In a sense, richness pertains to the learning capacity of communication (Daft & Lengel, 1986, p.560).

Communication media vary in the capacity to process rich information (Lengel & Daft, 1984). Although richness is presented by Daft and Lengel to be a property of information, they link the richness of information to the characteristics of media. This led to the use of the more common term 'media richness' in stead of 'information richness'. Where Daft and Lengel used the term "information richness" in 1984, they already used the term "media richness" in their 1986 publication. The shift in naming of the theory from information to media apparently increased the applicability of the theory; originally intended as a managerial information processing theory, the Media Richness Theory has become a more general theory to describe and prescribe choice and use processes of communication media, as the remainder of this article will point out.

The reason for the differences between media to convey rich information is that media vary in their capacity for *immediate feedback*, the *number of cues* and channels used, *personalization*, and *language variety* (Daft & Wiginton, 1979).

Immediate feedback means that one is able to respond immediately to a message, making it possible to check the messages' interpretation. Feedback is important for the speed and effectiveness of communication (Dennis & Kinney, 1998), because it enables the sender to recognize the extend to which the receiver understands the message and enables the sender to adjust the message presentation accordingly; a sender could recognize that the receiver understands the message and move on to new messages, or recognize that the receiver does not understand the message and tries to clarify it (Clark, 1992).

The number of cues means that there are different ways in delivering the message, via sound, video, but also via non-verbal communication or intonation. Dennis and Kinney (1998) describe four ways in which the multiplicity of cues may affect the communication and understanding of messages. First, verbal and nonverbal cues enable senders to include information beyond the words themselves when the message is transmitted. Second, the use of typed media, such as electronic mail, or letters, rather than a spoken medium such as face-to-face communication imposes significant transmission delays because it takes longer to type a message than to speak it. Third, the inherent delay in typed media and the lack of verbal and nonverbal cues have significant effects on feedback. The absence of verbal and nonverbal cues effectively eliminates concurrent feedback. Fourth, the lack of verbal and nonverbal cues can have significant effects on social perceptions (also see Williams, 1977). The people with whom one is communicating become less like real people and more like objects.

The degree of personalization applies to the possibility to adjust a message to the receiver, to increase understanding and to reduce equivocality, especially via non-verbal forms of

communication. Language variety, finally, applies to the possibility to change choice of words and language for the receiver.

Daft & Lengel (1986), ranked the following (at that time most common) media in order of decreasing richness:

1. face-to-face
2. telephone
3. personal documents
4. impersonal written documents
5. numeric documents

Face-to-face is the richest medium, because it provides immediate feedback. One can respond immediately in a face-to-face conversation and interpretations can be checked. The medium is able to provide multiple cues as well, via non verbal communication like body language, via tone of voice, and message content is expressed in natural language. Rich media enable managers to overcome different frames of reference and providing the capacity to process complex subjective messages. Media of low richness, such as impersonal written documents and numeric documents, process fewer cues and restrict feedback; these are therefore less suited to lower equivocality. Hence, they are very effective for processing standard data and have great capabilities to reduce uncertainty.

In 1987, Daft, Lengel and Trevino (1987) first spoke about the 'new' media in relation to media richness. In their view, the term new media refers to 'communications technology'. Examples of the new media they give are electronic messaging, video displays and teleconferencing. In 1990, electronic mail was retroactively fit into the richness ranking (Trevino, Daft & Lengel, 1990). Electronic mail systems vary somewhat in terms of media richness as Trevino Daft and Lengel (p. 76) argue. Most electronic mail systems have the capacity to provide rapid (but not immediate) feedback, it also uses natural language; however, it lacks cues such as voice inflection and tone. Electronic mail should therefore be positioned just below the telephone, but higher than letters and notes. The ranking of media is graphically presented in Figure 4.1

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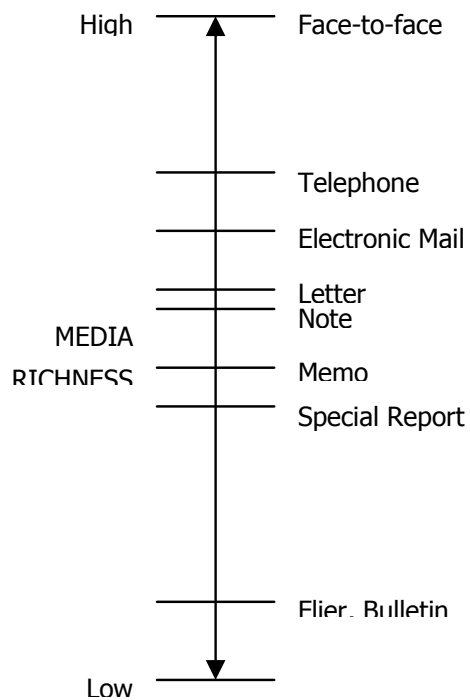


Figure 4.1: The richness ranking of different media

None of the new electronic media, according to Daft, Lengel and Trevino (1987) is able to match face-to-face communication in richness. For example, video conferencing is less rich than face-to-face communication, but richer than the telephone. E-mail is to be positioned somewhere between telephone and written memos, because it has the capacity for rapid feedback and it can quickly reach a large, geographically dispersed audience. Daft, Lengel and Trevino consider electronic mail inappropriate for exchanging confidential information, resolving disagreements, getting to know someone, or negotiating (see also: Rice & Case, 1983).

So, in short, MRT consists of two central notions:

1. The richness notion: Media vary in richness and can be ranked from low (or poor) to high (or rich) based on their ability to give *immediate feedback, provide cues, be personalized and vary language*.
2. The task-medium notion: Different media are suited for different tasks. Media low in richness (such as formal written media) are suited to reduce uncertainty, whereas media high in richness (such as face-to-face communication) are better suited to reduce equivocality. This task-medium notion corresponds with the contingency idea of 'fit'.

Trevino, Daft & Lengel (1990), give a striking example that illustrates the importance of proper channel selection:

*[An] example of a media choice mistake was the use of teleconferencing to make the decision to launch the Challenger space shuttle in January, 1986. Engineers had strong*

*feelings that the Challenger should not be launched. It is possible that the teleconference medium was incapable of communicating the strength of the engineers' emotions and gut feelings to the managers who had to make the decision. The Challenger was launched and exploded with seven astronauts on board.*

Further illustrations for the necessity of proper task-medium fit are given by McGrath and Hollingshead, who point out that a mismatch between task and medium can lead to inefficiencies in terms of managerial performance, because task-medium mismatches can require communication partners to engage in compensating activities to clarify message content (McGrath & Hollingshead, 1993). This may lead to communication inefficiencies. So, the proper fit between task and medium is both important for the effectiveness as the efficiency of communication.

The two notions have been used most extensively in research testing Media Richness Theory, where the second notion has received most attention. Research studying and validating the two notions will be discussed in the next section.

#### 4.4.1 Research on Media Richness

Media Richness Theory has been widely applied in research and tested in various studies since the beginning of its existence. From the beginning, the validity of the two central notions have been disputed (see for example Markus (1988), who found negative results for both notions), but also supporting studies have been conducted (like Daft, Lengel & Trevino, 1987; Trevino, Lengel & Daft, 1987). During the years, wide bodies of both supporting and un-supporting studies have emerged. This makes it unclear, whether or not the two central notions are valid. Given this lack of clarity, and given the fact that so many studies have been conducted, it is rather surprising that very few meta-studies exist that try to create some clarity about whether or not the two central notions are valid.

Rice and Shook (1990) made a meta-analysis of over 40 prior studies, to answer the question whether or not differences in job categories and organizational levels represent different information processing requirements. They found that job categories can be differentiated on the basis of media use and that organizational levels can be differentiated on the basis of the underlying patterns of media use. Managers did indeed use more communication channels high in information richness. However, Rice and Shook did report some findings that do not correspond with media richness theory. Use of media low in richness did not vary across job categories, perhaps because everybody needs to reduce uncertainty and therefore needs media that have low richness. Another result is more important. Contrary to media richness theory, upper-level managers did not necessarily use electronic mail less than did lower-level respondents. A final point is that Rice and Shook's meta-analysis is already more than 15 years old and therefore somewhat outdated.

Straub and Karahanna (1998) have also presented an overview of studies supporting and non-supporting MRT (and in their case, also Social Presence Theory). They concluded, based on an overview of 25 studies that the ratio of supportive to non supportive studies is 1.77 to 1 and thus, that the task-medium notion is generally supported in research. Straub and Karahanna's overview does have a few limitations that raise the question whether or not their conclusion is justified.

First, they use both MRT and Social Presence studies, in this way mixing up social presence and media richness. Although media richness and social presence both focus on media characteristics and the results of research yield similar results (media high in richness are also high in social presence), the concepts of media richness and social presence are theoretically different and should therefore not be mixed up as being the same.

Second, their overview takes a rather broad point of view. Their overview supposes to contain studies that generally support or not support social presence and information richness theory. It does however contain studies that are aimed at the theories in general. An example is Jones, Saunders and McLeod's (1989), who tested whether high and low ranked managers used different media. This proved to be true (were high ranked managers used richer media), but this study did not link task and medium and does therefore not really test MRT. Their conclusion that higher ranked managers used richer media does not justify the conclusion that this study generally supports MRT, as Straub and Karahanna (1998) suggest. Jones et al.'s study simply provides too little evidence to justify this conclusion. The same thing applies to Reinsch and Beswick (1990), labeled by Straub and Karahanna as 'supportive', while in fact Reinsch and Bewich only studied the medium voice mail and yielded results that both favor Social Presence and Media Richness (such as the support for the hypothesis that 'Preference for voice mail will be low when the content of a message is complex') and disfavor Social Presence and MRT (such as the unsupportive results for the hypothesis "Preference for voice mail will be low when a task involves significant resources or affects personal relationships" and "Preference for voice mail will be lower among upper-level managers than lower-level managers").

Since very few review studies are available and research findings have shown mixed results from the beginning, it is rather surprising that the theory still receives a large amount of attention. Recently, studies testing the theory (see for example Barkhi *et al.*, 2004; Cameron & Webster, 2005) and applying it (see for example Ramirez & Burgoon, 2004; Waldeck *et al.*, 2004), have been published. It is even more surprising that there seems to be no agreement about whether or not the two central notions hold.

Pieterse (2008b) did an extensive literature review to see whether a more definitive conclusion can be drawn regarding the validity of the two main premises. He analyzed 60

empirical studies on (each of) the two central notions. The main findings of the study are listed below.

**The richness notion.** Although most studies focus on the fit between task and medium, there are researchers that discuss the richness notion. Especially the ranking of new media within the richness continuum has received a reasonable amount of scientific attention. A consistent finding of the studies that focus on the traditional media is that they place face-to-face as being the medium highest in richness, with telephone, personal documents, impersonal written documents and numeric documents ranked below (see for example Daft & Lengel, 1984, D'Ambra & Rice, 1994; Trevino, Lengel & Daft, 1987). There is, however, some debate about the ranking of the new media within the richness continuum. One of the first studies to test the ranking of media, including the new media, was the study of Trevino, Lengel, Bodensteiner, Gerloff, and Muir (1990) among managers. They found support for the ranking of traditional as well as the new media. Other studies, such as Carlson & George (2004) did find support for the ranking of the traditional media, but found problems with the new media. Carlson & George found that voice mail was ranked the lowest of all media (lower than memos or letters), as opposed to the theory's predictions. Schmitz and Fulk (1991) reported that, although their research confirmed the general ranking of the traditional media, the standard deviations for the mid-range media were very large relative to very small differences across means and that considerable variation in richness ratings were unaccounted for by the richness continuum.

Lee (1994) examined the richness of e-mail and found that richness is not an inherent property of e-mail. Rather, it is an "emergent property" of the interaction between the medium and the organization. Depending on for example appropriation or enactment, e-mail is seen as having higher or lower richness.

Markus (1994) studied manager's use of e-mail. The study among 504 managers of different organizational levels revealed that managers did not perceive e-mail to be a rich medium; this is a fairly consistent notion with MRT. Adams, Nelson and Todd (1992), however report a different result. Their study among 68 users of both voice and electronic mail indicates that e-mail is viewed as a medium that has a significant impact on how individuals communicate in an organization. And has abilities that mark the medium as rich rather than poor, this in contrast to voice-mail, which is only seen as a complement of the telephone. Markus (1988) also notes that electronic mail was seen as being richer and more likely to be chosen for equivocal tasks than other media such as the telephone and face-to-face communication.

Despite some debate about the ranking of the new media, Pieterse (2008b) concludes that in general the richness notion has been met with support.

**The task-medium notion.** Findings regarding the task-medium fit were far more confusing. Nearly half of the studies yielded no support for the task-medium notion one third found support and the rest found mixed results. Partial support means that the task-medium notion was supported on some aspects, but not on other aspects. For example, Mennecke, Valacich and Wheeler (2000) who found a relationship between task and medium for equivocal tasks, but not for uncertain tasks thus leading to partial support for MRT. Murthy (2003), found a similar result. His comparison between face-to-face and computer mediated communication for equivocal and uncertain tasks led to the conclusion that there was no difference in performance between face-to-face and computer mediated communication for uncertain tasks, but for equivocal tasks, people using face-to-face communication performed better. Hollingshead, McGrath, and O'Connor (1993), finally, reported mixed findings on their research testing the task-medium notion. They compared computer-mediated and face-to-face work groups in negotiation, intellectual, (idea) generation and decision-making tasks. They found that the face-to-face groups performed better on the negotiation and intellectual tasks, but not on the generation and decision-making tasks. The general conclusion they drew was that the relationship between task performance and medium was more dependent on the experience with the medium, than on the type of task the groups were working with.

So, more studies have yielded non-supportive than supportive results, although the differences are small, and the studies that found partial support are not entirely in conformity with the predictions of MRT. Pieterston (2008b) lists a number of reasons that might explain why the research findings regarding the fit are so mixed. Media Richness Theory was formulated as a theory to describe the use of traditional communication in organizational settings, during the course of the years it shifted towards becoming a general theory of media choice and use (Dennis & Kinney, 1998). Many researchers have applied MRT to describe processes of the *choice* of media in stead of *use* (see for example Reinsch & Beswick, 1990; King & Xia, 1997). And many have studied communication patterns in a non-organizational context, rather than the organizational communication setting. Trevino, Lengel, Bodensteiner, Gerloff and Muir (1990b) tested MRT among 91 business school students and found support for both notions of MRT. Suh (1999) also used (undergraduate) students in his MRT study and found no support for the studied second notion (task-medium fit), the same did Kahai and Cooper (2003), who used 94 undergraduate students and did find support for the task-medium notion. King and Xia (1997) also used students to test MRT. In their study, two hundred and ninety-five MBA students participated in a longitudinal quasi-experiment. They found support for the hypotheses that traditional rich media are perceived to be more appropriate than emerging new media over time.

Pieterston (2008b) concludes that, regarding the task-medium notion, the theory does not hold. The research findings present such ambiguities that it is highly unlikely that the (rational) fit between task and medium holds in all situations. Pieterston argues that it is



very likely that more explanations of media behavior exist and that more variables need to be considered in order to explain or predict channel choices. So, empirical data does not fully support the basic tenets of the theory, but (often building on data) theorists have formulated more arguments why Media Richness Theory has its flaws. These shall be discussed in the next section.

## 4.5 Critiques on Media Richness Theory

### 4.5.1 Limited scope and concept definition

One of the main problems underlying MRT is the definition of the concepts used, for example the concept of 'equivocality', a concept that has been defined differently in varying studies (Suh, 1999). One of the main causes for the many definitions of 'equivocality' that are being used is the fact that Daft and Lengel (1986) remain unclear about what they mean with the concept and how the equivocality of a task should be measured. This lack of clarity appears throughout the theory and it leads to confusion among researchers and practitioners of the theory. Five important conceptual problems exist.

First is the definition of the richness and task features properties. As El-Shinnawy and Markus (1997) note: "MRT essentially assumes that all four elements are of equal importance in the richness construct". One can ask himself the question whether or not this is true. Fulk and Boyd (1991) note that little is known about how we may rank or weight the four elements that constitute 'richness'.

The second problem is the understanding of the concept 'performance'. Daft & Lengel (1986), however, never made clear what they meant by performance. All they noted was that organizations process information to "attain adequate performance" (p. 567-568). Problem with this, however, is that it is unclear as to how performance should be defined (Kahai & Cooper, 2003). Different researchers have used different measures of performance. Kahai and Cooper (2003), identified performance in terms of decision quality, whereas other researchers used measures like decision efficiency (time required for decision-making), and consensus among participants (Trevino, Lengel & Daft, 1987; Dennis & Kinney, 1998; Suh, 1999; Kahai & Cooper, 2003). Trevino et al. (1990) discuss performance as a construct of three underlying concepts: improved decision-making (quality), shared meaning (consensus), and better use of time (efficiency). It might well be that these differences in the definition of 'performance' contribute to the mixed findings in research.

The third problem is presented by Suh (1999), who asks to what extent MRT should be seen as prescriptive or descriptive. This is another question that the original theory does not answer. Given the fact that the theory was presented as a theory dealing with

managerial performance, one would expect the theory to have a descriptive nature. Daft and Lengel, however, never stated this explicitly.

The fourth problem is the richness construct itself. The amount of richness of a medium is determined by the immediacy of feedback, the number of cues, the level of personalization and language variety. The weight of these elements in the richness construct is rather arbitrary. A letter is richer than a note, but what if a note has color and a memo has not, doesn't the note contain more cues in this situation and shouldn't it be labeled as being richer then? Off course, this is an example from practice. The richness construct is a theoretical construct describing the *potential* or *maximum* richness of a medium. In practice, richness may vary according to the way the medium is being used. This makes it difficult to study the richness of media in non-experimental every day life settings.

#### 4.5.2 Rationality

The central idea behind Media Richness Theory is that people choose media following a matching process. There is a task and based on the (equivocal) nature of the task, a communication channel is chosen that best fits the task. This proposition assumes that people are rational beings, which are able to judge the equivocality of a task and evaluate the available media in order to select the best medium in order to get the most desirable task-medium fit. This creates, what we call, the information richness paradox. Daft and Lengel (1986, p. 559) assume that:

*Managers work under conditions of bounded rationality and time constraints*

So, MRT assumes that, although managers are unable to make fully rational decisions in every circumstance, they should be able to rationally choose and use the best communication channel, with the required amount of richness, to reduce either uncertainty or equivocality. This leads to the paradoxical effect that managers are unable to judge all situations rationally, but should be rational enough to choose the proper communication channels. A (paradoxical) side effect is that it gives a meaningful explanation for the reason that MRT fails in so many studies. Managers do work under situations of bounded rationality, even in their communication behavior. This explains why, in many cases, channel choice behavior is not mainly determined by task and media features, but by social, situational and for example emotional pressures.

#### 4.5.3 Why MRT is not a choice theory

Many researchers have used MRT as a choice theory of communication media, with equivocality as the most important determinant of managerial media choice, besides the less important factor 'uncertainty'. But originally, MRT was intended to be a use theory, to describe managerial performance after picking a medium with sufficient richness for the tasks. Since choice and use are distinctive, but strongly related concepts as Trevino, Webster and Stein (2000) argue, it is not surprising that researchers have used MRT to

prescribe and describe choice processes. Daft & Lengel should have made clearer and should have stated in more explicit terms that MRT was meant to describe managerial performance. Choice processes of media are complex and many other factors than uncertainty and equivocality may determine the choice of a medium.

Dennis and Kinney (1998) first presented the argument that MRT is a use theory, rather than a choice theory, to explain a great deal of the mixed research findings, since choice and use of media are two distinct concepts. Trevino, Webster and Stein (2000) define the concept 'Media behavior', as the product of general use and specific choice. Here general use refers to an individual's broad pattern of medium use over time. Choice refers to an individual's specific decision to use a medium in a particular communication incident. Use and choice can also be seen as 'employing the communication medium for a certain task (use)' and 'the picking of a medium' (choice). Dennis and Kinney's notion is fairly consistent with the first thoughts about MRT. Daft and Lengel (1984, 1986) formulated MRT in order to answer the questions 'Why do organizations process information?' (to reduce either uncertainty or equivocality) and 'How do organizations process information?' (by using the means of communication with the proper amount of richness). The original theory is by no means meant to be a theory prescribing how to choose from an array of communication channels. The theory has a descriptive, rather than a prescriptive nature. This point has previously been made by Suh (1999). The prescriptive perspective focuses on the effects of matching between task and medium (choice), the descriptive perspective focuses on the actual use, about how managers actually perform after they made the choice for a certain medium (Trevino, Daft & Lengel, 1990). Suh (1999) concludes, based on a research overview that "prior research related to the prescriptive view has failed to support, or, at best, only partially supported the MRT".

Dennis and Kinney (1998) state that, because most of the studies focus on choice, 'the central proposition of media richness theory remains largely untested'. Does the use of richer rather than leaner media for equivocal tasks improve performance? This remains the most important question to be answered. Dennis and Kinney's (1998) study tries to answer this question, finding a negative answer. This study, however, has an important limitation; it only uses two key elements of MRT: the number of cues and immediacy of feedback, so this study cannot answer the question, nor can other studies. This important question, thus, remains unanswered up to now.

Several factors have been introduced by theorists that have been suggested to specifically influence media *choices*. A first group of factors is formed by other media characteristics, such as functionality, usability, ease of use (El-Shinnawy & Markus, 1998), the medium's symbolic meaning (Trevino, Daft & Lengel, 1990), the enabling of parallel communication, rehearsal and reprocessing (Dennis & Valacich, 1999), but empirical studies testing these characteristics are scarce.

A second group of suggested factors is formed by the situational constraints. Examples of such constraints are time and the (geographical) distance to the medium (Steinfeld & Fulk, 1986)

A third factor is the previous experiences that people have in their media behavior, Rice and Shook (1990) propose, based on a review of literature, that previous experiences have an important influence on media use. King and Xia (1997) found empirical support for the notion that experience plays an important role in media choice. The fourth group of factors are social factors. For example, Steinfield (1986, in: Fulk, Schmitz and Steinfield, 1990) found that the use of relevant co-workers proved to be a predictor of e-mail use. Based on the research they discuss, Fulk, Schmitz and Steinfield argue that social influences are a more appropriate explanation of media choice than equivocality and uncertainty. Fulk, Schmitz and Steinfield have extended the influence of social factors into their 'Social Influence Model'. Empirical prove of the social influences have been given by Markus (1994) who found evidence for the influence of social norms and attitudes in the perceptions of media.

It should be noted however, that MRT has been developed as a use theory and not specifically as a theory prescribing media choice. The other theorists who are responsible for the theories described in this chapter as well as chapter five did never explicitly make clear whether their theories are to be seen as prescriptive or descriptive<sup>7</sup>.

## 4.6 Conclusions

This chapter has explored the rational media theories, from which Media Richness Theory is the most prominent. These theories all build on a general contingency framework. Central point in both SPT and MRT is the fit between such contingencies as task and channel. Media Richness Theory has been specifically developed to describe the match between task and media, based on both characteristics of tasks (uncertainty and equivocality) and characteristics of media (richness), in a managerial information processing context, based solely on the traditional media and aimed at performances due to use rather than the choice of media.

However, many of the studies using MRT have yielded unsupportive results so far. Therefore, many have drawn the conclusion that MRT is a rather useless theory. A much used citation is of Kinney and Dennis (1994) after their (unsupportive) study: "this study does drive another nail into the media richness coffin" (the citation in fact is a personal communication by Ron Rice (Kinney & Dennis, 1994, p. 28). However, our discussion and

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<sup>7</sup> For reasons of convenience, we use the term 'choice' theories when we refer to any of the theories described in this chapter or chapter five. In the final chapter (ten), we will shortly elaborate on the prescriptive vs. descriptive issue and discuss to what extend the theory developed in this dissertation should be seen as a choice or use theory.

especially the review of Pieterse (2008b) reveal that this conclusion is not entirely valid. MRT consists of two main premises; the *richness notion* which argues that media differ in their characteristics and based on these differences, they differ in richness. Although some researchers found unsupportive results for the richness notions, there is a reasonable agreement about the richness ranking. The notions that media differ in characteristics and hence their ability to change understanding has been supported.

The second notion is the *task-medium notion*; the supposed fit between a certain task (either uncertain or equivocal) and a certain communication channel. This notion has been met with far greater controversy. Most studies on this notion have yielded unsupportive results, but many researchers have used MRT in the wrong setting (outside managerial communication) for the wrong purpose (prescribing media choice rather than describing performance with media use) with the wrong media (new rather than traditional media). Used in the original intended setting; to describe managers' communicational performance with the traditional media, MRT is not as dire as suggested by some. However, some important points of critique can be formulated. These points are that the concepts in MRT are rather poorly defined, the evaluations of task and media characteristics are assumed to be rational (and thus similar to everyone) and the ideal match between task and medium does not necessarily have to be determined by equivocality alone. MRT has been portrayed as an objective rational theory that does not take into account other aspects of the communication process than the invariant task and medium characteristics. Ironically, this is more a matter of portrayal than of intention by the original theorists. As mentioned before, full rationality has never been a concept underlying MRT, since Daft and Lengel (1986) already assumed bounded rationality on the side of the decision maker. Furthermore, Daft and Lengel extended their theory to hold 'symbolic cues', a social influence on media choice and use processes shortly after the original formulation of their theory (Trevino, Daft and Lengel, 1987).

Nevertheless, the general conclusion that can be drawn is that MRT offers a good starting point to study the use of communication channels. It may also serve as a base to build a new theory of channel *choice*. However, the two notions of the theory are too ill defined and more explanations of channel choice exist. Various theorists have tried to extend MRT to hold more factors or have tried to formulate new theories that have other (contrasting) views. These theories most often take a less rational, social or subjective perspective on channel choice and usage. In the next chapter we will explore these theories.

"Happy the man who has been able to know the reasons for things."  
(Virgil)

## 5 (inter)subjective theories of media choice

### 5.1 Introduction

In the previous chapter, we discussed the rational theories of media choice. Most prominent of these theories has been Media Richness Theory (MRT). This theory consists of two main premises; a) media have different characteristics, causing them to vary in richness, and b) people (should) match the proper channel to the right task in order for communication to be effective. During the years, many points of critique on these theories, and especially MRT, have emerged. These critiques have led to a number of theories that either try to correct supposed flaws in the theories or extend the theories, e.g. by formulating additional explanations of channel choices. Two general points of critique exist upon the rational choice theories. The first point is that although rational theories assume that people (always) behave (cognitively) rational in their decision making process (Fulk et al., 1990), decision making is not (always) rational. The second point of critique is the objectivist approach towards media characteristics which are seen as invariant (Fulk et al., 1990). Media Richness Theory (MRT) assumes that media characteristics are fixed and hence an objective measure of the richness of a medium can be constructed. However, critics have argued that media characteristics need not necessarily be fixed. Media richness is then determined by (inter) subjective perceptions of the characteristics of channels.

As we will see further on in this chapter the 'rationality' of (MRT) has been the most important point of critique, especially from the social influence theorists. Although most critics on the rational theories do not exclude an objective rational matching between task and channel as behavioral channel, they cast doubt on the "overarching importance of inherent media characteristics and rational choice processes" (Fulk et al., 1990, p. 120). However, in their new theories, scholars paid much more attention to the question how the richness of channels is to be assessed than to the rationality in the decision making process (see §5.6), hence this chapter focuses on the (inter) subjective theories of media choice.

In this chapter, we will first discuss a number of such theories. First we will take a look at Symbolic Interactionism (SI) (Trevino *et al.*, 1990a) that can be seen as the first extension to the MRT framework. Subsequently we will discuss the Dual Capacity Model (DCM) of media choices (Sitkin *et al.*, 1992) that builds on similar arguments as SI. A different approach, focusing on the social context of media behavior, is provided by the Social

Influence Model (SIM) (Fulk et al., 1990). Finally, the Channel Expansion Theory (CET) (Carlson & Zmud, 1994) focuses on the variance in media perceptions and consequent behavior due to experiences.

Next, the two lines of theorizing will be compared. In this comparison the points of critique on both the objective and subjective line of theorizing shall be discussed. In the subsequent section, the attempts towards integration of the different theories will be discussed. The chapter ends with some conclusions regarding the subjective theories as well as the current state of the art regarding channel choice theories in general.

## 5.2 Symbolic Interactionism

Symbolic Interactionism in general terms is "an approach to the study of human group life and human conduct" (Blumer, 1969, p. 1), which is largely based on the work of Mead (1934). This approach is characterized by three premises; 1) human beings act based on the meanings that things have for them, 2) meaning of things is derived from, or arises out of, social interaction with other humans, and 3) meanings are handled in, as well as modified through, an interpretative process used by the person who deals with the things he comes across (Blumer, 1969).

Trevino, Daft and Lengel (1990a) argue that organizations can be seen through the lens of Symbolic Interactionism imagery. An organization can be seen as a dynamic web of interaction and communication and the basis for interaction is a shared sense of meaning. Hence, organizational members shape meaning together. They decrease ambiguity and create symbols that create new meanings through communication (Trevino et al., 1990a). An example of such a symbol is for example that if an organization has a weekly meeting about organizational matters, just the announcement of 'the meeting' is enough for organizational member to understand that the weekly meeting on organizational matters is meant. Hence, a symbol is created.

Departing from Symbolic Interactionism, Trevino et al. (1990a) propose their Symbolic Interactionism perspective on media choice (SI). SI proposes that channel choice is influenced by three factors: 1) the equivocality of the message, 2) contextual factors, and 3) the symbolic cues conveyed by the message.

The equivocality of the message is the first factor in SI and this is the point where overlap with MRT exists. The equivocality concept in SI is derived from MRT and Trevino et al. argue, in line with MRT, that richer media need to be chosen in order to resolve ambiguity. The second factor consists of contextual aspects. Trevino et al. argue that managers often work under time pressure and may therefore not always have the time and luxury to choose the best medium. Based on the work of Stryker and Statham (1985), they propose that contextual factors hinder full rationality. The contextual factors they mention are

distance, time pressure and access to the media. The influence of distance and time pressure had already been demonstrated by Steinfield and Fulk (1986) and Thorn and Connolly (1987) found evidence for the influence of access, so including these factors in SI seemed to be a logical choice. A final set of factors in the theory consists of the symbolic characteristics of media. Trevino et al. (1990a) note that media have a) objective characteristics, such as those presented in Media Richness Theory, but also b) (inter)subjective characteristics; interpretations based on the subjective norms in the situation. This notion is consistent with that of the interpretative approach towards communication (Putnam, 1991). Naturally, McLuhan (1964) mentioned the idea of the 'medium as the message'<sup>8</sup> already back in 1964, but Trevino et al. (1990a) list more symbolic characteristics of media as well as evidence for their impact on channel choice. For example, Trevino, Lengel and Daft (1987) found that managers chose to communicate face-to-face to display a desire for teamwork, to goodwill and trust and to display informality. The three groups of factors are modeled below.

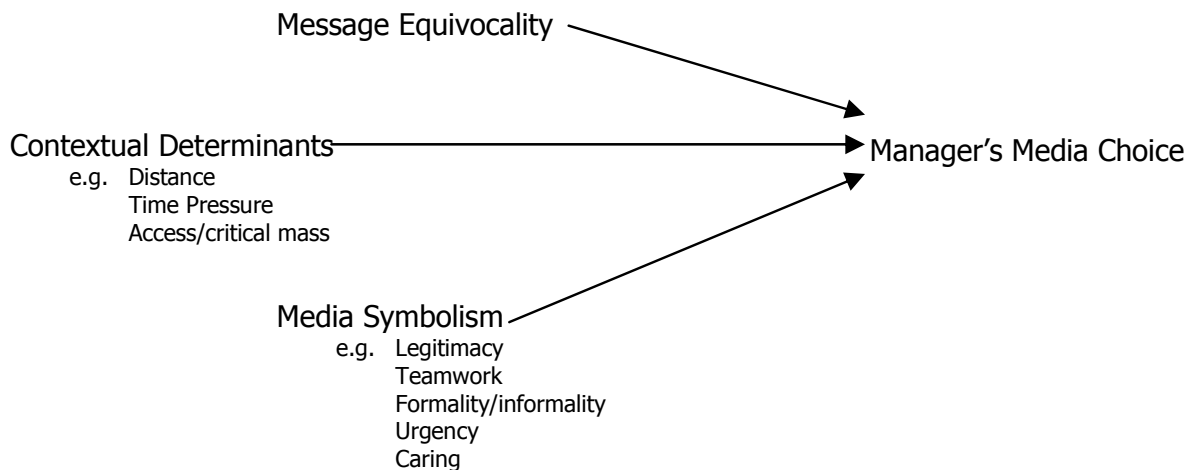


Figure 5.1: The Symbolic Interactionism perspective on media choice (Trevino et al., 1990a)

Although we found no empirical studies testing this model entirely, some studies have been conducted that assess the influence of individual factors. As discussed in the previous chapter; there is abundant evidence for the influence of equivocality on channel choice. Further, Trevino et al. (1987) found that sending a message via electronic mail symbolized informality in the 1980s. Regarding the contextual determinants, Sproul and Kiesler (1986) and Markus (1994) noticed that urgency (or time pressure) influences media choices. Rice, Hughes and Love (1989) determined the impact of distance. Markus (1990), finally, found evidence for the influence of access on media usage. She found that a critical mass is needed before people actually start using a certain medium. Thorn and Connolly (1987) also propose that both access to the technology and a critical mass of willing users are

<sup>8</sup> Although McLuhan suggests symbolic values of media, it should be noted that McLuhan's view on media characteristics is that of symbolic characteristics as fixed properties of media and not as perceptions, as suggested in symbolic interactionism.



important determinants of media choice. Despite these supportive studies, there are also unsupportive studies. Shin et al. (1998), for example, found no evidence of the influence of the contextual variables of time and distance. In their study of teleworkers' e-mail use, they found that the task characteristics, management support and age did predict media choice.

### 5.3 Social Influence Model

The focus of SI lies on the symbolic characteristics of media, in that it extends the set of characteristics of media that determine the richness of a channel. The social influence model takes a different perspective. Its focus is on the role of *perceptions* in the assessment of media characteristics and the (social) influences that shape these perceptions. However, there are some similarities between the two; both perspectives focus on the 'fit' between task and channel and both include situational factors (such as time and distance) as determinants of channel choice.

Basic starting point of the Social Influence Model (SIM) (Fulk et al., 1990) is that people do process stimuli cognitively. In that it shares an assumption with the rational models. It does depart from the rational models in its assumption that media characteristics are, partly, subjective as well as intersubjective (socially) constructed. Although SIM acknowledges that media do possess objective characteristics such as the ability to provide a permanent record and synchronicity (Fulk et al., 1990), one of its main (and new) arguments is that media characteristics are largely *perceptions* that are substantially determined by "the attitudes, statements, and behaviors of coworkers"<sup>9</sup>. This social influence is the core of SIM and SIM proposes that different kinds of social influences can occur. Firstly by direct and overt statements about media and tasks. For example, when an influential person stresses the usefulness of e-mail, it is likely that his co-workers also start to see e-mail as useful. Secondly, by vicarious learning through the observation of others' and your own experiences. When people observe others' (successful) choice making, behavioral modeling may occur (Bandura, 1986; Fulk et al., 1990). This means that the level of experiences (and hence the gathered skills) affect channel perceptions.

In SIM, the subjective social aspects are also assumed to affect rationality. In this perspective rationality is seen as 'subjective, retrospective, and influenced by information provided by others' (Fulk et al., 1990, p. 123). This means that people do not use their (objective) cognitions to rationally make a media choice, but rationalize their behavior in retrospect using their subjective cognitions. This rationalization takes place to give meaning to the behavior in a sense-making process (Weick, 1979b). A key point in SIM is

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<sup>9</sup> It should be noted, once again, that (most of) the media theories find their roots in organizational communication, hence the multiple usage of such terms as 'managers' and 'co-workers'. Generalizations of such theories happened through the years (as will be discussed further on and was already discussed in ch4).

that this sense-making is also subject to social influences. Building on the work of social-psychologists, Fulk et al. argue that e.g. group norms have great effects on individual behavior. This may result in choices made by individuals to adhere to social pressures that are perceived as rational from their own subjective view, but do not meet efficiency criteria. For example, it might be the norm in an organization to communicate face to face for nearly all matters. Taking this norm as a starting point decision making, it may be very well rational to choose to communicate face-to-face for a very simple matter although this is far from efficient. Thus, although the channel choice process is *rational*, it is not merely a cognitive process based on the *objective* characteristics of media, but based on the *subjective* characteristics of the available channels (Fulk et al. (1990, p. 119) coin the term 'subjectively rational' for this process).

Under what conditions are social influence processes strongest? One consistent finding is that individuals rely more strongly on social comparison processes in ambiguous situations (Festinger, 1954; Salancik & Pfeffer, 1978). Thomas and Giffin found that greater experience with a task reduces the influence of social information about that task. (Fulk et al., 1990)

Final assumption of SIM is that it does not exclude rational choice as an outcome of the decision making process. Rather, it is simply one of the possible outcomes of the decision making process. It argues that traditional media use theories have a bias towards the rational choice process, whereas SIM offers more (possible) explanations of media choice, besides the rational one. Hence, Fulk et al. (1990) posit that SIM has the potential to explain a much wider range of media behaviors.

In sum, SIM consists of three fundamental propositions (Fulk et al., 1990, p. 127):

- Proposition 1: *Media evaluations* are a function of a) objective media features, b) experiences and skills, c) social influences and d) prior media use behavior
- Proposition 2: *Task evaluations* are a function of a) objective task features, b) experiences and skills, and c) social influences.
- Proposition 3: *Media use* is a function of a) media evaluations, b) media experience and skills, c) social influences, d) task evaluations, and e) situational factors.

The conceptual Social Influence Model is shown below (Figure 5.2).

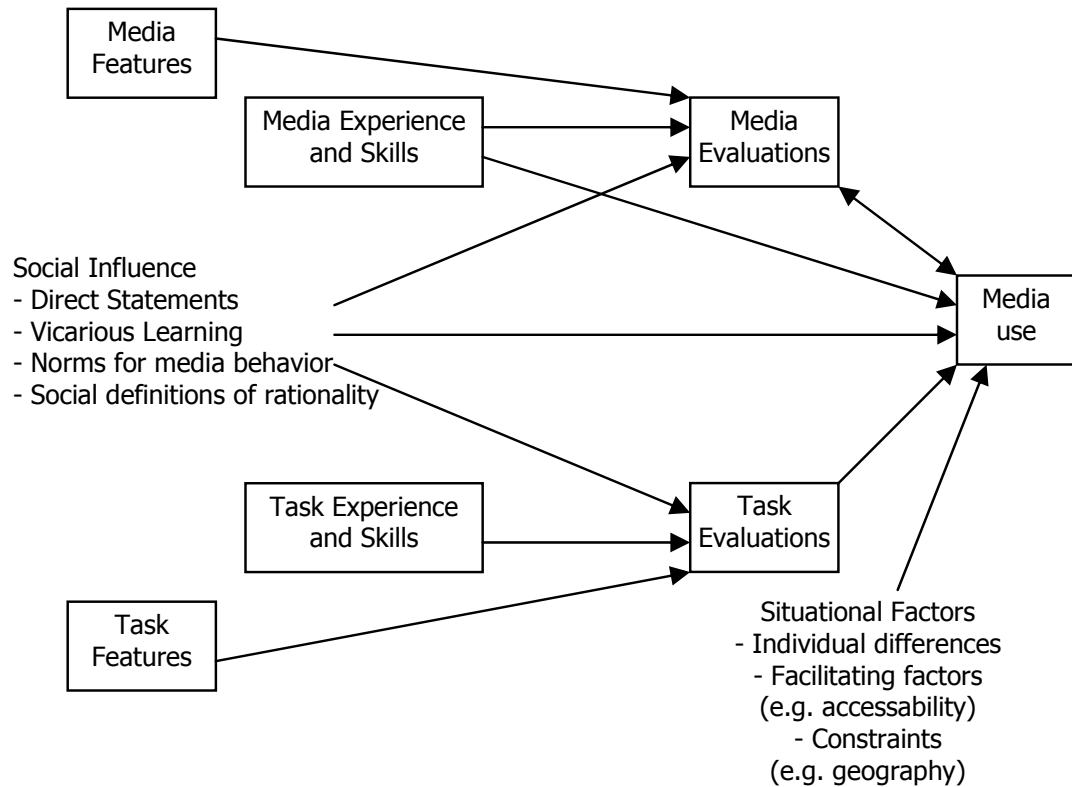


Figure 5.2: The social influence model (Fulk et al., 1990)

Evidence for the Social Influence Model is delivered by Markus (1994) who found that senior managers put pressure on lower level managers to reply quickly to emails, thus suggesting that media use is socially constructed rather than based on media and task features. Schmitz and Fulk (1991), Fulk (1993) and Carlson and Zmud (1999) also found positive relationships between social influence and perceived media richness. Non-supportive evidence also exists (see for example (Rice, 1993; Rice & Aydin, 1991). One of the problems, however, with SIM is that no studies exist (to our knowledge) that include all proposed factors. Most studies focus on either the role of social influences or the influence of perceived media richness rather than the objective (fixed) richness characteristics.

## 5.4 The Dual Capacity Model

Some theories on media use have focused on the (objective) data carrying capacity of media, such as MRT (Daft & Lengel, 1986), whereas others have focused on the possibilities of media to convey symbolic meaning, such as SI (Trevino et al., 1987) and the role of perceptions, such as SIM (Fulk et al., 1990). Sitkin et al. (1992) propose the Dual Capacity Model (DCM) of media choice as an attempt to integrate both perspectives under the main premise that "the communication of information necessarily involves both data (what is conveyed) and meaning (how it is interpreted)" (Sitkin et al., 1992, p. 564).

Sitkin et al. (1992) build their model on the definition of communication by O'Reilly and Pondy (1979), who see communication as "the exchange of information between a sender and a receiver and the inference of meaning between organizational participants" (p. 121). This definition stresses both the *information* exchange and the sharing of *meaning* functions of communication. Most theories of media choice, however, focus on either information transmission or the exchange of meaning. The commonality of both information and meaning has been overlooked in prior research (O'Reilly & Pondy, 1979). Hence, Sitkin et al. argue that a medium has two capacities. First a medium is seen as a container for information. Media differ in this respect by how much information can be conveyed. Second, a medium can convey symbolic meaning; a medium serves a role depending on the situation. This also implies that the data carrying capacity is seen as fixed, as an objective characteristic, whereas the symbolic carrying capacity is seen as subjective and varying across different situations.

Although the two types of data carrying capacities form the core of DCM, DCM assumes that some more factors influence media choice. The first factor consists of *task contingencies*, these are divided in task characteristics and message characteristics. The task characteristics that DCM uses are task uncertainty and task analyzability (which refers to ambiguity as stated in MRT). The message characteristics that are employed are complexity, clarity, volume (as in *amount* and not the level of loudness), valence and relevance. There is a strong contingency between the task and message characteristics, for example, more ambiguous tasks are associated with lengthier messages.

The second factor consists of *communication capability constraints*. These are factors that limit the accessibility of media. These constraints are subdivided in *communicator characteristics*, such as the communicator competence, flexibility and the level of self-monitoring of the communicator, *recipient characteristics*, such as the recipient knowledge and skill levels, and finally *organizational characteristics*, including experience with the medium, the organizational structure, resources (financial and human), time availability and the organizational needs.

The third and final factor are the *normative contingency* norms, these are those norms that guide the communication process. Norms influence the symbol carrying capacity of a medium and (indirectly) the degree to which symbol carrying capacities affect channel choice. The normative factors that Sitkin et al. mention are cultural norms, role expectations and institutional expectations.

DCM assumes certain relationships between the different factors. These relationships result in the model shown below.

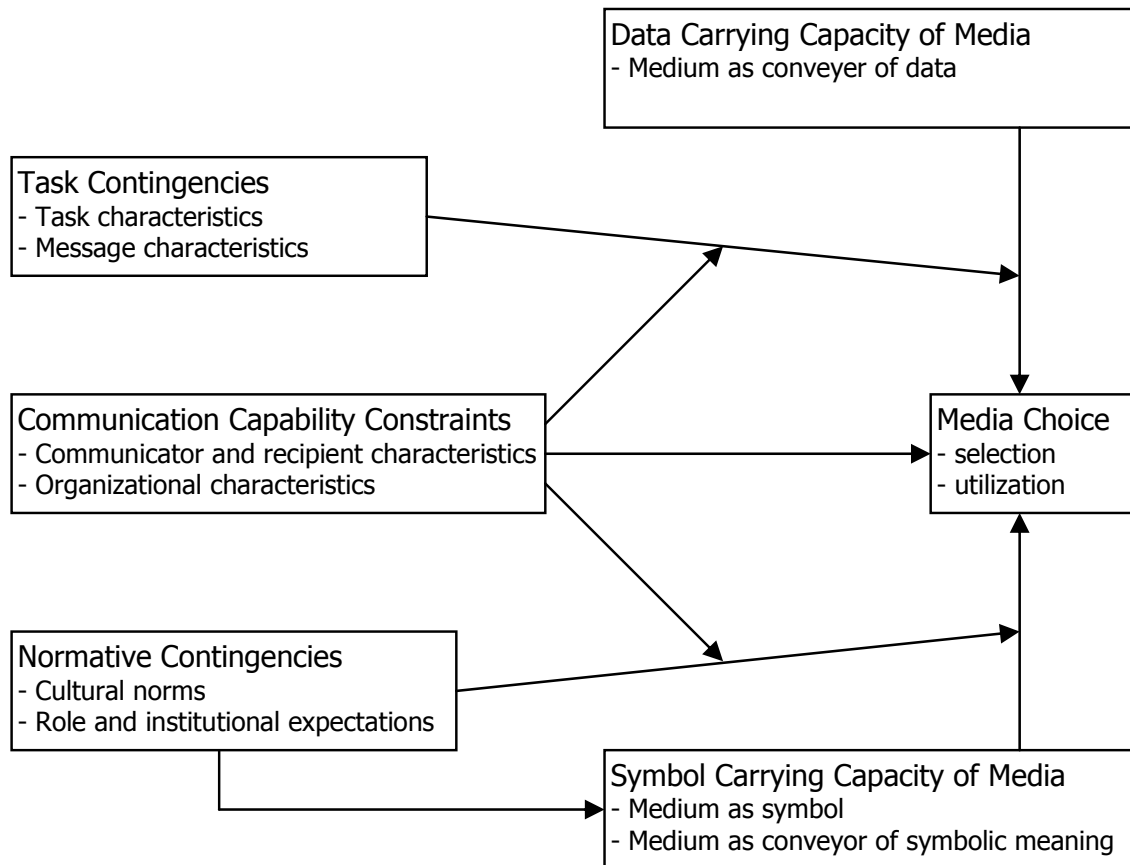


Figure 5.3: The Dual Capacity Model (Sitkin et al., 1992)

Research testing the assumptions of DCM is scarce. Sitkin et al. (1992) do not empirically test their model. Furthermore, although DCM has been cited a lot (for example Bouwman & Van de Wijngaert, 2002; for example Freitag & Picherit-Duthler, 2004; Lin, 2003), we found no studies that empirically test the propositions of DCM. However, this is not the only issue of criticism regarding DCM. A theoretical argument against the theory is that the notion of the symbolic meaning of media is not new. SI has drawn attention to the symbolic features of channel and Rice (1987), discusses the topic fairly extensive. What is new, and that creates the relevance of DCM, is the integration of both the objective (data carrying) and subjective (symbol carrying) characteristics of channels. Further, the notions of norms and the communication capability constraints and their effects on channel perceptions are new. The lack of empirical justification quite limits the possibilities to draw conclusions regarding the validity of the theory, but the arguments make sense. What is questionable is the relevance of the theory's arguments for citizen-government interactions. It is less likely that normative contingencies play a role in citizen-government interactions than within (more cultural guided) intra-organizational interactions. It might, nevertheless, be possible that citizens choose a channel for its symbolic meaning, for example to vent emotions or get closure about an ambiguous situation.

## 5.5 Channel Expansion Theory

The previously discussed theories all (strongly) focus on the characteristics of channels. SI stresses the symbolic characteristics, SIM focuses on perceptions and DCM combines objective and (inter)subjective characteristics in one model. Our final theory, Channel Expansion Theory, also has attention for channel characteristics, but its focus is on the role of experiences and how these experiences affect the communication process.

Carlson and Zmud (1994) propose the Channel Expansion Theory (CET), as a means to improve MRT. It is not directly meant to be a model describing or prescribing channel choices, but as a theory that describes media characteristics. Even though it is meant as an improvement for MRT, there are similarities between CET and some aspects of SIM. Basic idea behind CET is that when experience with a medium increases, its richness increases as well. This is what they call the 'channel expansion effect'.

*"[W]ith usage, participants will view a given channel (e.g. e-mail) as possessing increasing media richness, and will view communication events conducted with the medium to possess increasing average level of information richness. This is the channel expansion effect."*

This idea of channel expansion corresponds in a sense with the notion of media experience of SIM (Fulk et al., 1990). SIM also argues that experiences play an important role in the perceived richness of a medium. Others did also note the influence of experiences. After a literature review, Rice and Shook (1990) propose that previous experiences have an important influence on media use. Previous experiences include: individuals' cognitive differences in preferences and competencies for using various media, subjective evaluations of media, previous experience with particular media, and individual communicator styles. King and Xia (1997) found empirical support for the notion that experience plays an important role in media choice. They suggest that an individual's media experiences are an important but underemphasized factor in understanding and studying both choice and use of communication channels.

The Channel Expansion Theory (CET) is a logical theory in the line of reasoning of first MRT and second the Social Influence model. Creators of both theories always argued that their approaches are complementary, rather than opposing views. CET tries to incorporate both theoretical approaches in one model. It argues (like DCM) that media have objective characteristics (by Carlson and Zmud labeled as *nominal media richness*) and subjective characteristics (labeled *perceived media richness*). The final *communication richness*, which concerns the actual amount of channel bandwidth which is manifested during a communication event (Carlson & Zmud, 1994, p. 281). The communication richness is then a function of the perceived and nominal richness as well as the *intended information richness*, which concerns "the desired level of information richness of each communication

participant for any given event” (p. 282). Factors derived from other theories (like SIM and DCM) such as individual differences, message characteristics, communication norms and situational constraints are believed to influence the intended information richness. The proposed channel expansion model is shown below.

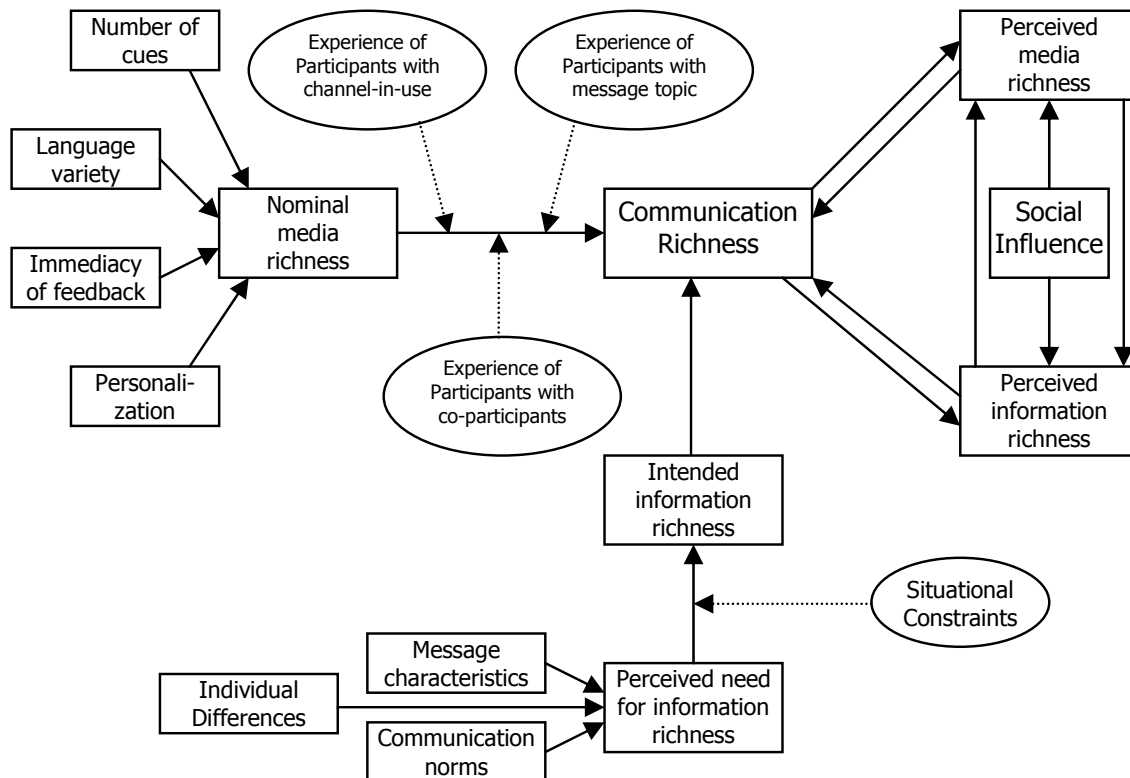


Figure 5.4: The proposed model as derived from Channel Expansion Theory (Carlson & Zmud, 1994)

Carlson and Zmud cite some empirical evidence for the channel expansion effect (Kiesler *et al.*, 1984; Reinsch & Beswick, 1990; Rice & Case, 1983; Rice & Shook, 1990), however, Channel Expansion Theory itself received little empirical attention so far. Carlson and Zmud (1999) tested the Channel Expansion Hypothesis themselves and found general support. Their research, consisting of two studies among personnel and students of a university, yielded support considering the experience with the organizational context and the experience with the communication co-participants. Support for the two other types of experience (channel and message topic) was only marginal. Their study only involved e-mail as a communication channel. Despite the fact that the Channel Expansion Theory has not been tested for other media, it is a promising direction for future research given the elaborate perspective on media richness.

## 5.6 Summarizing the media theories

In this chapter, and the previous one, a number of media theories have been discussed. In the previous chapter, we discussed a number of theories that we labeled the 'rational choice theories'. Most prominent of these theories is the Media Richness Theory (MRT).

MRT consists of two main premises; the *richness notion* which argues that media differ in their characteristics and based on these differences, they differ in richness. The second notion is the *task-medium notion*; the supposed fit between a certain task (either uncertain or equivocal) and a certain communication channel.

The first notion consists of the idea that richness is a fixed property of media. MRT assumes that media characteristics are fixed and objectively measurable; 'A medium's [] information richness is *invariant* regardless of who is using it or what the context is' (Fulk et al., 1990, p.119). Regarding the second notion, MRT posits that decision agents work under conditions of (bounded) rationality. This implies that the decision making process is seen as objectively rational, people weigh the characteristics of tasks and channels in order to create the best 'fit' between tasks and channels.

In this chapter, we discuss theories that oppose or extend MRT. During the years, some main points of critique have emerged on MRT and scholars have tried to improve the theory or have proposed new theories in order to better predict or explain channel choices. The first theory discussed, SI, stems partly from the MRT theorists themselves (Trevino et al., 1990a; Trevino et al., 1987). They extended MRT with the notion that media do not only possess informational richness properties, but may also be used to convey symbolic meaning. Real first critiques were given by Fulk et al. (1990) in their publication describing the social influence model. Fulk et al (1990) formulate critiques on both notions of MRT (see Fulk et al (1990, p. 125)). First, they argue that media characteristics are not fixed, both are variable. Media richness is therefore not an objective property, but one that is (inter) subjectively constructed through perceptions and social influences. Second, they argue that choice-making is assumed to be objectively rational. MRT postulates that individuals can objectively evaluate the characteristics of task and media. Little place is left for individual variation in deciding what is an optimal match. Finally, the choice-making process is assumed to be efficiency-motivated. It is not efficient to use face-to-face communication for simple tasks that, according to MRT, requires a poor medium. This implicitly means that users treat media as resources, which can be used, but should not be spilled, so individuals should always strive to get an exact match between task and medium, because exact matches are optimally efficient (Williams, 1977).

It seems, in MRT, that the choice-making process itself is more important than the outcome; do I succeed in accomplishing my task with the channel I chose? Regarding this choice making process, Fulk et al. mention that the process itself is subject to social influences and need not to be efficiency motivated (p. 125). Interestingly, Fulk et al. do criticize the supposed rationality of MRT, but offer no alternative for the decision making process. In stead, rationality is still a key factor in the decision making process suggested by Fulk. et al., so they create a dichotomy between rational and 'social' theories, whilst self pertaining to the rational decision making process itself. This distinction has ever since



been used widely to discriminate MRT from the theories described in this chapter (Bozeman, 1993; Kinney & Dennis, 1994b; Trevino et al., 2000).

The other theories discussed in this chapter also put strong focus on the characteristics of channels. DCM suggests that both objective and subjective characteristics of channels play a role in the channel choice process and CET stresses the importance of experiences in the creation of (perceived) subjective channel characteristics. Straub and Karahanna (1998), for example, analyze all known factors from the different theories and divide them in four groups: 1) task-medium fit, 2) task, 3) medium, and 4) social factors. Obviously this classification does not take into account such factors as personal experiences, so the usefulness of this comparison is questionable. Hence, in the table (Table 5.1) below we compare the different theories discussed in both chapters 4 and 5 on their basic assumptions regarding media characteristics and the decision making process.

<b>Media Choice Theories</b>						
	SPT Social Presence Theory	MRT Media Richness Theory	SI Symbolic Interactionism Perspective	SIM Social Influence Model	DCM Dual Capacity Model	CET Channel Expansion Theory
Media characteristics	Subjective	Objective	Subjective	(inter) Subjective	Objective & Subjective	Objective & Subjective
Construction of subjective characteristics	Social influence	-	Perceptions	Social influences / perceptions	Perceptions	Perceptions
Decision Making	rational	(bounded) rational	Subjectively rational	Subjectively rational	Subjectively rational	Subjectively rational
Channel Choice determinants	Task & Perceived Channel characteristics	Task & Fixed Channel characteristics	Task & Fixed Channel characteristics Channel perceptions Situational constraints	Task & Channel perceptions Social influences Situational constraints	Task & Channel perceptions Fixed Channel characteristics Communication capability constraints Normative contingencies	Task & Channel perceptions Fixed Channel characteristics Experiences

*Table 5.1: Comparison of the different theories described in chapters 4 and 5*

The main factors on which the different theories differ are a) their assumptions about channel characteristics, they are either seen as fixed or as subjectively constructed through either (individual) perceptions or social influences, and b) how decision making is done. In all the theories discussed, this is done in a rational manner. All theories do, more or less, assume reason in the behavior of the communication. All theories also have in common that they build on the contingency foundation laid down by MRT and SPT. Albeit some theories define factors that do not necessarily require another contingency factor (such as the symbolic meaning of a medium), they are based on the assumption that either task and channel need to be fitted, or that objective and subjective media characteristics need to fit the task requirements. Although some theories formulate situational constraints that may (or may not) affect the decision making process, they do

not mention *how* this influence takes place. And whether this affects the decision making process.

Although scarce, some critiques on the supposed rationality of the decision making exist. Bozeman (1993), for example, already noted that the media selection processes are not entirely rational. He proposed a limited rationality perspective of managerial media selection in organizations. Drawing upon March and Simon's (1958) arguments of the "cognitive limits on rationality", Bozeman integrates the Media Richness Theory and the Social influence model, and adds the following aspects: (1) bounded rationality, (2) satisficing, (3) social context influences on rationality, and (4) routinized responses to familiar stimuli. However, no empirical test of his model exists.

In sum, all theories seem to build on the framework laid down by MRT and each of the theories introduces new factors that may enhance the variance explained in human behavior. However, all theories present new factors; SI introduces the symbolic value of media, SIM brings in the social influences, DCM combines objective and subjective characteristics, and CET further defines the role of experiences. However, there seems to be no theory that integrates all factors. What is known about the integration of the various theories and perspectives?

## 5.7 Integration of perspectives

Some researchers have strongly stressed the dichotomy between objective and (inter)subjective factors as explanations of media behavior (Kinney & Dennis, 1994b), whereas others have argued the complementary value of both perspectives (Bozeman, 1993; Sitkin et al., 1992; Trevino et al., 2000; Webster & Trevino, 1995). Strangely, the original theories of the most well known theories from each perspective (MRT and SIM) have always argued the significance of complementing their theories. Daft and Lengel extended their original MRT in to hold 'symbolic cues' (the Symbolic Interactionism perspective (Trevino et al., 1990a), as discussed previously in this chapter). Further, the social influence model in no way excludes objectively rational media choices as one outcome. Rather it offers alternative explanations of how channel characteristics are perceived and what factors influence channel choices, but it does not challenge the decision making process itself.

Several theorists have tried to integrate objective and (inter) subjective explanations<sup>10</sup> of media choice (Bozeman, 1993; Sitkin et al., 1992; Webster & Trevino, 1995). Webster and Trevino (1995) integrated rational and social theories on the hypotheses that for traditional media social explanations of media choice would be less important and rational explanations would be more important. Their results were mixed, generally supporting the

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<sup>10</sup> We chose to label the theories as objective vs. (inter)subjective. Other labels that have been used are for example rational vs. social (Webster & Trevino, 1995) or

complementary of the two approaches, but not in all situations with all media, thereby suggesting that the two approaches are, indeed complementary, but it remains unknown how exactly. It might, for example, be that the specific mechanisms of social influence differ for traditional and new media. Webster and Trevino conclude that there is a need to develop a model of media choice that integrates different theoretical perspectives (Webster & Trevino, 1995).

In 2000, Trevino, Webster and Stein (2000) did a study in which they integrated some of the factors from the different theories. They studied how *equivocality*, *contextual constraints* (such as distance), *perceived social influence*, *media symbolism*, *skills*, *perceived media richness*, and *person/technology interaction*, affect both media choice, media attitudes, and media use. Their study included a survey under 1704 technical and low to middle-management employees. Their results indicate that all factors influence media choice, but the symbolic value (as derived from SI) proved to be the most important factor, followed by message equivocality and distance. The general media attitudes were most consistently influenced by the perceived medium richness and general medium use was influenced by different factors for the different media. Once again, one important drawback of this study is the linearity that is assumed between the different factors (consistent with the contingency approach), further, it excludes the role of experiences. However, it is one of the few (and more recent) studies that combines different (and multiple) factors from the different theoretical perspectives and clearly shows the integrative character of each perspective.

Although few studies exist that integrate multiple elements from the different approaches. There is more research available that combines some elements of the different theories. Among this research are for example studies that extend MRT to hold more task characteristics that influence media behavior (e.g. Fulk & Boyd, 1991; Rice, 1992), symbolic and situational influences (Trevino et al., 1990a; Trevino et al., 1987), product characteristics (Yoon, 2001) and social influences (Fulk, 1993; Rice, 1993). Surprisingly, few studies explore how personal characteristics influence media behavior. Dennis, Kinney and Hung (1999) have found differences in gender accounting for different media choices. They studied the effects of media richness on decision making in two-person teams (all male, all female and mixed). They found that matching richness to equivocality only resulted in better performance for the all-female teams. Therefore one might suggest that gender is a factor determining the proper match between task and medium. The explanation that Dennis et al. provide is that it is likely that females are more sensitive to nonverbal communication and more affected by its absence in communication via new media. Further, Grubin (1988) reported that heavy communication initiators evaluate the capabilities of media different from people who are primarily communication receivers.

Finally, some theorists have suggested even more media characteristics than those suggested by the theories discussed in this chapter. El-Shinnawy & Markus (1998) suggest

three factors, derived from what they call the Media Features Theoretical perspective (p. 244): functionality, usability and ease of use. Functionality refers to specific ways in which communication technology supports users in accomplishing their tasks. Usability refers to the extent to which the medium allows a message to be transferred in a “clear and readable” format (Larcker & Lessig, 1980). Ease of use refers to the perceived effort involved with using the medium (El-Shinnawy & Markus, 1998). This latter factor originates from the Technology Acceptance Model (TAM) (Davis, 1986, 1989)<sup>11</sup>, which also suggests the perceived usefulness as a determinant of (technological) media. The influence of the ease of use and perceived usefulness is confirmed by Swanson (1987), who found that the perception of a medium as convenient, controllable, easy to use, and unburden some was important in explaining its use (El-Shinnawy & Markus, 1998). Other suggested features are flexibility and adaptability (Rice *et al.*, 1998).

## 5.8 Conclusions

In this chapter we explored the so called (inter)subjective media theories. The Social Influence Model is the most well known of these theories; the other theories (Symbolic Interactionism, Dual Capacity Model, and Channel Expansion Theory) received lesser attention. A central issue in all these theories is that they do not see channel characteristics as fixed, but as (inter)subjectively constructed, either through social influences or by experiences. There is not much empirical data that supports either of the theories in total. Most empirical studies focus on one or a number of aspects of one of the theories. However, even the original MRT theorists acknowledged that media have both subjective and objective characteristics and we believe that is the most important lesson to be learned from the (inter)subjective media theories.

Media do indeed have a number of objective (which we label *intrinsic*) characteristics. These characteristics are inherent to the medium and do not change depending on the context. For example, it is impossible to transfer a video cue through a written letter or memo. So, the number of cues is an intrinsic characteristic. It is, however liable to change in the long term; (technical) developments may alter the intrinsic characteristics of media. Nowadays we can put videos on website, whereas this was impossible a few years ago. Nevertheless, these characteristics are fairly stable and, (as mentioned before) do not depend on the communication context.

Media also have subjective (which we label *extrinsic*) characteristics. These factors depend on the communication context, such as the use situation and the capabilities of the communicator. An example of such a factor is the symbolic meaning of a channel. Further, MRT factors such as the level of personalization and language variety may depend strongly

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<sup>11</sup> Although technology adoption is quite another line of research than communication (see also Ch2), some studies on channel choice have used the technology acceptance model (see El-Shinnawy & Markus, 1998).

on the skills and experiences of the communication partners. Finally, the immediacy of feedback may depend strongly on the situational context. Face-to-face contact only provides immediate feedback when the communication partners are standing in front of each other, with increasing distance (as suggested by e.g. SI), this situation changes dramatically. So, the immediacy of feedback does not only depend on the possibility of a medium to convey an answer immediately (which may indeed be an intrinsic characteristic), but also on the *contact speed*, which can be seen as the speed with which both communication partners have contact. To give another example; the telephone has a high degree of immediacy of feedback, but if there are long waiting lines, it may have a low contact speed. In this example, the characteristic of the channel is both dependent on both its intrinsic and extrinsic characteristics. We regard the addition of the subjective media characteristics as the main forte of the subjective media theories in enhancing the rational choice theories.

However, there was another main point of critique within the subjectivist approach; the supposed rationality of, especially, MRT. The social influence model, for example, has challenged the rationality of MRT by stating that behaviors are not always rationally motivated (although not excluding rational decision making as *possible* behavioral outcome) and this critique has become one of the main arguments of the subjective approach. But do these theories give us insights in other decision making strategies and the situations in which behavior is more or less rational? The answer, to the best of our knowledge, is no. SIM claims that behavior can be rational, but need not be, however it gives us no information about the when of the rationality or the mediating influences that determine the degree of rationality. SIM even argues that the decision making within it's own theory is (subjectively) *rational* (Fulk et al., 1990, p. 123) and indeed, the model depicted by SIM, as well as all the other subjectivist theories propose a linear process of matching different contingencies and in that they do not divert from the rational choice theories. This brings us to two questions; what exactly is rationality (when is behavior rational), and when is decision making more or less rationally motivated? Current channel choice research has no answer to these questions. However, we may draw insights from the decision making literature in general, and exactly that is the focus of the next chapter.

"A pessimist is one who, when he has the choice of two evils, chooses both."  
(Oscar Wilde)

## 6 Theories of Human Decision Making

### 6.1 Introduction

Choosing a service channel is an act of decision making; the citizen decides at a certain moment what channel to use to pose a question to a particular governmental agency. Put simply decision making involves "selecting among possible actions" (Gilhooly, 1988, p. 132). In this perspective, channel choice can be seen as a decision making problem and therefore theories of human decision making may aid in building a theory of channel choice. There are more reasons to pay attention to decision making in general; media richness theory has been criticized for its presumptions that a) people are objectively rational in selecting communication media and b) information equivocality and media richness are perceived uniformly by everyone (Bozeman, 1993). These presumptions are the same as the primary assumptions behind classical economical (rational-)choice theory. But to what extent do people behave rational? And what exactly is rationality? This chapter focuses on the concept of rationality. The concept will be defined and rational choice models will be explained. Further on, critiques on the rational choice model are discussed and alternative perspectives on human decision making will be presented, such as the concept of bounded rationality and the principle of least effort<sup>12</sup>. Further, initiatives from human decision making literature to integrate the various perspectives, such as the adaptive decision making hypothesis will be discussed.

### 6.2 Rationality

Among the first to treat the subject of rationality was the Greek philosopher Aristotle who defined man as a rational being, thereby differentiating man from animal: "Man is a rational animal". Hereby rationality has the meaning of 'reason', men, as opposed to animals are able to think and are able to make decisions based on their thought (in stead of solely their instincts). However, different other perspectives on rationality exist. Smith (1776) sees the premise of rationality as a maximization of self-interest (Hardin, 1982). In this vein, Hahn and Hollis (1979) define rational choice as follows:

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<sup>12</sup> As with the media theories, there are more theories of rationality and human decision making than those discussed here. Well known theories are for example Elimination by Aspects (Tversky, 1972) and the weighed additive rule (Zakay & Wooler, 1984). For pragmatic reasons we limit ourselves to those theories that specifically focus on the level of rationality in behavior in order to (sufficiently) discuss the level of rationality in channel choice behavior and the supposed rationality in media behavior theories. It is no aim to provide a full overview of all aspects of human decision making.

*Given the set of available actions, the agent chooses rationally if there is no other action available to him the consequence of which he prefers to that of the chosen action (Hahn & Hollis, 1979, p. 4)*

This definition is based on what in economic theory is known as the maximizing principle. Explaining this principle will clarify Hahn and Hollis' definition. Maximizing means that people choose the best available option under certain conditions, to put it simple; rationality means the adaptation of means to ends (Zey, 1992). Although various scholars have discussed rationality and have questioned this 'utilitarian' perspective on rationality (Damasio, 1994; LeDoux, 1998), the common conception of rationality in most publications is that of the utility maximizing, logically thinking, actor. To give an example, this is the perspective that Media Richness Theory takes of human behavior (Daft & Lengel, 1984, 1986). People are ought to choose the best fit (utility) between task and channel.

Important to notice with the definition of rationality of Hahn and Hollis mentioned above is that it takes a rather selfish view of human behavior. It is all about an individual's rationale to perform a certain action and it is about what action is most preferable for himself. This selfish view can be found in most work dealing with rational choice, emphasizes Hindess (1988). He states that: "most work in the rational choice tradition does indeed equate rationality with the pursuit of self-interest". Further, rational-choice theorists often seem to substitute the concept of self-interest with terms as selfishness and egoism (Etzioni, 1988a, pp 56-63). According to this rigid interpretation of the term, rationality is, by definition, never in the interest of other people. Mueller (1976, p. 18) elaborates on this as follows; "And I submit, the only assumption essential to a descriptive and predictive science of human behavior is egoism".

Important to note in this view on decision making is that people must be able to compare the various available options. In terms of channel choice, citizens have to be able to compare the different available service channels. In order to speak of choice in terms of maximizing, it is necessary to assume that the various outcomes can be compared with a common standard, in order to rationally choose the best option. For example, suppose we have three choice options  $x$ ,  $x'$  and  $x''$  and let  $R$  be a relation between the three choice options, whereby  $xRx'$  means that  $x$  is at least as good as  $x'$ . It is now possible to speak of choice as maximizing if the following conditions hold:

1. completeness; for all pairs  $(x, x')$  either  $xRx'$  or  $x'Rx$  or both
2. reflexivity; for all  $x$ ,  $xRx$
3. transitivity; for every  $(x, x', x'')$ , if  $xRx'$ , and  $x'Rx''$ , then  $xRx''$ .

If the first condition is not true, it is not possible to compare all choice options. If the second and third condition are not true, the comparisons yield no consistent pattern. So

people must be able to make fair comparisons, if this possibility exists, people will weigh the choice options and choose the best available options. In terms of channel choice, this means that people have to be able to compare all different channels on (all?) different characteristics. Opening hours of all channels have to be known, content of all channels has to be the same and citizens need full knowledge of all design features and communication capabilities of the service channels in order to make the best possible choice between the various channels.

Besides the conception of rational man being self-interested, Hollis (1979) notes two other fundamental assumptions. First, actors are rational and their rationality is understood in strictly utilitarian terms. The behavioral outcome is to be assessed in terms of the utility of the choice. Utility in terms of the media richness theory refers to the goodness of the fit between task and channel in terms of the performance of the communications. Secondly, people are social atoms, they are human individuals, but they are not regarded as essentially located within a social structure of positions and roles (Hindess, 1988). This means that, although social aspects as cultural norms may play a role, behavior is seen as the action of an individual that is not directly influenced by others. When I make a channel choice, I choose this channel alone.

Action is not always invariably rational (Hindess, 1988). It is just that 'the assumptions of narrowly rational motivations yield predictions that are the most useful benchmark by which to assess the extent and the impact of other motivations' (Hardin, 1982, p. 11). The assumption of rationality is a necessary starting point for identifying the place of other motivations in social life. About this point, Elster (1983, p. 75) says:

*"Although there are strong reasons in principle to insist on the distinctions between intentionality and rationality, and between rationality and optimality, explanation in terms of optimization remains the paradigm case of intentional explanation in the social sciences outside psychology."*

Although rational choice models do use economic metaphors, they are generalized in a theoretical fashion to not only explain economic behavior, but the entire spectrum of the social sciences (Zey, 1992). This implies that the definition of rational choice that has been put forward in the beginning of this chapter can also be applied to other disciplines. These disciplines have adopted the economic view on rationality. The following quotation of Hirschleifer (1986 pp. 321-322), perfectly stresses this point:

*"As economics "imperialistically" employs its tools of analysis over a wide range of social issues, it will become sociology and anthropology and political science. But correspondingly, as these other disciplines grow increasingly rigorous, they will not merely resemble, but will be economics. It is in this sense that "economics" is taken here as broadly synonymous with "social science"."*



Proponents of this rational model of decision making have the assumption of economic man. This *homo economicus* is characterized by: "acting only in his self-interest, possessing full information about the decision problem, knowing all the possible solutions from which he has to choose as well as the consequences of each solution, seeking to maximize utility, having the ability to rank alternative in order of likelihood of maximizing outcomes (Zey, 1992, p. 11)". Indeed, It have been neoclassical economists who have developed the idea that human beings are fixed, final and predisposed to maximize utility (Jensen, 1987).

According to Zey (1992), rational choice models have slightly different assumptions. The main basic assumption of rational choice models is the individual basis of behavior; if individuals behave rationally, they should not be interfered with by the collective, except when collective interests are undermined. Another point where rational models may differ is whether egoism or utility are the central focal point. Although an egoistic man strives to maximize his (personal) utility, utility maximization does not always imply egoism. "It *may* be perfectly rational to jump in front of the bullet directed at one's love" (Hermsen, 1992, p. 4).

Examples of human behavior explained by this rational choice model that Zey (1992, p. 9) mentions include for example government decision making (Allison, 1971) and individual consumer decisions (Becker, 1976). In the organizational setting, this type of decision making is also found. In the context of organizations and organizing, Weber (1947) emphasized that organizations become more rational when means and ends are more congruent, because this leads to more efficient decisions. Weber called this type of rationality formal rationality (Zweckrational). Another type of rationality is based on values (Wertrational). Formal rationality points to the ends that are achieved, whereas value rationality refers to which ends are chosen in the first place (Zey, 1992). It may not be a surprise that rational choice models deal with the first type. Furthermore, as already argued in the first chapter of this dissertation; the large bureaucratic organizations with their rules, roles and procedures tend to have an economic rational approach towards decision making (Allison, 1971). Probably, this has also led to the assumption that channel design decisions are made rational (in the economic sense). In terms of utility, the electronic channels provide citizens with powerful means (in terms of such factors as opening hours and storage capacity) with, for governments, great economic value (lower costs).

However, this classical model of economical man as the main conception of rationality has been criticized by many. Below, a number of competing theories that (strongly) criticize full rational decision making. Nevertheless does the rational choice model remain popular among theorists and practitioners. Einhorn and Hogarth (1986) list three reasons why the rational choice model remains popular. First, the criterion of maximizing utility logically

follows from a parsimonious set of axioms. Additionally, each axiom specifies a reasonable principle, such that it provides a description of the possible behavior of a rational actor. The main arguments of MRT, for example, the richness notion and the task-medium notion, are excellent examples of (parsimonious) reasonable principles. Second, the theory has provided a useful framework to derive hypothesis from that can be empirically tested. Finally, the theory is difficult to falsify since exogenous variables can be called on to explain violations of the theories' predictions (Einhorn & Hogarth, 1986, p. 226).

### 6.3 Bounded Rationality

Economic theory assumes that humans follow behavior based on maximizing. It assumes that people weigh all alternatives and coin the best decision. However, there are some reasons why people are unable to behave fully rational in reality. Simon (1955, 1956) argued that people are unable to make fully rational decisions due to time constraints and cognitive limitations (Simon, 1979). Simon (1979) weakened the propositions of full rationality, by presenting the strategy of 'satisficing', where people don't seek to maximize their profit, but try to attain satisfactory levels of decision making. Satisficing in decision making means that actors stop searching when they find a satisfactory alternative, as Zey (1992, p. 19) clarifies. Satisficing therefore involves "setting an acceptable level or aspiration level as a final criterion and simply taking the first acceptable option" (Newell & Simon, 1972, p. 681). This implies that people do behave rational (in the sense of weighing alternatives), but do this within the limits of bounded rationality. This also implies that satisficing acts as a "Stop Rule" (Simon, 1979), once the decision maker found an acceptable alternative, he stops the decision process. In terms of channel choices, this may imply that, when I have a particular question, I may consider several websites (for example) to find an answer, as soon as a website comes to mind on which I am going to find an acceptable answer, I will stop weighing and browse to that site.

Satisficing is a more plausible explanation of human behavior than maximizing (or rational choice), since people and organizations have cognitive limitations. Furthermore, time constraints, framing problems and human limitations prohibit maximizing (Zey, 1992). Furthermore, Simon (1979) argued that the strategy of satisficing generally leads to choices that are of equal quality compared to choice made following a maximizing strategy. The empirical work of Gigerenzer and Goldstein (1996) illustrates that an optimizing algorithm (an electronic decision making script) was equal or better than a maximizing algorithm on both accuracy and speed. The main benefit of the satisficing strategy as opposed to the maximizing strategy is that decisions based on satisficing are much easier to make, because they cost less time and effort to make.

## 6.4 Zipf's law

In the book "Human behavior and the principle of least effort", George Kingsley Zipf (1949) describes what became known as Zipf's law. Zipf states that the main predictor of human behavior is that people always tend to minimize their efforts. Basically, Zipf argues that a human being will

"expend in solving both his immediate problems and his probable future problems. That in turn means that the person will strive to minimize the probable average rate of his work-expenditure (over time). And in doing so he will be minimizing his effort by our definition of effort. Least effort, therefore, is a variant of least work" (p. 1).

So, whereas classical economists assumed, *maximizing* as the main behavioral strategy and Simon (1955, 1956) presented the *satisficing* strategy, Zipf presented the *minimizing* strategy. Zipf's law gained attention as an alternative explanation of human behavior in which the effort in decision making has a prominent position. Where maximizing assumes full effort in decision making, satisficing asserts that the available amount of effort is limited and minimizing argues that people would invest as little effort as possible.

One relevant study in this context is of Huberman et. al. (1998), who investigated the popularity of websites given the length of their domain name (URL). Huberman et. al. found that Zipf's law applies to the relation between number of visits and path length. The longer the URL, and the deeper down the number of links a person must go to find the requested web page, the smaller the number of visits. This illustrates the low willingness of people to put effort in their decision making. It seems that the quality of decision making in a minimizing strategy is of less importance.

## 6.5 The Adaptive Decision Maker Hypothesis

Until now, we have discussed different perspectives on (rationality) in decision making. These perspectives vary in the degree of supposed rationality in the decision making process. The perspectives of bounded rationality and Zipf's law can be seen as critiques on the model of rational man, hereby assuming that people do not behave fully rationally, but strive to either satisficing or minimizing decisions. Until now, the parallels with the media behavior theories are obvious, theories such as the Social Influence Model (Fulk et al., 1990) have attacked Media Richness Theories under the argument that people do not behave fully rational. However, research has shown that those theories are not exclusive, but might complement each other. But were media theories did not find solutions yet for the problem *how* to integrate the different theories, the decision making literature does offer some insights for the integration of theories. The adaptive decision maker hypothesis is an attempt to integrate different perspectives on rationality. This hypothesis offers

possibilities for integration by means of abstraction to a higher level. The key of these arguments lies in the flexibility of human behavior.

Feldman and Lindell (1990) argued that the flexibility of response to choice tasks is key to the survivability of any organism. Further more, they stress that "Irrationality observed in any given instance is evidence of the variation in behavior that must occur if adaptation to a given environment is to take place"(pp. 107-108). Hence, an error in decision making from the normative rational point of view might in the long run, when assuming adaptivity, be an error.

The main argument behind the adaptive decision maker hypothesis is that "the use of various decision strategies is an adaptive response of a limited-capacity information processor to the demands of complex task environments" (Payne *et al.*, 1993). Payne et al. in particular argue that the decision making is strongly dependent on two factors; the desired accuracy of the decision making and the desire to minimize the (cognitive) effort required to make a decision. Although Payne et al. (1993) acknowledge that accuracy and effort are not the only factors determining what decision strategy is used (such factors as conflict avoidance may also be used), they argue that these factors are the primary determinants of contingent strategy choice.

Although the argument of Payne et al (1993) is new in decision making, their approach of behavior as a trade-off is similar to the work of Newell and Simon (1972) on problem solving and Reder (1987), on question answering. In social psychology, the Elaboration Likelyhood model (Petty & Cacioppo, 1981) is a well known communication model that describes how the motivation and ability of people affects the level of elaboration in a communication incident. All these approaches share the main thought: "the same individual will use different models (strategies or methods) to deal with different problems" (Payne et al., 1993, p. 17).

Whereas the Adaptive Decision Maker hypothesis rests on the assumption that behavioral decision making is a trade-off between accuracy and effort, scholars in the rationality debate have taken this argument a level higher. Their main argument is that not merely the decision making is a trade-off between effort and accuracy, but such factors determine which decision making strategy is used (Jungermann, 2000). This is the argument of *meta-rationality*, which was introduced in the debate between the advocates and opponents of the model of rational men. The main point of critique on full fledged rationality has always been that people lack the resources to behave fully rational and hence, utility maximization is not possible. Proponents of the rational model counterattacked this argument with the remark that such bounded or irrational behaviors can be perfectly rational if the rationality constraints are taken into account as decision making factor. For example, having a question about my income tax, I might choose from a dozen websites to find the appropriate answer (searching on Google, the tax administration's website, intermediaries'

websites, etc.). However, it is unlikely that I have the time to weigh which website to choose, thus I choose a website that satisfies me. The contingencies, traditionally taken into account in the rational models would in this case be the characteristics of all the websites I can choose from and the characteristics of my problem. Not weighing all alternatives would, in this case, lead to a suboptimal decision. However, when introducing a third contingent, the lack of time, the decision problem changes. I now choose the best website, *given my time restraints*. This restriction alters the total number of websites I can choose from, turning my decision into a perfectly rational one. It is even possible to see the argument from the opposite direction, to most people it would be fully *irrational* to weigh down the characteristics of each available website, making a (weighed of) decision given specific circumstances makes more sense.

Thus, both the adaptive decision maker hypothesis and the meta-rationality argument build on the ideas that a) people do not consistently use one type of decision making. People may very well be more rational in one moment and less rational in another moment and b) the degree of rationality depends strongly on the situation. This can be a trade-off between the needed accuracy and desired effort to be invested or constraints, such as limited time available. The figure below shows how the trade-off between effort and accuracy may lead to different decision strategies. When high accuracy is needed, people need to put effort in a more rational way of decision making. If the willingness to put effort in decision making is low, people may be more likely to follow a satisficing or even minimizing strategy. What the figure also shows is that there is a linear relationship between effort and accuracy; with increasing effort comes increasing accuracy. However, this also implies that it is nearly impossible to achieve high levels of accuracy while putting no effort in the decision making process.

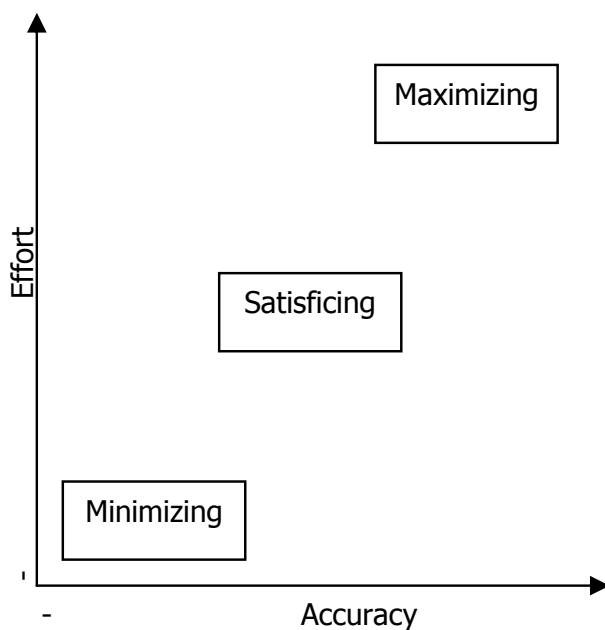


Figure 6.1: Different decision making strategies; their desired level of accuracy and effort needed

There is, however, an important difference between the adaptive decision hypothesis and the meta-rationality argument. The adaptive decision maker hypothesis emphasizes that people make a trade-off between effort and accuracy in their decision making. Although Payne et al. (1993) acknowledge that people do not always make this trade-off consciously, the idea of a trade-off seems to suggest some form of rational decision making (again at meta level).

The meta-rationality argument argues, instead that the situational influences are the main determinant of the decision strategy; although I might strive to an accurate decision, effort constraints limit me to do so. This implies some kind of ordering between both accuracy and effort. In practice, the amount of effort is always limited (the inevitable prospect of dying is the strongest and final example of this). Hence, we would argue that, principally, people might strive to some kind of accuracy in their decision making, but situational constraints limit the degree of accuracy that can and might be obtained. This relationship is shown in the figure below.

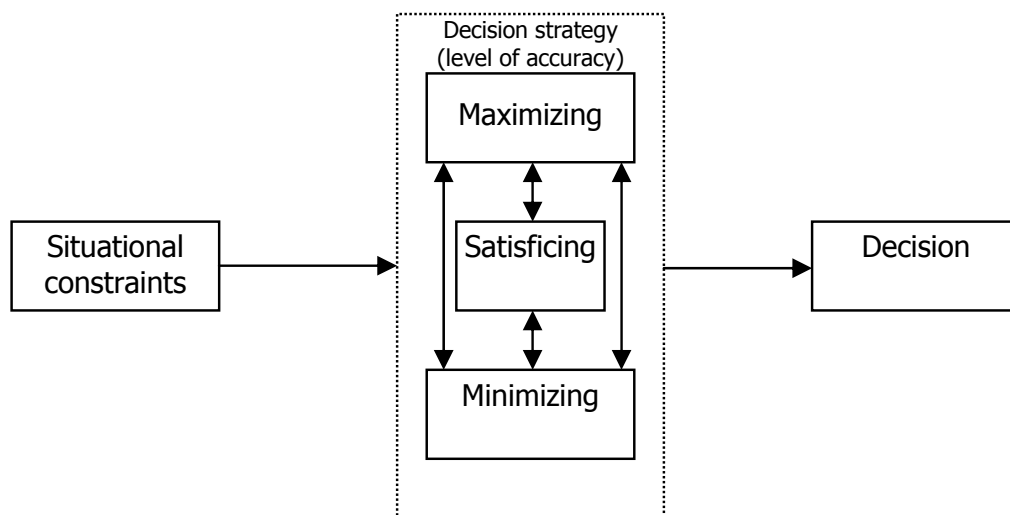


Figure 6.2: The relationship between situational constraints and the chosen decision strategy

In our earlier example, when we discussed having a question about income tax and deciding on which website to look, I might want to obtain a certain degree of accuracy. Indeed, it is very likely that I want to find a correct answer, however. It is not my desire to accuracy that limits the amount of effort I put in deciding. It is far more likely that the amount of effort I am willing to make available is limited, I may not have the time due to e.g. other obligations or my laziness (as may happen in the minimizing strategy) may hamper the willingness to find an accurate answer.

The situational constraints therefore function on a meta-level, they determine what decision strategy is used and the decision strategy finally leads to a decision. The study of Payne et al. (1993) suggest indeed that the effort-accuracy trade-off influences how

decisions are made. Further evidence is provided by Creyer *et al.* (1990). They found that subjects changed their decision strategy depending on either accuracy or effort demands. An emphasis on accuracy led to more normative (rational) decision making, while emphasis on effort led to more selective, and more attribute-based processing and poorer performance. Other also provided evidence for adaptivity in decision making (Chu & Spires, 2003; Fennema & Kleinmuntz, 1995; Payne *et al.*, 1988).

## 6.6 The logic of (bounded) rationality

Until now, we have discussed perspectives on rationality. Remember, the most prominent media choice theory, Media Richness Theory has been criticized on its rational viewpoint concerning behavior. The (inter)subjective theories narrowed this proposition down to that of bounded rationality (or subjective rationality). In the previous part of this chapter we have shown that other perspectives on rationality also exist. The principle of least effort builds on the idea that people do not want to put effort in their decision making and pick the first acceptable option.

The adaptive-decision maker hypothesis builds on the idea that the decision making strategy may vary along the situation. When accuracy is needed people are more rational, but when no accuracy is needed, people wage as little effort as possible in decision making. Although (in a sense) the degree of rationality varies in the different strategies; the various approaches assume that people behave logical. Having limitations or not, people do weigh the different alternatives in the various decision strategies. This implies that decision making is seen as a cognitive process in which people use their intelligence to process information.

So, although bounded rationality enhances the utility of the rationality concept, it does not challenge the core assumption of (cognitive) logic in human behavior. A key question that arises now is whether the assumption of logic in human behavior holds. According to many, it does not. Various others have questioned the logic in decision making (Miller, 2006). Barnard (1938) was upon the first to note that people often make decisions without elaboration in the decision making process:

*"The sources of these non-logic processes lie in physiological conditions or factors, or in the physical and social environment, mostly impressed upon us unconsciously, or without conscious effort on our part. They also consist of the mass of facts, patterns, concepts, techniques, abstractions, and generally what we call formal knowledge or beliefs, which are impressed upon our minds more or less by conscious effort and study. This second source of non-logical mental processes greatly increases with direct experience, study and education" (p. 302).*

The most important point of critique on the rational (logical) decision making process is that it ignores the role of emotions in decision making (Damasio, 1994; Elster, 1985; Etzioni, 1988b; LeDoux, 1998; Spicer, 2004). Since the ancient Greek times, philosophers and other theorists have found it attractive to separate cognition from emotion. Plato, for example, emphasized that passions and desires and fears make it impossible for humans to think (cited in Flew, 1964). Economists and cognitive psychologists have largely ignored emotions by their focus on the cognitive processes in decision making. Smith (2002) summarizes this point as follows:

*"The most likely explanation of the emotions from accounts of rational psychology is that they are seen as mere distractions from rational agency: noise in the system, which at best serve as accompaniments to the real explanatory factors at work in agency and, at worse, interfere with the workings of reason guided actions" (p. 112).*

The ignorance of emotions in decision making is an apparent one. When one of the most well known (economic) philosophers, Jeremy Bentham, proposed the concept of utility as goal of rational decision making, emotions figured significantly in his theory (Bentham, 1789). Bentham saw utility as the net sum of positive emotions over negative ones. At the end of the nineteenth century, the role of emotions was seen as a vital part of psychological research by such scholars as Charles Darwin, William James and Sigmund Freud (Evans & Cruse, 2004).

Neoclassical economists, however, quickly sought to exclude emotional contents and the psychological underpinnings from the foundation of utility (Loewenstein, 2000). The advent of behaviorism in the beginning of the twentieth century and cognitivism in the 1950's caused a further drift away from the role of emotions in decision making (Evans & Cruse, 2004). Only a few (neurobiological) scholars have given attention to the role of emotions and how emotions affect decision making. Paul MacLean (1973, 1990) and Antonio Damasio (1994, 2000a) are the most prominent of these scholars and their theories shall be discussed shortly below.

#### 6.6.1 Paul Maclean: The Triune Brain

MacLean (1973, 1990) is the first who coined the neologism 'triune'. This term refers to evidence that the human brain is not a single entity, but divided in three separate brains; the R-complex (or reptilian brain), the limbic system (or mammalian brain) and the Neo-Cortex, which is the human brain.



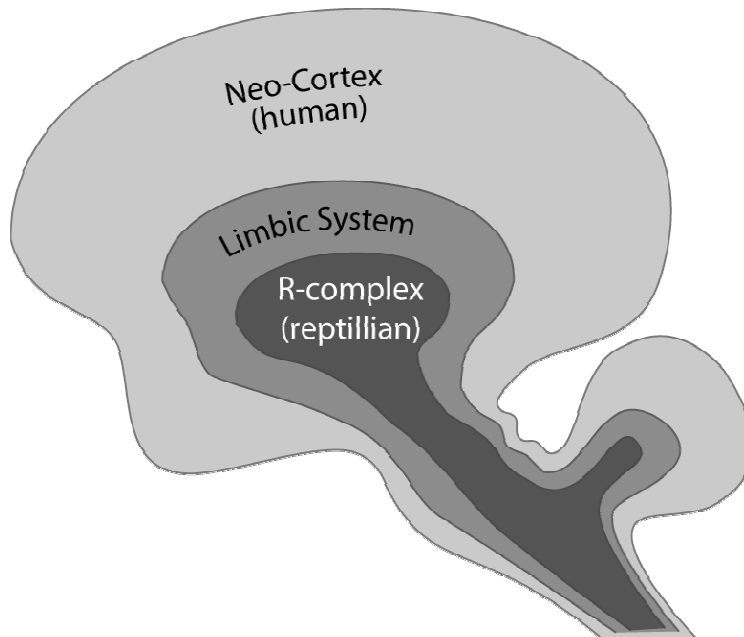


Figure 6.3; Graphical representation of MacLean's Triune brain

Maclean argues that each 'brain' has its own functions; the r-complex is responsible for instinctive (intuitive), and reflexive processes (such as the heartbeat), the limbic system is the source of emotions and it is largely responsible of such functions as feeding and sexual behavior. The neo-cortex, or 'human' brain is the source of human intelligences and regulates our ability to reason. There is empirical evidence for the separate functions that are covered by the triune-brain (Holden, 1979; Peredery *et al.*, 1992); however, the idea of the (formal) separation of the brain in three parts has received little support. Some scholars have shown that it is not so clearly possible to appoint different functions to different parts of the brain. It has for example been shown that primitive creatures (which are supposed to just have a reptilian brain) do have areas that match criteria of the neo-cortex (LeDoux, 1992; Nauta & Karten, 1970). However, the theoretical idea of three functions as a psychological concept remains popular and many theorists have supported the ideas of the triune brain (Koestler, 1967; Ornstein, 1986). Reason for the popularity of the triune brain is that it offers a framework in which to integrate rational and emotional processes. The critique on the theory seemed to stem more from its suggestion about the localization of the different functions in the human brain (as depicted in the figure above), than about the, compelling, idea that emotions and cognitions both play a role in human behavior (LeDoux, 1998).

Maclean has always argued that the three brains influence each other and are cumulative; reason is not possible without the limbic system and the r-complex. This implies that emotions steer the rationality of people in particular through neuronal (path)ways. It also implies that behaviors may occur without reasoning; behaviors need not necessarily be logical. Regarding channel choice this would imply that people do not necessarily (rationally) match task and channel, but may act emotionally and choose a channel for

example because they are frustrated or mad. It is likely that the influence of negative, visceral emotions is stronger than positive emotions. Research in the role of emotions in economic behavior has shown that visceral factors strongly influence human behavior (Loewenstein, 2000).

#### 6.6.2 Antonio Damasio: the somatic-marker hypothesis

Another approach to the role of emotions in human behavior is that of Antonio Damasio and specifically with his somatic-marker hypothesis. In his book *Descartes' Error: Emotion, Reason, and the Human Brain* (Damasio, 1994), Damasio presents the argument that emotion and reason are not separate entities but dependent upon each other. This is perfectly depicted by Hume's famous statement that "reason is, and ought only to be the slave of passions" (Hume *et al.*, 1978, p. 415). Based on an analysis of various cases (mostly patients with brain damage)

Damasio argues that emotions are needed to reason; emotions guide the reasoning process in order to make decisions. For example, suppose I have  $x$  channels at my disposal, with  $y$  characteristics and my emotions would be distorted, in this case I would continue to compare the channels on all characteristics forever, since there is a) no emotional process that adds weight to different characteristics and b) no (emotional) process that tells me to stop reasoning. Based on his idea and the observations of the different patients Damasio presented the somatic-marker hypothesis. Basically, this hypothesis implies that behaviors produce outcomes and that experiences relate certain emotional triggers to certain outcomes:

*"In brief, the signal marks options and outcomes with a positive and negative signal that narrows down the decision-making space and increases the probability that the action will conform to past experience. Because the signals are, in one way or another, body-related, I began referring to this set of ideas as 'the somatic-marker hypothesis'" (Damasio, 2003, p. 148).*

Emotional signals are in this theory no substitute for (rational) reasoning, rather, they have an auxiliary role; they increase the efficiency of the decision-making process. "Well-tuned and deployed emotion ... is necessary for the edifice of reason to operate properly" (Damasio, 2000b, p. 14). Depending on the strength of the emotion, the amount of reasoning may vary. It is even possible that emotions influence behavior unconsciously. Given prior experiences emotions can produce such influences on reasoning that the decision-making becomes unconscious; the best decision is taken intuitively. This means that, according to Damasio, decision making uses two (complementary) paths. First, the decision making situation may prompt images related to the situation, triggering a reasoning process based on facts, the decision options and assessments of the behavioral outcomes. Second, the situation may trigger an activation of emotions that might lead to a

recollection of prior emotional experiences and may influence the reasoning strategies. This is shown in the figure below.

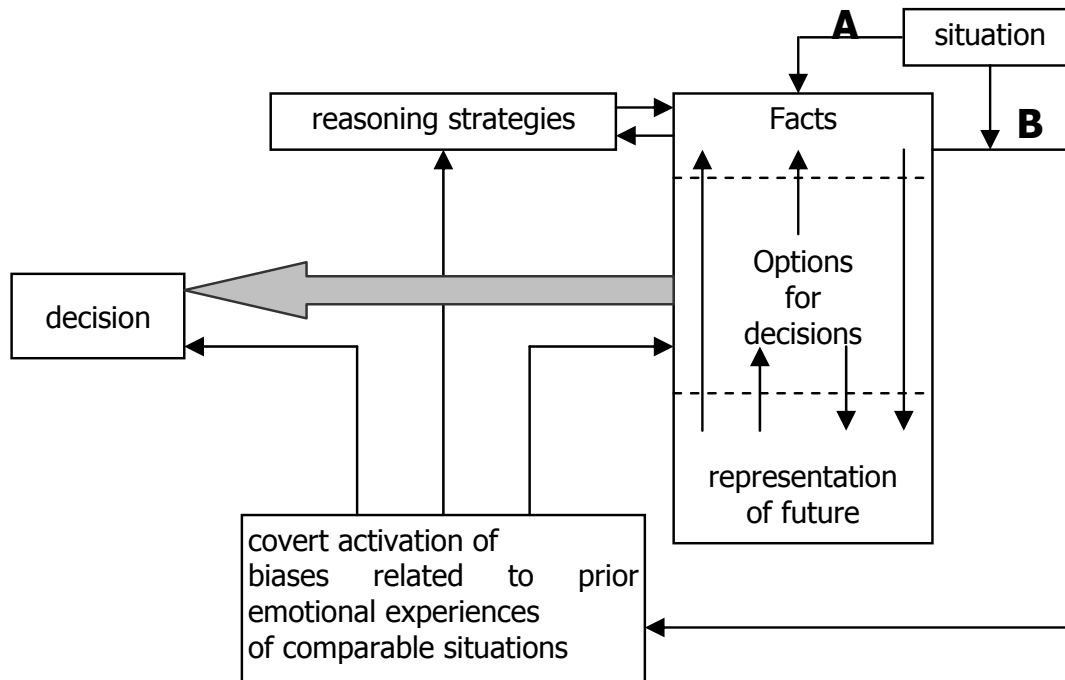


Figure 6.4: The decision making process according to Damasio

Damasio discusses numerous studies that support the idea of emotions as moderator of (rational) behavior (for an overview, see Damasio, 2003). In this respect Damasio argues that emotions are, in fact, rational:

*"[T]he idea that emotions are inherently rational has a long history. Both Aristotle and Spinoza obviously thought that at least some emotions, in the right circumstances, were rational. In a way, so did David Hume and Adam Smith. The contemporary philosophers Ronald da Sousa and Martha Nussbaum also have argued persuasively for the rationality of emotion. In this context the term rational does not denote explicit logical reasoning but rather an association with actions or outcomes that are beneficial to the organism exhibiting emotions. The recalled emotional signals are not rational in and of themselves, but they promote outcomes that could have been derived rationally. Perhaps a better term to denote this property is 'reasonable,' as suggested by Stefan Heck" (Damasio, 2003, p. 150)*

In sum, Damasio argues that emotions influence behavior in two ways; a) directly, via the somatic-markers and b) it influences the reasoning strategies of people and the perceptions of facts, decision options and outcomes.

### 6.6.3 Concluding remarks on the logic in decision making

Since the ancient Greeks, scholars have been occupied with finding the foundations of human behavior. Many have argued that logic or the utilitarian perspective of rationality should be regarded as the ultimate 'human' approach to behavior, thereby separating reason from emotions. However, separating emotions from logic is untenable; emotions do not only serve as a direct determinant of human behavior; they also guide the reasoning strategies of people. Without emotions, there is no logic. This implies that, regarding rationality and decision making, we should add the role of emotions to the framework laid out in figure Figure 6.2. We alter the framework in a way that it resembles the lines of thought of Damasio as shown in Figure 6.4.

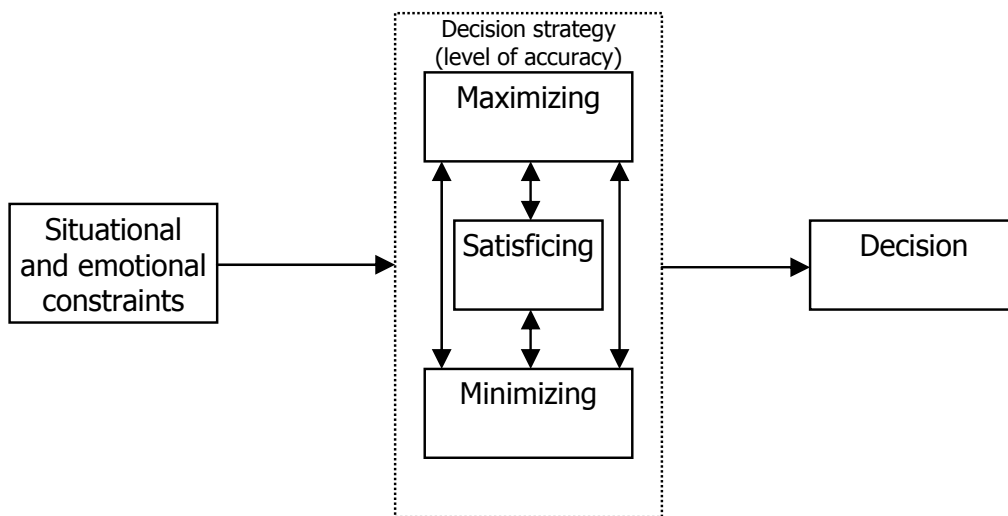


Figure 6.5: The relationship between situational and emotional constraints and the chosen decision strategy

## 6.7 Decision making in Channel Choice

Let's return to channel choices and the media behavioral theories. How do the findings from the general decision making theories affect decision making in the channel choice context? As we concluded after chapter four and five, channel choice theories have often been treated as competing given their (amongst others) different approach to rationality in human decision making. Attempts towards integration have been made, but gained little success. In this chapter (chapter six), we discussed human decision making in more detail and we found a similar debate going on; camps of rationality proponents and opponents have created a similar dichotomy. However, integrative theories exist here that did yield favorable empirical support. Since we treat channel choice as a decision making situation, we could try to incorporate the insights from the general decision making literature in a further attempt to build an integrative theory, model or framework of channel choice.

Starting point in most media theories is the contingency between task and medium. Similarly we find in decision theories that the problem (the task) and the choice options

are treated as contingency variables. That task variables influence the channel choice process is without any doubt. Task variables play a role in all the theories discussed in chapters 4 and 5 (and research on these theories has yielded an abundance of evidence). In addition, the more general decision making literature has also found confirmation for the influence of the task at hand upon decision making (Goodhue & Thompson, 1995; Hogarth & Einhorn, 1992; Payne, 1976). The complexity of the task, for example, influences what decision strategy will be used (Einhorn & Hogarth, 1981; Payne et al., 1993).

Our main argument here would be that behavior is indeed contingent upon task and channel, but personal differences may lead to different contingencies (due to e.g. experiences). Media theorists (such as within channel expansion theory) have argued (and found empirical support) that personal differences affect channel choice. Further, we argue that the decision strategy is dependent on the situation and emotions; based on a trade-off between effort and accuracy people follow different strategies. Emotions and the actual decision situation serve as moderators in the decision strategy. This still leads to a contingency between task and channel. For example, when I have a question for a governmental agency, a lot of time, and enough skills to operate a computer, I may decide to search the web for some time in order to obtain an answer. However, if my time resources are limited, I may decide to use the telephone, even though, my task has a low level of either ambiguity or complexity.

Thus, my behavior is still contingency driven. Task and channel perceptions are influenced by personal characteristics and decision making is moderated by situational influences. Based on our review of the channel choice literature in Chapter three, we could argue that these four groups are the most important groups of factors influencing the channel choice process.

The situational factors are, in our opinion, the key to integration of the different theories. Although some media theories do incorporate situational variables (such as Symbolic Interactionism), they see those variables as direct influences on channel choice. We would argue that the influence of the situation is at a higher level of causality; situational influences determine to what extent I make a rational decision. This means that rationality can by no means be excluded as a decision strategy. Full rationality is an unlikely event, given the limitations of human decision making (in terms of cognition and the *de facto* limitation of time), however, bounded rationality is a probable behavioral strategy. It is likely that people who are facing a complex problem and do have the opportunity for thorough decision making do weigh several behavioral options before choosing a channel. Non rational, minimizing, strategies are also very well possible. Being faced with limited time, I may very well choose the first available option. Theories such as the technology acceptance model (Davis, 1986, 1989) (see chapter 3) also suggest that both rational

*utility* factors (in this case the *perceived usefulness* of a channel) and *effort* related factors (in this case the *perceived ease of use*) play a role in channel choice behaviors.

Some empirical observations have been made that support the variability in choosing channels due to situational and task factors. Allen (1977) discovered in his study about the choice of information sources that effort was the most important determinant of channel choice; people tend to choose the most convenient, easy accessible channel (this corresponds clearly with the principle of least effort (Zipf, 1949)). Swanson (1987) drew the same conclusion, but added that this effort is a situational determinant. Choo (1998) further investigated this thought and found that when the situation (problem) gets more ambiguous, the influence of the principle of least effort declines and people start considering less accessible information sources.

This would suggest (in line with the decision making literature) that people, guided by emotions, are primarily driven by obtaining results driven by their wish to reduce the effort in decision making. In this vein, the principle of least effort serves as a somatic marker. However, when task characteristics change into ambiguous tasks, the willingness to wage effort in the decision making process increases and a process of reasoning starts. This would imply that the degree of *rationality* varies according to the channel choice situation. In this perspective, we integrated both the adaptive decision maker hypothesis and the insights on the role of emotions (as depicted by for example the somatic-marker hypothesis) in one single framework for channel choices.

In the rational (MRT) perspective on channel choice, this process was merely a matter of elaboration between task and channel in order to achieve fit. This is shown in the figure below (Figure 6.6).

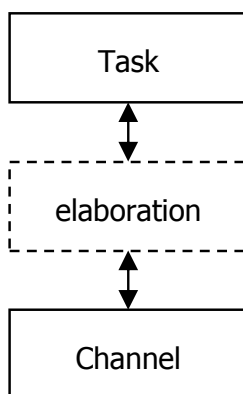


Figure 6.6: The relationship between task, channel and elaboration

Now, we can a) add the personal characteristics, these will affect the perceptions of both task and channel and influence the degree of elaboration and b) the situational constraints that will affect the level of elaboration in decision making. This is shown in the figure below (Figure 6.7).

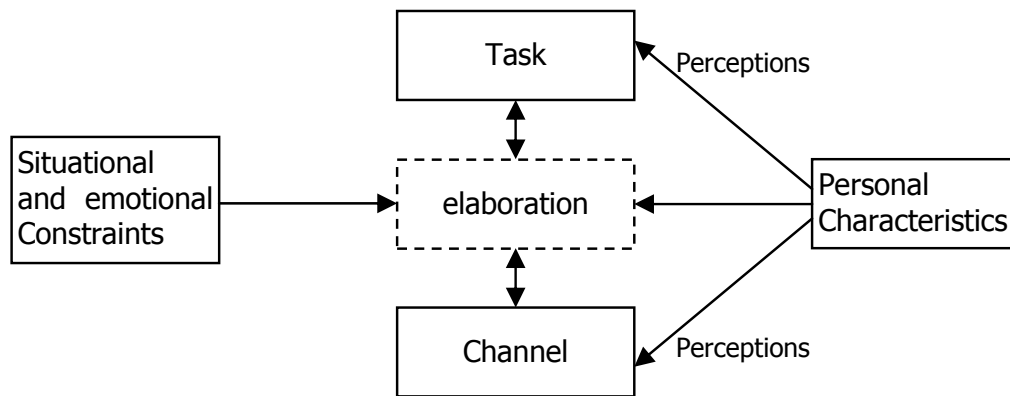


Figure 6.7; The relationship between influencing factors and the elaboration between task and channel

The figure does not include all possible factors. It includes the most important (groups of) factors we derived from previous research; task characteristics, channel characteristics, personal characteristics and situational constraints. However, factors as suggested by the theories discussed in this chapter and chapters four and five, such as social influences (as emphasized by the social influence model) are omitted from the model. The reason for this omission is not that we do not believe that these factors play a role. However, the discussion of earlier research did not lead to the expectation that these factors need to be mentioned as a separate *group* of factors. In this theory we take the perspective of the individual's channel choice. This implies that the social environment of the citizen becomes part of the situational context. *if* these factors play a role at all. We only modeled the groups of factors as derived from the literature. A large number of potential specifications of these groups of factors exists. For example, we know that task characteristics (both intrinsic as extrinsic) play a role, but we cannot draw definite conclusions of *what* task factors play a role. Some of the (perceived) channel characteristics suggested by both the theories (chapters four, five & six) and the studies discussed in chapter three are for example:

- immediacy of feedback
- personalization
- number of cues
- language variety
- ease of use
- usefulness
- interactivity
- convenience
- etc.

Although the influence of these factors on media choices or use is by no means a point of discussion, the lack of empirical work, limits the conclusions we can draw about the relevance of these factors in the context of public sector service interactions between organizations and citizens (as discussed in Chapter three). We need to explore the

different factors that play a role in the context of citizen-government interactions in order to extend the framework presented in this chapter into a useful theory of channel choice.

## 6.8 Conclusions

Part two of this dissertation described the most important theoretical aspects of channel choice. This part, consisting of chapters four, five, and six served to find an answer to the second research question of this dissertation. This research question is:

*What are the most important insights on channel choice we can draw from existing theories?*

Whereas we discussed the rational theories of channel choice in chapter four, we discussed the (inter)subjective theories in chapter five. These lines of theorizing have been put often as dichotomies opposite each other; behavior would be either rationally motivated or (inter)subjectively. Some argued for a 'complementary' perspective in which both perspectives would be integrated, but little progress of such integration has been noticed. As we saw in this chapter, such a distinction also exists in the general decision making literature. However, scholars in this field have made some more progress in the integration of both dichotomies.

Both the meta-rationality argument as the adaptive decision making hypothesis emphasize that behavior are more or less rational, depending on the situation, the emotional state of mind and/or the needed accuracy given the task. It is argued that people in general behave according to the principle of least effort; the ease of use of a channel would be of more importance than its usefulness. However, this changes as tasks become more ambiguous and people start considering the usefulness of a channel above the ease of use of the channel. Hence, the degree of adaptivity in decision making is a function of the effort and accuracy involved. Furthermore, situational constraints, such as the available amount of time would determine the amount of effort.

Further, personal differences lead to different perceptions of channels and tasks and (personal) experiences may also influence how people perceive tasks, channels and the elaboration between them to reach a fit. The most important theoretical insights are thus that channel choice appears to be contingent upon task and channel characteristics, personal characteristics and situational and emotional constraints.

A further exploration of channel choices within the context of citizen initiated contacts should determine what task, channel, personal and situational factors play a role and to what extent other factors such as organizational characteristics and social influences play a role. In chapter seven we will describe the exploratory study that was conducted to investigate these channel choice determinants.



PART 3:  
EMPIRICAL EXPLORATIONS





"I do not feel obliged to believe that the same God who has endowed us with sense, reason, and intellect has intended us to forgo their use."  
(Galileo Galilei)

## 7 An exploration of channel choice determinants

### 7.1 Introduction<sup>13</sup>

In the previous chapters, we discussed the theoretical insights on channel choice. Although the discussion of the theories yielded insights on what factors play a role in channel choice decisions and how these factors are related, we concluded in chapter six that we don't have an satisfying overview of all factors that play a role in channel choice decisions. This conclusion has also been drawn by others. Both Reddick (2005a) as well as Venkatesh (2006) rightly argue that more qualitative research is needed to get a full understanding of the channel choice process. As we concluded in chapter six, we do have a theory on the behavioral mechanisms that underlie channel choice processes, but we do not know the exact specifications of the groups of factors that influence channel choices. This is due to two reasons; in the first place there is little conclusive evidence about the influence of the different factors on channel choice in general. Second, there is a lack of insight in the factors that play a role in citizen-government interactions.

In chapter six, we proposed a general framework of the channel choice process and the groups of factors that influence this process. Aim of this chapter is to fill in this framework with the specifications of the groups of factors that influence channel choices. We do this by presenting the findings of a qualitative study among Dutch citizens. The factors found in this study may be used to further fill in the framework laid out in chapter six and develop theories on how, for example, the situational constraints affect the channel choice decision making process. In chapter one, we formulated the following question that we try to answer in this chapter:

*Which factors determine the channel choice of Dutch citizens in current online government service provision?*

This guiding question also serves as the (empirical) research question we try to answer in the study that is described in this chapter. The aim of this chapter is not to test the influence of the different factors and to provide generalizable findings, but to add coloring and depth to the available knowledge and to explore whether (large) omissions exist in our framework. Hence, an interpretative qualitative approach is appropriate to gain in-depth understanding of the determinants that underlie citizens' behaviors (Cresswell, 1998).

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<sup>13</sup> Parts of this chapter have been previously published in Pieterse and Van Dijk (2007)

In this chapter, we will first describe the method of research of the study before presenting the results of the study. Next, we will try to answer the research question depicted above and we will discuss how the findings of the study impact the channel choice framework laid down in the previous chapter. We will conclude the chapter with the discussion of some of the limitations and drawbacks of our study.

## 7.2 Methodology and Data Collection

Interviews are a good way to elicit unanticipated information and to enable great depth and meaning of communication experiences to be explored and recorded (King, 1994). Especially *exploratory* single interviews are suited to generate issues. However, single interviews may lack the dynamic that group interviews have; "Groups are not just a convenient way to accumulate the individual knowledge of their members. They give rise synergistically to insights and solutions that would not come about without them" (Brown *et al.*, 1989 p. 40).

The main advantage that group interviews have is that, through the discussion among its group members, they are well suited to generate a multitude of issues (Gliner & Morgan, 2000). However, because of the group interaction, insights in individual motivations for behavior may lack depth and besides generating as many factors as possible that determine channel choices, we are interested in the underlying structures of the choices and hence we need to add depth to our data. This depth is one of the main advantages of single interviews, they enable the interviewer to specifically ask about individual behavioral aspects and the reasons to behave in specific situations. To take benefit of the advantages of both group and single interviews, we decided to combine both group interviews as well as single interviews in this research. The topics we addressed were the same in both the focus groups and the single interviews and included:

- The service channels used in general
- Experiences with channels
- The use of certain channels for certain purposes
- The reasons to choose a certain channel in a certain situation

We used a semi-open interview approach. We did have a set of questions formulated around the topics mentioned above, but we let the interviewees talk freely, allowing them to generate issues themselves. Examples of actual questions included in the interview scheme were:

- What channels do you use in general to interact with governmental organizations?
- What channel did you choose the last time and why this channel?
- How satisfied were you with the last contact and why were you satisfied/dissatisfied?
- Have your experiences influence the ways you perceive service channels?

A number between three and six groups is considered enough to reach theoretical saturation and focus groups typically have 7-10 respondents (Krueger, 1990; Strauss & Corbin, 1990), to match with these rules of thumb, we conducted a total number of five group interviews, each having between seven and nine respondents. In total 40 respondents participated in the focus groups. This is a similar number compared to the study of Black et al. (2002), who used six groups. Patricio, Fisk and Falcao e Cunha (2003) used the same research approach as we do in this study. They conducted four group interviews with five participants each, as well as 14 single interviews. We conducted 18 single interviews in this research. Hence, the total number of participants in the study was  $n=58$ . Although the study by no means pretends to yield generalizable findings, this number of respondents allows us to generate Participants in the focus groups were randomly selected by a research agency. Participants for the single interviews were selected in two ways. Nine of them were self-selected; they could express their willingness to participate in this study after having participated in another e-government related study. This self-selection may lead to a bias due to the voluntariness of the participation. Hence the research agency that recruited the participants for the focus groups randomly contacted another nine Dutch citizens via the telephone to ask for their participation.

Respondents were all adults, since people over 18 years of age have more contacts with governmental organizations and we only wanted to include those people who have contact with governmental organizations. Since the elderly typically lag behind when it comes to Internet usage (van Dijk, 2005), we specifically wanted to include people over 65 years of age. Respondents were partly selected from Dutch research panels and partly via a random sample from the Dutch population used in another study (van Dijk et al., 2006). The youngest respondent was 18 years of age; the eldest was 82 years of age. We had a slight overrepresentation of the elderly and higher educated, but every category was represented with multiple respondents. The overrepresentation of certain groups is no real concern, since representativeness is no aim of the study.

The group interviews took place at various locations throughout the Netherlands, to overcome a geographical sampling bias. The interviews were partly held at the homes of the respondents and the office of a research agency. This did not lead to a difference in answers. The single interviews lasted approximately 45 minutes and the focus groups two hours. All single interviews were tape (audio) recorded, we video-recorded the group interviews.

### 7.2.1 Data analysis

Data were analyzed in a number of steps. First, the interviews were transcribed in full length, partly by the research agency that also sampled most of the respondents and partly by the author of this thesis. Although this is a time consuming and labor intensive process, it enhanced the sense-making process of the research material and the familiarity with it. Second, a long list of factors determining channel choice was made. Hereby, we

used the inductive analysis approach; this means that the patterns, themes, and categories of analysis come from the data: they emerge out of the data rather than being imposed on them prior to data collection and analysis (Patton, 1990). We did this by selecting those parts from the interviews in which people used signal words indicating that they were talking about the choice and use of channels (e.g. "I chose...", "I did...", "Reason for this was...", "Because of...").

Third, the long list was shortened through a sorting process to identify common themes. This was done by the author of this dissertation in cooperation with the research agency. Because different ways of looking to the same set of data can lead to important insights (Patton, 1990), we decided to overcome this potential researcher bias by organizing a group discussion with the participating researchers of the agency? to check our analysis. In this discussion, we (again) shortened the long list of factors to identify the underlying themes (analytical triangulation). Through this discussion we established the final set of categories. We compared the identified categories during the analysis and adjusted these according to new insights (Cresswell, 1998). This process of clustering the data into groups was aided with computer software; we used mindmapping software to group the data and to label the determinants<sup>14</sup>.

### 7.3 Results

The following paragraphs outline the most important findings of the qualitative study, grouped by theme. We present the overview of the determinants of channel choice we found in the interviews. We illustrate the findings with quotations from the interviews. Four main categories of factors were found to influence the choice of a service channel, these are the groups that we also derived from our analysis of previous research; *Channel Characteristics*, *Task Characteristics*, *Situational Characteristics*, and *Personal Characteristics*. We found no evidence for the influence of organizational characteristics. Organizational characteristics have been suggested by organizational communication scholars and the fact that our study took place outside that context may be the reason for not finding this result. We also did not find any evidence for (direct) social influences. This does not necessarily exclude social influences as factor, perhaps the (western) culture differs from other cultures, rendering the social influence to a societal level, rather than direct or within small groups (we will elaborate further on this point in the discussion).

Each of these categories will be discussed in detail in the next sections. Quotations from the interviews are used to illustrate the findings. Each single quotation or interview excerpt is written in italics and between brackets. Further more, the source (which group or single interview) is given.

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<sup>14</sup> Specifically, we used a software program called 'freemind', which is available as open source software.

### 7.3.1 Channel characteristics

A number of channel characteristics have been mentioned by a large number of the respondents as being of importance when they consider choosing a channel. These are the *speed*, *ease of use*, *personalization* and the *level of certainty* the channel offers. These will be discussed below. Some factors have been mentioned, but only once or twice, such as the *price* of the channel and the *service level*.

Speed is one of the most mentioned channel characteristics in the study. Speed however may imply two things as becomes apparent from the interviews. In the first place, speed may imply the time needed to get in contact with the organization via a service channel, a factor we label *contact speed*.

[*The Internet is fast, you can access it from your own home (group 5)*]

Waiting lines on the telephone and the distance towards offices to visit front desks are mentioned as negative aspects of these channels towards the contact speed. On the other hand, we can distinguish a factor we name *feedback speed*, this is the speed of getting the needed information when you already have contact. The Internet may be accessible in terms of browsing to a certain governmental Website or for example Google. It may take quite some time to find the answer you are looking for:

[*Searching sites often take a lot of time, often more than phoning (group 5)*]

*Ease of use* also is a multiple cited factor, as we mentioned before. *Ease of use* is often associated with the Internet, based on its contact speed. The influence of this factor is smaller among the elderly. However, the ease of use also has a situational component (see below), since time and distance constraints may alter the (perceived) ease of use of the channel. The ease of use of a channel has been suggested by the Technology Acceptance Model (Davis, 1986, 1989).

*Personalization* is the next channel characteristic; this is associated with the telephone and face-to-face contact. This factor is important in two respects. First of all, personal contact is being perceived as important because (given the multiple channels (e.g. audio, video, body language) used) information is better understood. The importance of this type increases as task complexity and ambiguity increase. Second, people may prefer personal contact because they enjoy the fact of talking to a real person, in stead of a 'dead' machine.

The *level of certainty*, finally is a channel characteristic that has been mentioned. Information from the Internet has a low accountability, as opposed to printed and (personally) signed paper:

[R: *I would, if a governmental organization offers me information via the Internet, it may be put on the Internet and I may be able to print it. But, I repeat to say, what is the value of such a paper? Whereas, when it has been sent to me by mail, with a header above it and the name of some gentlemen, that gives a lot of value to it (single 1)*]

Respondents cite that they sometimes use the telephone to confirm the authenticity of the information they read on the Internet. Obtaining certainty or some level of closure on a topic is strongly associated with the traditional service channels:

[R. *I have had a number of times now that I read something on a website of some governmental agency and that I thought, well, euhm, that can't be right. So I decided to phone them to ask if the information was really correct (group 2)*]

This certainty seems to relate strongly to getting the actual information the citizen is searching for. It thereby refers to the *usefulness* of the channel, a characteristic also suggested by the Technology Acceptance Model (Davis, 1986, 1989).

### 7.3.2 Task Characteristics

We found two task characteristics to be of importance. The first is the *complexity* of the task, which can be seen as the number of interrelated steps in a task (Ebberts et al., 2008). The more steps or aspects in a single task, the more complex the situation gets. The perceived complexity affects what channels people use, in most cases people prefer the more personal channels for complex problems:

[*If I have a complex problem, then I make an appointment and I just go to there (single 17)*]

[*For complicated matters, I go to the front desk, because it is undoable via the phone (group 3)*]

However, a key benefit of the Internet is that it offers great functionality in structuring information, to a larger extend that for example the telephone can handle. Therefore, the Internet was also named as a channel to deal with complex tasks, especially when it comes to the processing of lots of information (especially *wizards* have been mentioned as a positive point on the Internet).

The second task characteristic is the *ambiguity* of the task, which can be seen as the degree to which multiple interpretations of a task exist (Daft & Lengel, 1986). Ambiguity often leads to 'not knowing what the problem is and how to solve it':



*[Sometimes, you spend quite some time searching [the Internet], which is inconvenient, especially if you're not sure what is going on and what you are looking for (group 4)]*

This ambiguity often manifests itself when people have to interpret whether information is relevant for them. If people doubt whether information is relevant or correct, they will not succeed via the Internet and resort to websites:

*[The phone allows you to keep asking questions and to clarify your situation (group 5)]*

*[The site can only help you when 'it fits', if you have an exceptional situation, the site can't help you (group 4)]*

### 7.3.3 Situational Characteristics

Various situational factors are of importance. First and most important are the restrictions in *time* and *place*. These factors are strongly related to the effort people have to invest in using a channel:

*[I: As you told me, the town hall is close by. What do you see as "close by"?*

*R: Well, it is seven kilometers.*

*I: Seven kilometers. And you told me in fact that when you have a question, you take your bicycle or your car and go there.*

*R: Yes, because you do your shopping and your errands there too. Things were different a few years ago. Back then, we lived in another municipality and than it was fifteen kilometers away, that changes the situation (single 4)]*

*[I always use the phone while I am driving, because then I have the time to make phone calls (group 2)]*

*[My computer is located upstairs, it's much easier to pick the phone which is located in the living room (single 5)]*

Although not always, many respondents argued that *time* and *place* factors were very important in choosing a channel. When people think it costs too much time to use a channel they won't consider using it. This would indicate that people are driven by the effort in decision making. Hence, the time and distance are related to the ease of use of the channel:

*[why would I search on a website for hours if I could also just phone them, that's far more easier..(single 12)]*

Whereas for some respondents and in some situations the effort or efficiency is important in choosing a channel, the effectiveness is an argument for others and in other circumstances. Especially when the importance of solving the problem or the task is important, people start reasoning and choose an effective channel. This is often related to the desired *level of certainty* in their behavior:

*[I: And why the front desk? You say, when I need information, I use both |telephone and front desk|, but to arrange something, I use the front desk. Why?*

*R: Well, it is like I am more certain. Like I know for sure I arranged something (single 6)]*

*[I would feel the need to visit them, which is more safe. You have a clear focal point. I have had many problems and than I want to talk to someone who really knows (group 2)]*

Second situational variable are the *emotions* people may experience when they encounter a problem. Although emotions are related to the person experiencing the emotions, we choose not to label emotions as *personal characteristic*. Naturally, the emotional state of mind may correlate with such concepts as personality (Izard *et al.*, 1993), but the results of the study suggest that the role of emotions in this context is that of an *emotional state*, as opposed to an *emotional trait* (Larsen & Buss, 2007). The emotions someone experiences depend strongly on the situation and therefore we categorized them among the situational constraints. Although not all respondents listed emotions as influential (since not having encountered this situation), most agreed that specific emotions, such as anger, might influence channel choice. Some examples of the influence of emotions are:

*[When I am angry, I pick up the phone and phone them...(group 4)]*

*[I see the phone as a means to take revenge when they do something stupid, then I would like their systems to collapse (group 2)]*

Emotions are an interesting factor regarding channel choice; non of the existing theories have incorporated emotions as a possible determinant of channel choice.

A third situational factor is the *availability* of service channels. This is not an intrinsic characteristic of service channels, but is due to for example organizational choices towards the availability of channels. Thus, the availability can be regarded as an extrinsic channel

characteristic, however, due to the fact that the availability differs per organization and per situation, we decided to label the availability as a situational factor.

*[I can't phone them on Saturdays, because they're closed, so then I am forced to use the Internet (group 1)]*

*[0800 |note: this indicates a cost-free number| number is an advantage, this makes you phone easier (group 1)]*

Furthermore, the availability may be dependent on simple things, such as the weather conditions:

*[When the weather is bad, I am more eager to use it |the computer|. Then I will try more things (single 5)]*

In sum, the situational constraints affect the *actual* channel choice situation. They limit the amount of channels people (can) choose from and they put restraints to the amount of effort put in the decision making process. It appears that the situational constraints have a moderating effect on the degree of elaboration to reach a task medium fit. The following quote is a perfect illustration of this finding:

*[You know, normally I do think a bit about phoning or going online, but when I am in a rush, or I need an instant answer, I immediately grab the phone (single 6)]*

#### 7.3.4 Personal characteristics

A final group of characteristics is formed by the personal characteristics of the respondent. We found three personal characteristics to be of importance. These are the *habits* people develop in their contacts with governmental agencies, closely related to these habits are the *experiences* of people with channels and finally, the *demographic characteristics* of the citizens.

The first personal characteristic are the habits of people when choosing channels. Habit appears to be one of the main determinants of channel choice, given the result that most respondents mentioned this factor. Many people just use different channels because they have used them often and because they are satisfied. Some people have the habit of using the Internet as a primary channel:

*[I always primarily check the site (group 1)]*

Others explain that they instantly choose the phone:

*[I just always use the telephone, I see a number and start calling (group 1)]*

*[Respondent: Most of the time, I first use the telephone, before searching the Internet. I am a man that grabs the phone instantly, call now!]*

*Interviewer: And why do you start with using the phone?*

*R: I am used to doing so, since old times, also because of my working experiences (single 3)]*

And some people indicate a strong preference for the front desk:

*[I: And do you have the preference of going there in every situation?*

*R. Yes, I prefer the personal conversation (single 4)]*

The examples above from the single interviews clarify how and why people have strong habits in their channel choice behavior, these are based on experiences with channel usage and on the perceived characteristics of the service channels. No respondent indicated to have the habit to write a letter. Further, it was indicated that some people have standard routines in the follow up of the channels they choose and use, meaning that when people have a problem, they choose a channel to solve this problem. If this channel fails in solving the problem, they choose another:

*[First the Internet, than the telephone, the first step is the Internet, the second is the telephone (group 3)]*

This routine correlates with the perceived accessibility or ease of use of the channels. People often use terms like *easy* and *ease of use*, to indicate why they habitually choose the same channel in most situations:

*[The phone is just easy, it's free, and I get an answer (group 3)]*

*[The Internet is easily accessible, I go to the computer and that's it (group 3)]*

Due to time and other situational constraints people try to be as efficient as possible in their matching process of task and channel, meaning that people often are willing to invest as little effort as possible in the matching process. Often resulting in a predefined set of routines regarding what task is suited for what medium:

*[I only use the Internet to find the telephone number, the contact itself I prefer to have personal (group 4)]*

The finding of the relevance of habits is an interesting one. None of the existing (media) theories incorporates habitual decision making as one of the strategies to choose a channel.

Second personal characteristic is formed by the experiences of people with choosing channels. Experiences are a factor that mainly determines how people perceive the channels and tasks and they influence the habits people have:

*[R: If you've been their a few times [online], it gets easier to find the information (single 8)]*

*[They helped me very well on the phone, so, now I always use the phone]*

Positive experiences enhance the change on habitual behavior and furthermore, experience enhances the possibilities channels offer and the skills people have in using them. This suggests that different kinds of experiences exist. Although experiences can also be seen as (e.g.) a channel characteristic (since people have experiences with certain channels), we decided that, since experiences are always personal, we should categorize the experiences under the personal characteristics of the citizens.

Finally, there are the demographic characteristics of the citizens. Demographics are important variables, especially when it comes to using computers. Especially age and education are important demographics in Internet usage. These demographics are strongly correlated to the access to computers. The elderly often claim to be too old to learn how to work with computers, as our study also reveals:

*[I. Could you explain me why you never use a computer?]*

*R. Well, in fact I feel too old fort hat, but also too incompetent. I just want to say, my children and grand children all have these things and they work and play with it, but no, I won't start with it anymore, as to speak. (single 2)]*

Different people may have different channel preferences. Whereas one respondent indicated that he preferred the Internet, because he liked the fact to comfortable search for information anonymous without having to talk to others, another respondent stated that he loved to have personal contact because of the fact that he likes to talk to other people. What makes the personal characteristics important, is the finding that the personal characteristics affect nearly every other determinant. Who you are affects how you perceive channels, how you perceive tasks, how rational you are in your decision making.

Especially age and education seem to affect channel choices and the perceptions of channels tasks and situations.

## 7.4 Conclusions

Based on our discussion of channel choice theories and previous research we concluded in the preceding chapters that a number of (groups of) factors were likely to influence the channel choice process. In this chapter we tried to add color and depth to the theoretical insights by means of an exploratory study, as well as to see whether our framework included the most important variables. The research question that we try to answer in this chapter is the following:

*Which factors determine the channel choice of Dutch citizens in current online government service provision?*

The literature has (specifically) suggested four possible channel choice determinants. Most prominent factors are channel characteristics, task characteristics, situational constraints and personal characteristics. Also, social factors have been suggested by for example the social influence model (Fulk et al., 1990) and organizational factors, such as organizational trust might also be of relevance. In this study we found, particularly, that the four factors mentioned above were the most important. We found no evidence for the influence of social influences. A number of explanations for this finding can be given. In the first place, channel choice is an individual decision, suggesting that primarily individual factors are relevant. In the organizational setting, the influence of such factors as cultural norms, is likely to be greater. In the second place it is possible that social influences do play a role, but on a societal level. Other cultures might have other social norms for citizens-government interactions than those in the Netherlands (albeit that the Netherlands is quite comparable to most Western countries in terms of governmental service delivery provision, as we saw in chapter two).

Although the study suggests the existence of the four main factors, some remarkable findings can be noted in our study. These are 1) that habits play an important role in channel choice decisions and 2) that emotions are relevant in the channel choice context. These findings are relevant given the fact that none of the theories discussed in chapters four and five includes them. None of the theories incorporates habits as a factor leading to habitual channel choices and none of the theories builds on the idea that emotional processes play a role in decision making.

In our study, *habits* appeared to be one of the most important drivers of channel choice. It appears that elaboration between task and channel is not the only decision strategy for channel choices, but habitual decision making figures as a second type of decision making strategy. Although the media choice theories ignored this factor in their theorems and

models, it has not been entirely ignored by media scholars. Habits figure prominently in Social Learning Theory (Bandura, 1977, 1991), where the argument is made that people monitor their own behavior, judge it and apply self-reactive mechanisms to moderate it in future behaviors. Habits are than a failure of the self-regulating mechanism. Further, McQual (2001), argues that media behavior often is a result of habit, as well as circumstances, change, and emotions (which are comparable to the factors we labeled as the *situational constraints*). Habit means in this respect that behavior is not guided by elaborate decision processes, but by automated processes (Aarts *et al.*, 1998). This habit results in choosing the more accessible channels in terms of *contact* and *feedback speed*, and *ease of use*. The idea that habit enables people to operate in a "mindless, automatic fashion" (Aarts & Dijksterhuis, 2000, p. 53), corresponds with the 'principle of least effort', we discussed previously in this paper.

However, when problems and/or tasks become more complex and ambiguous, the influence of habit declines and people are willing to put more effort in the decision making process. People often indicate to 'always use the phone or the Internet', but when confronted with vague and/or complex problems, they are suddenly willing to consider going to the front desk or writing a letter. The willingness to go to the front desk also is strongly moderated by the distance towards this channel, a situational constraint. This leads to the idea that people generally can choose, or follow two types of decision making processes when it comes to channel choice. The first type of decision making is based on habit, with in fact no effort in the process whatsoever. The second type is a process of elaboration on task and medium fit, where dependent on task and channel perceptions, as well as the situation constraints people decide which channel to use.

Habit and the perceptions of task and channel characteristics are strongly influenced by previous experiences. Carlson and Zmud (1994) already argued that the communicative strengths of a channel increase with experience and Aarts *et al.* (1998) argued that a frequently performed behavior habituates. Furthermore, the channel choice behavior, the habits people develop and the perceptions they have towards channels and tasks are guided by the *personal characteristics* of the individual. Age and education for example correlate strongly with access to technology (van Dijk, 2005), which influences the set of available channels.

The second factor we found were the emotions people experience that might influence channel choices. People feeling e.g. anger appear to choose other channels than people who do not feel any emotional arousal. Media choice theorists so far have ignored the role of emotions in choosing channels. None of the existing models or theories includes emotions as a factor. The more general decision making literature discussed in chapter six does pay some attention to the role of emotions. Emotions have four example been mentioned as a heuristic in decision making. According to Zey (1992), people use at least four heuristics that generate different bases of decision. First is salient information, also

referred to as "habit" (Camic, 1992). Second is the representatives heuristic; this means that people act as if stereotypes are more common as they in fact are. Third is the anchoring heuristic; people let their judgments rely on some initial or 'base' value. The fourth and final heuristic is the emotions that influence human decision making.

Via the so-called multicomponent model of attitude (Haddock & Huskinson, 2004) emotions are linked to behavior via attitudes. This multicomponent model shares the basic belief that attitudes are derived from three sources of information: affective responses, cognitions, and behavioral information (see also Eagly & Chaiken, 1993; Zanna & Rempel, 1988). Affective information refers to feelings (emotions) or associations associated with an attitude object. Cognitive information refers to beliefs about an attitude object. Behavioral information refers to past behaviors associated with the attitude object (Haddock & Huskinson, 2004).

Eagly and Chaiken (1993) posit that the three types of information are mutually associated, they share a "synergetic relation" (p. 201), meaning that e.g. positive feelings are often accompanied by positive beliefs and positive experiences. But, various studies show that the concepts are nevertheless theoretically distinct (Eagly & Chaiken, 1993). Emotions might therefore be an important factor influencing channel choices, but to what extent remains unclear so far.

Although the relations sketched above need further empirical testing, they do lead to one important conclusion; channel choice (and more general: channel use) is a complex type of decision making process. First of all, the number of factors found to be important for channel choice is large. As mentioned above, we found four groups of factors, each consisting of multiple (sub)factors. One of the benefits of for example the Media Richness Theory (MRT), is its simplicity (this might be an explanation for its success). MRT rests on the two notions discussed in chapter four; media vary in richness and people match tasks with channels. However, we found that media behavior is far more complex in reality.

Furthermore, we found some factors that have received little attention in decision sciences, such as habits. This renders the full understanding of these concepts in the context of human decision making difficult. Next, channel choice seems not to be a straightforward type of decision making based on 'general' behavioral determinants. Instead, the situational characteristics as well as the properties of the task that citizens have to execute influence the decision making process and may lead to different types of decision making processes based on different types of decision making processes. The state of the art in media choice and use theories illustrates the difficulties in integrating various types of decision making in one theory or model. As we concluded in the previous chapters, there have not been any successful attempts yet that integrate theories from different perspectives successfully.



The result that the channel choice varies alongside the situation and the characteristics of the task leads to the idea that existing theories and models, such as discussed in chapter four and five are an insufficient basis for modeling channel choice since they don't incorporate the situational characteristics that not only influence the channel choice decision, but the entire decision making process. Although elements from existing theories (such as "perceived ease of use" from the Technology Acceptance Model and "experience" from Channel Expansion Theory) may very well be incorporated in a model of channel choice, it is probably (given the complexity of the subject) they are either not included in existing theories on channel choice, or lack empirical testing. In chapter six, we laid down a first framework of a theory that integrates task characteristics, channel characteristics, situational constraints and personal characteristics. The findings of this study suggest that this framework is a good basis for a new channel choice theory. The results from this exploratory qualitative study extended and complemented this framework.

The factors found in this study may be used to further fill in this framework and develop theories on how, for example, the situational constraints affect the channel choice decision making process. Although it was not this study's objective to gain insight in the relations between the concepts, the study did create some insights in how different determinants are related and how perceptions may differ from factual situations. We do need, as mentioned before, to model these relationships in a new theory on channel choice and more research to statistically test the relations between the various concepts.

In the next chapter of this dissertation we will present a new theory that builds on the framework of chapter six and the findings of this chapter. In chapter nine, we will empirically test the main premises of the theory.

#### 7.4.1 Methodological Discussion

Our study has a number of limitations. Because of its qualitative nature, it is not possible to generalize the findings. Generalizability was no aim of this study, but it is good to bear in mind how far stretching the results are. The findings of this study be seen as indicative and that suits the purpose of the study very well. The sample size is large enough to draw indicative results from and the sample size was sufficient to generate an in dept view. We need quantitative testing of our findings, for a number of reasons. In the first place could quantitative research help in generalizing the findings. In the second place is quantitative research necessary to determine the weight and significance of each factor.

Another smaller limitation is the fact that we only studied the situation in one country (the Netherlands), therefore differences between countries, such as the state of the art in e-government and cultural differences remain unresearched. This also implies that social influences that lead to cultural differences have not been researched in this study. As discussed in chapter two, we have reason to believe that the situation in the Netherlands is comparable to that of most Western countries.

Thirdly, we had some form of sampling bias; we had an (slight) overrepresentation of men, elderly, and higher educated in our sample. Through quantitative testing we need to determine whether our findings apply to the entire population. Nevertheless, we had respondents from various age groups with various levels of education and our study also included women, so we do expect our sample to be representative.

“It is a mistake to speak of a bad choice in love,  
since as soon as a choice exists, it can only be bad.”  
(Marcel Proust)

## 8 A Theory of Channel Choice

### 8.1 Introduction

In the previous chapter we explored the determinants of citizens’ channel choices through a qualitative study. Purpose of that chapter was to complete the insights we had drawn from the various theories discussed in chapters 4, 5 and 6. In this chapter we will try to integrate the lessons learned from the theory and the exploratory study in a preliminary framework<sup>15</sup> on channel choice. Doing so, we try to answer the following research question (RQ4):

*How can the theoretical and empirical (qualitative) insights be modeled in a preliminary framework on channel choice?*

Furthermore, we present the findings of a number of preliminary studies on some of the relationships in the model. Purpose of these (quantitative) studies was to test some of the prepositions of the theories that hadn’t been tested before in this setting. Further, we wanted to gain insights in some of the relationships in the model and the influences of some of the factors. Given the exploratory nature these studies we did not aim at testing all relationships yet. Aim of the next chapter is to test all relationships in the model. For each of the studies, we defined specific empirical research questions.

First, we will briefly summarize the findings from the previous chapters. These findings form the foundations of the theory laid out in this chapter. Next, we will present our theory on channel choice, accompanied by a first model of channel choice reflecting the ideas in our theory. Subsequently, we will present some first empirical findings testing the propositions in the model.

### 8.2 Summarizing the previous findings

In the previous chapters (4-6) we explained the various theories on channel choice. We saw that most of them focus on contingencies between task and channel characteristics. The ‘mother’ of channel choice theories, Media Richness Theory (MRT), has, despite its popularity, long been criticized. These critiques focused on two points; the supposed

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<sup>15</sup> We do not have the pretences to present the definitive model of channel choices, hence the term ‘framework’.

fixedness of channel characteristics and the alleged rationality in the decision making process. Although the debate had been going on how rational the matching process between task and channel would be, none of the theories discussed in chapter five provided solutions for the over reliance on rationality in decision making as displayed in the rational choice theories. Chapter five did, however argue that channel characteristics are not solely fixed, but are (partly) subjectively constructed. Furthermore, chapter five learned us that personal characteristics (such as demographics and experiences) and situational influences are likely to influence channel choice decisions. In chapter six, where we discussed more general decision making strategies, we saw that decision making need not always be rational.

Two important conclusions appear to be relevant, a) decision making can vary strongly according to the situation whereby the decision strategy depends on the desired levels of accuracy and b) cognition (in rationality) had long been separated from emotions, whereas neuro-biologists have thought us that emotions are strongly intertwined in human behavior. Emotions do not only appear to influence behavior directly, they also moderate the reasoning process. Without emotions it would not be possible to reach a decision since there would be no mechanism to weigh the different factors and to trigger a decision. In none of the existing channel choice theories do emotional factors play a role. This is not surprising given the (economic) rational views on behavior displayed in most theories (even those criticizing MRT for its rationality).

In chapter seven, where we further explored channel choice determinants through an exploratory qualitative study, we found that the various factors mentioned above do indeed play a role. We also found that habits play an important role in the decision making process. This is a remarkable finding. We hadn't anticipated the role of habits in channel choice decisions. None of the theories mentions habitual decision making as a possible decision making outcome.

### 8.3 A Theory of Channel Choice

Why do citizens' choose a service channels for their contacts with governmental agencies? We propose that different factors serve as behavioral determinants in this decision making process, these determinants may lead to different decision strategies, which in turn lead to a channel decision. We suggest that basically two types of decision strategies exist, which we will discuss below.

#### *Elaboration between task and channel*

The first channel choice strategy is an elaboration between task and channel to reach a fit between the two. This means that citizens try to match the task they have with the channel that is best suited for this task. Although this suggests that people always engage in a (albeit bounded) rational decision making process, it does not imply this. Within this

*elaboration* strategy different types of elaboration are possible. In this claim that, we follow the *adaptive decision maker hypothesis* (Payne et al., 1993), which convincingly argues that the type of decision making strategy depends on the situation. Based on the required accuracy of the answer and the willingness to put effort in the decision making process people can have various levels of elaboration. Generally, more accuracy implies that more effort is desired to reach a decision and a more rational decision strategy is followed. For example, for an important question I may consider a number of channels suited to get an answer and weigh a number of channel characteristics in order to find the best match between task and channel. This is a (relatively) intensive process that requires cognitive efforts but does might lead to an accurate match between task and channel.

However, it is also possible that accuracy is no primary concern, for example for an unimportant matter. This implies that I do not spend a lot of time reasoning about the best possible fit between task and channel, so the *effort* invested in the decision making process is low. This implies that the accuracy of my answer will also be low. So, although people do engage in some kind of elaboration on the match between task and channel, the amount of elaboration may very well differ. In this perspective, a strategy of high elaboration corresponds with a bounded rational decision maker (Simon, 1983; Simon, 1957); taking into account the (cognitive) boundaries of the decision maker the citizens behaves rational to find a *satisficing* answer. When the amount of choice options is low, even full blown rationality and hence a *maximizing* strategy is possible. This type of decision making is similar to that proposed by MRT (Daft & Lengel, 1984, 1986). Further, a strategy of low elaboration (*minimizing*) corresponds with the principle of least effort (Zipf, 1949).

#### *Habitual decision making*

The second strategy is one based on habits, this type of strategies denotes that no (explicit) elaboration (albeit very simple) takes place. Whereas the first strategy rests on the idea that the decision making process "represents the person's motivation in the sense of his or her conscious plan to exert effort to carry out a behavior" (Eagly & Chaiken, 1993, p. 168). However, it is disputable whether behavioral actions are always taken consciously. How often do we actually think before picking up the phone or choose an URL? Many behaviors occur unconsciously and are a matter of habit (Aarts et al., 1998). Although little effort takes place in this habitual strategy, it is a fundamental different strategy than a *minimizing* strategy. The difference is that a minimizing strategy still is a conscious process in which (little) elaboration takes place, whereas unconscious decision making takes place in the habitual strategy.

Habits can be seen as "learned sequences of acts that become automatic response to specific situations, which may be functional in obtaining certain goals or end states" (Verplanken *et al.*, 1997, p. 540). Habits figured prominently in early work on social sciences, such as in the work of Durkheim (Durkheim & Simpson, 1964). However, it has

been neglected in recent years in (social) theory and research (Eagly & Chaiken, 1993). Nevertheless, various studies have shown that many decisions are made via habits instead of via reasoned actions (Aarts et al., 1998; Bentler & Speckart, 1979; Ouellette & Wood, 1998; Sutton, 1994; Verplanken et al., 1997). As the results of the study described in chapter seven emphasize, many citizens do not specifically reason when choosing a channel, but choose channels on the auto-pilot. Many citizens indicate using the same channels always and many indicate to not really think when choosing a channel but act out of their habits. These habits are strongly linked to experiences (Aarts et al., 1998; Ronis *et al.*, 1989); repeating behaviors ultimately lead to habits.

The idea of habits strongly corresponds with some of the aspects of the emotional decision making strategies discussed in chapter 6. First of all, the theory of the triune brain (Maclean, 1973), discussed in chapter six to illustrate that emotions play an important role in human behavior also posits that some behaviors are automated in the reptilian (r-complex) brain (Holden, 1979). These behaviors are habitual in the sense that they are automated, unconscious decision strategies that occur repeatedly. Second, the somatic-markers, as suggested by Antonio Damasio (1994) may trigger unconscious, habitual behavior in which no deliberate reasoning takes place. This also stresses the influence of emotions on the development of habits (for example through positive or negative experiences) and thus the decision making in general.

So, in sum, we posit that two general decision strategies exist; one based on some form of reasoning and one based on an unconscious process of (habitual) decision making which is strongly based on experiences. There is a relationship between the two. Habits are formed through experiences and these experiences may also feed the elaboration process. Somatic markers (Damasio, 1994) do not only lead to decisions directly, they also help to reduce the problem space to a reasonable size by marking response options with an 'emotional' signal. Only those choice options that are marked as promising are cognitively processed in a full reasoning process (Dunn *et al.*, 2006). In this sense, the somatic markers serve as a tool in bounded reasoning by eliminating unfeasible choice options. Further, as we already argued in our description of channel behavior in Chapter one, it is likely that channel choices lead to experiences. These experiences in turn may feed future channel choices. Hence, we propose the following relationships between the decision strategies and channel choice:

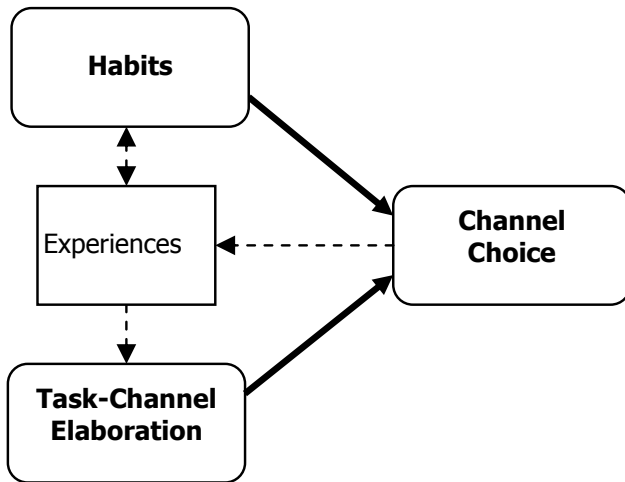


Figure 8.1: The two decision making strategies and the role of experiences in relation to channel choices

Within the elaboration strategy, we propose that different strategies exist; from fairly comprehensive reasoning based on high levels and effort and leading to high accuracy to practically no reasoning based on low cognitive efforts leading to low levels of accuracy. This is shown in the figure below:

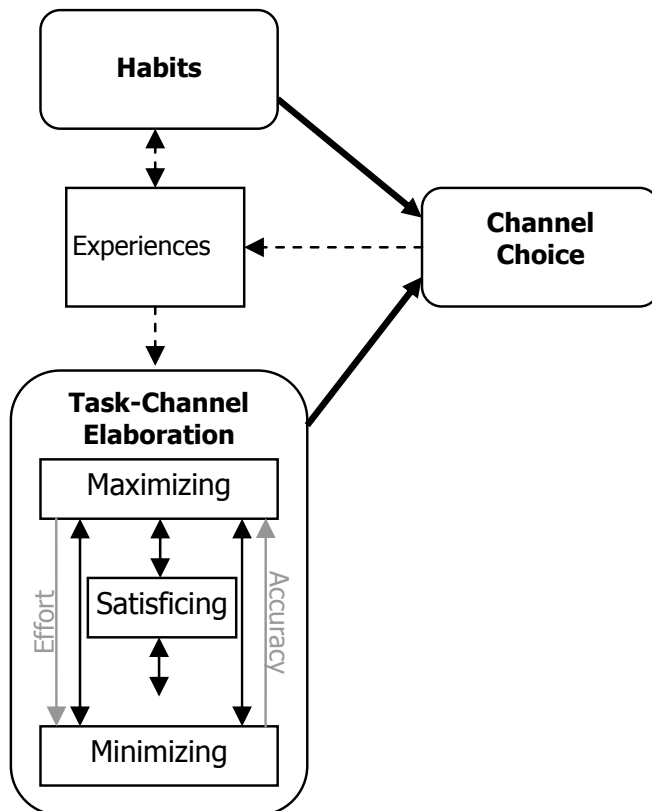


Figure 8.2: The different elaboration strategies in relation to channel choices

Further, we emphasize that task and channel characteristics form the basis of the decision making process. In an elaboration process, citizens will match a certain task to a certain channel, as argued in chapter six. The task, or question citizens have for a governmental agency will in any case be one of the causes of the decision making process; citizens have a question and they need an answer to that question. In order to retrieve an answer, they need to choose a channel and either choose this channel unconsciously or reason about the best possible match. The importance of the situation may be a significant moderator in this process, as we found in chapter seven. Media Richness Theory (Daft & Lengel, 1984, 1986) (see Chapter 4 for a discussion of the rational choice theories) posits that task and channel characteristics are objectively fixed, its main rival, the Social Influence Model (SIM) (Fulk et al., 1990) argues that channel and task characteristics are merely (socially constructed) perceptions (see Chapter 5 for a discussion of the (inter)subjective theories). Additional (inter)subjective theories, such as the Channel Expansion Theory (CET) (Carlson & Zmud, 1994) argue that experiences feed those perceptions and that through these experiences the richness of a channel increases.

We agree with some of the points of both lines of theorizing. Indeed, media do have some objective characteristics; it is impossible to transmit audio via an (printed) brochure and perceptions nor experiences can change this. It is very unlikely that anyone has the perception that video can be transmitted via a brochure. Hence, the number of cues of a channel is the most important objective characteristic. These objective characteristics, we label the *intrinsic channel characteristics*. Further, many other channel characteristics are indeed perceptions or dependent on the situation; the immediacy of feedback depends to a large degree on my whereabouts and the level of personalization a channel offers is determined strongly by the skills and experiences of the communication partner. These subjectively constructed and situational influenced perceptions of the channel characteristics we label the *extrinsic channel characteristics*.

As denoted in such media theories as Symbolic Interactionism (Trevino et al., 1987), the Social Influence Model (Fulk et al., 1990) and Channel Expansion Theory (Carlson & Zmud, 1994, 1999), but also in the general decision making literature, for example in the Adaptive Decision Maker Hypothesis (Payne et al., 1988), situational constraints play an important role in decision making. Factors as (geographical) distance towards the channel influence the decision making process, the distance to for example the front desk influences the *contact speed* of this channel and might therefore influence channel choice. Next, the available time influences de facto how much time can be put in the reasoning process, as suggested by Payne et. al (1988).

Finally, Personal characteristics, also influence the decision making process, for example via the experiences of people with certain channels or certain decision making situations. Many personal factors can be distinguished, such as the personality and the demographic characteristics of the citizen. It is argued that personality is a key determinant in behavior.



For example Alker (1971) who discusses the concept of *Personologism* states that stable personal characteristics such as traits or cognitive style are the main determinants of behavioral variation (Wright, 1985). Wright argues for example that people scoring high on scale measuring concepts like authoritarianism, conservatism, and intolerance of ambiguity tend to see the world in terms of "black and white" and make extreme judgments. In empirical studies, Wright and Philips (1979) found a relationship between authoritarianism and the probability of choice assessment. Bochner (1965) notes that the primary characteristics of an individual who is intolerant of ambiguity are "premature closure" and "need for certainty". People scoring high in this intolerance of ambiguity often have a simple, firm, often stereotypical cognitive structure. There is no place for ambivalence or ambiguities in behavior (Wright, 1985).

Another personal factor that may influence behavioral processes is the *locus of control*, which refers to whether an individual sees rewards resulting from his or her own efforts and behavior (internal control) or as the result of luck, chance, or fate (external control) (Wright, 1985). McInish (1982) found that people who are more external control oriented choose riskier behavior in investment decisions. However, studies exist that found opposite results (Wright, 1985).

Another typology of personal differences in human behavior is the Myers-Briggs type indicator (Myers, 1982). This is a self-assessment test of personality based on the work of Jung, who studied different recurring personality traits. Jung developed a psychological typology based on four functions: Feeling, Thinking, Intuition and Sensing and four attitudes: Extraversion, Introversion, Judging and Perceiving. Combined, this results in sixteen different personality types. The Myers-Briggs type indicator (MBTI) has been widely used in studying human behavior. A relevant example is the study of Goby (2006). Goby studied whether the personality type according to MBTI affected an individual's choice of online and offline means for conducting social interactions. The results of this study among 450 Singaporean students yielded some evidence that personality affects the choice of a means of communication. Especially the Introversion/Extraversion dimension was found to correlate strongly with online/offline choices. Extraverts were more likely to choose offline channels. For the Thinking-feeling dimension, it was found that thinkers were more likely to prefer offline channels and from the judging-perceiving dimension, perceiving types preferred offline modes. On the intuition-sensing dimension, no differences were found.

However, although the afore mentioned studies show that psychographic based personal characteristics might influence channel choice decisions, there is little evidence that supports these notions. Furthermore, and that argument is of more importance, the theoretical bases of these typologies and traits is, at best, weak and there is widespread discussion about the usefulness of these characteristics (John & Srivastava, 1999). Hence, we decided to limit ourselves to the basic demographic traits of the citizen; gender, age

and education. Many studies have shown that these basic traits are good predictors of channel choice (van Deursen & Pieterse, 2006; van Deursen *et al.*, 2006; van Dijk *et al.*, 2007) and there is ample discussion about the validity of these concepts for decision making. Young people have a stronger preference for computers than the elderly and higher educated are more likely to use the electronic channels than lower educated (van Deursen & Pieterse, 2006; van Deursen *et al.*, 2006; van Dijk *et al.*, 2007). Personal characteristics may also correlate with the emotional state of mind of the citizen. We argue that emotions are not de facto personal characteristics; being angry is a situational state of mind and not a part of my personality. Nevertheless can we expect that the personal characteristics influence the emotional state of mind.

Hence, we argue that task characteristics, channel characteristics, situational and emotional constraints and finally the personal characteristics influence the decision making strategies of citizens and hence their channel choices. The following model shows these relationships.

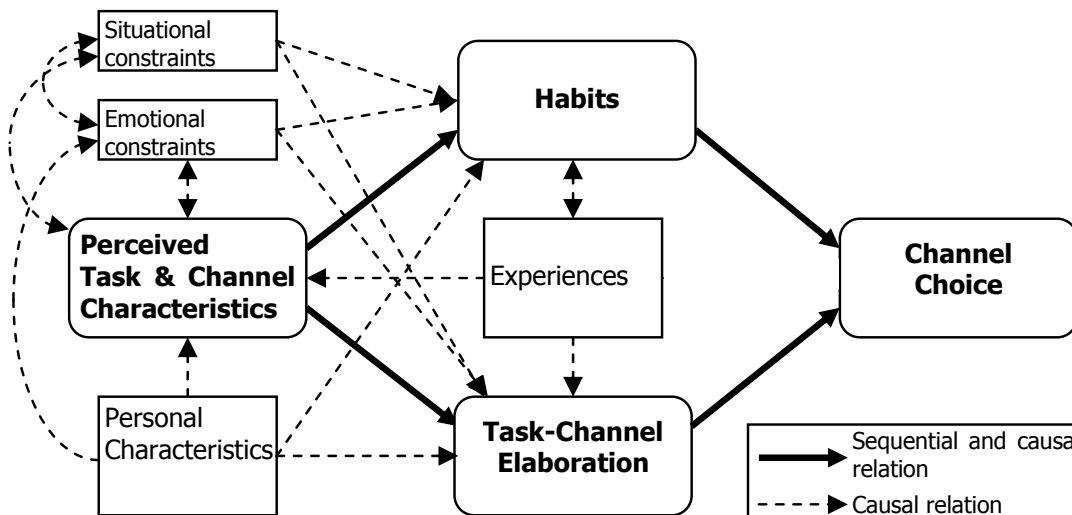


Figure 8.3: A sequential framework of the channel choice process of individuals including causal factors

The dashed arrows indicate the influential relationships between the different variables. The black (solid) arrows indicate both influential as well as sequential relationships. The starting point of each channel choice situation is a question (task) which leads to a decision strategy, which leads to a channel choice. At the same time channel and task characteristics are influencing the decision strategy, while experiences affect the elaboration process. In the model we see the sequence of habits or elaboration leading to a channel choice decision as the channel choice process. The other factors are seen as factors influencing this process.

Our theory does not have the pretences to be the ultimate theory of channel choices. It does not aim to include all potential determinants of channel choices. It aims at

incorporating the most important factors as suggested by the various theories and our exploratory study described in chapter 7. Thereby it aims to explain a higher variance in the human behavior than previous theories (although we could not find one single study on media choice testing existing theories and reporting explained variances). Although we need to test the propositions in our theory (which will be done to some extent in the remainder of this chapter and chapter nine), our theory helps to explain many of the current observations in citizen-government interactions. Let us exemplify this with an illustration from the Dutch Tax and Customs Administration; this organization found out that some 25 percent of all citizens who had visited the website subsequently used the telephone to contact the organization on the same matter (Pieterson, 2006). How can this finding be explained? We can think of a number of reasons:

1. Citizens had wrong perceptions of either task or channel characteristics  
It is very well possible that citizens had wrong perceptions of the channel and/or task characteristics. Citizens might have thought that their task was simple enough to answer via the internet or they might have thought that the internet would have sufficient richness to answer their question or give them closure about the experienced uncertainty. If in reality the task was more ambiguous or difficult they would most likely not have succeeded via the website and would have turned to the telephone (or front-desk) to resolve their problem. If they rightly judged the characteristics of their task, but misjudged the characteristics of the channel, they will also fail in finding their answer online. Hence, they will turn to another channel.
2. People made the wrong match between task-and channel.  
Building upon wrong perceptions of task and/or channel it is possible that something went wrong in the reasoning process of the citizens. It is possible that citizens strive to the best channel to answer a specific question but choose the wrong definition of 'best'. Perhaps they saw the best match as the match that would lead to the fastest possible answer. However, searching a website (especially one that is over 15.000 pages in size such as the site of the Dutch Tax and Customs administration) may be very time consuming and thus the chances of failure are there. Hence people made the wrong reasoning and had to resort to other channels to get an answer.
3. Citizens instantly and habitually chose the wrong channel.  
It is very well possible that citizens primarily chose the channel they use very often. Given the increasing usage of the electronic service channels it is possible that citizens use websites to retrieve loads of information from governmental websites. In that respect it is possible that they have developed the habit of primarily looking online, instead of reasoning about the match between task and channel. It is plausible that people, without real thought, sit down behind their computer to use Google or surf to the governmental agency's website to get an answer. It is possible that, while surfing, they realize they won't find the answer online and, again, resort to another channel.

4. Citizens were led by emotional or situational constraints which led to a disputable elaboration between task and channel.

Governmental matters, such as taxes, are no easy deal. They are often infringing on people's personal lives and involving money. It is possible that emotions play a role when people have to deal with these matters. For example, realizing I have to pay an extra amount of taxes might lead to me getting angry. It may also lead to desires for anonymity which may be a reason for people looking online in first instance. Further, desires for certainty or closure may lead me to resort to the telephone after checking the website. Situational constraints may also have played a role. Having lots of time available may lead to me go and search online and an office of the tax administration being far away may decrease my inclination to visit that office. This might be the final reason for people looking on the website, discovering they couldn't find an answer and then deciding to use another channel.

Together these reasons help to explain why people use the telephone after having used the website and all of these reasons are covered in our theory. However, empirical testing of, even, the simplest relationships in our model is lacking. Hence, the remainder of this chapter is dedicated to an empirical test of some of the propositions of our theory.

#### 8.4 Two studies on the channel choice theory

Our (start of a) theory laid out in the previous section and the model that follows from the theory stem from different lines of theorizing and research. We tried to integrate different media choice theories in one new theory. Hereby we try to fulfill the suggestion by Trevino, Webster and Stein (2000) to build a *complementary* perspective on media choice. In our theory we try to complement the rational perspective of a reasoned elaboration between task and channel with channel choices that are non-logical, driven by habits and experiences and guided by emotional, situational and personal factors. We build our theory on both the most well known media theories, as well as the general decision making literature. Although empirical evidence exists for many of the supposed relationships in our theory, we lack empirical testing of the relationships within the specific setting of citizen-initiated contacts. We therefore conducted two studies that test some of the relationships. We did not aim to test all relationships, this was impossible given (time) constraints in the studies, but that task was transferred to the main study described in chapter nine.

The function of these studies within the context of this thesis is twofold. First it serves as a preliminary test of our expectations regarding the influence of the various factors in our framework. This test may aid us in adjusting the framework for the final study that will be described in chapter nine. Second, since no knowledge is available about even the individual relationships, these studies help us in assessing the influence of these individual relationships. Hence, the studies serve as first exploration of the influence of the four main determinants of channel choices; task characteristics, channel characteristics, situational

and emotional constraints, and personal characteristics. The first study is a large quantitative study in which we explore how personal characteristics, task characteristics, and situational and emotional constraints affect channel choice. The second study explores how channel characteristics influence channel choices. Combined these studies give an indication of the influences of the four main influential factors in our theory.

## 8.5 Study 1; Fitting Personal Characteristics, Task and Situation to Channel Choice<sup>16</sup>

Some studies have been conducted that focus on the choice of service channels in the context of public administration (see for example Millard, 2006; see for example Reddick, 2005a; Reddick, 2005b; Thomas, 1982; Thomas & Streib, 2003). However, Pieterse and Van Dijk (2007) conclude that the level of usable knowledge is low (see also chapter 1 & 3 of this dissertation). A number of reasons for this conclusion exist. First there is a lack of qualitative understanding about which factors play a role in channel choice (Reddick, 2005a). In our exploratory study, described in chapter seven, we already tried to expand the body of existing knowledge. Second, many of the studies that have been carried out in the past date from before the introduction of the internet as a service channel (e.g. Hirlinger, 1992; Jones et al., 1977; Thomas, 1982; Zuckerman & West, 1985). Third, no studies exist combining multiple channels for multiple tasks in multiple situations (Pieterse & Van Dijk, 2007). Finally, there is a lack of theory on the field of channel choice in an e-Government context. Although we may draw lessons from fields in which channel choice plays a role, such as marketing (e.g. Alba et al., 1997; e.g. Balasubramanian et al., 2005a; Lee, 2002; Morrison & Roberts, 1998), the public sector context is different from buying processes (Allison, 1980), as we discussed in chapter two.

We did however present a preliminary theory on channel choice in the beginning of this chapter. In this theory we proposed that four different groups of factors influence channel choice decisions. In this study we try to gain more insights in the influence of four of these factors on channel choices; task characteristics, personal characteristics, emotional and situational constraints.

The empirical research question we try to answer in this study is;

*What are the influences of task characteristics, personal characteristics, and emotional and situational constraints on the citizen initiated channel choice process?*

First we will describe the method of research we used in this study, next we present the findings of our study. Finally we present the conclusions and points of discussion.

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<sup>16</sup> Parts of this section have been previously published in Pieterse *et al.* (2007b)

### 8.5.1 Method

We used a quantitative approach to answer this research question. We surveyed a representative sample ( $n = 1135$ ) of the Dutch citizens of 16 years of age and older. To include both internet and non-internet users we used both web survey as well as a telephone questionnaire. Sample (demographic) characteristics are shown below in table 2. We gathered our data in the context of a large governmental organization in the Netherlands; the Dutch Tax and Customs administration. Over 95% of the Dutch population over 18 years of age has some kind of relationship with the organization.

Respondents were told that this organization and its service delivery was the subject of the study and people were told to answer the questions in the questionnaire based on their thoughts and relationships regarding this particular organization. In the discussion we will reflect on the consequences of this choice for the validity and generalizability of our study.

We did not use any pre-existing measures, because they do not exist actually. since these do basically not exist. Regarding the personal characteristics, we asked the respondents about their demographic characteristics (gender, age, education, income class and household composition). Concerning task, situational and emotional characteristics, we wanted to know what channel people would choose given a certain task or situation. Therefore, we created a number of 14 different tasks and situations. Regarding the task characteristics, two task characteristics stand out as being cited often in literature (Ebbers et al., 2007); ambiguity and complexity. As Ebbers et al. suggest, tasks can be of high or low complexity and have either high or low ambiguity.

Further more, we know that various situational and emotional factors may be of importance. These are in the first place a factor known as need for closure and in the second place the emotions people experience when contacting an organization. Since there still is a debate about how to create operational definitions of emotions and how to divide them theoretically (Ebbers et al., 2007), we did not choose to ask directly for a emotional state of mind, but we sought for situations in which we believed emotions would play a dominant role (such as wanting to speak someone in person or wanting to have an answer fast). We used the items as displayed in table 8.1 to measure these concepts. Furthermore, to gain more understanding in the channels people choose to deal with a task they face in practice (in stead of the theoretically driven task and situational factors), we added four situations in which people may contact a governmental organization. In fact, we added the top four instances for which people contact the Dutch Tax and Customs administration.

Since the situations may incorporate various combinations of the theoretical concepts (like both complexity and ambiguity), they may help us to gain insight in how these 'practical' situations interact with the personal characteristics and the channel choice.

<b>Concept</b>	<b>Items (What channel do you choose if you ....?)</b>	<b>Abbreviation*</b>
Complexity	1. ...have a simple question (low complexity)	simple
Complexity	2. ...have a complicated question (high complexity)	complex
Ambiguity	3. ...don't know how to solve your problem (high ambiguity)	problem
Ambiguity	4. ...make an orientation (low ambiguity)	orienting
Need f Closure	5. ...think you know something, but want to check this	control
Need f Closure	6. ...want to know something for sure	sure
Emotions	7. ...want help	help
Emotions	8. ...want contact fast	quick
Emotions	9. ...want to complain	complaint
Emotions	10. ...want to speak to someone in person	personal
Practice	11. ...want to obtain a form	form
Practice	12. ...have information about taxes	taxes
Practice	13. ...have information about the processing of your form	processing
Practice	14. ...have information about your taxation	taxation

Note: abbreviations have been formulated for use in the data-analysis, e.g. for display in tables and figures. The terms used have no (theoretical) meaning for the study itself.

*Table 8.1: Concepts and items used in the study*

To make sure our questionnaire was error-free; we first pre-tested the questionnaire among 8 respondents to check for textual and interpretational errors. No (large) problems were found in this round. To check whether our single item operationalizations would yield variance between the item constructs as a whole and coherence within the constructs, we did a pilot study among 167 Dutch citizens. This pilot did not lead to any adjustments in the items presented above.

A total number of 1135 respondents answered our questionnaire. The percentages of the variables, gender, age and education are compared with the demographic characteristics of the entire population (as shown in Table 8.1). Because the sample does not contain respondents under 16 the population percentages are corrected for this. As Table 8.2 shows the middle-aged group is somewhat overrepresented and the older age group underrepresented in our sample, the higher educated group also is somewhat overrepresented.

		<b>Dutch population</b>	<b>sample</b>
gender	male	49.5	48.5
	female	50.5	51.5
age	16 - 45 years	36.7	35.2
	45-65 years	32.4	43.7
	65 and older	30.9	21.1
education	low	33.4	26.7
	medium	41.0	36.6
	high	25.1	36.6

Note: population percentages are obtained from the Dutch Bureau for Statistics (see [www.statline.nl](http://www.statline.nl)) in 2007

*Table 8.2: Sample and population characteristics*

*Data-analysis*

To explore the relation between the channel choices among all respondents homogeneity analysis has been used. Homogeneity analysis (Gifi, 1990) is an exploratory and descriptive technique, which aims at the representation of nominal multivariate data. Scores are assigned to the respondents and the categories of variables (channel choices). These scores can be used to construct a geometrical representation of the dependencies in the data in a multi dimensional space.

Next, the low-dimensional structure will be compared with a few demographic variables to obtain more insight in which people correspond to a particular answering pattern.

To show the relation between the channel preferences and the situations and tasks the frequency distributions of the channel choices for all situations and tasks were gathered in a pseudo cross-table. This table was analyzed with correspondence analysis (Greenacre, 1984), resulting in a joint representation of the channel preferences and the situations and tasks. Correspondence analysis shows the dependence between channels and situations.

## 8.5.2 Results

*Homogeneity analysis*

Homogeneity analysis was done on the 14 situations and tasks in Table 8.1. A three dimensional analysis was chosen, which resulted in a mean Cronbach's alpha of .90, indicating a high reliability. In Figure 1 the results of the homogeneity analysis are shown. The figure represents the channel preferences for all situations and tasks. The first dimension is not shown because this dimension discriminates between the group of people who answered "I Don't know" (DK) in all situations and tasks and all other people. About 2% of the people have answered "I Don't know" in all channel choices. The second dimension appears to discriminate between visiting the front desk (Visit) and post (Letter) on one side and phone and web on the other side. This might be due to either varying levels of ease of use of the channels (which are lower for the front desk and the written channel) or the amount of certainty obtained which are often perceived higher for the front desk and written channel (Pieterse *et al.*, 2008). The third dimension appears to discriminate between the website (Web) and the other channels, so this might be a distinction between the electronic and the traditional service channels.



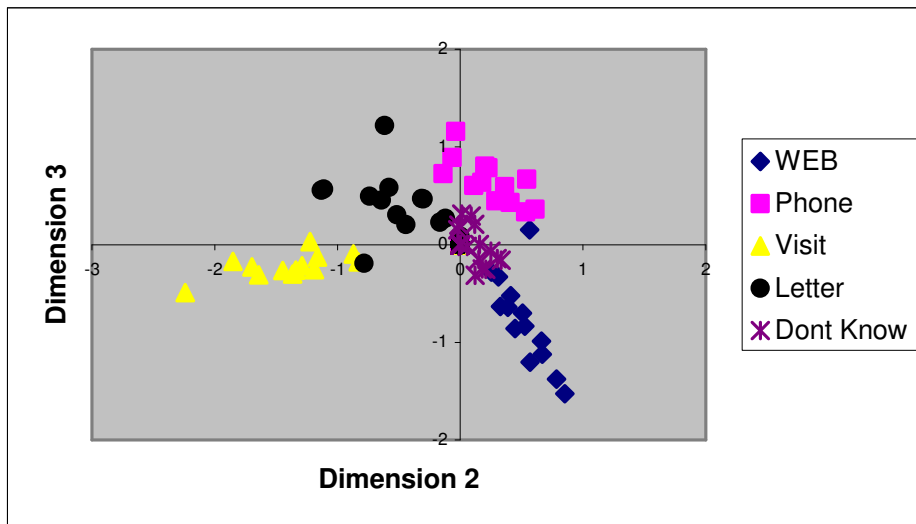


Figure 8.4: Homogeneity Analysis: Channel preferences for all 14 tasks and situations represented in a two dimensional space

From this figure it is very clear that the same channel is chosen by people in a variety of situations. People appear to have a preference for a particular channel. For instance, the lower right corner contains almost completely Internet channel (Web) use for all situations and tasks. The interpretation is that people who use the internet for a particular situation generally tend to use the internet in other situations as well. The same is true for other channels. There is a clear distinction between preferring the phone (upper right corner), and visiting the office (lower left) and writing a letter (upper left).

We were interested in how this representation relates to some important demographic variables. To this end, the total channel preference for each person was computed by summing the preferences for each channel over all situations and tasks. Most remarkable findings are that men use the internet more often than women ( $F=6.025$ ,  $p=0.014$ ), whereas women generally prefer the phone ( $F=13.742$ ,  $p=0.000$ ). Internet preference is clearly present for the younger people ( $F=9.363$ ,  $p=0.000$ ), whereas visiting the front desk ( $F=73.909$ ,  $p=0.000$ ) and writing a letter ( $F=5.742$ ,  $p=0.001$ ) is preferred by older people. Education is another variable that clearly distinguishes between channel preference: higher educated people prefer the internet more often than lower educated people ( $F=9.026$ ,  $p=0.000$ ) and visiting the front desk is preferred by the lower educated ones ( $F=7.055$ ,  $p=0.000$ ). In line with the previous results, the lower income class shows less preference for the internet ( $F=3.393$ ,  $p=0.000$ ). Finally, households with two persons have slightly higher preference ( $F=2.952$ ,  $p=0.019$ ) for visiting the office than other households.

#### *Correspondence analysis*

In the following analysis we focus on the relation between the situations and tasks on the one hand and channels on the other. In Figure 8.5 the distribution of the channels is shown for all situations and tasks. The picture clearly shows the large variation in channel

choice for different tasks. For tasks like orientation on a subject or solving simple questions, a majority of the respondents prefer the website (Web)t, whereas website preference is minimal for tasks like problem-solving (problem) and getting an answer on a complicated question (complex), for which the telephone (Phone) and the front-desk (Visit) are preferred.

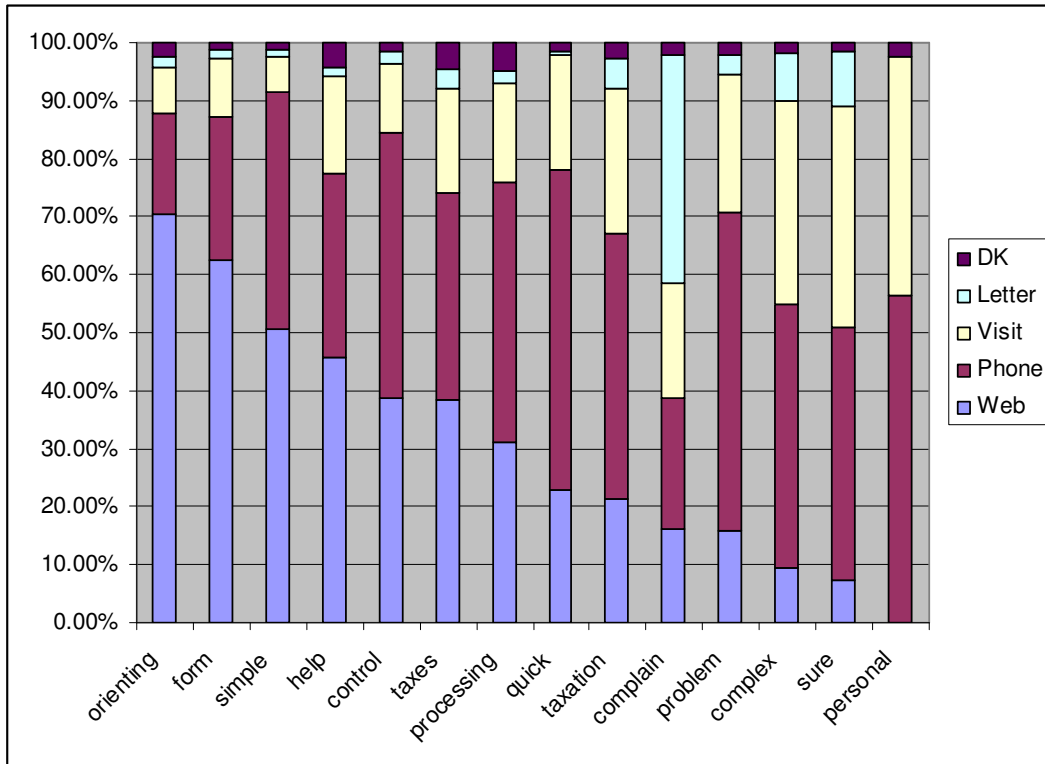


Figure 8.5: Distribution of channel choices and 'don't know' (DK) across all 14 tasks and situations (see Table 8.1 for full test of abbreviations of items)

The same information can be more easily inspected by applying correspondence analysis. The two dimensional correspondence analysis explains about 95% of the total chi-square, which means that a two-dimensional solution yields a good representation of the associations in the data. The dimensions are the same (albeit rotated) as in the homogeneity analysis. The first very dominant association is that between filing a complaint and writing a letter. This association is quite different from all other situations and channels. In fact, almost 40% of the people would write a letter to file a complaint. About 50% of the people say that they would never write a letter in none of the situations mentioned. About one third *only* writes a letter in the situation of a complaint. The remainder writes letters in more situations. Having obtained this result we repeated the analysis without the task "complaining" to obtain a better view of the other relations. Furthermore, we skipped the situation "wishing personal contact", because only two channels could be chosen here.

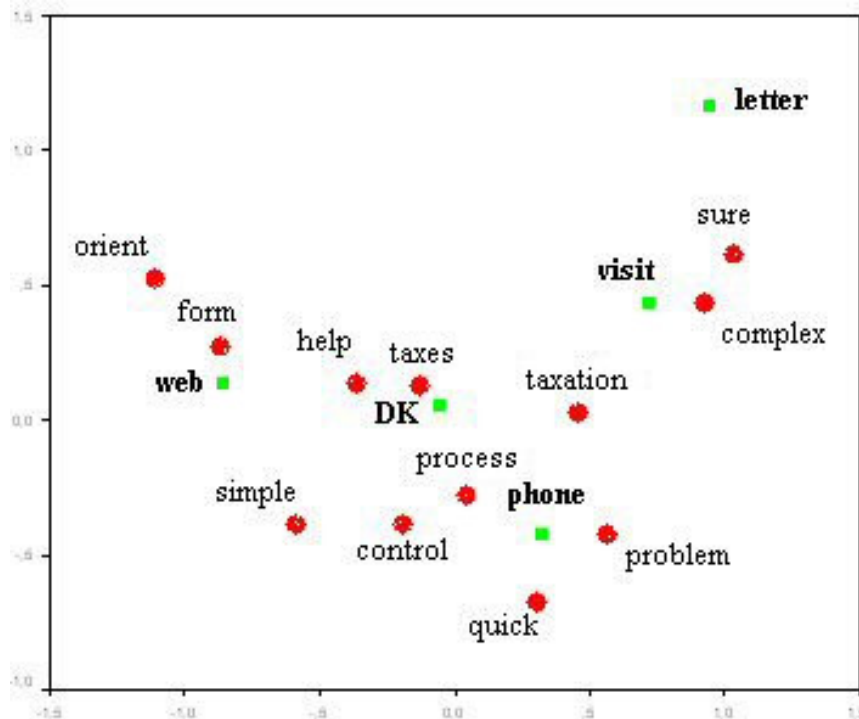


Figure 8.6: Correspondence Analysis: Channel preferences (squares) and situations and tasks (dots) represented in a two dimensional space.

In Figure 8.6 the relation is shown between the remaining situations and tasks and the four channels. The channels are clearly separated in the representation from internet (left), phone (down), visit, to letter (right). The “don’t know” (DK) is close to the middle point of the figure. It seems that the figure distinguishes on the criteria of ambiguity and complexity. Indeed, the situations that are more oriented on the left site are orienting, asking a form and simple questions, which are relatively close to the internet channel preference. On the right side we find complex questions and wanting to be sure. Visiting and writing is relatively often chosen with complex problems, or if one wants to be sure of something. The telephone channel is closest to the origin, which means that it discriminates less between the situations and tasks than the other channels. In particular, phoning is often preferred when a quick answer or information about the filing process or taxation are wanted.

In summary, the internet is used for less complicated, general tasks, whereas writing a letter is mostly used for filing a complaint. To visit the front desk is preferred if one has a complex problem or if one wants to be sure of something. The phone is preferred by many people in many situations, but especially when a quick contact is wanted, a problem is unclear, and when information about one’s filing is wanted.

### 8.5.3 Conclusions and Discussion

The empirical research question we tried to answer in this study was what the influence was of task, personal, emotional and situational factors on channel choices. All four groups of factors appear to be of importance.

First, task characteristics influence channel choices. In general, people tend to prefer the Internet for relatively low complex and unambiguous tasks, such as orientation, simple tasks and downloading forms. However, for tasks with high complexity, such as complex questions, and tasks with high ambiguity, such as wanting to be sure and not knowing whether the solution to a problem is right, people tend to choose to visit the organization or to use the phone.

Second, the situational and emotional constraints lead to differences in channel choices. When there is a high need for closure and people want fast contact, they also turn to the traditional (more personal) service channels. Although the operationalizations of (especially the emotional) situational factors has been limited, our exploration has delivered evidence for the existence of these factors.

Third, there is a strong influence of the personal characteristics on channel choice. People in many instances choose the same channel for all situations. This general channel preference can be deduced from the different personal characteristics of the respondents. Men generally use the Internet more often than women, the younger people also tend to use the internet more, as well as the higher educated. The lower educated tend to visit the front desk more often. These findings regarding the personal characteristics do not divert from other research findings (e.g. Dijk *et al.*, 2006; Ebbers *et al.*, 2007).

Remarkably, although the written channel (post) has been found in many studies (van Deursen & Pieterse, 2006) to be of declining importance, people in our study still choose the written channel to file a complaint. There may be a couple of explanations for this finding. First, it may be due to the organizational context in which the study took place. Writing a letter is the only way to officially file a complaint to the organization we investigated. Second, it may simply be a preference of people to write a letter to file a complaint. Future research should further explore this possibility.

A final remarkable finding is that although the different factors are of importance; different people choose different channels for different tasks and different situations, people also tend to choose the same channels in all situations and tasks. This seems to suggest that people have a (strong) preference for a certain channel, but do choose different channels in different instances.

There are a number of limitations in our research. In the first place, we did not focus on all possible factors that may influence the channel choice process. Due to limitations in the available resources, we were unable to include channel characteristics in this study.

Second, we only focused on the influence of the different factors, but we did not assess the decision strategies (habits and elaboration) and the impact of the decision strategies. Theory wise, we only assessed the *indirect* relationships in our framework. Nevertheless, our study showed that the three different factors influence channel choices.

## 8.6 Study 2, Channel Perceptions and Usage; Beyond Media Richness Factors<sup>17</sup>

Whereas the previous study focused on personal, emotional, situational and task characteristics, we focus in this (smaller) study on channel characteristics and their relationship with channel choices and channel use.

The empirical research question we try to answer in this study is the following:

*What are the influences of channel characteristics on the citizen initiated channel choice process?*

This main question is further operationalized in four research questions:

1. What channels do the citizens use in their contact with governmental agencies?
2. How do citizens perceive the different channels in terms of their richness and other characteristics?
3. To what extent do those channel perceptions vary along the personal characteristics of the citizens?
4. Do the channel perceptions affect the channel choice and usage of the citizens?

First we will describe the method of research we used in this study; next we present the findings of our study. Finally we present the conclusions and points of discussion.

### 8.6.1 Method

To answer the research questions described above, we conducted a survey among Dutch citizens. The survey took place in a large Dutch municipality (155.000 inhabitants). In this municipality various governmental agencies collaborate in providing citizens one-stop government service around social security issues. Citizens can contact government in this region via the front desk, telephone and website. We decided to survey the citizens via these three main channels. This method ensured that we could question citizens that had made an actual channel choice to contact government. As a result we directly link channel perceptions to channel choice. In terms of size, population and services, the municipality can be characterized as an average Dutch municipality. We mostly used existing measures of (perceived) channel characteristics. Each perception was measured using one question. Regarding these characteristics, the respondents were asked to indicate which channel

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<sup>17</sup> Parts of this section have been previously published in Pieterse, Teerling and Ebbers (2008)

suited the characteristic best. We used channel characteristics as derived from three theories (see chapters four and five); Media Richness Theory (MRT), Channel Expansion Theory (CET) and the Technology Acceptance Model (TAM), further we added a number of channel characteristics that have been cited a lot in marketing research. Media Richness Theory is the most prominent theory that describes channel characteristics (Immediacy of Feedback, Number of Cues, Language Variety and Personalization) (for a deeper elaboration; see chapter four).

Although MRT sees these characteristics as fixed and objective, medium richness is most likely a perception, depending on the interaction between the medium and the organizational context. The Social Influence Model (SIM) argues that media richness exists as a perception that is different for everyone and is influenced by others (Fulk et al., 1990). Channel Expansion Theory (Carlson & Zmud, 1994, 1999), finally, also argues that richness is a perception. It argues that the perceived richness varies according to the experiences someone has with the use of the channel. CET also adds the previous experiences as a characteristic of service channels.

Regarding the richness construct, it can be argued that more characteristics exist that determine the appropriateness of a channel for certain communication or service related purposes. El-Shinnawy & Markus (El-Shinnawy & Markus, 1998) suggest three factors: functionality, usability and ease of use. In marketing research many studies have been conducted that study how channel characteristics relate to different types of services. Many of those characteristics bear similarity to those described in the theories above, such as the level of 'interactivity' (Alba & Lynch, 1997), the personal focus or opportunity to clarify personal situations (Reeves & Bednar, 1996). Marketing research further suggests factors such as 'costs' (Balasubramanian *et al.*, 2005b), proximity or contact speed (Kwast et al., 1998), and the level of service (Broekhuizen, 2006; Verhoef et al., 2007).

Finally, a large stream of research has associated perceived ease of use and perceived usefulness, factors from the Technology Acceptance Model (Davis, 1986, 1989), with channel characteristics (Chaing *et al.*, 2004; Keen et al., 2004; Montoya-Weiss *et al.*, 2003). Table 8.3 gives an overview of the channel characteristics and the corresponding survey questions.

<b>Concept</b>	<b>Origin</b>	<b>Item</b>
Ease of use	TAM	This channel is the easiest to use.
Usefulness	TAM	This channel is the most useful.
Experiences	CET	With channel I have the best experiences.
Price	Marketing	This channel is for me the cheapest.
Service	Marketing	This channel provides me the best service.
Contact speed	Marketing	Via this channel I am in contact with the government the quickest.
Immediacy of feedback	MRT	This channel provides immediate feedback.
Multiple cues	MRT	This channel allows information to be transmitted in multiple ways.
Language variety	MRT	This channel enables to use varied language
Personalization	MRT	This channel allows me to tailor messages to my own circumstances

*Table 8.3: Concepts and items used in the study*

Besides the channel characteristics, we asked respondents which channel they use most often for their contacts with governmental agencies and which channel they prefer for their government contacts. We also asked citizens which channels they had used during the past 12 months. For channel choice we used the actual channel via which the citizen had filled in the questionnaire as a measure and we asked the citizens why they had chosen that channel.

During the weeks 48-51 of 2007 and 1-4 of 2008, we surveyed citizens that contacted government via the three channels. Citizens who visited the front desk were asked to fill in the questionnaire behind a computer. Visitors of the website were redirected to the electronic questionnaire. Citizens that contacted government via the phone were surveyed via the phone. A total number of 233 respondents filled in our survey; 100 citizens via the front desk, 100 via the telephone and 33 via the website. The number of respondents via the website is lower than anticipated. Nevertheless, the number of respondents is sufficient for statistical analysis. The characteristics of the respondents were compared to those of the population and the sample reflected the characteristics of the population sufficiently, so the data were not weighted.

### 8.6.2 Results

Figure 8.7 shows that the customers tend to use and prefer the front desk and the telephone. Actually given the indicated preferences usage of the front desk would be even higher. In terms of the digital channels, i.e., the website and e-mail, our results show slightly higher preference than usage. Overall the traditional channels are still favored.

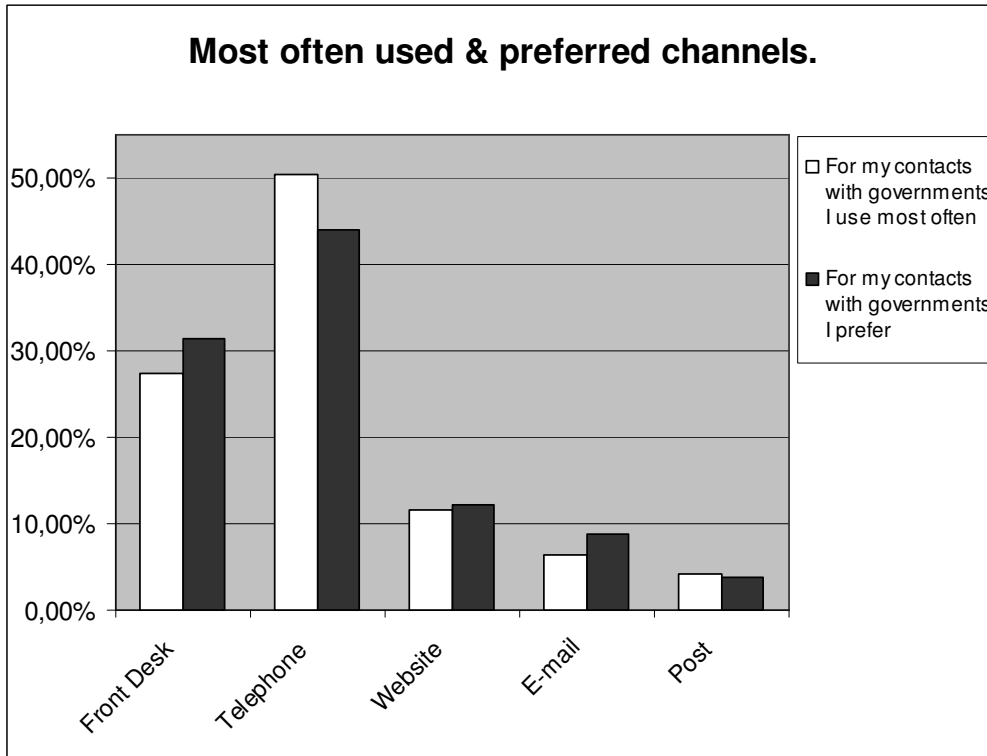


Figure 8.7: Most often used and preferred channels

To determine if certain groups of customers favor a channel compared to other groups, we analyzed channel usage based on social demographics such as age and gender. Based on results from previous research it is to be expected that younger and higher educated citizens tend to use the digital channels, i.e. website and email. Nevertheless, our results show that this is not the case. The explanation for this result may lie in the relatively low level of education for the young respondents.

The results show that channel usage only varies significantly based on age. Respondent characteristics such as gender and education do not seem to affect channel usage. Moreover, we see a very strong correlation between the channel used last and the channel used most often. This strong correlation applies most to customers who last used the phone and who indicate they use the phone most often. Similar results were found when determining the relationship with preferred channel (instead of channel used most often).



		<b>Channel Used Most Often</b>				
		Front desk	Telephone	Website	E-mail	Post
Age	15-25	72.7	18.2	0	9.1	0
	25-45	29.7	46.2	16.5	6.6	1.1
	45-65	23.7	45.8	11.9	6.8	11.9
	> 65	0	100.0	0	0	0
Gender	Male	32.4	36.8	13.2	11.8	5.9
	Female	27.2	52.4	12.6	3.9	3.9
Education	Low	29.2	52.8	9.7	4.2	4.2
	Medium	37.3	40.7	10.2	8.5	3.4
	High	15.0	42.5	25.0	10.0	7.5
Channel used last	Front Desk	43.6	36.2	8.5	7.4	4.3
	Telephone	16.9	73.0	1.1	3.4	5.6
	Website	9.1	30.3	48.5	12.1	0
	Total	27.3	50.5	11.6	6.5	4.2

Age:  $\chi^2 (12, N = 167) = 28,238, p = .005$ , Gender:  $\chi^2 (4, N = 171) = 6,536, p = .163$   
 Education:  $\chi^2 (8, N = 171) = 12,959, p = .113$ , Response method:  $\chi^2 (8, N = 216) = 85,087, p < .000$

Table 8.4: Channel usage, personal characteristics and channels used last (channel choice)

*Channel perceptions*

Figure 8.8 shows an overview of the channel perceptions for each of the channels. The results show very different perceptions for the various channels. For instance the front desk seems to score highly on factors such as service, previous experience, multiple cues and personalization. For the telephone contact of speed, immediacy of feedback and usefulness seem to have the upper hand in case of the electronic channels (website and email) price and ease of use are mentioned most often.

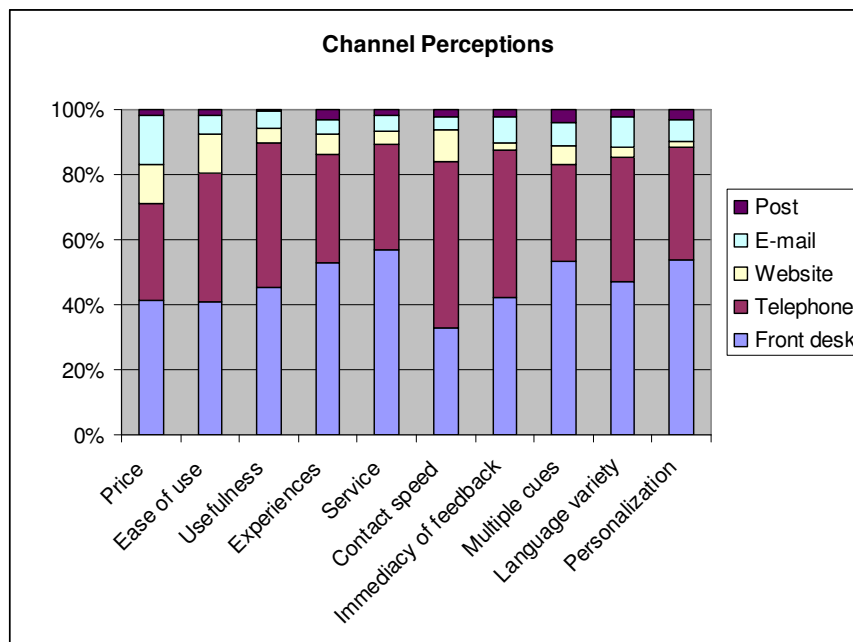


Figure 8.8: Channel perceptions of the different channels

Further, we conducted a Homogeneity Analysis (HOMALS) to analyze whether the various channel characteristics are perceived as a homogenous set of characteristics or not. HOMALS is comparable to a factor analysis, but is suited for categorical data. Our analysis shows there are two factors or dimensions in the channel characteristics.

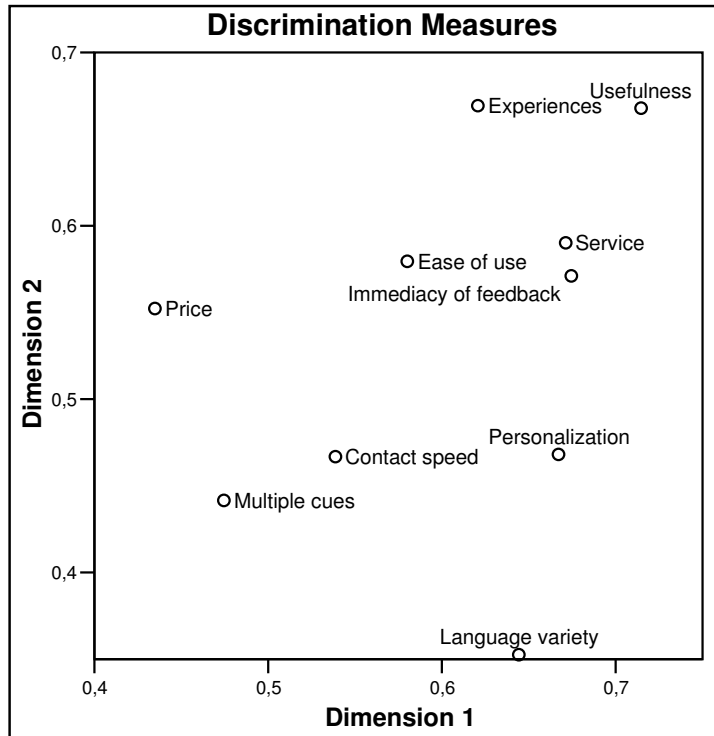


Figure 8.9: Two dimensional plot of channel characteristics

Figure 8.9 shows a graphical representation of the different characteristics plotted on the dimension. Interestingly, the MRT factors are mostly in the lower half of the figure, whereas the TAM, CET and Marketing factors can be found in the upper half. This is an indication that the characteristics that are theoretically different also show empirical differences. The other dimension is more difficult to interpret, but it seems to discriminate between price and the other factors.

Next step in the HOMALS is to plot the different channels in the two dimensional space. This is shown in Figure 8.10. This is an indication of how the different channels are related to the different channel characteristics. As the figure shows, the different channels all occupy their own distinctive area in the space. Front desk and telephone are mostly associated with the MRT factors, whereas website and e-mail are strongly related to TAM/CET factors.

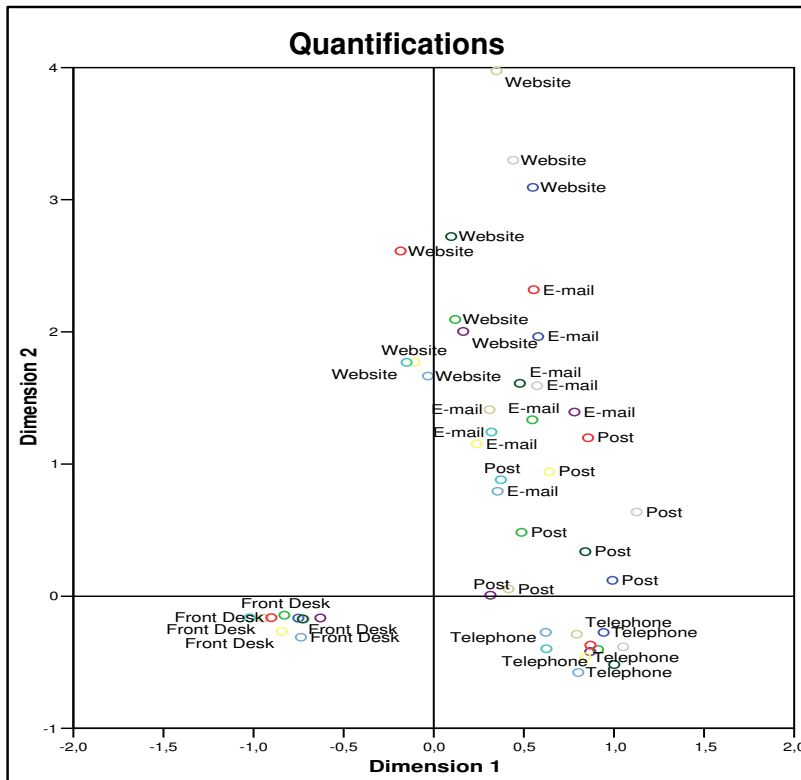


Figure 8.10: Two dimensional plot of channels

Next, we analyzed how the different demographic characteristics affect channel perceptions. We find significant differences on channel perceptions for the various channels given the customers' demographics and the channel last used. For instance, we find that women perceive the telephone to have strong ease of use whereas men tend to perceive the front desk and website strong on this characteristic. In terms of a classic MRT factor we find differences for the perception of multiple cues. More specifically lower educated citizens associate the front desk with multiple cues whereas higher educated citizens associate the telephone and website with multiple cues. These differences are a first indication that indeed the assumption of the MRT – i.e. that the characteristics of media are fixed – can be falsified. Most interesting finding here is that channel choice, in terms of the channel used last strongly affects channel perceptions, we found significant differences on each of the channel characteristics (see Appendix 1 for an overview of the test results). This means that users of the front desk associate all channel characteristics most strongly with the front desk, people phoning government associate all characteristics with the telephone and citizens who visited the website associate all characteristics with the website. This may be a strong indication for the channel expansion effect; (perceived) richness increases as experience with channel usage increases. Moreover this result is another indication of the notions that channel perceptions are strongly variable alongside the personal circumstances of the citizen.

Further, we analyze, through Chi-Squares, how the different channel characteristics are associated to the primary choice of a service channel. For all channels and all

characteristics significant chi-squares were found and for all channels it appeared that people have more positive associations with the channel they would choose. An example of the factor 'personalization' is shown below.

		<b>Perception of "Personalization"</b>					Total
		Front Desk	Telephone	Website	E-mail	Post	
Channel Choice	Front Desk	69.2%	20.2%	0.0%	6.4%	4.3%	100.0%
	Telephone	45.5%	48.9%	0.0%	2.3%	3.4%	100.0%
	Website	33.3%	36.4%	12.1%	18.2%	0.0%	100.0%

( $\chi^2(8, 215) = 51.447, p < 0.000$ )

Table 8.5: Channel Perceptions of Personalization and channel choices.

As the table shows, a majority of the respondents who chose the front desk also perceive the front desk as the channel that gives them the highest level of personalization. Similarly, a far larger group of the respondents who chose the telephone also perceive this channel as having the highest level of personalization. Although the effect is smaller for website visitors, it is still noticeable that 30% of the website visitors perceive the electronic (website and e-mail) channels as having the highest degree of personalization. This is in sharp contrast to 6.4% for front desk choosers and 2.3% for telephone choosers.

This leads us to believe that the correlation between the channel perceptions and channel choice is a good measure to see if people choose the same channel as they perceive to score high on a characteristic. A positive correlation coefficient would imply a good association between choices and perceptions. The following table shows the aforementioned results of the chi square tests as well as the (Spearman) correlation results for all factors.

	<b>Chi square and correlation tests</b>			
	Chi Square		Correlation	
	$\chi^2$	p	r	p
Personalization	51.447	.000*	.264	.000*
Language Variety	53.307	.000*	.257	.006*
Immediacy of Feedback	61.820	.000*	.330	.000*
Multiple Cues	46.769	.000*	.177	.010*
Ease of Use	79.117	.000*	.294	.000*
Usefulness	54.348	.000*	.288	.000*
Service	58.849	.000*	.289	.000*
Price	104.047	.000*	.383	.000*
Experience	82.516	.000*	.310	.000*
Contact Speed	39.942	.000*	.226	.001*

\*Significant at  $p < 0.05$

Table 8.6: Chi-Square Tests and Spearman Correlations of Channel Perceptions and Channel Choices

The correlation is strongest for price and weakest for the cue multiplicity of the channel. Nevertheless, all chi-squares and correlations are significant. This would suggest that channel characteristics are indeed of influence on channel choices.

### 8.6.3 Conclusions and discussion

The empirical research question we tried to answer in this study was what the influence was of channel characteristics on channel choices. The main conclusion is that channel characteristics play an important role in channel choices. Not only do people perceive the channels as different, these differences lead to different channel choices. In that it complements study one, described in §8.5 in which we assessed the influence of task characteristics, personal characteristics, and emotional and situational constraints. In study one we found all three groups of factors to be of importance and now we can also conclude that channel characteristics are of importance for channel choices.

We further operationalized our main question in four (sub) questions). The first of these questions formulated was; "what channels do the citizens use in their contact with governmental agencies?", we found, in accordance with previous studies (Pieterse & Ebbers, 2007; Reddick, 2005b) that citizens still rely strongly on the traditional service channels. The telephone is the most used channel; it also is the preferred channel. The electronic channels are used to a lesser extent, but more citizens indicate their preference for this channel, this is an important indication for the potential growth of the use of this channel in the future.

The second research question regarded the perceptions of the channel characteristics. In general, most characteristics are associated with the traditional service channels. However, the variance in perceptions is large. The front desk scores highly on factors such as service, previous experience, multiple cues and personalization. For the telephone contact of speed, immediacy of feedback and usefulness seem to have the upper hand. The electronic channels are associated with price and ease of use. The homogeneity analysis showed that there are different dimensions in the channel characteristics and these dimensions relate to the different channels. The traditional channels score higher on the MRT factors, whereas the electronic channels score higher on the TAM factors.

To what extent do those channel perceptions vary along the personal characteristics of the citizens? It is difficult to answer this third research question, the channel perceptions vary strongly along the personal characteristics, but there is no one-dimensional relationship. Whereas channel choice and usage have been linked extensively to personal characteristics, finding mostly strong relationships on variables such as age and education, we cannot draw straightforward conclusions regarding the sociodemographic characteristics. However, from the three characteristics, education seems to cause most differences. Mostly in the direction of the higher educated having favorable perceptions of the electronic channels. The final research question regarded the channel perceptions and

their relation with channel choice and usage. Our results made clear that there is a strong relationship between the channel chosen last and the channel perceptions. People tend to choose the channels whose characteristics they perceived most positive.

Our study is the first to assess the perceptions of multiple characteristics of service channels by (different groups of) citizens. As our study makes clear; channel characteristics are far from fixed, as suggested by various theories and multi-channel management models. Channel characteristics are perceptions and those perceptions determine whether citizens will choose this channel or not. So, it may be very well possible that citizens perceive a channel to possess a characteristic, whereas the channel wouldn't have this attribute according to more objective criteria. Moreover, channel perceptions vary strongly with the personal characteristics of the citizens, as well as actual channel choice.

## 8.7 Conclusions

In this chapter we tried to integrate the insights from the different media theories, the general decision making literature and the findings from our exploratory study. Further, we tested some of the relationships in the model resulting from the theoretical integration. The research question we tried to answer is the following:

*How can the theoretical and empirical (qualitative) insights be modeled in a preliminary framework on channel choice?*

In this chapter we laid down a preliminary theory that attempts to integrate these insights. Core assumption of this theory is that people use different decision strategies when choosing a service channel. One strategy is based on reasoning in order to achieve a match between tasks and channels. Within this strategy people may engage in fairly comprehensive reasoning to reach an optimal solution, in a satisficing strategy or in a strategy that entails little cognitive effort that leads to low accurate decisions. The second strategy involves no conscious reasoning and is based on unconscious habitual action, guided by experiences. The decision making process is influenced by (perceived) task and channel characteristics, situational and emotional constraints and personal characteristics. The relationships between the different factors are modeled in our framework as shown below.

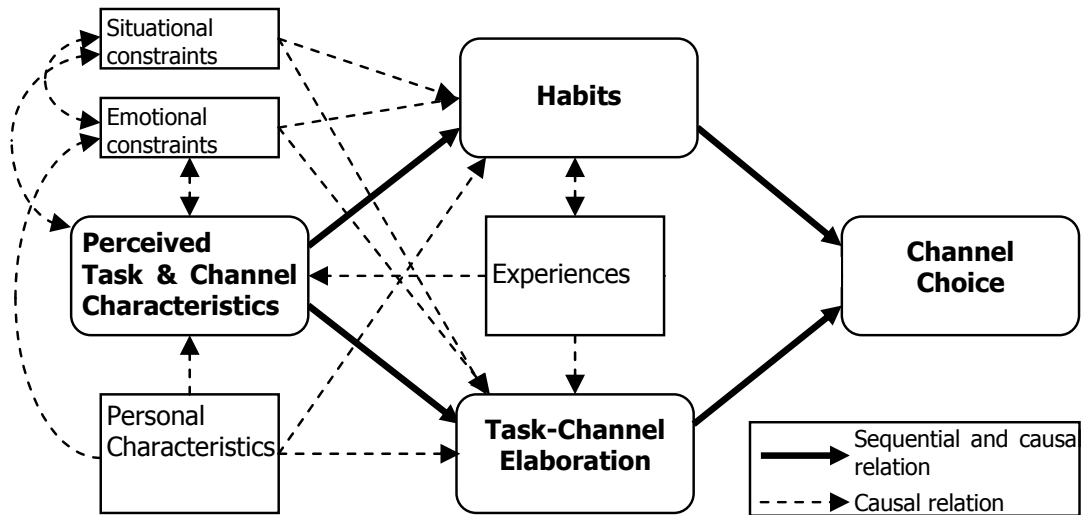


Figure 8.11: A sequential framework of the channel choice process of individuals including causal factors

In two quantitative studies we tried to assess whether or not the task and channel characteristics, situational and emotional constraints and personal characteristics influence the channel choice decision. This appeared to be the case for each of the four groups. Some remarkable findings in the studies should be noted. The first remarkable finding is that people do choose different channels for different tasks, as the first study makes clear. However, most respondents are inclined to choose the same channel in any different situation. This might be a signal that people, out of habit, tend to choose their preferred channel in any situation. Second, citizens perceive the channels as different; they associate the traditional channels with such factors as personalization, language variety and immediacy of feedback. The electronic channels are associated with ease of use and hence convenience. This indicates that channel characteristics are far from fixed, as suggested by various theories and multi-channel management models. Channel characteristics are perceptions and those perceptions determine whether citizens will choose this channel or not. The perceptions also tend to differ between different groups of citizens but it proved hard to assess one-dimensional relationships between groups of citizens and channel perceptions. In the studies we only focused on the relationships between one factor and channel choices at a time. We did not examine the interrelatedness between the different factors and how different tasks and situations may lead to different channel choice strategies. This will be the focal point of the next chapter.

“As soon as questions of will or decision or reason or choice of action arise, human science is at a loss.”  
(Noam Chomsky)

## 9 An empirical exploration of the theory

### 9.1 Introduction

In the previous chapter we presented our preliminary theory on channel choice. In the theory we argued that channel choice is not a straightforward process of matching between task and channel but is more complex in reality. We argued that different types of decision making exist; based on the situation and emotional state of mind, and the personal characteristics of citizens, they deploy different strategies. One of these strategies is based on habits and experiences, whereas the other is based on reason. This reasoning strategy may imply a fairly elaborate process (resembling that of full or bounded rationality) or it may entail a low reasoning strategy based on the principle of least effort.

But to what extent do these premises hold in reality? The focus of this chapter is to test the main points of our theory. Hereby we focus on the last research question of the study:

*What channel choice determinants from the preliminary model are most important in channel choice decisions and how do these factors relate to each other?*

In this chapter we discuss a large study, which is divided in two parts, in which we test the main premises of the theory. It is noteworthy that we do not aim at finding a conclusive final theory of channel choice but to find a behavioral foundation that should serve as a basis for future channel choice inquiries.

Our study focuses on citizens' decision making; studies of decision making are often conceptualized in three distinct types:

1. The first group consists of 'normative studies'; these look at how decisions ought to be made. Hereby rationality of the decision maker is assumed; the decision maker is supposed to use a consistent and unbiased method to weigh the value of the different options and appraisal of the probability of events.
2. The second type are 'descriptive studies', they look at how decision makers make their judgments in the real world and try to distil knowledge about the decision making process from the observation of decision making
3. The third type is formed by 'prescriptive studies', these studies focus on how actors may be aided in making better decisions (Borcherding *et al.*, 1990).



Our main goal is to see how the real life decision making of citizens corresponds with the notions of our theory; hence our study falls in the second type of decision making studies. We look at how citizens make their decisions. We do this by asking citizens about their decision making process and their perceptions about the factors and relations in the model. This perceptual part is the first part of our study. It allows us to test how citizens *perceive* their own decision making. However, this type of research has one important drawback; it addresses views and opinions about decision making and not decision making itself. In order to be able to draw conclusions on how citizens actually make their decisions, we added a second part to the study. In this part, the vignette study, we used scenarios to gather data that more precisely capture human decision making. Within the scenarios we manipulated a number of situational and task characteristics to see how these manipulations affect channel choices. In sum, the first part of the study is used to gather data on citizens' perceptions of factors and decision making, whereas the second focuses on how situational and task factors affect channel choice decisions. In our first study, we asked the respondents about their perceived decision making in two stages; first we asked the citizens about their views towards the influences of the different factors (e.g. the proposition "task characteristics play a role when I choose a channel" (totally disagree-totally agree)), second we asked how these perceptions influence their choices (e.g. what channel would you choose for a complex (or simple) task?). In the second study we integrated these factors in (quasi) real life decision making scenarios. Hence we are able to draw a complete picture on the influences of the different factors on channel choices.

This chapter is divided in a number of parts; in the first part (§9.2) we describe the attitudinal survey. In this part we discuss the method, results and conclusions of this component of the study. In the second part (§9.3) we discuss the vignette study. In the final section (§9.4) of this chapter we draw some general conclusions and try to formulate an answer to the research question.

## 9.2 Study part 1; The perceptual survey

### 9.2.1 Introduction

In the previous chapter we presented our preliminary Channel Choice theory of channel choice, including a framework derived from the theory, which is shown below (Figure 9.1).

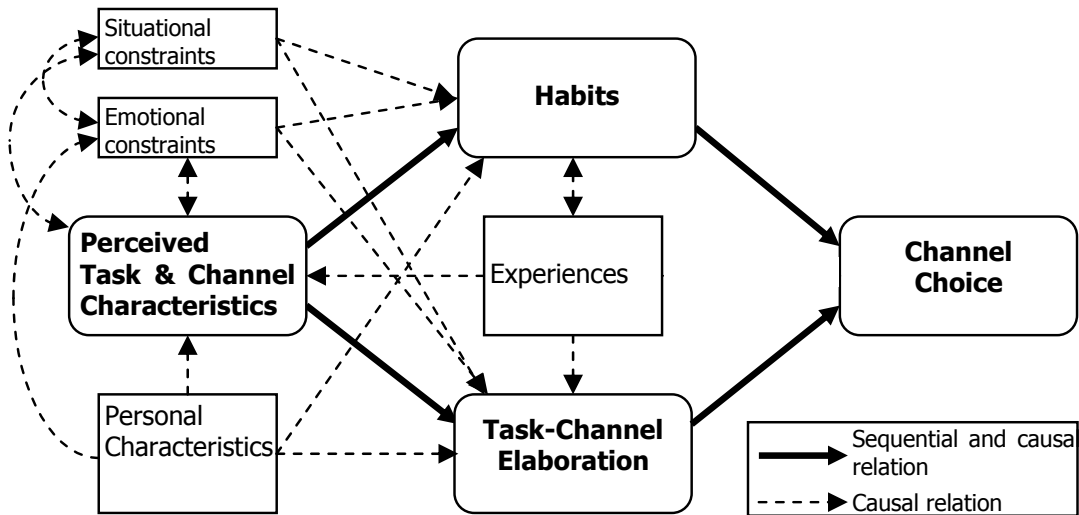


Figure 9.1: A sequential framework of the channel choice process of individuals including causal factors

In the study described in this part of this chapter, we ask citizens about their attitudes towards the different factors in the model and how these factors affect their channel choices. This allows us to test whether these factors affect channel choices and how the different factors interact. In the remainder of §9.2 we will first define the hypotheses we derive from our model (§9.2.2). Next we will describe the methodology used in our study (§9.2.3), followed by the main results of the study (§9.2.4). We finish this section with a discussion of our conclusions and points of discussion. (§9.2.5)

### 9.2.2 Hypotheses

Based on the theory presented in the previous chapter and the framework following from the theory; we can formulate a number of hypothesis, these hypothesis are all based on the findings of our exploratory study, as described in chapter 7 and all of them can be traced back to the literature. In the first place, following the work of Damasio (1994) on human decision making (see Figure 6.4), the Symbolic Interactionism perspective on media choice (Trevino et al., 1990a), the Social Influence Model (Fulk *et al.*, 1990) and finally Channel Expansion Theory (Carlson & Zmud, 1994) we expect situational factors to influence channel choices. Regarding the role of emotions in channel choice little is known, however, our study described in chapter 8 demonstrated the influence of this factor on channel choices. We do, however, expect the effect of the situational influences to be indirect. We believe that habits and elaboration are the most important decision strategies, which in turn are influenced by, amongst others, situational influences. Hence, we formulate hypothesis 1 as follows:

*H1: Situational and Emotional Constraints influence the decision strategies used in channel choice decisions*

We can distinguish a number of situational and emotional constraints that help us formulate more specific additional hypotheses. In the first place we expect the situational constraints to influence the degree of habitual decision making and elaborational decision making. For example, we expect that an increasing distance towards the channel decreases the likelihood of choosing that channel habitually. Further, we expect that time influences channel choices, we expect that people generally want to spend as little time as possible getting the answer to their question. Next, we expect that the situational constraints influence perceptions of channel characteristics. For example, as the distance towards a channel increase, than the perceived contact speed of the channel may decrease. Also, we expect that people are guided by emotions when seeking contact with governmental agencies, the emotional state of mind influences whether people act out of habits or elaborate. Finally, we expect the desired uncertainty reduction, or need for closure (Kruglanski *et al.*, 1991; Kruglanski & Webster, 1996) and the importance of the issue to influence channel choice processes. If the importance and need for closure are high, it is more likely that people engage in a rational process. Finally we can expect the situational constraints and emotions to co vary. Below the sub hypotheses are listed.

Number	Subject	Hypothesis
H1a	Distance	People are more inclined to choose channels that are close by.
H1b	Time	People take time constraints into account when choosing channels; they primarily want to spend as little time as possible
H1c	Emotions	People are guided in their channel choice strategy by emotions.
H1d	Need for Closure	People do like certainty and therefore follow an elaboration strategy when need for closure is high.
H1e	Importance	As the importance of the issue increases, so does the likelihood of people following an elaboration strategy
H1f	Emotion-situation	The emotional and situational constraints correlate
H1g	Situation-channel	Situational constraints influence perceived channel characteristics

*Table 9.1: Sub Hypotheses for factor 1, Situational and Emotional Constraints*

Second factor in the model is formed by the characteristics of the task for which citizens choose a channel. Most of the previous work on channel choice has included task characteristics as relevant factor, leading back to the work of Daft and Lengel (1984, 1986). Building on most theories described in the theoretical chapters of this dissertation, we hypothesize that task characteristics influence channel choices.

### *H2: Task Characteristics influence channel choice processes*

This determinant can also be specified in a number of sub hypotheses. As we argued in the previous chapter, we consider two task characteristics to be the most important; complexity and ambiguity. We expect that as tasks grow more complex, people are more inclined to choose the traditional channels. Although, the web channel is, theoretically spoken, an objectively better channel to reduce complexity, as argued by us, we

nevertheless believe that citizens choose the traditional service channels (specifically the telephone and front desk) for complex tasks, as research has shown that people rely on these channels to answer complex questions (Byström & Järverlin, 1995; Kimball *et al.*, 1997; Pieterse & Ebbers, 2008), our preliminary research in chapter 8 confirmed this expectation. Nevertheless we posit that people are led in their channel choice decisions by the complexity of the task. We expect that as complexity increases that people are more likely to engage in an elaboration process.

The second task factor is ambiguity, this is a similar factor to the 'equivocality' as suggested by Daft and Lengel (1986). As denoted before, by equivocality we mean the existence of multiple and conflicting interpretations about a task. Not knowing what the task is about is a proper interpretation of this concept. Many have found that as ambiguity increases, people use different channels (Prendergast & Marr, 1994), whereby they resort to the telephone and front desk, since these (personal) channels aid in removing ambiguity (Ebbers *et al.*, 2008).

Our preliminary research in chapter 8 confirmed this expectation. Hence, we expect that as ambiguity increases that the likelihood of an elaboration strategy also increases. Finally, we expect that the given task correlates with the emotional state of mind. It is more likely that I get angry when having a complex task than when I have a simple question. The following two sub hypotheses can be noted regarding the task characteristics (Table 9.2).

<b>Number</b>	<b>Subject</b>	<b>Hypothesis</b>
H2a	Complexity	Task complexity affects channel choices, as complexity increases people tend to make increasingly use of an elaboration strategy
H2b	Ambiguity	Task ambiguity affects channel choices, as ambiguity increases people tend to make increasingly use of an elaboration strategy
H2c	Task-emotion	Task characteristics correlate with emotional constraints.

*Table 9.2: Sub Hypotheses for factor 2, Task Characteristics*

Thirdly, there are the channel characteristics; as most channel choice theories rely on the contingency between tasks and channels, it is no surprise that the influence of channel characteristics has been widely acknowledged. All important theories have incorporated (perceived) channel characteristics and in research, the impact of channel characteristics on channel choice has been demonstrated more than often (see for example Alba & Lynch, 1997; Balasubramanian *et al.*, 2005b; El-Shinnawy & Markus, 1998; Kinney & Dennis, 1994a; Kinney & Watson, 1992; Kock, 2005; Kwast *et al.*, 1998; Reeves & Bednar, 1996).

Our study described in section 8.6 showed how the different channel perceptions influence channel choices and therefore we expect also in this study that the perceived channel characteristics do influence the process by which a channel is chosen (via elaboration or habits).

Hence we posit that:

*H3: Channel Characteristics influence channel choice processes*

Based on the idea that channel characteristics are seen different by different people and are therefore *perceptions* (Fulk et al., 1990), we could argue that people need to be aware of the differences between different channels and that these differences play a role in their channels choices. Further, building on the list of channel characteristics proposed in the study presented in section 8.2, we could argue that media richness factors (Trevino *et al.*, 2000), technology acceptance factors (Davis, 1986), service, experiences and price (Pieterse *et al.*, 2008) are all associated with different channels. Hence, we have the following sub-hypothesis (Table 9.3):

<b>Number</b>	<b>Subject</b>	<b>Hypothesis</b>
H3a	Awareness	Citizens are aware of the differences in characteristics of the different channels.
H3b	Channels & Choice	The perceived characteristics play a role in citizens' channel choice processes.
H3c	Characteristics & Channels	Channel characteristics are associated with different service channels.

*Table 9.3: Sub Hypotheses for factor 3, Channel Characteristics*

The fourth factor in de model consists of the personal characteristics of the respondent. As discussed in the previous chapter, we decided to limit ourselves to the basic demographic traits of the citizen; gender, age and education. Many studies have shown that these basic traits are good predictors of channel choice (van Deursen & Pieterse, 2006; van Deursen et al., 2006; van Dijk et al., 2007) and there is ample discussion about the validity of these concepts for decision making. Hence we posit that:

*H4: Personal Characteristics influence channel choice processes*

As mentioned above, we decided to focus on age, education and gender. These variables have led to many differences in channel choice and usage since the introduction of the electronic service channels. In many studies all of these variables led to differences in choice or use of channels (for example Bongers *et al.*, 2004). The higher educated and younger tend to have higher preferences for the electronic channels. However, it appears that the usage gap regarding gender is declining. Recent studies did find differences regarding age and education, but found no differences between men and women (Pieterse & Ebbers, 2008). Hence, we formulate the following sub hypotheses (Table 9.4):

<b>Number</b>	<b>Subject</b>	<b>Hypothesis</b>
H4a	Age	- Age influences the channel choice process (habits and elaboration) - Age influences task and channel perceptions - Age influences the emotional constraints
H4b	Education	- Age influences the channel choice process (habits and elaboration) - Age influences task and channel perceptions - Age influences the emotional constraints
H4c	Gender	- There are no differences on gender regarding channel choices processes - There are no differences on gender regarding task and channel perceptions - There are no differences on gender regarding emotional constraints

*Table 9.4: Sub Hypotheses for factor 4, Personal Characteristics*

The fifth factor consists of experiences. Although several researchers have studied the role of experiences in media and/or channel choice, the role of experience is an underemphasized factor in current research (King & Xia, 1997). In their Media Appropriateness Theory, King and Xia (1997), argue that an individual's experiences with certain communication media affect the perceived appropriateness for a given task; individuals with little experience will have difficulties in assessing the appropriateness of a medium for a task (Kerr & Hiltz, 1982). Others scholars have also found evidence for the relationship between media perceptions and experience (e.g. Schmitz & Fulk, 1991; Trevino & Webster, 1992). Channel Expansion Theory (Carlson & Zmud, 1994, 1999), builds on the idea that experiences are one of the main determinants of channel choices. Furthermore, it has been argued that experiences and habits are strongly related (Aarts, Verplanken & Knippenberg, 1998). Hence our fifth hypothesis:

*H5: Experiences influence the channel choice process*

The two elements of this hypothesis lead to two separate sub hypotheses (Table 9.5):

<b>Number</b>	<b>Subject</b>	<b>Hypothesis</b>
H5a	Experiences	Experiences influence the channel choice process
H5b	Experiences- channels	Experiences influence perceptions of channel characteristics
H5c	Experiences – tasks	Experiences influence perceptions of task characteristics

*Table 9.5: Sub Hypotheses for factor 5, Habits and Experiences*

Sixth factor in the model is the first of the variables directly influencing channel choice decisions; habits. As our theory argues; one type of decision making is based on these habits. The attention for habits in channel choice research has been marginal (McQuail, 2001), but our exploration in chapter 7 suggests an important role for this factor.

Furthermore, it has been argued that experiences and habits are strongly related (Aarts, Verplanken & Knippenberg, 1998). As we argued in the previous chapter, we expect that people are primarily guided by their habits, in second instance we expect that people start to reason. Hence our sixth hypothesis is:

*H6: Habits influence channel choices*

*H6a: The influence of habits is strongest for primary channel choices.*

The final factor in the model consists of the elaboration between tasks and channels. This involves the conscious process of decision making and is different than the habitual type of decision making. The distinction between habits and conscious decision making is not a new one. As Ronis, Yates and Kirscht mention, the distinction was already extensively discussed by William Yates in the Principles of Psychology from 1890 (Ronis *et al.*, 1989).

The work of Ronis et al. is rooted in the work of Shrifin and Schneider (Schneider & Shrifin, 1977; Shrifin & Schneider, 1977), who distinguish between automatic and controlled information processing. "Automatic processing is learned in long-term store, is triggered by appropriate inputs, and then operates independently of the subject's control. An automatic sequence can contain components that control information flow, attract attention, or govern overt responses. Automatic sequences do not require attention, though they may attract it if training is appropriate, and they do not use up short-term capacity. They are learned following the earlier use of controlled processing that links the same nodes in sequence" (Schneider & Shrifin, 1977, p. 51). "Controlled processing is a temporary activation of nodes in a sequence that is not yet learned. It is relatively easy to set up, modify, and utilize in new situations. It requires attention, uses up short-term capacity, and is often serial in nature" (Schneider & Shrifin, 1977, p. 51). Ronis et al. argue that habits are the results of automatic cognitive process. Automatic processes are so well-learned they do not require conscious effort (Ronis et al., 1989, p. 219).

The main theories on channel choice, especially Media Richness Theory (Daft & Lengel, 1986) rests on the assumption that people do engage in a conscious process of elaboration between tasks and channels. Also, (inter)subjective theories, such as the social influence model (Fulk et al., 1990), do not exclude such elaborational process as behavioral outcomes. As mentioned above, we expect that people are primarily guided by emotions. Only in second instance is the influence of elaboration stronger than that of habits. By this we mean that when people choose a channel, they are primarily guided by their habits. When they fail, they start reasoning (more) about a proper fit between tasks and channels, so in second instance is the influence of elaboration strongest.

Therefore, we posit that:

*H7: Elaboration influences channel choices*

*H7a: The influence of elaboration is strongest for secondary channel choices.*

It should be noted, as our hypotheses make clear, that our theory (and the resulting framework) is strongly context dependent. Depending on the actual task, situation or personal circumstances, people may engage in different channel choice decision process. This also led to our situation dependent hypothesis regarding the decision strategy followed for primary or secondary choices. Our primary focus in this study is to demonstrate the variability in channel choice decision strategies and not to test all possible variations. Measures to test these hypotheses are discussed in the next section.

### 9.2.3 Method

We decided to use a quantitative study to test our hypotheses. We gathered our data in the context of a large governmental organization in the Netherlands; the Dutch Tax and Customs Administration (de Belastingdienst). This is the single organization with which most of the Dutch have a relationship; 95% of the Dutch population over 18 years of age has some kind of relationship with the organization. Hence, it is the largest governmental agency in the Netherlands. The Dutch Tax and Customs Administration is not only responsible for collecting most taxes (such as income taxes and VAT), but also grants various subsidies, such as rental subsidies and care subsidies. Another reason for choosing this organization is that contacts with this organization are relatively regular; for instance people normally have contact with their municipality every five to ten years for the renewal of their formal documents, whereas income taxes are filed on an annual basis. In the discussion we will reflect on the consequences of this choice for the validity and generalizability of our study.

Respondents were told that this organization was the subject of the study and people were told to answer the questions in the questionnaire based on their thoughts and relationships regarding this particular organization. However, in some cases we told the respondents to answer questions about the government as a whole, or, for reasons of comparison, other governmental agencies (mostly their municipality). In the results the type of organization is mentioned if it concerns organizations *other* than the Dutch Tax and Customs Administration. Finally it should be noted that we drew our sample not from the part of the population that already has a relationship with the Dutch Tax and Customs Administration, but our sample was drawn from the entire population of citizens aged 16 and above.

### *Sample and procedure*

We specifically wanted to include people without a computer and/or internet connection in our sample, to ensure a good representation of all citizen groups in the population. We decided therefore to use a combination of an online and offline panel that is administrated



by a Dutch consultancy and research company. In total 3995 members of a panel consisting of approximately 55.000 respondents were (randomly) invited to take part in the study. Respondents with an internet connection were invited to participate in the online survey, whereas respondents without such a connection were send a printed questionnaire. Our final sample, after sending one reminder, consisted of 2461 respondents, this yields a final response rate of 70,3%. The majority responded via the online survey (n=2248), whereas 213 respondents filled in the offline survey.

Respondents were told that the questionnaire contained mostly questions about the Tax and Customs Administration, unless specifically mentioned otherwise. Also, respondents were told that their answers would be used careful and anonymous. The pretest showed that the average time it took the respondents to complete the questionnaire was 23 minutes.

We compared the characteristics of our sample with those of the Dutch population<sup>18</sup> (see Table 9.6), our sample shows some overrepresentation of the age category between 45 and 65 years of age as well as an under representation of the elderly (65+) and the youngest groups (below 25 years of age). Furthermore, our sample contained relatively many higher educated respondents. This bias in our sample is probably due to a lower motivation in certain groups to participate in the survey. The panel characteristics due match those of the entire population.

		<b>Dutch population</b>	<b>Sample* (n=2461)</b>
gender	male	50.4%	49.8%
	female	49.6%	50.2%
age	<25	14.6%	4.6%
	25-45 years	35.1%	33.9%
	45-65 years	32.5%	53.4%
	65 and older	17.8%	8.0%
education	low	28.6%	10.8%
	medium	54.7%	49.2%
	high	16.7%	40.0%

Note: population percentages are obtained from the Dutch Bureau for Statistics (see [www.statline.nl](http://www.statline.nl)) in 2007

\*Sample before weighing

*Table 9.6: Sample characteristics, before weighing*

In order to have our sample match the characteristics of the population better, we decided to weigh our sample on age as well as education. The final sample characteristics are shown in the table below

<sup>18</sup> Characteristics retrieved from the Dutch Bureau for Statistics (CBS) on January 1<sup>st</sup> 2008, from [www.statline.nl](http://www.statline.nl)

		<b>Dutch population</b>	<b>Sample* (n=2469)</b>
gender	male	50.4%	51.6%
	female	49.6%	48.4%
age	<25	14.6%	17.5%
	25-45 years	35.1%	29.1%
	45-65 years	32.5%	34.8%
	65 and older	17.8%	18.6%
education	low	28.6%	27.1%
	medium	54.7%	57.2%
	high	16.7%	15.7%

Note: population percentages are obtained from the Dutch Bureau for Statistics (see [www.statline.nl](http://www.statline.nl)) in 2007

\*Sample before weighing

*Table 9.7: Final sample; weighed on age and education*

### *Measures*

Our questionnaire consisted of three different parts, each with its own purpose. In the first part we formulated a number of propositions covering the factors of our framework. In the second part we asked our respondents a number of questions regarding the perceived characteristics of service channels. In the third part we asked questions regarding the channel choice behavior of citizens in general and how situational and emotional factors as well as habits and experiences affect channel choices. Additionally, we calculated the distance of the home address of the respondent to the nearest by office of the Dutch Tax and Customs Administration to see how this affects their perceptions and behaviors. Each part uses different measures and question types; hence we discuss the measures used separately.

### *Measures; part 1*

We designed a questionnaire to test the hypotheses formulated earlier in this chapter. The questionnaire consisted of four parts, in the first part; we confronted the respondents with a number of (attitudinal) propositions regarding the factors in our framework. Each proposition was measured using five point Likert scales, where 1 indicated 'totally disagree' and 5 indicated 'totally agree'. We used, where possible existing measures to measure the perceptions of task and channels and the views towards situational and emotional factors, habits and experiences and elaboration between task and channel.

For the measurement of the situational constraints (time and distance), we developed our own measurements, since these were non-existent. For the role of emotions in channel choice (and research in general) applies the same, so we developed our own measures for this concept as well. For the measurement of the need for closure, we used an adaptation of Kruglanski et al.'s (1993) need for closure scale. We adapted some items slightly to better fit the channel choice context, for example, we included the item 'I prefer the channels that give me the most certainty. For the measurement of habits, we used an

adaptation from the Self-Report Habit index (Verplanken & Orbell, 2003). For the measurement of experiences regarding tasks and channels we used items from the instrument of Carlson and Zmud (199). We developed our own measures for the propositions regarding elaboration between task and channel since no applicable measurements were available, the same we did for task characteristics. The propositions for the channel characteristics were based on the measurements of Trevino, Webster and Stein (2000) (for an overview of the measures, see Table 9.8).

English measures were first translated to Dutch and afterwards translated back to English by different translators in order to ensure a proper translation. Further, we pretested the measures among 15 respondents to ensure readability and clarity of the items. Following the pretest, some minor textual adjustments were made.

We ran an exploratory factor analysis, using Varimax rotation to test if our theoretical distinct items also proved to be empirically distinct. The table below shows the results of our factor analysis. In the table, we ordered the factors by size, further; we suppressed factor loadings below 0.30. We added a column in which the original factor to which the propositions belonged is displayed. The variance explained by the eight factors accumulates to just over 55% (55.76%).

**Factor analysis of all original factors.**

Nr		Original factor	Component							
			1	2	3	4	5	6	7	8
1	Some channels are suited better to solve problems than other channels	Channel	.742							
2	Not every channel is suitable to answer a certain question	Channel	.739							
3	The available service channels have different characteristics	Channel	.698							
4	I am aware of the characteristics of a service channel when I choose a channel	Channel	.431							
5	My channel choice depends on the type of question I have	Elaboration	.491							.339
6	I usually deploy the same channels	Habits		.686						
7	Habits determine largely the channel I choose	Habits		.629						
8	I don't like uncertain situations	NfC*		.578						
9	I always use the channel that gives me the most certainty	NfC		.557						
10	When I need contact. I take the channel that is closest by	Distance		.407					.385	
11	In my channel choices I am guided by my previous experiences	Experience			.765					
12	When I need to choose a channel. I take my experiences with this channel into account	Experience			.680					
13	Experiences give me a grip when in need to make a new channel choice	Experience			.593					
14	Governmental information is often difficult to understand	Task				.815				
15	I have many questions regarding governmental information that I don't understand	Task				.750				
16	Very often is governmental information incomprehensible. which leads to questions	Task				.706				
17	Emotions influence my channel choice behavior strongly	Emotions					.845			
18	When choosing a channel I am sometimes guided by my emotional state mind	Emotions					.832			
19	I always want to express my emotions directly	Emotions					.527			
20	When I seek contact with the government I usually have complex questions	Task						.608		
21	The distance towards the office of the governmental agency plays a role in my considerations of going there	Distance							.574	
22	When I need information and I am near my computer. I will most certainly use this channel	Distance							.448	
23	When I choose a channel I take the time it takes to get contact into account	Time						.485		.427
24	When I need contact. it should take as little time as possible	Time						.428		.421
25	When I have a problem. I usually see the solution quickly	Elaboration					-.304	.312		
26	I don't usually choose a channel on the autopilot	Elaboration							.672	
27	When I choose a channel. I usually think thoroughly before choosing a channel	Elaboration							.660	
28	I always first consider the problem I have. before choosing a channel to solve it	Elaboration							.522	
29	I don't want to wait when I seek contact with a governmental agency	Time								.801

\* Need for Closure

*Table 9.8: Exploratory factor analysis of the Items of the first part of our questionnaire*

The factor analysis yields a number of interesting findings. First of all, most items are grouped together in the supposed (theoretical) construct. This applies to the items belonging to the *channel characteristics*, *experiences*, and *emotions*. Each of these three constructs also has satisfactory reliability scales (channel;  $\alpha=.70$ , experiences;  $\alpha=.76$ , emotions;  $\alpha=.64$ ). The first item of the *elaboration* construct appeared to load on two constructs. We decided to keep this item within the original construct, albeit that its factor loading was higher on the *channel* construct. All but one (nr 20) items in the *task* construct loaded on the same factor (factor 4); therefore we decided to exclude this factor from the *task* construct. Reliability of the final construct was sufficient ( $\alpha=.70$ )

A first really surprising finding was that the *habit* and *need for closure* (NfC) items appeared to form one factor. Mostly, these concepts are treated as different theoretical constructs, albeit that some scholars point to the relationship between habits and need for closure (Amichai-Hamburger *et al.*, 2007); people tend to repeat those behaviors that give more closure more often, this might easier lead to habits for such behaviors. Further, the Need For Closure scale (Kruglanski *et al.*, 1993), contains items that strongly resemble routine or habitual behavior, such as item 34: "I find that establishing a consistent routine enables me to enjoy life more". Furthermore, NfC has been associated with predictability in behavior (Kruglanski & Webster, 1996) and this factor has often been associated with habits (Baumesiter & Sommer, 1997; Sheeran, 2002).

Our interpretation of the factor loadings of these items is that channel choices within the context of public sector services often imply high needs for closure which results in habitual decision making that might have been guided by these desires for definite answers. We decided to merge the two factors (habit and NfC) in a new factor, which we label from now on as *habits*. The reliability of the combined factor, albeit not very high, was sufficient ( $\alpha=.62$ ). A fifth item loading on the second component (nr 10), was a measure of distance that loaded on both factor two and six, we decided (given the small variation in factor loading) to keep the item with its original construct.

A second remarkable finding is that most of the *distance* and *time* items loaded on the same factor, all items in these constructs, except one (nr 29) loaded on this factor. Furthermore, one *task* and one *elaboration* item also loaded on this factor. Combined, these eight factors did not yield a reliable construct ( $\alpha=.53$ ), but the separate items for *distance* ( $\alpha=.40$ ) and *time* ( $\alpha=.45$ ) yielded unreliable measures either. The solution was to exclude the *task* and *elaboration* item from the construct, as well as the final *time* item (nr 29) from the scale. This yielded an almost reliable construct ( $\alpha=.60$ ) of *situational* constraints. Our explanation is twofold, first our (experimental) measures might have been insufficient to create solid and distinct constructs, and second, it is possible that *time* and *distance* are correlated. This does make sense, traveling long distances to a front desk usually implies much time and on the other hand does taking nearby channels consume little time.

The five items composing the *elaboration* construct yielded a low Cronbach's alpha of .57. Deleting the item from the construct that, according to the factor analysis, did not fit in this construct (item 25) increased the alpha to just over the threshold ( $\alpha=.61$ ).

Generally, constructs are considered reliable when Cronbach's alpha is at least .70 (Nunnally, 1978). Our set of constructs yielded considerably lower alpha's (the lowest being .60). However, some have suggested that lower alpha's are acceptable in some situations. Murphy and Davidshofer (1988) argue that an alpha of .6 is acceptable. Davis (1964) even argues that alpha's as low as .5 are acceptable for groups of 50. One of the main explanations for the lower alpha scores in some of our constructs is the fact that they consist of a smaller number of items, something Cronbach's alpha is highly sensitive of (Peterson, 1994).

Given a) the results of our factor analysis, b) the fact that all of our constructs yield alpha's above the minimum threshold of .60, and c) the fact that our research is exploratory and hence reliability of the scales is less an issue than in confirmatory studies, we decided to use the constructs as they are build following the factor analysis and the reliability analysis.

The table below (Table 9.9) shows the final scales and the items used to build the scales.

<b>Final Constructs</b>				
<b>Nr</b>	<b>Description</b>	<b>Original construct</b>	<b>Final construct</b>	<b>Cronbach's Alpha</b>
1	Some channels are suited better to solve problems than other channels	Channel		
2	Not every channel is suitable to answer a certain question	Channel	Channel	.70
3	The available service channels have different characteristics	Channel		
4	I am aware of the characteristics of a service channel when I choose a channel	Channel		
6	I usually deploy the same channels	Habits		
7	Habits determine largely the channel I choose	Habits	Habits	.62
8	I don't like uncertain situations	NFC*		
9	I always use the channel that gives me the most certainty	NFC		
11	In my channel choices I am guided by my previous experiences	Experience		
12	When I need to choose a channel, I take my experiences with this channel into account	Experience	Experiences	.76
13	Experiences give me a grip when I in need to make a new channel choice	Experience		
14	Governmental information is often difficult to understand	Task		
15	I have many questions regarding governmental information that I don't understand	Task	Task	.70
16	Very often is governmental information incomprehensible, which leads to questions	Task		
17	Emotions influence my channel choice behavior strongly	Emotions		
18	When choosing a channel I am sometimes guided by my emotional state mind	Emotions	Emotions	.64
19	I always want to express my emotions directly	Emotions		
21	The distance towards the office of the governmental agency plays a role in my considerations of going there	Distance		
22	When I need information and I am near my computer, I will most certainly use this channel	Distance	Situation	.60
10	When I need contact, I take the channel that is closest by	Distance		
23	When I choose a channel I take the time it takes to get contact into account	Time		
24	When I need contact, it should take as little time as possible	Time		
5	My channel choice depends on the type of question I have	Elaboration		
26	I don't usually choose a channel on the autopilot	Elaboration	Elaboration	.61
27	When I choose a channel, I usually think thoroughly before choosing a channel	Elaboration		
28	I always first consider the problem I have, before choosing a channel to solve it	Elaboration		

*Table 9.9: Final Constructs of the Items of the first part of our questionnaire*

Finally, we conducted a Confirmatory Factor Analysis (CFA), using Amos7.0 to test the fit of our constructs to the data. Results of the Chi-Square test showed that the data do not fit the model  $\chi^2(278) = 1823,596$ ,  $\chi^2/df = 6.56$ ,  $p < .000$ . We believe, in our case, this is due to the large sample size ( $N=2469$ ). The Chi-Square test of model fit is sensitive to large sample sizes, even small differences between the observed model and the perfect-fit model may lead to insignificant results (Jöreskog, 1969). The other fit measures showed our data fit the model very well, SRMR = .050, TLI = .86, RSMEA = .048 (CI: .045, .050). Hence we conclude this final model fits the data well and we resume with the final constructs.

*Measures; part 2*

We mostly used existing measures of (perceived) channel characteristics, these were also used in the first study described in chapter 8 (§8.2). Measures of media richness (immediacy of feedback, multiple cues, language variety and personalization) are based on the measures used by Webster and Trevino (1995), that have proven their validity in two other studies; Webster and Hackley (1997) and Trevino, Webster and Stein (2000). Technology characteristics (ease of use and usefulness) were based on Davis (1986, 1989) and experiences were based on the measures used by Carlson and Zmud (1994, 1999). Measures for the other variables (price, service and contact speed) were non existent, so we used our own measures.

Each perception was measured using one question, furthermore, whereas most original measures used 5 or 7 scale measures to measure the perceive applicability for each characteristic to every channel in the study, we used a nominal scale; respondents were asked to indicate which channel suited the characteristics best. Our measures, as shown in chapter 8, proved to be rigid. Table 9.10 gives an overview of the channel characteristics and the corresponding survey questions.

<b>Concept</b>	<b>Measure</b>
Price	This channel is for me the cheapest.
Ease of use	This channel is the easiest to use.
Usefulness	This channel is the most useful.
Experiences	With channel I have the best experiences.
Service	This channel provides me the best service.
Contact speed	Via this channel I am in contact with the government the quickest.
Immediacy of feedback	This channel provides immediate feedback.
Multiple cues	This channel allows information to be transmitted in multiple ways.
Language variety	This channel enables to use varied language
Personalization	This channel allows me to tailor messages to my own circumstances

*Table 9.10: Measures for channel perceptions*

Next, as in the study described in chapter eight, we conducted a Homogeneity Analysis (HOMALS) to analyze whether the various channel characteristics are perceived as a homogenous set of characteristics or not. Results are similar to that of the preliminary study. Here we also found that a two dimensional space fitted our data best. The two dimensions explain nearly 100% of the variance in the data and the Cronbach Alpha's for the two dimensions are .89 and .88 respectively. The MRT factors load mostly on the first factor, whereas the other factors load mostly on the second factor.



Furthermore, we asked how experienced the respondents perceived themselves to be in the use of the different channels. Here we used five point measures (1=not experienced at all, 5=very experienced).

*Measures: part 3*

The final part served two purposes; first to see what channels are chosen in different situations and for different tasks and second to gather general (descriptive) data on channel choices and channel usage. The first purpose was also used as a reflection of the measures manipulated in the second study. We manipulated variables in (in most cases) both a high and a low condition and asked the respondents what channel they would choose in both situations. For the factors *habits* and *experiences*, the pretest showed that respondents had difficulties answering the manipulations, especially the formulation "if you don't let your experiences play a role" proved to be difficult because many respondents found it difficult to imagine such a situation. Hence we decided to reformulate this phrase in a formulation that served as a double check rather than a dichotomy. The same applies to the operationalization of the measure for habits. Our operationalizations in this study are somewhat different then the ones used in the study described in section 8.5. The reason is that we wanted the operationalization to be more dichotomous and to see whether this yields the same results. The following table (Table 9.11) shows these measures.

<b>Measures for channel choices in varying situations</b>		
Factor	Abbreviation	
		What channel would you choose for your contacts with the Dutch Tax and Customs Administration...
Task complexity	Simple	..if you have a simple question
	Complex	..if you have a complex question
Task Ambiguity	Ambiguous	..if you don't understand your problem
	Non-Ambiguous	..if your problem is entirely clear
Need for Closure	Low NfC	..if you don't need certainty
	High NfC	..if you need closure
Emotions	Emotions1	..if you are guided by emotions
	Emotions2	..when emotions play a role
Time	No Rush	..if you are not in a rush
	Rush	..if you need a fast answer
Place	Behind PC	..if you are behind the pc
	No Telephone	..if you don't have a telephone at hand
Importance	High importance	..if the matter is important to you
	Low Importance	..if the problem is not that important
Experiences	Experiences 1	..if you are guided by experiences
	Experiences 2	..based upon your previous experiences
Habits	Habit	..without thinking
	Without thoughts	..based upon your habits

*Table 9.11: Measures for channel choices in varying situations.*

Finally, we asked the respondents some general questions regarding their channel choice and use behavior. These are listed below.

Nr	Question
1	Could you please indicate for each of the following channels how often you used them in the last 12 months for your contacts with the Dutch Tax and Customs Administration?
2	If you have had contact in the last 12 months, could you please indicate which channel you used last?
3	Did you, before your last contact, have an earlier contact regarding the same matter and if so, what channel did you use?
4	If you need contact with the Dutch Tax and Customs Administration, what channel do you generally choose first?
5	If your contact is not successful via your first choice channel, what channel would you choose second

Table 9.12: General Channel Choice Questions

The confidence level used in the analysis was .05. Furthermore, we note the test used with every analysis displayed in the results section. In the following section, the results of our analyses are shown. First we present some descriptive results regarding channel choices and second we present the findings of our hypotheses testing.

#### 9.2.4 Results

##### *Descriptives*

Use of the different channels for contacts with the Dutch tax and Customs administration varies largely across the different channels. The number of contacts of the respondents via the different channels is shown in the table below.

	Percentage of number of contacts			
	0	1-2	2-5	>6
Front Desk	92.9%	6.0%	.8%	.2%
Telephone	64.2%	25.6%	7.9%	2.3%
Website	67.3%	20.3%	8.3%	3.6%
e-mail <sup>19</sup>	88.7%	10.0%	1.1%	.2%
Post	78.7%	15.2%	5.1%	1.0%

Table 9.13: Percentage of number of contacts with the Tax and Customs Administration in the last 12 months

From these figures we derive that the telephone is the most used channel during the last 12 months, followed by the website, the written channel, e-mail and finally the front desk. Most respondents that do have contact only have contact once or twice. From these figures we can also derive the percentage of citizens having had contact in the last year or not; in total 55.5% of all respondents had contact in the previous 12 months. This shows us that a majority did have contact and that they apparently used different channels to

<sup>19</sup> Here something remarkable happens. Formally, the Dutch Tax and Customs Administration does not offer citizens the possibility to send the organization an e-mail. Only fiscal intermediaries can use this channel. So, either a considerable number of fiscal intermediaries filled in our questionnaire (albeit that respondents were instructed to fill in the questionnaire from their 'citizen' perspective), or citizens mistake the tax department for other governmental agencies, or citizens *think* to have used e-mail.

answer their questions. Further, although most respondents used one channel in their contacts a considerable percentage of those having contact used more than one channel. The figure below shows the percentages of citizens having had contact and via how many channels.

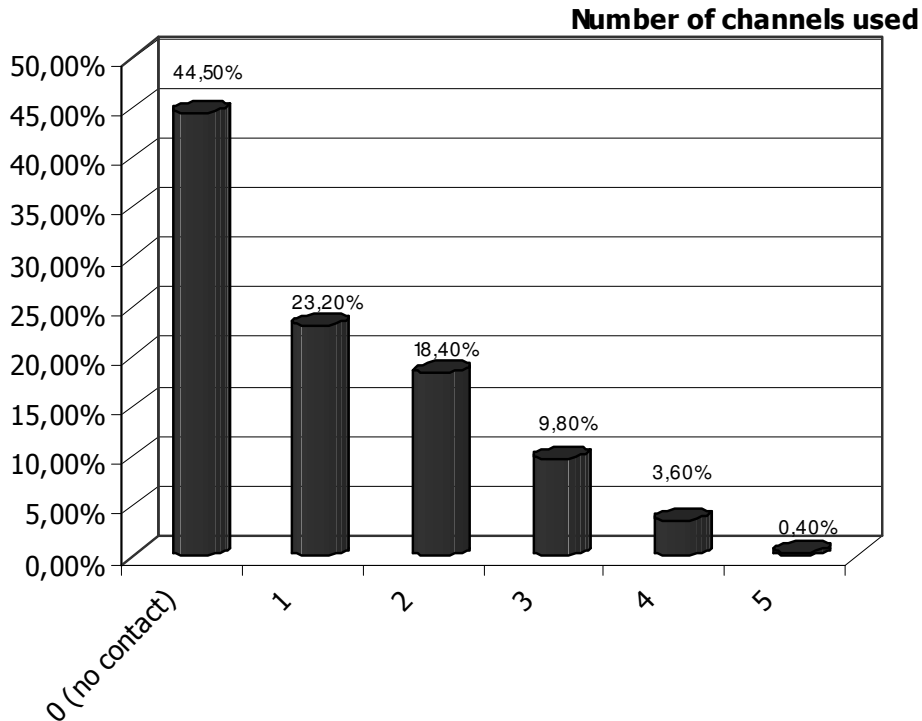


Figure 9.2: Number of channels used to reach the Tax and Customs Administration in the last 12 months

The figure shows us that, of the people having had contact, more than half used more than one channel. Further, we can analyze whether the people having had contact via certain channels are more inclined to use multiple channels than others. The following cross table (Table 9.14) shows the percentages of citizens having had contact via that channel and the number of channels they had used in the last 12 months.

		Contact via Channel				
		Front Desk	Telephone	Website	E-mail	Post
Number of channels used	1	20.9%	22.8%	25.9%	13.3%	19.2%
	2	15.1%	40.8%	38.7%	23.2%	31.0%
	3	34.3%	24.7%	22.8%	37.6%	32.0%
	4	23.3%	10.4%	11.3%	21.8%	15.6%
	5	6.4%	1.3%	1.4%	4.1%	2.2%

Table 9.14: Contacts and channels used

The table shows us that mostly telephone and website visitors use two channels or less, but visitors of the front desk and e-mail users often deploy three channels or more.

The channels used last by the respondents largely confirms the usage patterns displayed in the channel usage over the last 12 months. The telephone was the most chosen last channel (41.2%) followed by the website (31.8%) and written contact (15.9%). Some 5.8% claims to have send an e-mail to the Tax and Customs Administration. The front desk was last chosen by 5.4% of the respondents.

Some more insights in the channel choice patterns can be given in two ways. We asked respondents about their last contact and next we asked them whether they had had another contact before their last contact. This gives us some information about how citizens behave when they are unable to answer their question via the channel of their earlier choice. Our analysis shows that 59.6 percent of all respondents had not had contact before their last contact. Generally spoken, people chose the same channels for their last contact and the contact before that (if any) (Figure 9.3).

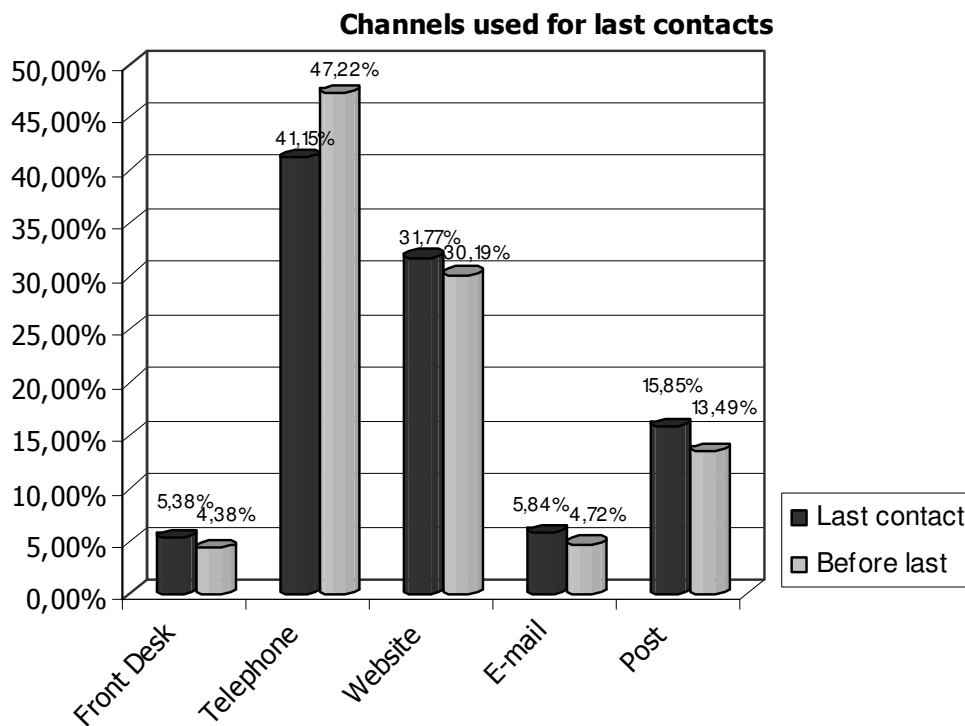


Figure 9.3; Comparisons of channels chosen last and before last

What is remarkable is that relatively less people chose the phone for their last contact than for their one before last contact, in all other channels this percentage is higher. However, this does not imply that all people used the same channels for the two consecutive contacts. This can be further explored by putting these data in a cross table, as shown below.

		<b>Before last contact</b>				
		Front Desk	Telephone	Website	E-mail	Post
Last contact	Front Desk	<b>28%</b>	40%	6%	7%	19%
	Telephone	1%	<b>69%</b>	16%	5%	9%
	Website	3%	16%	<b>77%</b>	2%	3%
	E-mail	0%	52%	25%	<b>22%</b>	1%
	Post	7%	33%	13%	4%	<b>43%</b>

Table 9.15: Cross Table of channels chosen last and before last

Row percentages are shown in the table, this gives an indication of how the respondents move from their previous channel to the last channel. A Chi-Square test shows that differences between the different cells exist ( $\chi^2(24) = 453.99$ ,  $p < 0.000$ ). Bold faced are the percentages respondents that used the same channel for their before last and last contact. A majority of both the telephone and website users had used these channels for both contacts. Apparently, a mere 28% had used the front desk on both occasions, 40 percent of the respondents who had chosen the front desk last, had used the telephone before that. This seems to suggest that the front desk is, generally, seen as the final channel (especially after the telephone); people use other channels first before resorting to the front desk.

We also asked the respondents which channel they would choose first if they have a question for a governmental agency and which channel they would choose after that, if the first contact had failed. The following table shows the number and percentages of first and second channel choices.

<b>Channel Choices first and second</b>				
	First choice		Second choice	
	n	%	n	%
Front Desk	152	6.2%	368	15.1%
Telephone	1226	50.3%	874	36.0%
Website	767	31.5%	276	11.4%
E-mail	197	8.1%	646	26.6%
Post	94	3.9%	267	11.0%
Total	2436	100.0%	2431	100.0%

Table 9.16: Channel choices in first and second instance

In the first instance, about half of the respondents would choose the telephone and 31.5% would opt for the website. These figures change to a large degree when people choose the channel to answer their question about what to do when first attempt failed. The percentage of respondents choosing the front desk increases from 6.2 percent to 15.1 percent and the percentage of respondents choosing the telephone drops from 50.3 to 36 percent. To see whether the same people choose the same channels in both situations or not, we did a Wilcoxon Signed Rank Test. If people were insensitive to changes in the situation, they would always choose the same channels. Hence it would be expected that

the distribution of the observation across the channels would be uniform in both situations. A Wilcoxon Signed Rank Test tests for this uniformity. The test demonstrates that the distributions are not uniform ( $Z=-9.674$ ,  $p<.000$ ), hence people choose different channels in the two situations. Further, we draw a cross table depicting the choices in the two instances, the Chi Square tests show that observed and predicted variables are different, hence people choose different channels in both situations ( $\chi^2(16) = 1303.4$ ,  $p<0.000$ ). The patterns are quite obvious, as the table below shows.

		First Choice				
		Front Desk	Telephone	Website	E-mail	Post
Second Choice	Front Desk	1%	88%	6%	2%	3%
	Telephone	12%	5%	61%	16%	6%
	Website	4%	83%	1%	12%	0%
	E-mail	2%	64%	30%	0%	4%
	Post	7%	81%	6%	5%	1%

*Table 9.17: Cross Table of Channel choices in first and second instance*

Now we see that nearly no respondent chooses the same channels. This is different from the channel choices that the respondents had made in practice (see Table 9.15:), where a considerable percentage had chosen the same channel. This difference is probably due to the fact that the actual behavior (Table 9.15:) of respondents does not always reflect their hypothetical behavior (Table 9.17). Conversion patterns, however, are comparable. First choice of the telephone results in the second choice of a front desk and telephone choosers come from the website and vice versa.

### *Hypothesis and modeling*

In the first part of our questionnaire we included a number of propositions regarding the elements in our model. We discussed the reliability of the constructs already in §9.2.3 and in this section we will present the results of our tests with the individual items and the constructs.

The first factor in the model consists of the situational constraints. All propositions have a significant positive mean, both from the time as well as the distance factors. People have positive perceptions towards the influences of situational constraints on channel choice decisions. The construct also has a small standard deviation (SD), this implies that the variation in responses is small, over 65% of all respondents has a mean higher than three.

<b>Propositions regarding the situational constraints</b>				
	Mean	SD	t	p
When I choose a channel I take the time it takes to get contact into account	3,54	0,92	27,77	0,000
When I need contact, it should take as little time as possible	3,83	0,89	45,52	0,000
The distance towards the office of the governmental agency plays a role in my considerations of going there	3,41	1,01	19,64	0,000
When I need contact, I take the channel that is closest by	3,69	0,83	39,52	0,000
When I need information and I am near my computer, I will most certainly use this channel	4,03	0,97	51,56	0,000
Construct Situation	3,71	0,56	58,30	0,000

Table 9.18: T-test for the propositions regarding the situational constraints

The second factor consists of the emotional items. Of the three propositions two were significant. Views regarding the two scored below neutral, this implies that people disagree with the proposition that they are guided by their emotions when choosing channels and that they always want to express their emotions directly. People are neutral regarding the proposition that emotions influence their behavior strongly. The construct 'emotions' that was created yielded a significant result; the construct emotions has a negative impact on (channel choice) behavior.

<b>Propositions regarding the emotional factors</b>				
	Mean	SD	t	p
When choosing a channel I am sometimes guided by my emotional state of mind	2,85	0,93	-7,72	0,000
Emotions influence my channel choice behavior strongly	3,00	0,99	-0,13	0,898
I always want to express my emotions directly	2,92	0,97	-4,21	0,000
Construct Emotion	2,92	0,73	-5,32	0,000

Table 9.19: T-test for the propositions regarding the situational constraints

The third factor consists of the habits people have in channel choice decision making. It appears that all propositions yield significant positive results. The construct is positive as well and has a fairly small SD which is an indication that the variation in responses is fairly small.

<b>Propositions regarding habits</b>				
	Mean	SD	t	p
I don't like uncertain situations	4,00	0,79	61,02	0,000
I always use the channel that gives me the most certainty	3,73	0,74	46,91	0,000
I usually deploy the same channels	3,63	0,69	43,40	0,000
Habits determine largely the channel I choose	3,42	0,78	25,62	0,000
Construct Habits	3,69	0,51	62,42	0,000

Table 9.20: T-test for the propositions regarding habits

Fourth factor is the elaboration between task and channel. Here again, we find all significant positive means. The construct itself also is significantly above three. This implies

that the respondents indicate that they are guided by elaboration between channel and task in their channel choices. Apparently, people are guided by both their habits and elaboration in decision making.

<b>Propositions regarding elaboration</b>				
	Mean	SD	t	p
My channel choice depends on the type of question I have	3,80	0,71	53,49	0,000
When I choose a channel, I usually think thoroughly before choosing a channel	3,61	0,75	39,52	0,000
I always first consider the problem I have, before choosing a channel to solve it	3,78	0,70	53,09	0,000
I don't usually choose a channel on the autopilot	3,29	0,78	17,63	0,000
Construct Elaboration	3,62	0,49	58,74	0,000

*Table 9.21: T-test for the propositions regarding elaboration*

Fifth are the experiences of the respondents with channel choice decisions. The respondents indicate that experiences are an important factor. The mean of this construct is the highest of all constructs. Its SD is further relatively small so we derive from this result that most respondents take their emotions into account when choosing channels.

<b>Propositions regarding experiences</b>				
	Mean	SD	t	p
In my channel choices I am guided by my previous experiences	3,77	0,71	51,75	0,000
Experiences give me a grip when in need to make a new channel choice	3,77	0,69	53,99	0,000
In my channel choices I am guided by my previous experiences	3,84	0,68	58,84	0,000
Construct Experience	3,79	0,57	66,57	0,000

*Table 9.22: T-test for the propositions regarding experiences*

Sixth factor are the task characteristics. Although the construct yields a mean significantly above three, one of the propositions does not yield a significant result. Respondents are neutral towards the item 'Very often is governmental information incomprehensible, which leads to questions'. We can think of three reasons exists for this neutrality; first respondents might believe that governmental information is not incomprehensible. Second, respondents might have the opinion that governmental information does not necessarily lead to questions. Finally, there is a large variation in the answers of the respondents. The large SD indicates that many people agree and disagree with this proposition.



<b>Propositions regarding task characteristics</b>				
	Mean	SD	t	p
Governmental information is often difficult to understand	3,53	0,93	27,45	0,000
I have many questions regarding governmental information that I don't understand	3,26	0,90	14,04	0,000
Very often is governmental information incomprehensible, which leads to questions	3,03	0,98	1,52	0,129
Construct Task	3,27	0,74	17,31	0,000

Table 9.23: T-test for the propositions regarding the task characteristics

Final construct consists of the channel characteristics. Again means for all propositions, as well as the construct, are significantly above three. This means that the respondents acknowledge that the different channels have different characteristics and that they take the channel characteristics into account when making channel choice decisions.

<b>Propositions regarding channel characteristics</b>				
	Mean	SD	t	p
The available service channels have different characteristics	3,65	0,65	46,76	0,000
Not every channel is suitable to answer a certain question	3,80	0,70	54,55	0,000
Some channels are suited better to solve problems than other channels	3,83	0,65	61,37	0,000
I am aware of the characteristics of a service channel when I choose a channel	3,39	0,78	23,73	0,000
Construct Channel	3,68	0,50	62,35	0,000

Table 9.24: T-test for the propositions regarding the channel characteristics

The different groups of citizens have different attitudes regarding most of the propositions. The following table shows the difference for the different groups based on age, gender and education. We ran ANOVA's for education and age and t-tests for gender to assess the different means scores for the seven constructs.

<b>ANOVA for Education</b>		
	F	p
Situation	11.419	.000*
Emotion	18.711	.000*
Habits	.990	.372
Elaboration	2.922	.054
Experience	20.085	.000*
Task	45.545	.000*
Channel	9.852	.000*

Table 9.25: ANOVA for Education and the seven constructs

Regarding education, no differences were found regarding *habits* and *elaboration*. The other factors showed significant differences. We performed Bonferroni Post Hoc tests to

analyze the directions of the differences. Regarding *situation*, higher educated are more likely to be guided by situational factors (MD=-.167<sup>20</sup>,  $p < .000$ ). For emotions, this effect is reversed (MD=.284,  $p < .000$ ). Furthermore, the higher educated are more likely to be guided by their experiences (MD=-.207,  $p < .000$ ). The highest mean differences can be found for the task characteristics, that are more relevant for the lower educated (MD=.451,  $p < .000$ ). The channel characteristics, finally, are more important for the higher educated (MD=-.136,  $p < .000$ ). In all significant mean differences, the middle age group was between the lower and higher group.

<b>ANOVA for Age</b>		
	F	p
Situation	3.898	.009*
Emotion	.753	.520
Habits	6.614	.000*
Elaboration	2.451	.062
Experience	1.726	.159
Task	29.437	.000*
Channel	26.871	.000*

Table 9.26: ANOVA for Age and the seven constructs

Here we see that *habits* do play a role, furthermore, we found no significant differences regarding *emotions*, *elaboration*, and *experiences*. Once again, post hoc tests give us information regarding the directions of the results. Regarding *habits*, *tasks* and *channels* the results are straightforward, with increasing age comes more reliance on habits (MD=-.127,  $p < .003$ ). The elderly also take task and channel characteristics more into account than the younger (MD=-.395,  $p < .000$  for tasks and MD=-.308,  $p < .000$  for channels).

<b>T-Test for Gender</b>		
	t	p
Situation	-.840	.401
Emotion	-1.327	.185
Habits	-1.500	.134
Elaboration	-.711	.477
Experience	.717	.474
Task	2.352	.019*
Channel	1.255	.210

Table 9.27: T-test for Gender and the seven constructs

The only significant variable is *task characteristics*, men score a (slightly, yet significant) higher mean than women (MD=.07) regarding this variable.

The next step in the analysis is to model these different factors and to see how they are related and how they affect channel choices. Also, we included the personal

<sup>20</sup> MD= Mean Difference, the difference in Mean value for the lowest group mean minus the highest group mean.

characteristics, since we argued that these influence channel choices as well. We chose to build two models; remember that in our theory we argued that people are primarily driven by their habits and experiences and that reasoning comes second. Our dependent variables in the two models are the channels chosen by the different citizens. It is difficult to analyze models with nominal or categorical dependent variables using standard statistical models. Multi-nominal logistic regression allows for the analysis of direct effects; however our model includes indirect effects and calls for advanced modeling, such as structural equation modeling (SEM). The common tools for the analysis of SEM, Amos (which we used for the analysis of the Confirmatory Factor Analysis (CFS)) and Lisrel are unable to analyze multi-nominal path models. MPlus is software that allows for the analysis for such models, hence we used MPlus 5.2 to analyze our two models (Muthén, 2002; Muthén & Muthén, 2007). Since common model fitting information (such as RSMEA, CLI and TLI) can only be calculated using categorical dependent variables, we calculated our two models using the dependent variables as categorical to produce measures for model fit. Afterwards we calculated the multi-nominal models and hence produced measures for the choices for the individual channels. In the path analysis, we used the last category of the dependent variable (channel choice) as reference category ('do nothing').

Our first model, reflecting all relationships of our theoretical framework produced insufficient model fit<sup>21</sup>; CFI=.89, TLI = .83, RSMEA = .055. Good model fit is achieved when CFI and TLI exceed .90 and RSMEA is below .05 (although .08 is seen as 'reasonable'). Hence our indices are not far from fit. Modification indices suggest a number of improvements in our model. These mostly concern the personal characteristics. Gender yielded non significant results for all regression analyses, so we entirely deleted this item from the model. Further, the indices suggested that age and education only regress on the perceptions of tasks and channels and emotions and not on the actual decision strategies. This would suggest that the actual decision strategy is not dependent on the personal characteristics and that any relationship between the two is not causal but correlational. The effect of the personal characteristics hence is indirect. Our final model yielded good model fit for both the first choice model as the second choice model. Goodness of fit indices are shown in the table below.

Indices	First model			Second Model		
	CFI	TLI	RSMEA	CFI	TLI	RSMEA
Value	.91	.89	.05	.937	.912	.042

*Table 9.28: Goodness of Fit indices for both models*

Since no regression coefficients can be calculated on a nominal dependent variable, we first calculated the (chi square) likelihood ratio tests of the influence of the two decision strategies (the two independent variables regressing on channel choice) on the dependent

<sup>21</sup> As with the CFA reported earlier in this chapter, Chi-Square values are not calculated given the irrelevance of this measure given the large sample size.

variable (channel choice). The following table shows the likelihood tests of the independent variables.

	First model			Second Model		
	Chi-Square	Df.	Sig.	Chi-Square	Df.	Sig.
Habits	10.47	4	.033*	2.09	4	.720
Elaboration	5.69	4	.223	12.31	4	.015*

\* Significant at p=.05

Table 9.29: Likelihood Ratio Tests of the two decision strategies in both models.

The figure below shows the tests of the first model, with each of the channel choice options included. Displayed in the model are the regression coefficients.

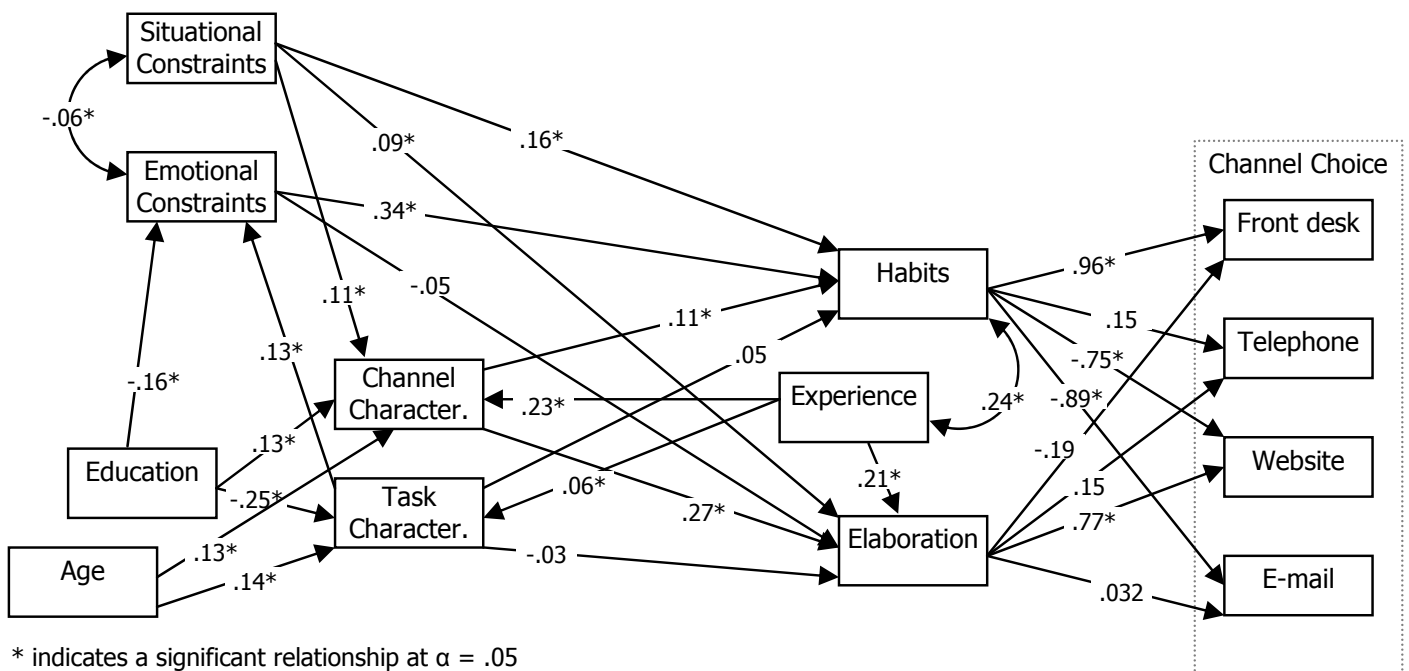


Figure 9.4: Structural Equation Model of the Channel Choice Framework with first choice as dependent

The figure shows some interesting results. In the first place it does confirm the result that habits are more important for first choices than elaboration. It shows for example that Front desk visitors are in first instance guided by their *habits*, the coefficient is positive, meaning that habits lead to more visits of the front desk. Interestingly, choice of the telephone is neither guided significantly by habits or elaboration. For all other channels is the relation between habits and the channel choice significant. Regarding the website we see a significant result for both elaboration and habits, indicating that for this channel people may be guided by both habits and a rational match between tasks and channels. Most of the relationships are significant, however some none significant results exist. First; task characteristics do not influence habits and elaboration. This is remarkable, since task characteristics are normally considered the starting point of a channel choice process. The relationship is in this model indirect, via the emotional constraints.

The figure below shows the tests of the second model, with each of the channel choice options included. Displayed in the model are, also, the regression coefficients.

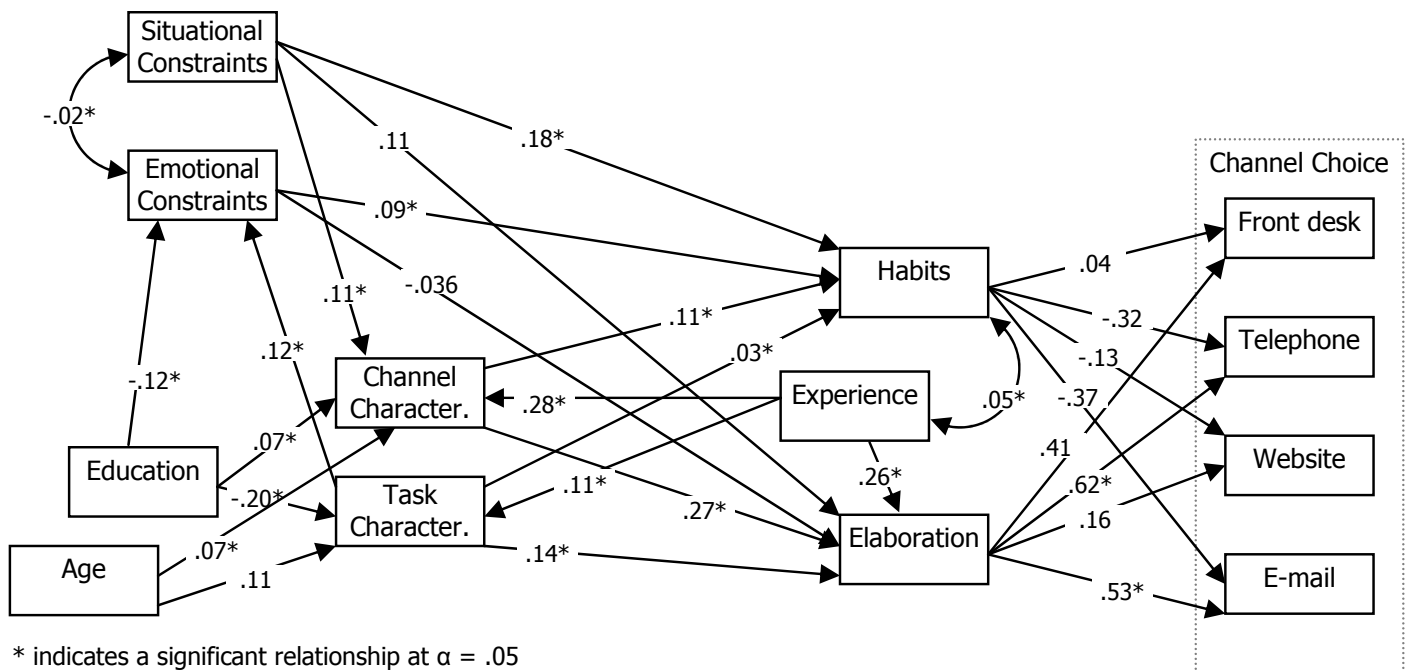


Figure 9.5: Structural Equation Model of the Channel Choice Framework with second choice as dependent

Although many of the influences in the model remain the same (in terms of significance), some remarkable changes can be noted in these results. First is the shift from habits to elaboration. Now, the weight of elaboration has increased strongly. Reasoning is especially important for telephone and e-mail choice. Another remarkable finding is that task characteristics are taken into account in second instance. This confirms our idea that people start reasoning in second instance and that both task and channel characteristics are taken into account in this process. Another remarkable finding is the diminished role of the situational and emotional constraints in the second model.

*Further exploratory evidence*

Although respondents in the propositions on the influence of channel characteristics agreed with the propositions that channels have different characteristics and that these propositions affect their channel choice, these opinions appeared not to influence their actual channel choices in general and also not on a channel level. Hence we take a closer look at how the different channels are perceived by the respondents (see §9.2.3 for a description of the measures used). As in the study described in section 8.5, we see large differences between the channels regarding the different characteristics.

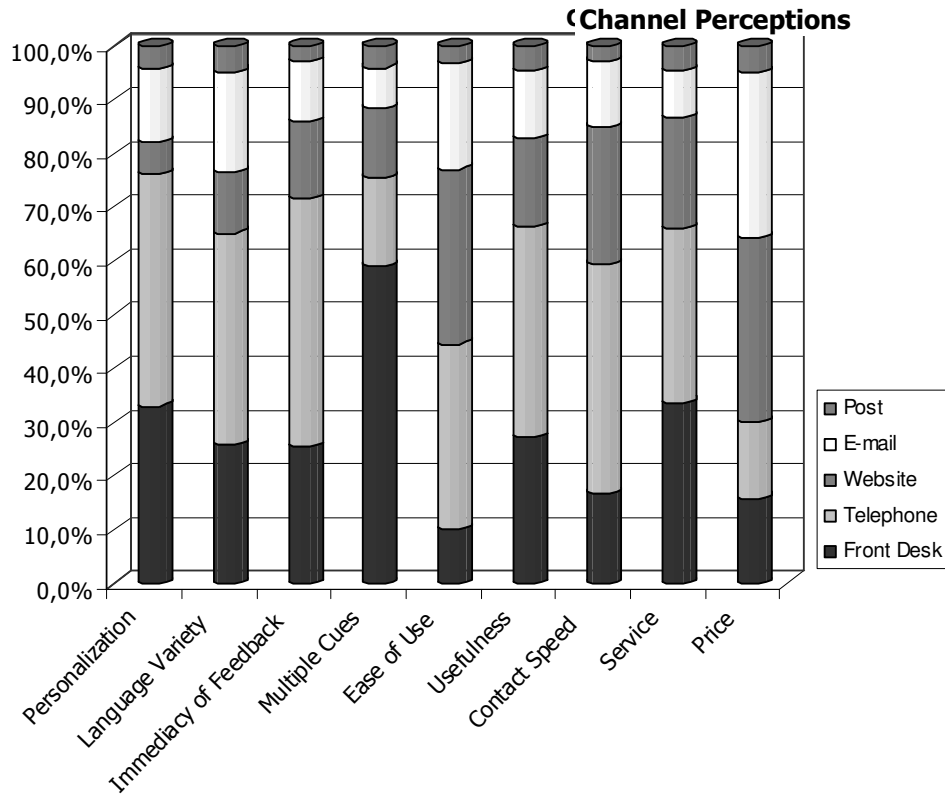


Figure 9.6: Channel Perceptions of the different channels

Apparently, the front desk scores high on the 'multiple cues' characteristic that stems from Media Richness Theory. Further, the front desk scores relatively high on service, usefulness and the three other media richness factors; personalization, language variety and immediacy of feedback. However, regarding these three factors, the telephone scores higher. In general, the telephone scores highest on most factors, besides the afore mentioned MRT factors, people prefer the telephone for its ease of use, its contact speed and the amount of service. The website and e-mail only score high on the price aspect, these are considered cheap channels. Further, as in chapter 8, we analyze, through Chi-Squares, how the different channel characteristics are associated to the primary choice of a service channel. For all channels and all characteristics significant chi-squares were found and for all channels it appeared that people have more positive associations with the channel they would choose. An example of the factor 'personalization' is shown below.

		Perception of "Personalization"					
		Front Desk	Telephone	Website	E-mail	Post	Total
Channel Choice	Front Desk						
	Telephone						
	Website						
	E-mail						
	Post						
	Total						

$(\chi^2(16, 2435) = 895.791, p < 0.000)$

Table 9.30: Channel Perceptions of Personalization and channel choices.

As the table shows, people who have more positive associations with a channel are more likely to choose it. Whereas 31.8% of all respondents believe that the front is the most personal channel, this percentage is 81.6 percent of all respondents who choose the front desk as their first channel.

This leads us to believe that the correlation between the channel perceptions and channel choice is a good measure to see if people choose the same channel as they perceive to score high on a characteristic. A positive correlation coefficient would imply a good association between choices and perceptions. The following table shows the aforementioned results of the chi square tests as well as the (Spearman) correlation results for all factors.

<b>Chi-Square and Correlation Tests</b>				
	Chi Square		Correlation	
	$\chi^2$	p	r	p
Personalization	895.79	.000*	.329	.000*
Language Variety	592.20	.000*	.235	.000*
Immediacy of Feedback	856.91	.000*	.286	.000*
Multiple Cues	388.92	.000*	.170	.000*
Ease of Use	1826.03	.000*	.405	.000*
Usefulness	1094.98	.000*	.302	.000*
Service	1008.81	.000*	.308	.000*
Price	808.47	.000*	.265	.000*
Experience	1683.50	.000*	.363	.000*

\*Significant at  $p < 0.05$

*Table 9.31: Chi-Square Tests and Spearman Correlations of Channel Perceptions and Channel Choices*

The correlation is strongest for the ease of use and weakest for the cue multiplicity of the channel. Nevertheless, all chi-squares and correlations are significant. This would (in line with chapter eight) suggest that channel characteristics are indeed of influence on channel choices.

#### *Channel choices for different tasks and situations*

In the first part of this section we questioned the respondents regarding their opinions on a number of propositions. This gives us information about how the respondents see the different factors and it allowed us to investigate the interaction effects of the different variables. However, it gives us little information on the channel choices that the respondents make in different situations and for different tasks. For example, we know that task characteristics influence channel choices, but we do not know what channels are chosen for simple or complex tasks. In this final section we demonstrate the variations in channel choices given different tasks and situations (see Table 9.11 for the measures).

The following table shows the channels chosen in the different conditions. For clarity and comparison, we also depicted the percentages first chosen channels.

<b>Channel Choices</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
	First choice channel	6.2%	50.3%	31.5%	8.1%	3.9%
Task	Simple	2.5%	45.0%	30.5%	20.8%	1.2%
Complexity	Complex	27.4%	51.2%	5.2%	11.6%	4.5%
Task Ambiguity	Ambiguous	17.3%	55.7%	13.9%	9.9%	3.2%
	Non-Ambiguous	4.8%	37.8%	30.3%	21.3%	5.8%
Need for Closure (NfC)	Low NfC	3.2%	27.8%	43.4%	20.2%	5.5%
	High NfC	23.4%	49.9%	7.8%	11.6%	7.3%
Emotions	Emotions1	18.7%	52.7%	14.3%	11.7%	2.5%
	Emotions2	16.3%	52.9%	13.8%	14.2%	2.8%
Time	No Rush	6.6%	24.0%	28.1%	26.8%	14.5%
	Rush	13.2%	67.1%	12.4%	6.8%	0.5%
Place	Behind PC	1.7%	14.6%	49.3%	32.7%	1.7%
	No Telephone	16.6%	3.4%	36.4%	33.8%	9.8%
Importance	High importance	26.7%	54.3%	7.0%	8.2%	3.9%
	Low Importance	2.3%	26.2%	35.9%	27.1%	8.4%
Experiences	Experiences 1	11.5%	48.2%	23.9%	12.6%	3.8%
	Experiences 2	13.0%	47.3%	24.0%	10.4%	5.4%
Habits	Habit	4.9%	49.3%	31.5%	11.2%	3.0%
	Without thoughts	7.4%	51.2%	28.7%	10.3%	2.5%

Table 9.32: Comparisons of Channel Choices for different tasks and situations

The table shows large variations across the different situations, as compared to the first choice channel. We can compare the nine pairs separately using Wilcoxon Signed Rank tests.

<b>Channel choice &amp; Complexity</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Task Complexity	Simple	2.5%	45.0%	30.5%	20.8%	1.2%
	Complex	27.4%	51.2%	5.2%	11.6%	4.5%

Z=-19.807, p<.000

Table 9.33: Wilcoxon Signed Rank test of Task Complexity

First factor is the complexity of the task, which we manipulated as dichotoms. Hence, we expect the contributions to be not uniform. This appeared to be the case; people choose different channels for the different tasks, when complexity increases people turn to the traditional service channels, telephone and specifically the front desk. The percentage of respondents choosing the website decreases from 30.5 percent to just over 5 percent.

<b>Channel choice &amp; Ambiguity</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Task Ambiguity	Ambiguous	17.3%	55.7%	13.9%	9.9%	3.2%
	Non-Ambiguous	4.8%	37.8%	30.3%	21.3%	5.8%

Z=-18.361, p<.000

Table 9.34: Wilcoxon Signed Rank test of Task Ambiguity



Second factor is task ambiguity, here we see similar results as with task complexity; manipulation was in opposites, so a difference was hypothesized. This expectation proved to be true; people increasingly choose telephone and e-mail. One difference between complexity and ambiguity can be noted if we look at the change in choices for the post (written) channel, as complexity increases, choices for this channel augment, however with ambiguity the pattern is reversed.

<b>Channel choice &amp; Need for Closure</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Need for Closure (NfC)	Low NfC	3.2%	27.8%	43.4%	20.2%	5.5%
	High NfC	23.4%	49.9%	7.8%	11.6%	7.3%

Z=-20.599, p<.000

Table 9.35: Wilcoxon Signed Rank test of Need for Closure

Thirdly, there is the Need for Closure; here again, a significant difference can be noted and the pattern is similar to that of the task characteristics. Specifically the increase in choices for the front desk is noteworthy.

<b>Channel choice &amp; Emotions</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Emotions	Emotions1	18.7%	52.7%	14.3%	11.7%	2.5%
	Emotions2	16.3%	52.9%	13.8%	14.2%	2.8%

Z=-2.131, p=.033

Table 9.36: Wilcoxon Signed Rank test of Emotions

Fourth factor is *emotions*; here we manipulated the factor as being similar; hence we anticipated that the distributions would be equal. This appeared not to be the case; the null-hypothesis is rejected implying that distributions in both situations are not equal. However, the differences between the two groups are small; hence we expect that our formulations of the two situations were just not discriminating enough.

<b>Channel choice &amp; Time</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Time	No Rush	6.6%	24.0%	28.1%	26.8%	14.5%
	Rush	13.2%	67.1%	12.4%	6.8%	0.5%

Z=-29.542, p<.000

Table 9.37: Wilcoxon Signed Rank test of Time

Fifth factor is *time*, the analysis of the two measures (opposites) yields the highest Z-value of all nine tests. This implies that channel choices are most different in these two different situations. Although we anticipated there to be difference (we correctly rejected the Null Hypothesis), there are some remarkable findings. First, the percentage of respondents choosing the front desk *increases* as time pressure, this contradicts our expectations; the front desk (face-to-face contact) is generally considered a channel having a low speed. Our results also indicated that the *contact speed* of the front desk is relatively low. However,

the front desk is seen as having a high *immediacy of feedback*, from this we draw that immediacy of feedback is considered a more important time variable than the contact speed is. Second remarkable finding is the decrease in respondents choosing the website as time becomes more important. Despite having a high contact speeds, apparently people are more led by the slow *immediacy of feedback* of this channel. What is according to our expectations is that the telephone is the most important channel as time pressure increases. This is also confirmed by the channel perceptions; the telephone has both a high contact speeds and immediacy of feedback.

<b>Channel choice &amp; Distance</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Place	Behind PC	1.7%	14.6%	49.3%	32.7%	1.7%
	No Telephone	16.6%	3.4%	36.4%	33.8%	9.8%

$Z = -.957, p = .339$

Table 9.38: Wilcoxon Signed Rank test of Place

The sixth factor is *distance* although we formulated the two place questions differently, we anticipated the same results. It seems obvious that people who sit behind their computer choose to look online or send an e-mail. Given the fact that the website is the second popular channel overall, it was expected that people would look online if no telephone was at hand. These expectations are confirmed; no significant differences are found in the distribution. When looking to the percentages it is nevertheless apparent that only 1.7% of all citizens chooses to go to the front desk and that 16.6% chooses to do so when not having a telephone at hand. It is likely that the insignificance of this result is to be explained by the majority of the respondents choosing the electronic channels in both situations. Variations in choices for front desk and telephone are nevertheless noticeable.

<b>Channel choice &amp; Importance</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Importance	High importance	26.7%	54.3%	7.0%	8.2%	3.9%
	Low Importance	2.3%	26.2%	35.9%	27.1%	8.4%

$Z = -29.002, p = .000$

Table 9.39: Wilcoxon Signed Rank test of Importance

Next comes the importance of the issue, this yields the second largest variation in choices. When the importance of the issue increases, people choose the traditional channels (front desk and telephone) instead of the electronic channels (website and e-mail).

<b>Channel choice &amp; Experience</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Experiences	Experiences 1	11.5%	48.2%	23.9%	12.6%	3.8%
	Experiences 2	13.0%	47.3%	24.0%	10.4%	5.4%

$Z = -.552, p = .581$

Table 9.40: Wilcoxon Signed Rank test of Experiences

The eighth factor contains the experiences of the respondent. Since both situations were formulated similarly, we anticipated that no differences would be found. This appeared to be the case, as the distributions proved to be uniform. When guided by their experiences nearly half of the respondents choose the telephone, followed by roughly a quarter choosing the front desk. This pattern most closely resembles what people choose in first instance. For us, this is an indication that people are guided by their experiences.

<b>Channel choice &amp; Habit</b>		<b>Front Desk</b>	<b>Telephone</b>	<b>Website</b>	<b>E-mail</b>	<b>Post</b>
Habits	Habit	4.9%	49.3%	31.5%	11.2%	3.0%
	Without thoughts	7.4%	51.2%	28.7%	10.3%	2.5%

Z=-4.611, p=.000

Table 9.41: Wilcoxon Signed Rank test of Habits

The final factor consists of peoples habits. We had anticipated finding a difference between the two formulations. Following our theory we had expected that habitual decision making is not the same as decision making with low effort (*minimizing*). This expectation proved to be true, albeit that the differences in channel choices are small. This might be an indication for the idea that, although habitual decision making and minimal decision making are conceptually different, in reality they lay not far apart.

### 9.2.5 Conclusions and discussion

We formulated a number of hypotheses on the influence of the different factors on channel choices. The first hypothesis (H1) is that situational and emotional constraints influence channel choice processes. Various results in our study lead us to believe this hypothesis is supported. First of all, the propositions about these factors showed that respondents indicate to be influenced by situational constraints as well as the need for closure of the respondent. There are some remarks to be made; first of all Distance and Time appeared not to be separate factors in our factor analysis, the analysis showed a strong intertwinement of these factors. Grouped in the factor 'situation' these two proved to be solid predictors of channel choices. This was confirmed by the third part of our questionnaire in which changes in place and time led to different (yet similar) channel choices. It appeared, however that the role of situational constraints is more important in the first instance than for the second instance of choice. This emphasizes the situational influence of the situational constraints.

Emotional constraints were significant in the first part of the study but in a negative direction. Respondents indicated that emotions do not influence their channel choice decisions; however in the final part people did appear to make different channel choices in situations determined by emotions as opposed to the channel they would normally choose in the first instance. Furthermore, our SEM models showed a significant relationship between emotions and channel choices in the first instance. So it might be that emotions do not play a role in general or when asked, but have a strong situational character.

Emotions in that sense are triggered by e.g. the task. I may get angry when the Tax and Customs Administration sends me a letter that contains unpleasant news causing me to get angry. The final two factors, need for closure (NfC) and importance were only studied in the final part of the study. Both hypotheses are supported and in both cases the directions are similar; as NfC and Importance increase, so does the likelihood of someone choosing the traditional (front desk and telephone) service channels.

The second hypothesis was also supported. Task characteristics do influence channel choices. However it must be noted that the theoretical subdivision between task complexity and ambiguity, appeared to be non existent in our study. The factor analysis showed that both factors are the same and the patterns of channel choices in the final part of the study are very similar. This might be an indication that the factors are in fact the same, or our measurement was not sensitive enough to measure small differences. The importance of the task factors is stressed by the regression models, in both models do task characteristics play a significant role demonstrating that the influence of task characteristics is relatively situation independent.

The third hypothesis suggests that channel characteristics influence channel choices (H3). According to the propositions in the first part of the study, they do. The respondents indicate to be aware of the differences in channel characteristics and the mention that these characteristics play a role in their channel choices. Furthermore, the second part of the study showed that people do indeed associate the characteristics of channels with different service channels. The traditional channels are higher in richness, service and usefulness, whereas the electronic channels are easier to use and cheaper. However, channel characteristics did not play a role in our channel choice models, neither in first or second instance. So we conclude that people are aware of the differences between channels, but the role of channel characteristics in channel choice decisions is relatively small.

Fourth are the influences of the personal characteristics of the respondents (H4). Personal differences do appear to influence channel choices. Confirming our hypothesis, both age and education appeared to be significant determinants of channel choices; however these personal characteristics only affected perceptions of tasks and channels as well as the emotional constraints. The directions were in the expected directions. The role of gender appears to follow our expectations, men and woman hold similar attitudes towards the seven constructs and no influence was found for gender in the SEM models. So we conclude that there is no effect for gender on channel choices.

The fifth hypothesis posits that people may be led by experiences in their channel choices. According to the propositions, experiences were seen as determinants of channel choices. Nonetheless, their influence was insignificant in the two models in general and for none of the individual channels. Experiences do lead to different perceptions of the service

channels, but experiences led to ambiguous results in the final part of the study. Hence we conclude that experiences are a relevant factor, but most likely it services as a determinant of channel perceptions and habits and not as direct decision factor itself.

The sixth hypothesis posited that habits play a significant role. This hypothesis is supported. From both the propositions and the final part of the study can be concluded that habits are an important determinant of channel choices. Especially relevant is that the role of habits is most notable in first instance choices; when people need to indicate which channel they would choose first when having a question, they are largely guided by emotions, as our regression model shows. In the second choice instance, the role of habits is also significant, but far smaller than the influence of habits. The influence of habits increases with age.

The final hypothesis is that people may engage in elaboration between tasks and channels when choosing their service channels. This hypothesis is confirmed, people indicate in the propositions that they may elaborate on the fit between channels and tasks. However, there is only a small influence of elaboration on first channel choices, but the effect is greater on second instance choices. Hence our expectations are confirmed. Remember that the opposite reversed happened with the role of habits. This implies that people are in first instance guided by habitual decision making, but start rationalizing on second thought.

Our main conclusion is that all of the factors in our model are significant contributors to channel choice decision making. It also appeared that the data do not completely confirm our model. Our final model is simpler than the initial model. For example, personal characteristics only influence perceptions of tasks, channels and emotions. Most important finding is, however, that different strategies of channel choice decision making exist. In first instance people act out of their habits and their emotions. In this type of decision making, situational factors play a major role; people choose the channels that are closest by or that provide them with the quickest answer. In the second instance comes thought; people start reasoning and take channel and task characteristics into account. In this decision the role of situational and emotional constraints, as well as habits diminishes. So, although all factors do play a role, this study suggests that the channel choice strategy is strongly dependent on the context of choice.

In this conclusion our theory is different from all other theories. None of the channel choice theories discussed in this dissertation (Ch4 & 5) take the situational variability of channel choice decisions as major factor into account. The main benefit of this study is that it shows that this situational variability is a key factor in the decision strategy that is followed by citizens when choosing a service channel. In line with Webster and Trevino (1995) we support the notion that the two lines of theorizing are indeed complementary, but our study goes further in identifying the mechanisms by which the theories

complement each other. Webster and Trevino's study was, until now, the most comprehensive study of (media) choices. Our study is a more comprehensive one in that it includes more channels, more channel choice determinants and more respondents. The scale of our study allows us to generalize to the entire Dutch population. Specific channel choice research in the context of e-Government hasn't reached this scale of comprehensiveness either. Reddick's studies (2005a, 2005b) both are smaller in terms of channels compared (both two), numbers of factors included and number of respondents.

Although our study, as far as we are aware, is the most wide-ranging so far, it has a number of limitations. First of all, we did include both the internet users and non-users in our sample, but did not discriminate between them in the results. Reasons are that this distinction was not the primary focus of our study and that we had only 213 respondents without internet connection responded, limiting the validity of these answers. It is however likely that channel choices are different for Internet users and non-users. Further we used limited measures for experiences in channel choices behavior. We only included experiences on a general level, but could have discriminated in more detail between experiences with tasks, channels and channel choice decision making (Carlson & Zmud, 1994, 1999). Such a distinction might have made our results regarding this factor less ambiguous. Furthermore, research on experience related topics, such as digital skills have found that these factors are key factors in the successful usage of the electronic channels (van Deursen & van Dijk, 2008).

The main limitation of our study is that it still deals with perceived decision making; it focuses largely on perceptions, intentions and reported behavior. Research and theories on these topics (Ajzen, 1991; Fishbein & Ajzen, 1975), however, suggest that intentions do not always directly lead to behaviors and that behavior reports are not always valid (Chandon *et al.*, 2005; Yoon, 2001). Hence, we need to approximate real life decision making in order to draw more definite conclusions about the influences of the channel choice factors.

## 9.3 Study part 2; The Vignette Study

### 9.3.1 Introduction

A regular survey, as we used in the first part of the study has a number of drawbacks. First it is used to measure opinions and perceptions about behavior in stead of real behaviors. We asked respondents to report their thoughts on particular decisions about their thoughts on certain decision making and given the tendency of people to rationalize their behavior in retrospect surveys have some kind of bias in them. Second, surveys lack the richness of detail on decision making that observations of actual behavior have; Also they do not allow the researcher to make inferences on human behavior with the same certainty as experiments offer. We know that task characteristics, channel characteristics and situational factors play a role, but it is difficult to asses how task, channels and situations interaction. Even with advanced modeling statistics, such as SEM, we cannot analyze situational variance or *changing models according to the situation*. Creating separate models for each possible decision in each possible situation would be an undoable task. We therefore need another methodology that allows us to capture in more detail the 'real' decision making process of citizens.

An approach relying on decision making based on scenarios, such as policy capturing, vignette or scenario studies or factorial surveys allow for such data collection. "Factorial surveys more faithfully capture the complexity of real life and the conditions of real human choices and judgments and at the same time provide the ability to identify clearly the separate influences on the many factors that go into such judgments and choices" (Rossi & Anderson, 1982, p. 16). Within such an approach respondents read a scenario in which different variables are manipulated and based upon this scenario they have to make a decision. Within this approach, the importance of various decision variables (or factors) to decision making can be assessed (Zedeck, 1977).

Although (minimal) differences exist, factorial surveys are comparable to such research methods as scenario studies, conjoint measurement and policy capturing. The main difference between the methods is in the naming, within different research areas different labels are used for very similar techniques. Vignette studies are, for example, more common in marketing, whereas policy capturing is being used in organizational studies. We use the term vignette study in our research.

Wason and Cox define scenarios as "stories which present hypothetical situations requiring action or judgment from respondents"(Wason & Cox, 1996, p. 155). Scenarios are practically the same as vignettes, which can be defined as "short descriptions of a person or social situation that contain precise references to what are thought to be the most important factors in the decision-making or judgment-making processes of respondents" (Alexander & Becker, 1978, p. 94). Vignette studies have also been called factorial surveys (Rossi & Nock, 1982). Typically a scenario consists of a story in which a number of

variables (or factors) are manipulated on a number of levels. For example if we decided to design scenarios about channel choice, we can include factors such as complexity and ambiguity and manipulate them on different levels, such as high, medium vs. low complex and high, medium and low ambiguous. In this situation we can compose  $3^2 (=9)$  different scenarios. A vignette study including 6 factors each on two levels would consist of 64 ( $2^6$ ) scenarios. This demonstrates at the same time an important weakness of the vignette method; the number of scenarios grows tremendously as more factors and levels are added. A  $2^7$  design would consist of 128 scenarios and a  $2^8$  design of 256. A  $3^8$  design would even consist of 6561 scenarios.

Different variants of vignette studies exist. The basic variant requires that "different versions of the basic vignette are randomly allocated to different respondents" (Alexander & Becker, 1978, p. 94). Since each vignette serves as a control for other versions of the vignette, this standard method allows researchers to assess differences in decisions caused by facts that differ across vignette versions (Wason *et al.*, 2002). Hence, "the general vignette method provides a causal method for assessing both inter-group differences in judgments about situations and the contingencies that influences such judgments" (Wason *et al.*, 2002, p. 43). A first adaptation of the basic variant is the Constant-Variable-Value-Vignette (CVVV) method (Cavanagh & Fritzsche, 1985), also called the full factorial design (Graham & Cable, 2001). In this type all the respondents read identical vignettes. Main advantage is that it allows for group comparisons. However an important drawback is that the number of scenarios may be quite large in a typical vignette study and hence the cognitive load for the respondent can be large when many vignettes have to be administered. This problem is solved through confounded factorial designs (Graham & Cable, 2001), since these break down the number of scenarios for the respondents.

A first type of the confounded design is that of the fractional factorial design. In this design a sample from the scenarios is drawn which is then administered to all respondents. The benefits are a reduced cognitive load, as well as the possibility to compare across groups. However, it suffers from the important drawback that not all scenarios are used. The second type is that of the incomplete block design (Graham & Cable, 2001) or sub sampling (Rossi & Anderson, 1982). Here the total number of vignettes is divided in a number of groups. For example, a  $2^6$  incomplete block design has 64 scenarios. If the design is divided in four blocks, each respondent is (randomly) assigned to one block and has to consider 16 scenarios. Each respondent subsequently only has to answer to a sub sample of the total number of vignettes. This decreases the cognitive load, but it also decreases the amount of data gathered. This may reduce the power of the study; hence it may be necessary to increase the number of respondents in order to gather the needed amount of data. This has as a side effect that greater generalizability of the results is ensured. Another drawback is that it limits the possibilities to compare respondents since not all respondents' answers to the same questions.



A number of advantages of vignette studies over, for example, surveys exist (Karren & Barringer, 2002). First it limits the likelihood of social desirability or social correctness (Arnold & Feldman, 1981; Brookhouse *et al.*, 1986). Second, ranking individual attributes calls for more self-knowledge than judging multi-attribute scenarios, individuals often do not have enough insight in their own decision making processes (Valenzi & Andrews, 1973). Third, making overall judgments about multi-attribute scenarios is more comparable to real life decision making and therefore more realistic than e.g. self-report attribute designs (Karren & Barringer, 2002). Further, an important benefit of vignette studies is that they supply standard stimuli to all respondents. This enhances internal validity, measurement reliability, and ease of replication of the study (Wason *et al.*, 2002). Fifth, by focusing the respondents attention upon specific characteristics of the research question, it improves the construct validity (Wason *et al.*, 2002; Weber, 1992).

In channel choice research the use of vignette studies is scarce. The only available study using a policy capturing approach is that of Webster and Trevino (1995). They argued that in research "respondents might rate rational factors such as situational determinants higher than social factors such as peer use, but in actual choice situations, the ranking of these factors may be reversed". This has to do with our tendency to rationalize our behavior in retrospect. In their research Webster and Trevino combined two vignette studies. In the first they created 120 scenarios, based on five factors (symbolic cues, on 5 levels; message equivocality, on three levels; number of recipients, on two levels; recipient locations, on two levels; and finally e-mail use by committee member, also on two levels)<sup>22</sup>. They split the 120 scenarios in three groups that were randomly distributed among the respondents. Reason for this sub sampling is that assigning respondents with too many scenarios might lead to boredom and fatigue and thus most likely to errors. Rossi and Anderson (1982) suggest a maximum of sixty scenarios per respondent, save the length of the scenario isn't too long. In total 197 employees answered the factorial survey and the main result was that each of the variables was a significant predictor of channel choices, with rational factors (such as message equivocality) being more influential on choosing face-to-face contact and situational factors being more relevant for the choice for such channels as e-mail. In the second studies three factors were manipulated in the scenarios; message equivocality; form of message and peer preferences. In total 56 respondents each completed the 24 possible scenarios. The main result of this study was equal to that of study one; a demonstration of the complementarity of social and objective explanations of channel choice.

To enhance the findings of our survey results we decided to use a vignette approach. This allows us to capture channel choices in a more real life setting and draw knowledge from the inferences of the different variables. Therefore we added a section to the questionnaire used in study one including the scenarios used in this study.

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<sup>22</sup> Hence,  $5 \times 3 \times 2 \times 2 \times 2$  yields 120 scenarios.

### 9.3.2 Method

Since the study is a part of the first study, the sample is the same as in study 1. main difference is the instrument used in this study; hence we will elaborate in this section on the scenarios and the measures used in the study.

#### *Procedure*

In the vignette study the respondents read a number of scenarios in which a channel choice situation was described; respondents were given a task (a reason to choose a channel) and had to decide what channel to choose. The respondents were asked to read the scenarios carefully and assume they were the person described in the scenario. For each scenario, the respondents had to choose a certain channel; another option was to do nothing. The respondents could choose the following channels; front desk, telephone, website, e-mail and (written) post. Although other channels are becoming increasingly available for governmental contacts, such as chat and sms, we decided to include the most common channels.

#### *Scenarios*

As depicted above, selection of variables is a problem in any type of scenario studies; the number of scenarios increases exponentially when adding more variables. Since we found four groups of factors to be of importance, each containing multiple variables, we have too many variables to include them all in the model. Hence we decided to include a sample of variables from the different groups of determinants. In total we included seven variables in the study, which we manipulated on two different levels. Hence our  $2^7$  design has a total number of 128 scenarios. We decided to use an incomplete block design to overcome fatigue and cognitive (over)load with the respondents. Since the policy capturing study was part of a (extensive) survey the length of the survey was a serious problem in our research. The mean time to fill in the study already exceeded 20 minutes, as the pretest showed, so we could not afford to add many scenarios to the instrument. Another reason to use this design was that we feared that respondents might discover the manipulations if they were confronted with many scenarios. We split our total number of 128 possible scenarios in 32 blocks and we randomly assigned 4 scenarios to each block. The number of four vignettes has been suggested as a fair amount in situations where the scenarios are fairly long and complex (Finch, 1987; West, 1982). One risk of assigning scenarios to different sub samples is that the factors and their levels are not evenly distributed across the different conditions and that therefore the different factors are related (Rossi & Anderson, 1982). We used chi-squares to test for associations between the different factors. Each condition has 21 possible correlations ( $6+5+4+3+2+1$ ), so we calculated 341 ( $32 \times 21$ ) chi-square values. None of these tests was significant, so we can assume that the variables and levels were evenly split across the data.

One important drawback of the incomplete block design is that it does not allow to draw inferences on the individual respondent's behavior (Graham & Cable, 2001). Since each respondent only fills in four scenarios, not all possible manipulations are present; hence the confidence to estimate regressions for individuals is low. Whereas in Webster and Trevino's (1995) study each respondent filled in one third of all scenarios and thus individual regressions could be analyzed with a fair degree of confidentiality, we yield too few individual observations to do so. We did have a large total amount of observations. The 2461 respondents filled in 9787 scenarios (we had 57 missing values, since the hypothetical number of scenarios is  $2461 \times 4 = 9844$ ). This number allows us to analyze the data at least at a group level and it also allows us to analyze individual scenarios, since we have approx. 75 observations per scenario ( $9787/128 = 76.46$ ).

### *Scenario measures*

Remember, our model consists of four groups of determinants: task characteristics, channel characteristics, situational and emotional constraints, and personal characteristics. The latter are part of the survey and are used as variables in the analysis. In the survey we also included the perceived channel characteristics and since these are so much tied to the personal characteristics, we also decided not to include them in the scenarios. In stead, the aspects of behavior that are hard to capture in surveys are situations and therefore we decided to focus on the situational and emotional constraints. Since a problem needs to be the cause of the interaction, we included the two task characteristics in the scenarios. In total, we included 7 factors in our study, which are displayed in the following table (Table 9.42). These 7 are the same factors as used in the last part of the previous section describing the first part of the study, except for *habits* and *experiences*.

Factor	Determinant	Manipulation
Complexity	Task factor	0. Simple 1. Complex
Ambiguity	Task factor	0. Clear 1. Ambiguous
Distance	Situational and emotional constraints	0. Nearby 1. Far away
Time	Situational and emotional constraints	0. No rush, much time 1. Rush, limited time
Importance	Situational and emotional constraints	0. Non important matter 1. Important matter
Need for Closure	Situational and emotional constraints	0. No certainty needed 1. Need to be certain
Emotions	Situational and emotional constraints	0. Stay calm 1. Get angry

*Table 9.42: Factors and Levels of Manipulation*

We used dichotomous conditions to define the levels of the factors. Dichotomous levels have proved to work good in scenarios (Hoffman, 1960). We did decide to alter the

manipulations slightly for each of four scenarios that each respondent read in order to overcome the risk that the respondents see through the manipulations (Rossi & Anderson, 1982). An example of the variety in the manipulation is that we used both the operationalizations 'nearby' and 'in your street' as manipulations of the 'nearby' level of the factor distance. Operationalizations of the 'far away' level are 'far away' and 'in another town'. Advantage of this approach is that it assures an unbiased view of the respondents to all scenarios, disadvantage of this approach is that a bias may occur since not all operationalizations are alike. We overcame this by a number of measures. First, we selected the levels of manipulation through a card sort study among 15 respondents in which the respondents sorted cards containing possible operationalizations in similar groups. Next, we asked our respondents in the pretest a number of questions about the similarities between the operationalizations. Finally, we performed a cross-tabular chi-square test to check for differences in answers in the four variants of the operationalizations. None of the tests reported an alpha smaller than 0.05, which indicates that no differences were found. We added some (useless) information to each of the scenarios, to conceal the manipulations and the purpose of the scenarios. Here also, we checked if the differences in this information led to differences in the answer patterns, which appeared not to be the case. An example of an entire scenario is shown below.

You live in a free standing house, in a village on the countryside. Your house is located within 500 meters from the nearest by office of the Tax administration. Within the house, you have a fixed telephone line and a pc with a broadband Internet connection.

One day you receive a letter from the Tax administration. The letter contains your tax file from the previous year. The letter says that you have to pay an additional €1500 this year. It is immediately clear to you why you have to pay this amount, the letter is clearly written. Furthermore, the letter is quite long. It contains a lot of information. Also, it seems as if you have to take quite a lot of steps in order to file a complaint against your tax filing.

You start to get angry about the situation; you hadn't expected that you would have to pay this amount of money. You decide to contact the Tax administration to get closure on the matter. To you it is quite an important issue, there is a lot of money involved. Fortunately there is no rush; you only need to pay within two months.

What do you do?

*Figure 9.7; Scenario example*

### *Data Analyses*

The basic theoretical model to analyze the data in a vignette study is an analysis of the main effects of the factors in the scenarios on the decision. This is normally done through a method known as 'multiple regression' (Bryman, 2001; Rossi & Nock, 1982; Taylor, 2006). Through the independence of the factors in the scenario, it is possible to infer causal explanations. Since we have a nominal outcome (dependent) variable, we used a multinomial logistic regression (NOMREG) analysis to infer the main effects. Within the

NOMREG we also analyze model fitting information, goodness-of-fit and the (pseudo) R-squares. Next we analyzed the impact of the factors on the choice probability for each channel using their parameter estimates.

Analysis for the effects of the individual factors were done using cross-tabular Pearson chi-squares to assess for differences in channel choices depending on the level of manipulation in the factor.

### 9.3.3 Results

#### *Channel choices*

The telephone appeared to be the most widely chosen channel, in more than one third of all scenarios, the telephone was chosen. Second and third came the website and the front desk in just over 20 percent of all cases. E-mail was the fourth most chosen channel and the written channel was chosen in a mere 4 percent. In 7.4 percent nothing was done. These choices mostly applied to those scenarios where no real urge for contact existed. We specifically included all scenarios in our study, to be able to draw inferences on all levels and all manipulations. In the scenarios where only 'low' manipulations were present (of which we had 78 observations), 15.8% of all choices were to do nothing.

<b>Channel choice</b>	<b>N</b>	<b>Percentage</b>
Telephone	3714	37,9
Website	2030	20,9
Front desk	2010	20,5
E-mail	912	9,3
Post/written	398	4,1
I do nothing	723	7,4

*Table 9.43: Channel Choices in the Vignette Study*

Next, we analyzed the main effects of the factors. First we performed a Multi-Nominal Logistic Regression (NOMREG) that only included the seven factors as well as the demographic variables (age, education and gender) as independent and channel choice as dependent variable. We used the channel choice option to 'do nothing' as reference category for our model<sup>23</sup>. We analyzed both the models with and without the personal and found that the model including the personal characteristics outperformed the model without these factors. We also found that the intercept did not contribute significantly to the model. Hence, we analyzed our model without the intercept. Our final model proved to fit the data very well, the likelihood ratio test showed that our model fitted the data better than the null model ( $\chi^2(70, 9787) = 7181,168, p < 0.000$ ). The goodness-of-fit measures supported this view; although the Pearson goodness-of-fit statistic was not significant

<sup>23</sup> This is our empirical model we use in this study. It is different from our theoretical model which we discussed in the beginning of this chapter. Here we directly assessed the indirect relationships of our model since we were unable to manipulate the decision making strategy, as explained in §9.3.2.

(probably due to the high sensitivity of this measure to large sample sizes), the more robust Deviance statistic showed a perfect goodness-of-fit ( $p=1,000$ ). Finally, the (pseudo) R-square showed that our factors explain more than half of the variance in the data<sup>24</sup> ( $R^2=0,523$ ); the standardized Nagelkerke Pseudo R-square was even a bit higher ( $R^2=0,538$ ).

The likelihood ratio tests of the individual factors indicated that the contribution of *distance* to the model was by far the highest, followed by *importance*, *age*, *time*, *ambiguity*, *emotions*, *education*, *need-for-closure*, *complexity* and *gender*. All factors contributed significantly to the model. The table (Table 9.44) below shows the Chi-Squares of each factor in order of importance.

<b>Factor</b>	<b><math>\chi^2</math></b>	<b>df</b>	<b>p</b>
Distance	1733,13	5	<0,000
Importance	230,08	5	<0,000
Age	149,58	15	<0,000
Time	146,77	5	<0,000
Ambiguity	133,53	5	<0,000
Emotions	122,54	5	<0,000
Education	97,95	10	<0,000
Need-for-Closure	53,77	5	<0,000
Complexity	50,18	5	<0,000
Gender	48,67	5	<0,000

*Table 9.44: Likelihood Ratio Tests of the factors in the model*

The analysis yields some interesting results: First it is remarkable that the contribution of distance is by far the largest of all factors, we had expected that this factor would be important, but not that its impact would overshadow that of the other factors. Second, the contribution of the situational and emotional constraints is larger than that of the task characteristics and the personal characteristics. Not only is the absolute chi square the largest, but also the average effect per factor is by far the biggest for the situational factors ( $\chi^2=457.26$ ) as opposed to the personal ( $\chi^2=98.73$ ) and the task ( $\chi^2=91.86$ ) characteristics. Third, we found that the effect of the personal characteristics on channel was (on average) larger than that of the task characteristics, although this effect is small. Finally, the effect of *age* is remarkable; it is the third important factor in the model and its effect is larger than that of education.

Next, we assessed the effect of the factors on the choice probabilities for the individual channels, to see what factors are most important for choosing that channel. The following table (Table 9.45) shows the parameter estimates of those influences.

<sup>24</sup> Using Cox and Snell's statistic

<b>Channel</b>	<b>Website</b>	<b>E-mail</b>	<b>Telephone</b>	<b>Post</b>	<b>Front Desk</b>
<b>Factor</b>					
Distance	4.200*	36.376*	35.220*	0.515	395.915*
Time	8.104*	8.526*	65.604*	0.000	32.004*
Importance	71.297*	24.411*	127.137*	37.424*	182.414*
Need for Closure	29.689*	12.428*	42.904*	5.442*	44.470*
Emotions	4.827*	12.551*	29.762*	32.140*	13.666*
Complexity	0.635	8.062*	11.401*	0.929	8.288*
Ambiguity	49.657*	30.516*	103.707*	34.564*	62.684*
Age	20.298*	4.653	8.119*	12.105*	14.287*
Education	16.525*	4.726	4.181	19.320*	3.776
Gender	0.827	0.017	7.674*	0.008	0.265

The table shows the  $\chi^2$  values

\* Significant at  $\alpha = 0.05$

*Table 9.45: Likelihood Ratio Tests per Channel*

As the table shows, the significance of the factors varies per channel. For choosing the website (as opposed to doing nothing), importance is the most important factor, followed by the ambiguity of the task and the need for closure. Apparently, complexity and gender do not play a significant role in choosing this channel. Also remarkable is that the effect of age is largest in this channel. All factors are important for choosing e-mail, but distance and ambiguity are the most important factors. It is remarkable that the factor distance does influence choosing e-mail, but not the website, perhaps this is due to interference from factors such as the channel perceptions. Distance also plays a minor role when choosing the telephone, but other factors do play important roles here; importance, ambiguity and time are the most important factors when choosing the telephone. Although time plays a role in choosing all channels except the written channel, its influence is greatest for choosing the telephone. The telephone is also the preferred channel for reducing ambiguity. Further, this is the only channel where gender is of influence; females are more inclined to use the phone than males.

Some interesting results also appear when analyzing the results for the written channel. Importance, ambiguity and emotions are the main determinants of this channel. Especially the role of emotions is interesting; the change in chi-square is largest in this channel. It is also the only channel on which distance and time have no impact. Finally, the effect of age on choosing this channel is highest. Not surprisingly; distance has the largest impact on choosing the front desk, besides the phone it is also the channel with the highest impact of time; if time is of importance, more people are inclined to choose this channel. Together with the phone it is also the preferred channel for the reduction of ambiguity.

Next we calculated Spearman's rho to see how the manipulations in the channels affect channel choices. Although this measure is meant for ordinal data, we can treat our manipulations as ordinal, assuming the low-high ordering in the manipulations (such as 'close by' and 'far away' for distance). Naturally it would be impossible to calculate correlations over all manipulations and all scenarios; since all levels and factors are evenly

split across all scenarios, correlations between factors would automatically be one. However, when we add the channel choices as a selection variable, we draw a selection of factors. The manipulations in the factors are hypothesized to influence the choice for that channel and hence the skewness in the factors leads to the possibility to calculate correlations and draw inferences on the interaction effects of the different factors. Naturally, for each of the possible channel choices a separate correlation table can be drawn. The 6 correlation tables (including the choice option to do nothing).

<b>Correlations for website</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	0.136**					
Ambiguity	0.056*	0.026				
Complexity	-0.027	0.039	-0.085**			
Emotions	-0.020	0.150**	-0.031	-0.051*		
Time	-0.050*	-0.008	-0.026	0.030	0.094**	
NfC	0.103*	-0.031	-0.084**	0.065**	0.065**	0.022

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.46: Spearman Correlations of the seven different factors for the website

A number of significant correlations can be noted for choosing the website; first is the correlation between distance and importance. As importance and distance increase, more people choose the website. The same applies to importance and emotions; as both increase, the likelihood of choosing the website increases as well. The third major significant correlation is between distance and need for closure. As both increase, people are more eager to look online. It appears that distance is an important moderator in which channel is chosen.

<b>Correlations for e-mail</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	0.027					
Ambiguity	-0.047	-0.003				
Complexity	0.042	-0.013	-0.010			
Emotions	-0.005	-0.020	-0.034	0.001		
Time	-0.063	-0.031	0.060	-0.047	-0.018	
NfC	-0.027	-0.011	-0.028	-0.027	-0.016	-0.066*

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.47: Spearman Correlations of the seven different factors for E-mail

Not many significant interactions are found with respect to e-mail. The only significant correlation is between time and need for closure. This negative correlation implies that as time increases and need for closure increases, less people tend to choose e-mail to answer their question.



<b>Correlations for telephone</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	-0.025					
Ambiguity	0.029	-0.050*				
Complexity	0.008	0.005	0.021			
Emotions	0.007	-0.058	0.003	0.027		
Time	0.056**	0.001	-0.023	-0.019	-0.049**	
NfC	-0.056**	0.019	-0.005	-0.040*	-0.032	-0.041*

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.48: Spearman Correlations of the seven different factors for the Telephone

Some significant correlations can be found for the telephone although none are as strong as with the website. None of the significant correlations exceed  $r = (-)0.056$ . We cannot ignore their significance, but should keep in mind that the even the significant correlations are relatively weak. We can think of one explanation of the low interactions for the task and situational variables regarding the telephone, namely that choosing the telephone is relatively insensitive for variations in the situation and task. Channel choice behavior for the phone might be guided by such factors as habits that are less sensitive for variations.

<b>Correlations for post</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	-0.041					
Ambiguity	0.006	-0.015				
Complexity	0.172**	-0.090	0.003			
Emotions	-0.053	-0.121*	0.076	-0.026		
Time	0.067	-0.092	0.022	0.063	-0.106*	
NfC	-0.011	-0.030	0.153**	0.022	-0.039	0.013

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.49: Spearman Correlations of the seven different factors for the Written channel

Whereas we found no strong correlations for the telephone, some interesting correlations do occur from our data regarding the written channel. The correlation between distance and complexity is the first of these. As distance and complexity increase, more people tend to write a letter to solve their problem. The second remarkable finding is the correlation between importance and emotions. Whereas we already saw that emotions are a strong determinant for choosing the written channel (see Table 9.45), these emotions appear to (positively) interact with the importance of the matter. Finally, the correlation between emotions and time is relevant. As time and emotions increase, less people write a letter.

<b>Correlations for the front Desk</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	0.079**					
Ambiguity	-0.041	0.015				
Complexity	-0.006	-0.052*	0.031			
Emotions	0.022	-0.059**	-0.001	0.038		
Time	0.034	-0.013	-0.005	-0.025	-0.018	
NfC	0.014	-0.028	0.033	-0.042	-0.017	0.065**

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.50: Spearman Correlations of the seven different factors for the Front Desk

As with the telephone, not many strong correlations were found for the front desk. Here again we believe that the choice for this channel is dependent of the factors chosen for this study, but that the choice for this channel is relatively insensitive for the interactions between different variables.

<b>Correlations for doing nothing</b>						
	Distance	Importance	Ambiguity	Complexity	Emotions	Time
Distance						
Importance	0.016					
Ambiguity	-0.020	-0.079				
Complexity	-0.040	-0.012	-0.006			
Emotions	0.004	0.080	-0.038	-0.132**		
Time	-0.081*	-0.067	-0.023	0.001	0.050	
NfC	0.120**	-0.064	0.017	0.145**	0.034	-0.058

\* Significant at  $\alpha = 0.05$   
\*\* Significant at  $\alpha = 0.01$

Table 9.51: Spearman Correlations of the seven different factors for "doing nothing"

Finally, the choice to do nothing also yields a number of relevant correlations. Some of them are logical; as emotions and complexity increase, less people do nothing. However, it is apparent that an increasing need for closure (along with an increase in distance or complexity) leads to more people deciding to do nothing. A number of explanations can be thought of to clarify this finding. It is possible that people decide to do nothing because they do not know what to do. It is also possible that people in such situations decide to resort to informal channels, such as social intermediaries. Finally, it is possible that people decide to do nothing *right now*; perhaps they need to think matters over and do something later on.

The next step was to analyze the interaction effects of the different manipulations on channel choices. Having 5 channels to choose from (as opposed to doing nothing) and 128 different manipulations in the factors, a total of 640 (5\*128) different regression coefficients are possible. The number of significant relationships gives us an indication of the sensitivity of a channel (choice) for variations in the context (see also Webster &

Trevino, 1995, who followed the same procedure). For example, if we find many significant interaction effects for the website, it would mean that likelihood of this channel to be chosen varies in many different situations. If we find many significant regressions, the likelihood of the channel choice is more stable and hence less dependent on variations in the situation.

From the total number of 640 regression coefficients (as shown in Appendix 2), 245 were significant (40%), 205 of these regressions had positive coefficients (80%). The following table shows the number of significant regressions as well as the directions of the results.

<b>Channel</b>	<b>Number<sup>a</sup></b>	<b>%</b>
Website	55	100.0 positive
E-mail	23	52.2 positive
Telephone	91	96.7 positive
Post	23	82.6 negative
Front Desk	53	86.8 positive

<sup>a</sup> "Number" indicates the number of regression coefficients (out of 128 for each channel) for which the regression was significant; % indicates the percentage of significant results in a given direction.

*Table 9.52: Number of significant interaction effects per channel*

As Table 9.52 demonstrates, the telephone is by far the most sensitive channel for the manipulations in the scenarios. More than 70% of the coefficients were significant and nearly all of them were positive. This implies that almost every change in task or situations results in an increased likelihood of people choosing the telephone. Website and Front Desk are far less sensitive for these changes. E-mail and post are least sensitive, but remarkable of the post channel is that a majority of the significant regressions has a negative coefficient; this implies that changes in the situation decrease the likelihood of respondents choosing that channel.

Of all coefficients on all channels, only 17 did not lead to a significant effect on even one channel. So, a total amount of 111 manipulations yielded to a significant change in the choice for a certain channel in our questionnaire. In most cases this led to a change in the choice for two (n=50) or 3 (n=36) channels. In the rest of the cases it led to changes for 1 (n=21) or 4 (n=4) channels. On an aggregate level it appears that changes in distances and need-for-closure (both n=58; 52%) most often lead to people choosing (different) channels, followed by complexity (n=55, 50%), time and importance (n=54, 49%), and finally emotions (n=52, 47%). This implies that peoples channel choices are most affected by changes in distance and that this effect is relatively insensitive for changes in the other factors. An overview of all interaction effects is shown in Appendix 2.

### *Personal characteristics*

Next we analyzed whether there is a relation between the demographic characteristics and channel choices. We included age, gender and education in the analyses and used cross-

tabular chi-squares to analyze the differences. We found significant effects for all demographic differences, although the effect of age is the greatest (given the highest chi-square). The effect of gender is the smallest.

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Gender	male	22.4%	10.0%	34.6%	4.7%	20.7%	7.7%
	female	19.1%	8.7%	41.3%	3.5%	20.4%	7.7%

$\chi(5.9787) = 55.901. p < 0.000$

*Table 9.53: Cross table of Channel Choice and Gender*

We did not anticipate finding differences for gender as study one yielded no differences between men and women, but the vignette study does. The main difference we find is with the choice of the telephone. Whereas men chose the phone in nearly 35% of all cases, women do this in little over 41% of all cases. Women are slightly less prone to choose the electronic channels and the written channel. Differences in choosing front desk and in choosing nothing are negligible.

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Education	Low	15.8%	7.3%	40.2%	4.1%	25.0%	7.7%
	Medium	19.2%	10.3%	38.1%	3.0%	21.6%	7.8%
	High	24.1%	8.8%	37.2%	5.3%	17.8%	6.7%

$\chi(10.9711) = 1.094E2. p < 0.000$

*Table 9.54: Cross table of Channel Choice and Education*

The differences found on educational level generally confirm our expectations; the higher educated are more inclined to find their information on websites, whereas the lower educated resort to the telephone and front desk. Some findings are noteworthy. First of all, it is the medium group that scores highest on e-mail choices and not the highest educated group. Second, the highest educated group scores highest on choosing to write a letter, followed by the lowest group.

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Age	<25	21.0%	10.4%	37.6%	2.3%	20.1%	8.6%
	25-45	23.1%	8.7%	40.9%	3.3%	17.0%	7.0%
	45-65	19.3%	9.9%	35.5%	4.6%	23.5%	7.3%
	>65	14.1%	8.3%	34.3%	8.4%	26.5%	8.4%

$\chi(15.9787) = 1.532E2. p < 0.000$

*Table 9.55: Cross table of Channel Choice and Age*

Generally, the effects of age are according to the expectations; the elderly are (far) less inclined to choose the electronic channels. Moreover, with the increase of age chances of choosing the front desk or writing a letter increase. What we didn't expect is that the

elderly are less inclined to choose the telephone than the younger groups, although this difference is not significant.

*Distance*

The first factor manipulated in the study is the distance towards the front desk. We could only manipulate one distance, because else the number of scenarios would be too large. Nevertheless, this manipulation gives an idea about the impact of distance towards a channel on channel choices. The chi-square test for this factor yielded a significant effect of distance  $\chi(5, 9787) = 1.546E3, p < 0.000$

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Distance	Nearby	17.5%	6.6%	28.5%	3.7%	36.3%	7.4%
	Far away	23.9%	12.1%	47.4%	4.4%	4.8%	7.4%

Table 9.56: Cross table of Channel Choice and Distance

The effect was most notable on the choice for the front desk; choice for this channel lowered from 36.3% with the front desk nearby to 4.8% with the front desk being far away. In turn, the number of choices for the other channels, except doing nothing and writing a letter increased. Most notably the telephone gained importance when distance increased. From all factors; the influence of distance was strongest on channel choice. Better than the table, the following graph shows the differences in choice depending on the distance to the front desk.

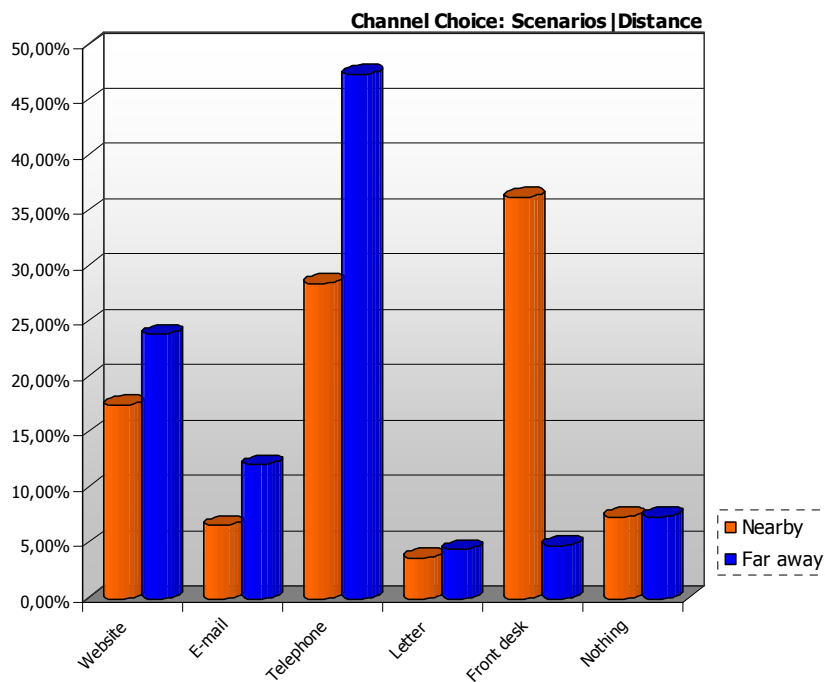


Figure 9.8: Channel Choices by varying distance

*Time*

Second variable in the analysis, and also a situational variable is *time*. Two levels in the factor were that there was no rush (0) or a rush (1) to get an answer to the question. As with distance, this situational factor also yielded a significant result  $\chi(5, 9787) = 1.387E2$ ,  $p < 0.000$ .

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Time	No Rush	22,9%	10,3%	33,8%	5,0%	19,1%	8,9%
	Rush	18,6%	8,4%	42,1%	3,1%	22,0%	5,9%

Table 9.57: Cross table of Channel Choice and Time

Here we see that the traditional channels gain importance when time is an issue; choices for the electronic channels decrease, whereas the number of choices for front desk and most importantly the telephone increase. This is a in some senses a remarkable result; as shown in CH1, the Internet has been related to having a high speed by some. This result shows that when time issues do play a role, people resort to (mainly) the telephone.

*Importance*

The third factor in the study is the importance of the situation. This was operationalized as being of low (0) or high (1) importance. The chi-square test for this factor shows that different channels are chosen depending on the situation  $\chi(5, 9787) = 2.099E2$ ,  $p < 0.000$ .

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Importance	Non important	21,5%	10,9%	36,4%	4,0%	16,9%	10,3%
	Important	20,0%	7,8%	39,5%	4,1%	24,2%	4,5%

Table 9.58: Cross table of Channel Choice and Importance

Noteworthy changes in choice depending on the situation are the decrease in choice of the electronic channels and the increase in choice for the traditional channels. Especially the choice for the front desk increases from 17% to 24%, also, the percentage of people doing nothing decreases significantly.

*Emotions*

None of the previous studies on channel choice investigated the role of emotions in channel choice situations. Our results show that emotions play a significant role in citizens decisions ( $\chi(5, 9787) = 1.269E2$ ,  $p < 0.000$ ). Emotions were operationalized as 'stay calm' (0) and 'getting angry' (1).

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Emotions	Stay Calm	24,5%	8,9%	35,2%	3,0%	20,0%	8,4%
	Get Angry	17,0%	9,7%	40,7%	5,1%	21,1%	6,4%

Table 9.59: Cross table of Channel Choice and Emotions

The direction of the results show that emotions mostly affect choices for the website and the telephone; when emotions come to play, the number of choices for the website decreases and the number of choices for the telephone increase.

#### *Need for Closure (NfC)*

The fifth factor that was manipulated was the Need for Closure of the respondent. The need for closure could either be low (0) or high (1). Again, we found a significant effect of this factor  $\chi(5, 9787) = 49.408, p < 0.000$ .

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
NfC	No certainty needed	21,1%	9,7%	36,6%	4,3%	19,4%	9,0%
	Need to be certain	20,4%	8,9%	39,3%	3,9%	21,7%	5,8%

Table 9.60: Cross table of Channel Choice and Need for Closure

The pattern of results is similar to that of the most other factors; choice for the electronic channels goes down, whereas the choice for the traditional channels goes up when the need for closure increases. Although the effect is significant, the effect is smaller than most other factors.

#### *Ambiguity*

Sixth factor is a task characteristic, namely the ambiguity of the task. This was manipulated as being either low (0) or high (1). Here again, we found a significant result  $\chi(5, 9787) = 1.265E2, p < 0.000$ .

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Ambiguity	Clear	21,8%	10,1%	35,8%	3,9%	18,6%	9,9%
	Ambiguous	19,7%	8,5%	40,1%	4,3%	22,5%	4,9%

Table 9.61: Cross table of Channel Choice and Ambiguity

Direction of the effect is similar to that of the importance of the situation; there is an increase in the choice for the traditional channels (but this is strongest for the telephone) that corresponds with a decrease in the choices for the electronic channels. Again, the percentage of citizens doing nothing drops, this time from 10% to 5%.

*Complexity*

The seventh and final manipulated factor and second task characteristics is the complexity of the task. These were manipulated as being low in complexity (0) or high in complexity (1). Again, we found a significant difference between the different groups;  $\chi(5, 9787) = 47.462, p < 0.000$ .

		Channel Choice					
		Website	E-mail	Telephone	Letter	Front desk	Nothing
Complexity	Simple	23,0%	8,9%	36,1%	4,3%	19,6%	8,1%
	Complex	18,4%	9,7%	39,8%	3,8%	21,5%	6,7%

Table 9.62: Cross table of Channel Choice and Complexity

There is a fairly large decrease in the choice for the website as complexity increases. More people choose the phone, front desk or e-mail instead. The number of people doing nothing also decreases. Two findings denote that complexity and ambiguity are seen as different factors requiring different channels; a) whereas we see an increase in the choice for e-mail as complexity increases, we found a decrease in this choice with ambiguity, and b) more people write a letter as ambiguity increases whereas this number decreases with or complexity.

#### 9.3.4 Conclusions and discussion

In channel choices, many factors play a role. Not only do personal characteristics play a role, but also task characteristics and situational and emotional constraints. All of the factors manipulated in the scenarios, as well as the covariates, were of significant influence on channel choices. The most important factors were the situational factors; especially *distance*, followed by the *importance* of the issue, the *age* of the respondent and the *time* constraints. Only after these factors came the first task characteristic; ambiguity. Emotions were the sixth important factor in the analysis, followed by the level of education of the respondent. With a large margin (in terms of chi-square value) came the final situational factor; *need for closure*. The two factors of least importance were *complexity* and *gender*.

Most important conclusion that can be drawn from the vignette study is that the situational constraints are the most important factor influencing channel choices. This is a notable finding; although some theories (such as Symbolic Interactionism perspective and Channel Expansion Theory) do include situational factors they received scarce attention in research so far. Our study shows that from all factors manipulated or used as covariates, situational factors have the strongest influence on channel choices. Especially the distance towards the front desk proved to be very important. Of all factors, the chi-square of this value was highest, meaning that this factor explains most of the variance (the pseudo R square) in the data.



One factor that has been ignored by most theorists in this field is the role of emotions in channel choice decision making. This ignorance is apparent since our study shows that emotions play quite an important role in channel choice decisions. Emotions lead to citizens turning away from the electronic service channels and to the traditional channels. The significance of this factor proves its relevance for our theory. Further, emotions interact with some of the other factors, leading us to believe that emotions may enhance or diminish the influence from other personal, situational and task factors.

A third remarkable finding is the relatively low influence of task characteristics, the task characteristics do influence channel choices, but to a lesser extent than the situational factors. Ambiguity has some influence on the channels chosen by the respondents, but the impact of complexity on channel choice is very low. However, the importance of the issue did prove to be an important determinant. Although the importance of the matter could be labeled as a task characteristic, we decided to label it as a situational and emotional constraint, since we believe that the importance is too context related to be named an actual (intrinsic) task characteristic. Both complexity and ambiguity are directly linked to the informational requirements of the task. Also, the two task characteristics have been mentioned widely in the literature as the most prominent task characteristics. Although our study does yield evidence, previous studies have shown an over-reliance on the impact of the task characteristics in general. When analyzing the task characteristics on a channel level, we can mostly see the impact of ambiguity on the choice of the telephone and, to a lesser extent, the front desk. As already argued by the literature (see for example Ebbers et al., 2008) and this dissertation these traditional channels are very well suited for dealing with ambiguous tasks. This expectation is reflected in citizens channel choices.

A fourth notable finding is the impact of the personal characteristics of the citizens. First, gender; although gender proved to be a significant factor in the model, it appeared to only influence the choice for the telephone; women tend to choose the phone more than men. Thus, the influence of gender is small. Age, the second factor, is a highly important factor. Especially websites (lower choice) and front desk (higher choice) are impacted by age. We expected education to be the most influential of the demographic characteristics, but its impact was smaller than that of age. Nevertheless, education was a significant factor in the model. It influences choice for the website (this likely relates to the differences in digital skills between lower and higher educated (van Deursen & van Dijk, 2008)); the higher educated are more apt to select a web page. Education also impacted the likelihood of choice for the written channel; higher educated choose to write a letter more often.

Main benefit of this vignette study is that it allows us to investigate the impact of multiple factors, using multiple channels in a context that (mostly) reflects real live decision making. It clearly showed not only that the different factors all are important for channel choice decision making, but also that the factors are highly intertwined. The findings support our view that both task characteristics, channel characteristics, personal

characteristics, and situational and emotional constraints interact in channel choice processes. It also stresses the usefulness of the vignette approach to the study of media choice research and confirms earlier confirmations of the usefulness of this type of study in this context (Martocchio *et al.*, 1993; van de Wijngaert, 1999; Webster & Trevino, 1995)

Our study has a number of drawbacks. First, and most important, is that we could only include a number of variables in the scenarios. Otherwise, the number of scenarios would be too large to practically implement in the study (Rossi & Nock, 1982). Hence we had to make choices on what scenarios to include in our study; this implies that some of the factors, as suggested by our exploratory study (such as habits and experiences) had to be left out of this study. We decided to focus on the situational constraints, given the lack of insights on the impact of these factors, but that limits the generalizability and validity of our findings. The Pseudo R-Square of our model proved to be quite high, but may be increased through an inclusion of more factors. Nevertheless, we should stress that our aim was not to find the definite set of factors, but to show that the different groups of factors are relevant and are interacting, depending on the situation. Another related drawback is that we only used the channel as an outcome of the study (the dependent variable). We did not manipulate any of the channel characteristics and did not relate the channel perceptions to our model. Future research should explore the impact of (perceived) channel characteristics, although our first study proved the impact of such factors.

External validity can be a serious problem in this type of research, given the hypothetical reflection of real life decision making (Karren & Barringer, 2002), but there are ways to minimize this threat (Webster & Trevino, 1995). The most important solution is to let the people who in reality make the decisions involved serve as respondents. In this case, we asked citizens about situations they could encounter in real life decision making. Therefore we expect that external validity is sufficient. Another threat to validity are fatigue issues (Rossi & Nock, 1982), we solved this by limiting the number of scenarios per respondent. Negative implication of this choice that it limits the possibilities to analyze the vignettes on a respondent level. Rather, we analyzed the data on factor and condition level. We chose for this level of analysis, since our interest is in the main and interaction effects of the factors on a general our group level, rather than on the individual level. Generalizability is also sufficient in our view. Our sample was large enough to be representative for the entire Dutch population; furthermore, our sample included citizens and our sample reflected the demographic characteristics of the entire population, after weighing. Hence our sample is a good representation of the entire population.

## 9.4 General conclusions

In this chapter we tried to find an answer for the final research question of this dissertation. This question is:

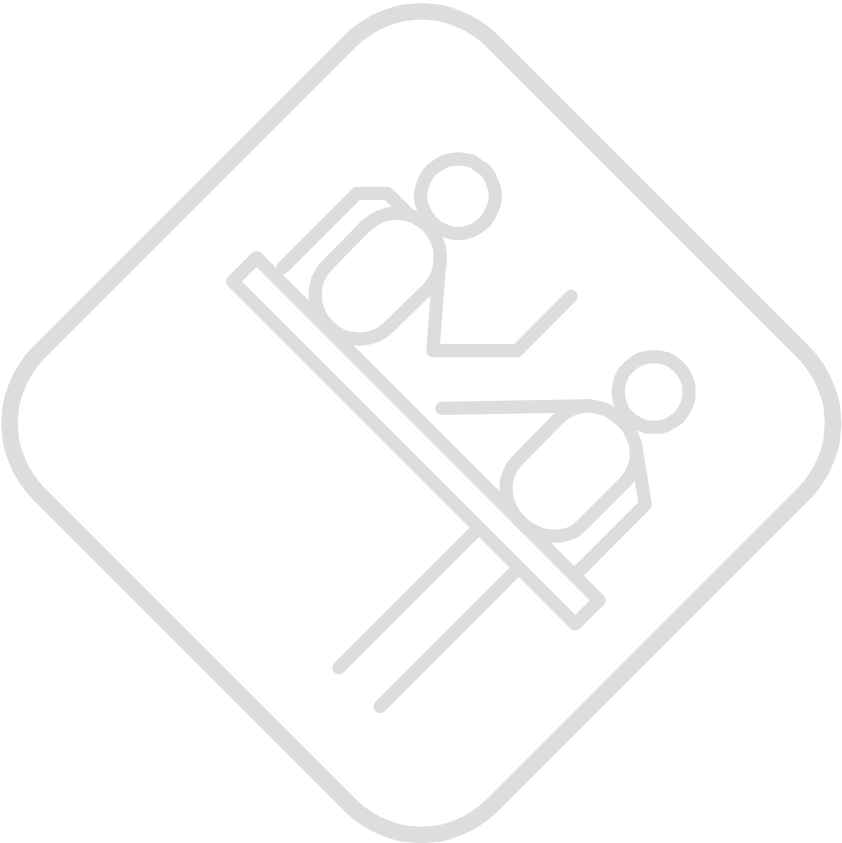
*What channel choice determinants from the preliminary model are most important in channel choice decisions and how do these factors relate to each other? (Chapter 9)*

In this chapter, we described two studies that are used to find an answer to this question. Between the two studies, we find some consistent results: situational and emotional factors, task factors and personal factors were found to be important in both studies to be of importance for channel choices. The impact of channel characteristics on channel choices is more ambiguous; we omitted manipulations on a channel level from our second study and the relative importance of the channel factors varies across the results of study 1. It is, however, likely that this ambiguity is either due to our measures or the inevitable bias of the relevance of factors in surveys (Webster & Trevino, 1995). Our survey also showed the impact of the two decision strategies, habitual decision making and elaboration decision making on channel choice processes. Both strategies appear to influence channel choice decisions, albeit in different ways. One of the main findings in our study is that people are guided by habitual decision making in their primary choice and that this shifts to elaboration in their second choice. Habitual decision making is guided by situational and emotional constraints. The results demonstrate that, primarily, people want the fastest answer, they choose the channels that are associated with 'ease of use' and speed their decision process is guided by their habits and by the experiences they have in the decision making process. Furthermore, if people don't succeed in their first attempt they engage in a second channel choice processes. Our results demonstrate that this second process is guided by an elaboration process, when now situational and emotional factors as well as habits do not play any role anymore.

Further implications of the empirical work for the entire study (the dissertation), practical and theoretical recommendations and a further discussion of limitations of the study shall be discussed in the next and final chapter of this dissertation.



PART 4:  
CONCLUSIONS AND IMPLICATIONS





You say: "God give me a choice"  
(Freddie Mercury – Bicycle Race)

## 10 General conclusions

### 10.1 Introduction

What factors determine the channel choice of a citizen in a certain situation? This question begins our exploration in this dissertation. The main goal of this exploratory study was twofold: first, to improve the theoretical understanding of the behavioral process underlying channel choices (the theoretical goal); and second, to provide government agencies with the knowledge to better design their service channels according to citizens' behavior (the practical goal). Furthermore, we formulated a number of general research questions to structure and guide the exploratory process on our way to a channel choice theory. In this chapter, we will formulate answers for our main question and determine whether we have reached our two goals.

First, we will briefly summarize the contents of the previous chapters of this dissertation (§10.2). In this section, we will also pay attention to the general research questions. Second, we will present the main findings of our study (§10.3). The next section discusses the theoretical implications of the findings of the study (§10.4), followed by a discussion of its practical implications (§10.5). We end this chapter, and the dissertation, with some final concluding remarks (§10.6).

### 10.2 Short summary of the previous chapters

The dissertation was divided into four parts, with the current chapter (10) constituting the fourth part. The first part consisted of Chapters 1, 2 and 3, which served as introduction and background chapters. Chapter 1 of the dissertation presented the background for this study. The main reason to do the study was that citizens continue to rely on traditional service channels for their contacts with government agencies to a large degree, whereas government agencies would like them to use electronic channels. This leads to the question of why citizens choose the channels that they do for their interactions with government agencies and how governments may anticipate these behaviors. We defined the two research goals (theoretical and practical) and clarified the different terms used in the study.

In the second chapter, we discussed government service delivery (strategies). In this chapter, we argued that government service strategies have changed throughout the years. Governments shifted their focus from internally (supply) oriented to demand side

oriented. In that, they tried to change from rigid bureaucratic organizations to flexible 'consumer'-oriented organizations. However, in line with earlier research (Parker & Bradley, 2004), we concluded that governmental agencies still remain largely bureaucratic. Given this bureaucratic rationality, it is very likely that the approach of government services is equally rational. Hence, it is reasonable that governments perceive citizens' behavior as lacking in emotional and irrational components.

Furthermore, this leads to governments basing the service channel strategies on the characteristics of services and tasks. We witnessed enthusiasm about the arrival of the Internet in the 1990s, an enthusiasm based mostly on the characteristics of the new service channels. Citizens, however, did not entirely share this enthusiasm. Until now, electronic channels have not replaced traditional service channels. People appear to use the channels for different purposes, and citizens use channels for different types of services. Based on the behaviors and goals of both citizens and governments, the characteristics of the different service channels and the relationship between the electronic and traditional service channels, four channel strategies can be defined, as shown in the table below.

<b>Nr</b>	<b>Name</b>	<b>Explanation</b>
1	Parallel positioning	Channels are positioned next to each other. Citizens are free to choose their channels and services are available through each channel.
2	Replacement positioning	Channels can replace each other. The assumption is that channels can be superior or inferior to each other. Customers would prefer to use the best channel, and therefore one channel would replace another.
3	Supplemental positioning	Channels have supplemental values; each channel has its own characteristics that make it suitable for certain types of services. Therefore, governments should offer services via the best-suited channels.
4	Integrated positioning	All channels are integrated in the entire service delivery process. This means that all services are offered via all channels, but that strengths and weaknesses of channels are used in their design. Citizens are guided to the 'best' channels and channels seamlessly refer to each other.

*Table 10.1: Channel Management Strategies.*

In Chapter 3, we further explored citizens' channel behavior. In this chapter, we sought to find an answer to the first general research question of the study: *What is the current state of the art in research regarding citizens' channel behavior?* We presented a first very general model of citizens' channel behavior (shown below) and discussed the state of the art on insights about the three stages in the model.



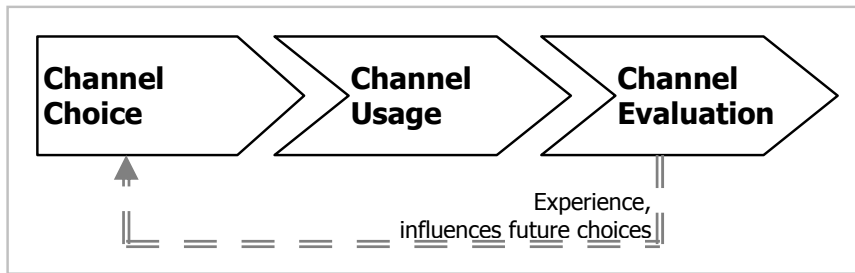


Figure 10.1: Citizens' Channel Behavior

Regarding channel choice, we conclude that previous research is fragmented and overly limited to the analysis of singular relationships. Furthermore, there is a lack of theory development on the issue of channel choice: put simply, there is no specific theory on channel choice<sup>25</sup>, and the existing studies made no attempt at all to build such a theory. There are a number of theories that were developed to describe channel use and that have been used to prescribe channel choice (as we discussed in Chapters 4 and 5), but no specific choice theories exist that help to explain individuals' channel choices.

Research does exist that is aimed at finding channel choice determinants. Although the list of possible channel choice determinants is quite long, it appears that a number of groups of determinants can be distinguished from the existing research: *task characteristics*, *channel characteristics*, *personal characteristics* and *situational factors*. However, it remains unknown which factors exactly determine the channel choice for citizen-initiated contacts.

On channel usage, we conclude that the traditional channels remain the most important means of interaction for citizens. Given developments in usage, it is unlikely that the electronic channels will replace the traditional channels in the near future, if this replacement occurs at all. Furthermore, citizens use the different channels for different purposes. This conclusion is in line with channel choice research, which argues that task characteristics determine channel choice.

The final stage of channel behavior is channel evaluation. Here we conclude that citizens generally evaluate the electronic channels more positively than the traditional channels. Over the years, positive evaluations of the electronic channels have risen, whereas those of the traditional channels declined.

<sup>25</sup> As discussed in the theoretical Chapters 4 and 5, two important remarks can be made about channel choice theories. The first is that most theories (such as MRT) have been developed as Media Use theories and fail to serve as Choice theories. The second is that, when used as choice theories, the existing theories have mostly been used (and found support) in the organizational context. This leads to our conclusion that no channel choice theory exists in general (to explain **individuals'** choices) or in this specific context (to explain **citizens'** choices).

The second part of the dissertation discusses the main theoretical insights in channel choices. In this part, we answer the following general research question: *What are the most important insights on channel choice that we can draw from existing theories?* In Chapter 4, we discuss the theories that have been labeled as rational theories, whereas Chapter 5 focuses on the (inter)subjective theories. These two lines of theorizing have often been presented as a dichotomy, hence our choice to discuss them separately. In Chapter 6, we discuss some general theoretical insights on decision making, as well as theories that aim to integrate the rational and (inter)subjective lines of theory building.

Chapter 4 explored the rational media theories, among which Media Richness Theory (MRT) is the most prominent. Media Richness Theory has been specifically developed to describe the match between task and media, based on both characteristics of tasks (uncertainty and equivocality) and characteristics of media (richness), in a managerial information processing context, based solely on the traditional media and aimed at performance due to use rather than the choice of media. MRT has two main premises. The first is the *richness notion*, which argues that media differ in their characteristics and that, based on these differences, they differ in richness. Although some researchers have found unsupportive results for the richness notions, there is a reasonable agreement about the richness ranking. The notion that media differ in characteristics and hence their ability to change understanding has been supported. The second notion is the *task-medium notion*: the supposed fit between a certain task (either uncertain or equivocal) and a certain communication channel. This notion has been far more controversial. Most studies on this notion have yielded unsupportive results, but many researchers have used MRT in a setting it was not intended for (outside managerial communication) for the wrong purpose (prescribing media choice rather than describing performance with media use) with the wrong media (new rather than traditional media).

Used in the original intended setting, to describe managers' communicative performance with the traditional media, MRT is not as bad as suggested by some. However, some important criticisms can be formulated. These criticisms are that the concepts in MRT are rather poorly defined (for example, what is meant by 'performance?'), that the evaluations of task and media characteristics are assumed to be rational (and thus similar to everyone) and that the ideal match between task and medium does not necessarily have to be determined by equivocality alone. MRT has been portrayed as an objective rational theory that does not take into account other aspects of the communication process besides the invariant task and medium characteristics.

Nevertheless, the general conclusion that can be drawn is that MRT is a good starting point to study the use of communication channels. It may also serve as a foundation to build a new theory of channel *choice*. However, the two notions of the theory are ill defined, and other explanations of channel choice exist. Various theorists have tried to extend MRT to hold more factors or have tried to formulate new theories that have other

(contrasting) views. These theories most often take a less rational, social or (inter)subjective perspective on channel choice and usage.

In Chapter 5, we discussed the (inter)subjectivist theories on channel choice. The Social Influence Model is the most well known of these theories; the other theories (Symbolic Interactionism, the Dual Capacity Model, and Channel Expansion Theory) have received less attention.

The core assumption in all these theories is that channel characteristics are not fixed (as in MRT) but are subjectively constructed, either through social influences or by experiences. We agree with this extension, but we also argued that media do have objective characteristics: for example, it is impossible to convey video through a brochure. Hence, we suggest a distinction between *intrinsic* (fixed) and *extrinsic* (context dependent, for example, from social influences) characteristics. The *perceptions* of these characteristics determine how they can and will be used.

Furthermore, although most theories criticize the supposed rationality of MRT, none of the theories provide us with alternative approaches to channel choice decision making. The Social Influence Model (SIM), for example, claims that behavior can be rational, but need not be; however, it gives us no information about the rationality or mediating influences that determine the degree of rationality. SIM even argues that the decision making within its own theory is subjectively *rational*, and, indeed, the model depicted by SIM proposes a linear process of matching different contingencies and thus does not depart from the rational choice theories. Still, we do agree with the critique of the supposed rationality of MRT, so we conclude that we need to draw insights from the general decision-making literature in order to draw definite conclusions on the (degree of) rationality in the channel choice decision-making process.

In Chapter 6, we saw that the same dichotomy that exists in channel choice decision-making literature also exists in the general decision-making literature. However, scholars in the latter field have made more progress in integrating both dichotomies. Both the meta-rationality argument and the adaptive decision-making hypothesis emphasize that behavior can be more or less rational, depending on the situation, the emotional state of mind and the needed accuracy given the task. Scholars have argued that people in general behave according to the principle of least effort: the ease of use of a channel is more important than its usefulness. However, this is supposed to change as tasks become more ambiguous. Now people start considering the usefulness of a channel above the ease of use of the channel. Hence, we propose that the degree of adaptivity in channel choice decision making is a function of the effort and accuracy involved. Furthermore, situational constraints, such as the available amount of time, determine the amount of effort put into decision making and thus the degree of elaboration between tasks and channels. Furthermore, personal differences lead to different perceptions of channels and tasks, and

(personal) experiences influence how people perceive tasks, channels and the elaboration between them to reach a fit.

In the third part of the dissertation, we discuss the empirical chapters of the dissertation. First, we did an exploratory study to find out what specific channel choice determinants play a role within the public sector service delivery context (Chapter 7). Next, we used this information and the theoretical insights developed so far to lay down a preliminary theory of channel choice, accompanied by a framework in which the different factors are shown (Chapter 8). In Chapter 8, we also described the results of two quantitative studies that we performed in order to see to what extent the different factors in the framework play a role. In Chapter 9, we presented a further refinement of the framework and empirically tested the propositions of the theory.

In Chapter 7, we tried to answer the following research question: *Which factors determine the channel choice of Dutch citizens in current online government service provision?* The main conclusion of Chapter 7 is that our qualitative study largely confirms the theoretical insights previously developed: the main channel choice determinants are channel characteristics, task characteristics, situational constraints and personal characteristics. However, some remarkable findings can be noted in this study. These are 1) that habits are, besides elaboration, a second type of channel choice decision making and 2) that emotions are an important determinant of channel choices. These findings are relevant given the fact that none of the theories discussed in Chapters 4 and 5 includes these factors. None of the theories incorporates habits as a factor leading to (habitual) channel choices, and none of the theories builds on the idea that emotional factors play a role in decision making.

In Chapter 8, we lay out a preliminary theory that attempts to integrate the insights from the theoretical chapters and the exploratory study from Chapter 7. This chapter was guided by the following question: *How can the theoretical and empirical (qualitative) insights be modeled in a preliminary framework on channel choice?* The core assumption of our preliminary theory laid out in Chapter 8 is that people use different decision strategies when choosing a service channel. The decision-making process is influenced by (perceived) task and channel characteristics, situational and emotional constraints, and personal characteristics. One strategy is based on reasoning in order to achieve a match between tasks and channels (task-channel elaboration). Within this strategy, people may do fairly comprehensive reasoning to reach an optimal solution, or they may adopt a strategy that entails little cognitive effort that leads to decisions with low accuracy. The second strategy (habits) involves no conscious reasoning and is based on unconscious habitual action, guided by experiences. Based on this theory, we propose a framework that models the relationships between the different factors. This is shown below:

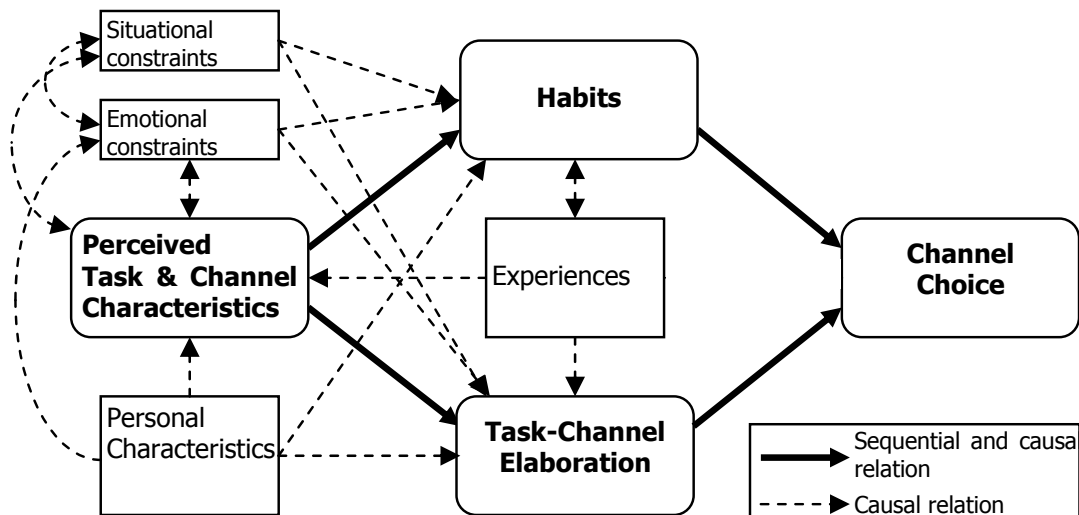


Figure 10.2: A sequential framework of the channel choice process of individuals including causal factors

In two quantitative studies, we tried to assess whether or not the task and channel characteristics, situational and emotional constraints, and personal characteristics influence the channel choice decision. This appeared to be the case for each of the different groups of factors. Some remarkable findings in the studies should be noted. The first remarkable finding is that people do choose different channels for different tasks, as the first study makes clear. However, most respondents are inclined to choose the same channel in any situation. This might be a sign that people, out of habit, tend to choose their preferred channel in all situations. However, in extreme, explicit situations, people reason about their decision and choose the electronic channels for simple, standard tasks and the (personal) traditional channels for ambiguous and complex tasks. Second, citizens perceive the channels as different: they associate the traditional channels with such factors as personalization, language variety and immediacy of feedback. The electronic channels are associated with ease of use and hence convenience. This indicates that channel characteristics are far from fixed, as suggested by various theories and multi-channel management models. Channel characteristics are perceptions, and those perceptions determine whether citizens will choose this channel or not. The perceptions also tend to differ between different groups of citizens, but it proved hard to assess one-dimensional relationships between groups of citizens and channel perceptions.

In the two quantitative studies, we focused only on the relationships between one factor and channel choices at a time. We did not examine the interrelatedness between the different factors and how different tasks and situations may lead to different channel choice strategies. However, this was the focal point of Chapter 9.

In Chapter 9, we tried to answer the final general research question: *What channel choice determinants from the preliminary model are most important in channel choice decisions, and how do these factors relate to each other?* In this chapter, we described the results of

a large quantitative empirical study (n=2461) among Dutch citizens regarding their channel choice behavior. The chapter served to test the propositions in our theory in two ways: first, by gathering the perceptions of the citizens regarding their decision-making strategies and the influences of the different determinants. The second way was by drawing inferences about their behavior through a vignette study. The main conclusion of Chapter 9 is that indeed, different channel choice strategies exist. The results demonstrate that, primarily, people want the fastest answer. In reaching that goal, they choose the channels that are associated with 'ease of use' and 'speed'. Their decision process is guided by their habits and by the experiences they have in the decision making process. This habitual process is also strongly influenced by emotional and situational constraints. Furthermore, if people do not succeed in their first attempt to obtain an answer, they engage in a second channel choice process. The results demonstrate that this second process is guided by an elaboration process; in this process, task factors are more important and situational and emotional factors do not play a role anymore.

The choice of decision strategy appears to be influenced by all the different groups of factors: situational and emotional constraints, task characteristics, channel characteristics, and personal characteristics. The situational and emotional constraints appeared, in general, to be the most important factors. Distance appears to be especially important. People favor those channels that are nearby. Between the two studies, we find some consistent results: situational and emotional factors, task factors and personal factors were found to be important in both. The impact of channel characteristics on channel choices is more ambiguous; we omitted manipulations of the channel characteristics from our second study and the relative importance of the channel factors varied across the results of study 1. Future research should focus on this ambiguity.

### 10.3 General Conclusion

The most important conclusion is that channel choices are not straightforward process of matching tasks with channels, as is often assumed. Citizens in many cases do not take their task (question or problem) as a starting point in assessing the 'fit' between tasks and channels. In reality, other factors may play a role, such as situational (available time and distance towards the channel) and emotional constraints and personal characteristics. Furthermore, in many cases, citizens do not engage in an elaboration process between tasks and channels, but instead, channel choices are guided by habitual processes in which no specific elaboration takes place. In fact, our study shows that when citizens need to choose a channel, they primarily act out of their habits; rational elaboration mostly takes place in the second instance.

Remarkably, factors such as habits and emotions have had only scant attention in previous research. Most theories focus on the fit between task and channels (Media Richness Theory), the role of social influences and perceptions (the Social Influence Model) or

experiences (Channel Expansion Theory) and do not include emotional factors and habits. Situational factors have appeared in some models, such as the Dual Capacity Model and even the Social Influence Model, but these have been seriously neglected in empirical studies, since studies using these factors are almost nonexistent. This study demonstrates that the role of these factors is more important than previous researchers assumed. Distance to the channel proved to be one of the most important factors influencing the channel choice decisions, as both the behavioral survey and the vignette study indicate. People not only tend to consider distances towards channels but also claim to primarily choose those channels that are closest. We argue that citizens are guided more by their desire to spend as little time and effort as possible to get an answer to their problem than by careful elaboration between channel and task characteristics.

This does not mean that other factors do not play a role: task characteristics are often taken into account when choosing a channel, especially in second choices on the same subject. Furthermore, as people become aware of the importance of the situation, they make significantly different channel choices than in unimportant situations. Furthermore, people who are guided by elaborations in their channel choice choose the channels that are associated with usefulness, personalization, service and multiple cues instead of effort related factors such as ease of use and distance. Hence, we conclude that as tasks grow more complex, closure is needed, and as the importance of the situation grows, people are more inclined to elaborate between task and channel when choosing a channel.

Next, large personal differences emerged, not only in channel choices, but also in attitudes towards the different constructs and in the interaction effects in both the vignette studies as well as the regression models in the first study. The more highly educated are more inclined to reason in their channel choices, and the elderly are more guided by their habits. Furthermore, the influence of gender appears to be minor. From this, we conclude that personal characteristics also influence channel choice decisions (in terms of age and education).

In sum, the findings of this study seem to support the main premises of our theory: people generally follow either a decision strategy based on habits or a strategy based on elaboration. The decision strategy chosen is dependent on and moderated by situational and emotional constraints, personal characteristics, and task and channel characteristics. Although the aim of this study was exploratory, studying which factors may be influential and how they are related. The findings suggest that quite strong conclusions can be drawn regarding the aforementioned factors and interactions. The significance of the results, as well as the amount of variance explained in our different models, seems to suggest that the results are valid and rigid. Nevertheless, conclusive evidence cannot be given at this point. We need to replicate the findings of this study and to extend our theory by including more factors. Our models could only explain some 60 percent of the variance in channel

choice decision making. Though this is a high percentage, it still leaves 40 percent of the variance unexplained.

## 10.4 Theoretical Implications

This study has had a number of theoretical implications. First, we hope that our research helps in the development of a theory of channel choice that integrates existing theoretical perspectives (Webster & Trevino, 1995). Whereas the (inter)subjective theories convincingly argued for the role of *perceptions* instead of fixed properties of channels and media (Watson-Manheim & Bélanger, 2007), no answer to the question of the (amount of) rationality in channel choice decision making has been given so far. This study shows that it is not a matter of either rational or non-rational decision making. The degree of rationality depends on the situation. In general, people are more likely to be guided by their habits than by rational processes. However, people *may* very well be rational. When tasks get more complex and people are more aware of the decision-making context, they act more rationally. Furthermore, personal characteristics such as age and education determine the alleged amount of rationality and the likelihood of emotions playing a role. Very little research exists that explores the actual decision making process of channel choices. Van de Wijngaert (1999), for example, who centers the media choice research on decision making itself, pays little attention to the actual decision-making process. So, our study not only explored *how* channel choice decisions are made, but it also generated insights on *when* the different channel choice decision strategies are followed.

Further, this study expanded the set of available channel choice determinants as suggested by the other theories, and it determined the impact of these factors. It shows, for example, that emotions play an important role in channel choice decisions in the citizen-government context, and no studies, to the best of our knowledge, examine the role of such factors in channel choices. That routinized behaviors (that may lead to habits) play a role in channel choices has been suggested by some (McQuail, 2001; Watson-Manheim & Bélanger, 2007), but we know of no extensive studies that confirm the role of this factor and provide insight on when habits play a role.

Third, we have tried to deliver one of the most comprehensive studies on channel choice to date. We included multiple factors from different theories, expanded the set of factors by qualitative exploratory research and tested the influence of the factors on (multiple) channel choices in a series of quantitative studies. Though we do not claim to present the ultimate or definite theory of channel choice, we sincerely hope that our work helps theorists further in the development of channel choice theories and models.

Finally, this study has shown that the existing theories are insufficient to explain channel choices. Herein, we tried to use the strengths of each of the theories to better explain channel choices. Yet, it is plain to see how many studies, even recent ones, still rely on a



single theory. Even in recent years, studies using the concepts of Media Richness Theory without taking into account the critiques of this theory are being published (see for a discussion Pieterse, 2008b). Also, many scholars still rely on the assumption that task-channel fit is an adequate explanation of channel choices.

#### 10.4.1 Points of discussion

Some points of discussion should, however, be mentioned. First of all, most of the channel choice research (as well as theory development) to date has investigated channel choices within the context of organizational communication (see Chapter 4) to study managerial media choices. Our study took place in the context of citizen-government interactions. Until empirical studies provide us with answers, it is uncertain to what extent our theory or the channel choice framework holds in other settings. It is possible that other factors play a role in other settings. For example, we found no evidence for the role of social influences on individual citizen channel choices; whereas many have suggested that such variables affect organizational communication many (Fulk et al., 1990; Rice *et al.*, 1990; Schmitz & Fulk, 1991; Trevino et al., 2000; Webster & Trevino, 1995). Also, factors such as the availability of the communication partner are unlikely to influence formal citizen-government interactions, but they do play a role in the (intra-)organizational communication setting (Straub & Karahanna, 1998). Furthermore, we did not pay any attention to the role of networked interactions. Many government service delivery contacts take place in networked collaborations between government agencies (Pieterse et al., 2008), and given the wide body of knowledge on networked communications, one might expect that networked service delivery affects citizens' perceptions and behavior (Contractor & Eisenberg, 1990; van Dijk, 2006).

Second, the main study (described in Chapter 9) was conducted in the context of one specific organization: the Dutch Tax and Customs Administration. Hence, although the sample was large and the findings rigid, we are cautious in generalizing our findings to the general domain of citizen-government interactions, let alone other domains such as client-business interactions or organizational communication. Replication of the study should help in making generalizations.

Third, we used existing measures in our studies, when available. This showed that not all measures were appropriate or had significant quality. Hence, some of the constructs used were less reliable than we anticipated. This implies that good measures should be developed for future measurements; it also suggests that replication is needed to correct biases that might have occurred due to operationalization issues.

Fourth, we limited ourselves in this study to the most widely used channels; we did not include the 'new' new media, such as chat and SMS. Hence, it is not possible to predict how our theory affects channel choices of such channels. Future research should also explore the validity of our theory in such channel choices.

Fifth, this research has treated media choices as single incidents. However, researchers have suggested that many communication processes take place in a context of multiple contacts; this context may also influence the efficiency of the communication: "Communication efficiency may rest on sequences or combination of media rather than isolated choices" (Walther & Parks, 2002, p. 534). We did find that the primary and secondary choices of our respondents were quite different. This suggests that sequential channel choices are indeed different from incidental choices. On the other hand, research has shown that individuals only seek contact with organizations to solve problems once or twice (van Velsen *et al.*, 2007). Future research should explore how often citizens choose channels within one service delivery process and how sequential channel choices within this setting take place.

## 10.5 Practical Implications

Based upon this study, we suggest a number of practical implications. These implications can be divided into: a) implications for channel management and service delivery strategies and b) strategies for influencing or 'steering' citizens' behavior to the preferred channel.

### 10.5.1 Implications for multi-channel management

The arrival of the Internet and other new media to be adopted in public services has produced strategic problems in service channel positioning for governments. In the last two decades, a number of phases with different strategic choices have occurred (see Table 10.1). In the 1980s, the new media in their experimental state were simply added to the existing collection of service channels (a strategy of parallel positioning). All available popular channels were offered in parallel at that time. With the advent and explosive growth of the Internet and other digital media in the 1990s, utopian visions of a complete replacement of traditional channels by electronic channels became increasingly popular (a strategy of replacement positioning). Together with the policy goals at that time, the application of new public management and the growth of attention to citizen demands in public services, a replacement strategy became dominant during the Internet hype. After 2001, the role of the Internet was cut back to the position of an additional channel. Recent studies have shown that even an Internet that is used by the majority of the population in particular countries has not mitigated the usage of the telephone and face-to-face service channels. On the contrary, in some cases Internet use has stimulated a (re)turn to call centers and service desks. This has raised doubts about the effectiveness and efficiency of public electronic services.

Recently, supplemental channel positioning strategies have become more popular in public service communication policies. Such policies attempt to implement a multichannel approach that has originated in the business sector and in marketing (examples from the

private sector are Kumar & Venkatesan, 2005; Neslin *et al.*, 2006; Payne & Frow, 2005). This strategy rests on the assumption that different service channels and different services have different characteristics and that a 'fit' should be created between certain services and certain channels. Theoretically, there is a lot to say in favor of this strategy: it enhances the efficiency of service delivery processes, since services are only delivered through a number of (instead of *all*) channels. Furthermore, it is effective because citizens use the (theoretical) best channel to solve their problems.

However, we have shown (in Chapter 2) that there are fundamental obstacles to such a strategy in public services. Here, universal service for all groups of citizens is obligatory. This requires the maintenance of old and new and simple and advanced channels in parallel. Another obstacle is the comprehensive regulation and public accountability of government services that favor particular channels such as print. Further, as our study shows, citizens do not always rationally choose the best channel for the task: rather, they act out of habits and emotions. If citizens choose channels where they cannot get the service they need, then service delivery is less efficient and effective in terms of citizen satisfaction and costs than in situations where they do receive the desired service.

For these reasons, we suggest that channels should be integrated (integration strategy). The integrated channel strategy is based on a well-considered plan of goals, means (the application of particular channel characteristics for specific services) and target groups. It rests on the idea of parallel positioning in that all services are offered via all channels, but it combines this with elements of supplemental positioning: the design of the channels uses their strengths and weaknesses. For example, the electronic channels are (in theory) less suited for ambiguous tasks than the traditional channels. However, since all services should be offered via all channels, ambiguous services might be put deeper in the site. The front pages of the site should be used to offer these services for which the channel is best suited: relatively simple and standard services. Furthermore, within this strategy, citizens should be directed towards the proper channels. Citizens visiting a front desk out of habit should be pointed to the advantages of other channels if their services could be better served via one of those channels. Citizens telephoning a call center should be directed to a website if they require a lot of information that cannot be transmitted easily via the telephone. The telephone should in such a case be used for the purpose for which it excels, reducing ambiguity. Why not send such citizens an e-mail or SMS linking to the desired information after their ambiguity is reduced and they have closure about the correctness of the information? In this strategy, governments should not try to chase citizens away from the (expensive) traditional channels before they choose the channels, but rather, after they have chosen them. The aim should not be the reduction of the number of calls but shortening the calls' duration.

From the theory and the insights, we can suggest for what purposes the channels are best suited. Although this is a very general overview, the following table suggests which

channels should be used for which tasks and situations and how these channels might cross-refer to each other. For reasons of practicality, we only included the four most important contemporary channels: website, telephone, front desk, and e-mail. Note that the table is not meant to give a full overview of all possibilities, but it gives suggestions on the design of channels and the relationships of channels to each other.

<b>Channel</b>	<b>Chosen why?</b>	<b>Suited for what tasks?</b>	<b>Suited for what situations?</b>	<b>Refers to other channels</b>
Website	<ul style="list-style-type: none"> <li>- easy to use</li> <li>- high contact speed</li> </ul>	<ul style="list-style-type: none"> <li>- Simple &amp; standard tasks</li> <li>- much information (background)</li> </ul>	<ul style="list-style-type: none"> <li>- To reduce low levels of uncertainty</li> <li>- When emotions play a minor role</li> </ul>	<ul style="list-style-type: none"> <li>- The telephone when ambiguity is high</li> <li>- The front desk when complexity and ambiguity are high</li> <li>- The telephone when closure is needed</li> </ul>
Telephone	<ul style="list-style-type: none"> <li>- high contact speed</li> <li>- High immediacy of feedback</li> <li>- Gives closure</li> </ul>	<ul style="list-style-type: none"> <li>- Ambiguous tasks</li> </ul>	<ul style="list-style-type: none"> <li>- To reduce high levels of uncertainty</li> <li>- When emotions play a major role</li> <li>- When people are in a rush</li> </ul>	<ul style="list-style-type: none"> <li>- The website when ambiguity is reduced</li> <li>- The front desk when complexity and ambiguity are still high</li> </ul>
Front desk	<ul style="list-style-type: none"> <li>- Out of habit</li> <li>- Gives closure</li> <li>- Is personal</li> <li>- offers high levels of service</li> </ul>	<ul style="list-style-type: none"> <li>- Ambiguous tasks and (highly) complex tasks</li> </ul>	<ul style="list-style-type: none"> <li>- To reduce high levels of uncertainty</li> <li>- When matters are of high importance</li> <li>- When emotions play a major role</li> </ul>	<ul style="list-style-type: none"> <li>- The website when ambiguity is reduced</li> </ul>
E-mail	<ul style="list-style-type: none"> <li>- easy to use</li> <li>- Gives closure</li> </ul>	<ul style="list-style-type: none"> <li>- Simple &amp; standard tasks</li> <li>- much information (backgrounds)</li> </ul>	<ul style="list-style-type: none"> <li>- To reduce medium levels of uncertainty</li> </ul>	<ul style="list-style-type: none"> <li>- The telephone when ambiguity is high</li> <li>- The website when (simple) information is needed.</li> <li>- The front desk when complexity and ambiguity are high</li> </ul>

*Table 10.2: Examples of linkages between channel choice determinants, task suitability and channel referral*

Anyway, the integration strategy discussed here requires an elaborate combination of special characteristics of channels with the particular services that they are supposed to offer to particular target groups of users. This might mean that services are offered primarily via the best channels and that tools such as segmentation are used in campaigns to market services to the citizens. It assumes that governments have information and communication management officers who have professional (multi)media expertise and that they have sufficient knowledge of the communication needs, capacities and equipment of all client groups of citizens. It further requires that the information (its content, not its form) provided through the channels is the same in all channels and that the information is synchronous across the channels. Those conditions are not often met. Many government departments only have information campaign and press officers. The offering of electronic and traditional public services often takes a supply-side and technical orientation instead of a demand-side and social or psychological orientation. Usually, there is not much knowledge of the actual use and the real needs and skills of citizens as media

users. Permanent user registration is a necessity realized in modern business administration but not in the average current public administration. Governments will have to develop these new professional media competencies to realize the potential next step in government service channel positioning: integrated multi-channeling.

Given the bureaucratic rationality of governmental agencies, as discussed in Chapter 2, governmental agencies have a tendency to view citizens as rational beings who weigh the characteristics of channels and tasks before choosing channels. However, citizens are emotional and habitual beings who sometimes behave less than rationally. This result illustrates a large gap between government perceptions about citizens and the actual citizens' behavior. Channel strategies rarely take such factors into account, but given the importance of these factors as suggested by our results, governments might want to take such factors into consideration when designing their channels. Why not pay more attention to the possibilities to address citizens' emotions in telephone scripts, for example, by calming them, reassuring them about the correctness of the information and giving them closure? Emotions might also been taken into account more on websites. Currently information is mostly presented as 'dry' bits of information (in many instances legal or policy texts). Translating such texts into more vernacular language and adding feedback mechanisms (did you understand the information you just read?) may add more emotional connotations to electronic channels.

#### 10.5.2 Influencing behavior

From the available literature, we can derive different ways to influence the behavior of citizens in their channel choices (Teerling & Pieterse, 2009), such as legal measures (obliging citizens to use channels), communication (such as informational or educational campaigns), pricing and the design of the channels (such as increasing the accessibility of the channels). Research has shown that communication is the preferred means, from the citizens' perspective (Teerling & Pieterse, 2009). Until now, communication has also been a frequently used means to persuade citizens to use electronic channels. However, campaigns mostly have a rather informational character and point to the (rational) benefits of the electronic channels. Further, communication campaigns seldom last longer than a few weeks. The results in this study suggest that the focal point of communication campaigns should not be information, but rather persuasion and education. It is likely that emotionally driven citizens are more sensitive to emotionally loaded persuasion campaigns than to 'dry' information. Furthermore, people need to learn how to use the electronic channels (van Dijk *et al.*, 2008), and this requires other communicational content besides informational campaigns (such as specific instructions).

Furthermore, channel choice is largely a matter of habit; these habits stem from experiences and repeated use of the available channels. In order for people to use channels more than once, it is wise to design campaigns so as to focus citizens' attention on the electronic channels when preferred, as well as in the long run. A continued focus on

the preferred channel is more likely to lead to habitual behavior than short bursts of advertising.

Finally, this study has suggested that situational constraints are important factors in the choice of service channels. These situational constraints correlate strongly with the accessibility of service channels. The further away a front desk is, the less accessible it gets. The more time it takes for someone to search online, the less accessible this channel becomes. This finding suggests that the design of a channel, and specifically accessibility factors, should be considered when enticing people into using the desired channels. Restricting the opening hours or altering the distance to channels may be very effective ways to decrease the use of channels. From an ethical point of view (and given the need for governmental services to be accessible for all citizens), a better suggestion is to put far more effort into a proper design of electronic channels. Although we have no hard evidence, we believe that many websites' strategies follow the idea of putting as much information online as possible. A better strategy would be to put the desired information up front and put detailed information in knowledge bases deeper in the sites. Furthermore, personalization may help in offering citizens exactly those services that they need (Pieterse et al., 2007a). However, the specific design of service channels is seldom taken into account in multi-channel strategies and marketing campaigns (Pieterse, 2008a).

Regarding the practical implications, some limitations of this work should also be mentioned. First of all, our research centered on information services in which the citizen takes the initiative in the interaction (consultancy and conversation). This means that we should be cautious to generalize the findings to other types of services, such as transactions. We do believe that our study focused on fundamental behavioral determinants that are likely to influence channel choices for other services as well, but future research should determine whether this proposition is true.

Second, as already mentioned in §10.4, much of our (empirical) research focused on the Dutch Tax and Customs Administration. This also hinders the generalizability of the findings of (especially) the main study. Design of service delivery, such as the available channels and opening hours, is very organization-specific and should be taken into account when interpreting the findings.

## 10.6 Concluding remarks

The arrival of the electronic channels in the 1990s has had a huge effect on governmental service delivery. The new channels have led to many new opportunities to improve public service delivery, not only in terms of citizen satisfaction but also in terms of cost reduction for government agencies. However, until now, these promises have not been kept. Surely, use of the electronic channels has skyrocketed in recent years, and some organizations are seeing cost reductions, but in general, the use of the traditional channels remains high,

and the costs of introducing and maintaining the electronic channels have merely been additional costs. In this study, we tried to answer the question of what determines the channel choices of citizens when they need information from government agencies. The study shows that habits, emotions and situational constraints affect these choices far more than was assumed before. On a higher level, this finding points to an even more important conclusion: government agencies (and theorists as well) are largely unaware of the determinants of the behavior of individuals and rarely take citizens' behavior into account in their policies. This leaves one to wonder: how can governments better serve their citizens in a cost-efficient manner if they lack fundamental knowledge about citizens' behavior?

We hope that this dissertation at least helps increase awareness of the importance of citizens' behavior and the complexity of such behaviors. Too often, assumptions are made by government agencies about the behaviors of citizens that are far from real. Furthermore, we hope that this work helps the scholarly community in the further construction of theories and models that better describe channel choice behavior.

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## Appendices

### Appendix 1: Test Results for Cross Tabs of Channel Perceptions vs. Demographic Characteristics and Channel Usage

<b>Channel Perceptions</b>	
<b>Age</b>	
Price	$\chi^2 (12, N = 166) = 30.852, p = .002$ The elderly see the phone as cheap, the younger the front desk
<b>Gender</b>	
Ease of use	$\chi^2 (4, N = 171) = 17.050, p = .002$ Females see the phone as easy, men the front desk and websites
Multiple cues	$\chi^2 (4, N = 169) = 9.564, p = .048$ Vrouwen meer telefoon, mannen meer balie
<b>Education</b>	
Usefulness	$\chi^2 (8, N = 169) = 19.566, p = .012$ Higher educated see e-mail as more useful
Experiences	$\chi^2 (8, N = 166) = 17.890, p = .022$ Higher educated have better experiences with websites
Service	$\chi^2 (8, N = 163) = 17.376, p = .026$ Higher educated see telephone and website as giving more service
Contact speed	$\chi^2 (8, N = 167) = 20.286, p = .009$ Higher educated see websites as better on contact speed
Multiple cues	$\chi^2 (8, N = 169) = 19.167, p = .014$ Lower educated see front desk as giving more cues, higher educated see phone and websites as having more cues.
<b>Channel last used</b>	
Price	$\chi^2 (8, N = 212) = 104.047, p < .000$
Ease of use	$\chi^2 (8, N = 215) = 79.117, p < .000$
Usefulness	$\chi^2 (8, N = 213) = 54.348, p < .000$
Experiences	$\chi^2 (8, N = 208) = 82.516, p < .000$
Service	$\chi^2 (8, N = 207) = 58.849, p < .000$
Contact speed	$\chi^2 (8, N = 211) = 39.942, p < .000$
Immediacy of feedback	$\chi^2 (8, N = 215) = 61.820, p < .000$
Multiple cues	$\chi^2 (8, N = 212) = 46.769, p < .000$
Language variety	$\chi^2 (8, N = 206) = 53.307, p < .000$
Personalization	$\chi^2 (8, N = 215) = 51.447, p < .000$

Regarding channel used last, all effects are in expected direction, people associate the channel they used last with the channel characteristics. The table shows the test results of the demographic characteristics and channel choice related to the perceived channel characteristics. Only significant relationships ( $T < 0.05$ ) are shown.

Appendix 2: Interaction effects of all manipulations and all channels

								Regression Coefficients of all manipulations on all channels									
D	I	A	C	E	T	N	Website		E-mail		Telephone		Post		Front Desk		
							B	p	B	p	B	p	B	p	B	p	
0	0	0	0	0	0	0	0,29	0,45	-0,54	0,26	0,35	0,36	-0,88	0,10	0,46	0,21	
0	0	0	0	0	0	1	0,35	0,36	-1,39	0,03	<b>0,77</b>	<b>0,03</b>	-	<b>0,02</b>	0,29	0,45	
0	0	0	0	0	1	0	0,54	0,07	-	<b>0,00</b>	-	<b>0,01</b>	-	<b>0,00</b>	0,00	1,00	
0	0	0	0	0	1	1	<b>2,44</b>	<b>0,00</b>	1,10	0,18	<b>2,35</b>	<b>0,00</b>	-0,69	0,57	<b>2,48</b>	<b>0,00</b>	
0	0	0	0	1	0	0	0,31	0,30	-	<b>0,00</b>	-0,64	0,10	-	<b>0,00</b>	-0,31	0,39	
0	0	0	0	1	0	1	0,00	1,00	-0,32	0,49	0,49	0,20	-0,45	0,35	0,65	0,08	
0	0	0	0	1	1	0	0,11	0,75	-0,59	0,14	-0,41	0,28	-	<b>0,00</b>	-0,12	0,73	
0	0	0	0	1	1	1	0,00	1,00	0,85	0,22	<b>2,34</b>	<b>0,00</b>	-0,41	0,66	<b>2,30</b>	<b>0,00</b>	
0	0	0	1	0	0	0	0,46	0,12	-	<b>0,00</b>	-	<b>0,00</b>	-	<b>0,00</b>	0,19	0,54	
0	0	0	1	0	0	1	<b>2,43</b>	<b>0,00</b>	0,69	0,33	<b>1,85</b>	<b>0,00</b>	-	0,99	<b>1,54</b>	<b>0,02</b>	
0	0	0	1	0	1	0	-0,81	0,06	-0,81	0,06	0,00	1,00	-	0,98	0,29	0,36	
0	0	0	1	0	1	1	<b>1,50</b>	<b>0,01</b>	0,00	1,00	<b>1,75</b>	<b>0,00</b>	-	0,98	<b>1,95</b>	<b>0,00</b>	
0	0	0	1	1	0	0	0,51	0,48	0,98	0,15	<b>2,27</b>	<b>0,00</b>	0,69	0,33	<b>2,16</b>	<b>0,00</b>	
0	0	0	1	1	0	1	0,45	0,16	-	<b>0,04</b>	-0,58	0,17	-	<b>0,01</b>	0,17	0,61	
0	0	0	1	1	1	0	14,69	0,99	15,20	0,99	17,15	0,98	15,54	0,99	16,85	0,98	
0	0	0	1	1	1	1	0,69	0,57	1,95	0,07	<b>3,58</b>	<b>0,00</b>	1,10	0,34	<b>3,37</b>	<b>0,00</b>	
0	0	1	0	0	0	0	<b>1,08</b>	<b>0,00</b>	-	<b>0,01</b>	-	<b>0,02</b>	-	0,99	-0,14	0,71	
0	0	1	0	0	0	1	<b>1,79</b>	<b>0,00</b>	1,20	0,07	<b>2,08</b>	<b>0,00</b>	0,00	1,00	<b>1,90</b>	<b>0,00</b>	
0	0	1	0	0	1	0	<b>1,61</b>	<b>0,00</b>	0,47	0,41	<b>1,53</b>	<b>0,00</b>	-1,61	0,14	<b>1,16</b>	<b>0,02</b>	
0	0	1	0	0	1	1	15,50	0,99	15,63	0,99	16,85	0,98	13,55	0,99	17,11	0,98	
0	0	1	0	1	0	0	1,10	0,34	<b>2,40</b>	<b>0,02</b>	<b>3,37</b>	<b>0,00</b>	<b>2,08</b>	<b>0,05</b>	<b>3,14</b>	<b>0,00</b>	
0	0	1	0	1	0	1	0,69	0,57	<b>2,08</b>	<b>0,05</b>	<b>3,22</b>	<b>0,00</b>	1,95	0,07	<b>3,43</b>	<b>0,00</b>	
0	0	1	0	1	1	0	0,50	0,14	-0,69	0,13	-0,24	0,55	-	<b>0,02</b>	0,25	0,48	
0	0	1	0	1	1	1	<b>0,94</b>	<b>0,02</b>	-	<b>0,05</b>	<b>0,94</b>	<b>0,02</b>	-	0,98	<b>0,85</b>	<b>0,03</b>	
0	0	1	1	0	0	0	0,76	0,10	-0,56	0,37	<b>1,42</b>	<b>0,00</b>	-1,25	0,12	<b>1,00</b>	<b>0,02</b>	
0	0	1	1	0	0	1	-0,13	0,80	0,00	1,00	<b>0,97</b>	<b>0,02</b>	-0,69	0,26	<b>1,29</b>	<b>0,00</b>	
0	0	1	1	0	1	0	<b>0,76</b>	<b>0,02</b>	-	<b>0,01</b>	-0,22	0,56	-	0,98	-0,07	0,85	
0	0	1	1	0	1	1	0,41	0,66	1,25	0,12	<b>2,67</b>	<b>0,00</b>	0,41	0,66	<b>2,77</b>	<b>0,00</b>	
0	0	1	1	1	0	0	0,29	0,71	0,69	0,33	<b>2,04</b>	<b>0,00</b>	-0,41	0,66	<b>2,59</b>	<b>0,00</b>	
0	0	1	1	1	0	1	<b>0,96</b>	<b>0,01</b>	-0,92	0,12	0,26	0,53	-	<b>0,03</b>	<b>0,83</b>	<b>0,03</b>	
0	0	1	1	1	1	0	1,79	0,10	1,79	0,10	<b>3,09</b>	<b>0,00</b>	1,10	0,34	<b>3,66</b>	<b>0,00</b>	
0	0	1	1	1	1	1	0,41	0,66	0,69	0,42	<b>2,40</b>	<b>0,00</b>	<b>1,61</b>	<b>0,04</b>	<b>2,86</b>	<b>0,00</b>	
0	1	0	0	0	0	0	0,77	0,12	-0,69	0,33	<b>1,25</b>	<b>0,01</b>	-0,18	0,76	<b>1,67</b>	<b>0,00</b>	
0	1	0	0	0	0	1	0,64	0,12	-0,59	0,29	<b>1,10</b>	<b>0,00</b>	-1,10	0,10	0,58	0,17	
0	1	0	0	0	1	0	0,29	0,71	-0,41	0,66	<b>1,95</b>	<b>0,00</b>	0,85	0,22	<b>2,66</b>	<b>0,00</b>	
0	1	0	0	0	1	1	0,41	0,66	0,00	1,00	<b>2,83</b>	<b>0,00</b>	0,00	1,00	<b>2,77</b>	<b>0,00</b>	
0	1	0	0	1	0	0	0,00	1,00	1,39	0,21	<b>3,33</b>	<b>0,00</b>	<b>2,40</b>	<b>0,02</b>	<b>3,43</b>	<b>0,00</b>	
0	1	0	0	1	0	1	<b>1,75</b>	<b>0,00</b>	0,22	0,74	<b>1,32</b>	<b>0,02</b>	0,00	1,00	<b>1,83</b>	<b>0,00</b>	
0	1	0	0	1	1	0	<b>1,31</b>	<b>0,00</b>	-0,85	0,22	<b>0,94</b>	<b>0,03</b>	-1,95	0,07	<b>1,10</b>	<b>0,01</b>	
0	1	0	0	1	1	1	1,10	0,34	1,39	0,21	<b>3,53</b>	<b>0,00</b>	1,10	0,34	<b>3,43</b>	<b>0,00</b>	
0	1	0	1	0	0	0	0,11	0,74	-	<b>0,03</b>	-0,19	0,59	-	0,98	0,06	0,87	
0	1	0	1	0	0	1	<b>2,20</b>	<b>0,04</b>	1,95	0,07	<b>3,04</b>	<b>0,00</b>	1,39	0,21	<b>3,53</b>	<b>0,00</b>	
0	1	0	1	0	1	0	0,85	0,08	-0,18	0,76	<b>1,39</b>	<b>0,00</b>	-0,69	0,33	<b>1,30</b>	<b>0,00</b>	
0	1	0	1	0	1	1	<b>2,08</b>	<b>0,01</b>	0,41	0,66	<b>2,60</b>	<b>0,00</b>	0,00	1,00	<b>2,53</b>	<b>0,00</b>	
0	1	0	1	1	0	0	0,29	0,71	-1,10	0,34	<b>2,04</b>	<b>0,00</b>	-0,41	0,66	<b>2,69</b>	<b>0,00</b>	
0	1	0	1	1	0	1	<b>1,34</b>	<b>0,01</b>	0,00	1,00	<b>1,57</b>	<b>0,00</b>	-	0,98	<b>1,53</b>	<b>0,00</b>	
0	1	0	1	1	1	0	0,49	0,20	0,09	0,83	0,24	0,55	-	0,98	0,65	0,08	
0	1	0	1	1	1	1	<b>2,20</b>	<b>0,00</b>	0,00	1,00	<b>2,60</b>	<b>0,00</b>	0,00	1,00	<b>2,53</b>	<b>0,00</b>	
0	1	1	0	0	0	0	<b>1,35</b>	<b>0,00</b>	-1,95	0,07	0,45	0,35	-	0,99	<b>1,46</b>	<b>0,00</b>	
0	1	1	0	0	0	1	15,21	0,99	15,77	0,99	16,87	0,99	15,21	0,99	17,51	0,99	
0	1	1	0	0	1	0	<b>2,08</b>	<b>0,01</b>	0,41	0,66	<b>1,95</b>	<b>0,01</b>	-	0,99	<b>3,02</b>	<b>0,00</b>	
0	1	1	0	0	1	1	0,92	0,27	0,69	0,42	<b>2,35</b>	<b>0,00</b>	-0,69	0,57	<b>3,09</b>	<b>0,00</b>	
0	1	1	0	1	0	0	13,42	0,99	15,03	0,99	16,60	0,98	16,19	0,98	16,79	0,98	
0	1	1	0	1	0	1	13,52	0,99	14,62	0,99	16,92	0,98	16,00	0,99	16,99	0,98	
0	1	1	0	1	1	0	<b>2,25</b>	<b>0,00</b>	1,39	0,08	<b>2,56</b>	<b>0,00</b>	-	0,99	<b>2,53</b>	<b>0,00</b>	
0	1	1	0	1	1	1	1,50	0,05	-	0,99	<b>2,35</b>	<b>0,00</b>	-0,69	0,57	<b>3,04</b>	<b>0,00</b>	
0	1	1	1	0	0	0	0,00	1,00	0,00	1,00	<b>3,26</b>	<b>0,00</b>	1,10	0,34	<b>3,78</b>	<b>0,00</b>	
0	1	1	1	0	0	1	1,79	0,10	1,10	0,34	<b>3,22</b>	<b>0,00</b>	0,00	1,00	<b>3,69</b>	<b>0,00</b>	
0	1	1	1	0	1	0	<b>1,47</b>	<b>0,02</b>	1,10	0,10	<b>2,04</b>	<b>0,00</b>	0,00	1,00	<b>2,12</b>	<b>0,00</b>	
0	1	1	1	0	1	1	0,69	0,57	0,69	0,57	<b>3,22</b>	<b>0,00</b>	0,69	0,57	<b>3,78</b>	<b>0,00</b>	
0	1	1	1	1	0	0	<b>1,39</b>	<b>0,01</b>	-0,92	0,27	<b>1,57</b>	<b>0,00</b>	-1,61	0,14	<b>1,57</b>	<b>0,00</b>	
0	1	1	1	1	0	1	0,00	1,00	1,95	0,07	<b>3,66</b>	<b>0,00</b>	1,10	0,34	<b>3,26</b>	<b>0,00</b>	
0	1	1	1	1	1	0	14,14	0,99	14,14	0,99	17,54	0,99	0,00	1,00	17,92	0,99	
0	1	1	1	1	1	1	17,15	0,99	15,77	0,99	17,31	0,99	0,00	1,00	18,54	0,99	
1	0	0	0	0	0	0	0,27	0,41	-0,13	0,72	0,32	0,33	-	<b>0,01</b>	-	0,98	
1	0	0	0	0	0	1	<b>1,63</b>	<b>0,00</b>	-0,41	0,44	0,58	0,17	-	<b>0,04</b>	-1,50	0,05	
1	0	0	0	0	1	0	-0,75	0,08	-0,64	0,12	<b>0,88</b>	<b>0,00</b>	-	0,99	-	<b>0,01</b>	
1	0	0	0	0	1	1	<b>1,50</b>	<b>0,00</b>	0,92	0,06	<b>1,47</b>	<b>0,00</b>	-1,10	0,18	-1,10	0,18	
1	0	0	0	1	0	0	0,04	0,88	-0,69	0,06	-0,53	0,13	-	<b>0,00</b>	-	<b>0,00</b>	



										Regression Coefficients of all manipulations on all channels									
D	I	A	C	E	T	N	Website		E-mail		Telephone		Post		Front Desk				
							B	D	B	D	B	D	B	D	B	D			
1	0	0	0	1	0	1	0.69	0.57	<b>2.64</b>	<b>0.01</b>	<b>3.91</b>	<b>0.00</b>	1.61	0.14	1.79	0.10			
1	0	0	0	1	1	0	0.69	0.57	1.79	0.10	<b>4.06</b>	<b>0.00</b>	1.61	0.14	1.10	0.34			
1	0	0	0	1	1	1	<b>1.32</b>	<b>0.00</b>	0.00	1.00	<b>1.14</b>	<b>0.01</b>	-0.98	0.15	-	<b>0.05</b>			
1	0	0	1	0	0	0	0.00	1.00	-0.33	0.37	0.15	0.63	-	<b>0.01</b>	-	0.98			
1	0	0	1	0	0	1	0.61	0.08	0.07	0.85	0.53	0.13	-	<b>0.04</b>	-	0.98			
1	0	0	1	0	1	0	<b>1.95</b>	<b>0.00</b>	<b>1.18</b>	<b>0.04</b>	<b>1.98</b>	<b>0.00</b>	-1.39	0.21	-0.69	0.42			
1	0	0	1	0	1	1	-0.29	0.40	-0.69	0.07	0.22	0.46	-	<b>0.00</b>	-	<b>0.00</b>			
1	0	0	1	1	0	0	14.95	0.99	16.98	0.99	17.51	0.99	16.04	0.99	13.85	0.99			
1	0	0	1	1	0	1	-0.41	0.37	0.46	0.21	<b>0.92</b>	<b>0.01</b>	-0.88	0.10	-	<b>0.03</b>			
1	0	0	1	1	1	0	-0.12	0.81	0.00	1.00	<b>1.61</b>	<b>0.00</b>	-1.10	0.10	-1.50	0.05			
1	0	0	1	1	1	1	<b>1.13</b>	<b>0.00</b>	-0.11	0.82	<b>0.79</b>	<b>0.04</b>	-	<b>0.03</b>	-0.92	0.12			
1	0	1	0	0	0	0	<b>1.32</b>	<b>0.00</b>	0.32	0.49	<b>1.29</b>	<b>0.00</b>	-	0.99	-	0.99			
1	0	1	0	0	0	1	<b>1.10</b>	<b>0.00</b>	-	<b>0.03</b>	0.41	0.28	-	<b>0.02</b>	-0.88	0.10			
1	0	1	0	0	1	0	<b>2.12</b>	<b>0.00</b>	0.98	0.15	<b>2.51</b>	<b>0.00</b>	0.00	1.00	-0.41	0.66			
1	0	1	0	0	1	1	<b>2.12</b>	<b>0.00</b>	<b>1.39</b>	<b>0.03</b>	<b>2.37</b>	<b>0.00</b>	0.29	0.71	-1.10	0.34			
1	0	1	0	1	0	0	-0.34	0.57	0.00	1.00	<b>1.97</b>	<b>0.00</b>	0.00	1.00	-	0.99			
1	0	1	0	1	0	1	0.51	0.48	0.98	0.15	<b>2.96</b>	<b>0.00</b>	-0.41	0.66	-	1.00			
1	0	1	0	1	1	0	0.61	0.08	-0.62	0.19	0.65	0.06	-	<b>0.01</b>	-0.77	0.12			
1	0	1	0	1	1	1	0.69	0.42	1.50	0.05	<b>3.20</b>	<b>0.00</b>	1.50	0.05	0.41	0.66			
1	0	1	1	0	0	0	<b>1.15</b>	<b>0.01</b>	0.85	0.08	<b>1.70</b>	<b>0.00</b>	-0.41	0.53	-1.79	0.10			
1	0	1	1	0	0	1	<b>0.64</b>	<b>0.03</b>	-	<b>0.01</b>	-0.25	0.48	-	<b>0.00</b>	-	<b>0.00</b>			
1	0	1	1	0	1	0	1.39	0.21	1.95	0.07	<b>4.06</b>	<b>0.00</b>	1.10	0.34	0.69	0.57			
1	0	1	1	0	1	1	1.39	0.08	1.25	0.12	<b>3.28</b>	<b>0.00</b>	0.69	0.42	0.69	0.42			
1	0	1	1	1	0	0	0.69	0.26	1.10	0.06	<b>2.37</b>	<b>0.00</b>	0.22	0.74	-0.29	0.71			
1	0	1	1	1	0	1	<b>2.48</b>	<b>0.02</b>	<b>2.64</b>	<b>0.01</b>	<b>3.69</b>	<b>0.00</b>	1.61	0.14	1.39	0.21			
1	0	1	1	1	1	0	16.50	1.00	18.51	0.99	19.79	0.99	17.19	0.99	16.50	1.00			
1	0	1	1	1	1	1	<b>19.9</b>	<b>0.00</b>	<b>20.4</b>	<b>0.00</b>	<b>22.6</b>	<b>0.00</b>	<b>19.6</b>	<b>0.00</b>	19.22	.			
1	1	0	0	0	0	0	<b>1.41</b>	<b>0.00</b>	-0.22	0.64	0.18	0.67	-1.20	0.07	-0.92	0.12			
1	1	0	0	0	0	1	0.59	0.29	<b>1.03</b>	<b>0.05</b>	<b>2.10</b>	<b>0.00</b>	0.00	1.00	-0.92	0.27			
1	1	0	0	0	1	0	0.22	0.74	-0.69	0.42	<b>2.67</b>	<b>0.00</b>	0.22	0.74	-1.39	0.21			
1	1	0	0	1	1	1	0.41	0.66	1.25	0.12	<b>3.28</b>	<b>0.00</b>	0.69	0.42	1.39	0.08			
1	1	0	0	1	0	0	0.00	1.00	-	<b>0.04</b>	0.00	1.00	-	<b>0.00</b>	-	<b>0.00</b>			
1	1	0	0	1	0	1	<b>1.46</b>	<b>0.00</b>	0.76	0.10	0.83	0.07	-1.95	0.07	0.13	0.80			
1	1	0	0	1	1	0	<b>1.57</b>	<b>0.00</b>	0.96	0.07	<b>1.79</b>	<b>0.00</b>	-1.61	0.14	0.00	1.00			
1	1	0	0	1	1	1	<b>3.04</b>	<b>0.00</b>	1.95	0.07	<b>3.50</b>	<b>0.00</b>	-	0.99	<b>2.71</b>	<b>0.01</b>			
1	1	0	1	0	0	0	<b>1.79</b>	<b>0.00</b>	<b>1.67</b>	<b>0.01</b>	<b>2.30</b>	<b>0.00</b>	0.00	1.00	0.98	0.15			
1	1	0	1	0	0	1	<b>1.61</b>	<b>0.00</b>	0.47	0.41	<b>1.95</b>	<b>0.00</b>	-0.51	0.48	-	0.99			
1	1	0	1	0	1	0	<b>3.43</b>	<b>0.00</b>	1.39	0.21	<b>3.26</b>	<b>0.00</b>	0.69	0.57	<b>2.48</b>	<b>0.02</b>			
1	1	0	1	0	1	1	<b>3.18</b>	<b>0.00</b>	1.39	0.21	<b>3.69</b>	<b>0.00</b>	-	0.99	1.95	0.07			
1	1	0	1	1	0	0	0.69	0.33	<b>1.30</b>	<b>0.05</b>	<b>2.69</b>	<b>0.00</b>	1.20	0.07	-1.10	0.34			
1	1	0	1	1	0	1	<b>2.40</b>	<b>0.02</b>	<b>2.20</b>	<b>0.04</b>	<b>3.76</b>	<b>0.00</b>	1.39	0.21	<b>2.20</b>	<b>0.04</b>			
1	1	0	1	1	1	0	0.69	0.42	0.92	0.27	<b>3.37</b>	<b>0.00</b>	1.10	0.18	0.41	0.66			
1	1	0	1	1	1	1	<b>1.05</b>	<b>0.02</b>	-0.34	0.57	<b>1.82</b>	<b>0.00</b>	-	0.99	-1.95	0.07			
1	1	1	0	0	0	0	<b>2.05</b>	<b>0.00</b>	0.34	0.57	<b>1.16</b>	<b>0.02</b>	-0.51	0.48	0.18	0.76			
1	1	1	0	0	0	1	<b>2.92</b>	<b>0.00</b>	0.69	0.42	<b>2.64</b>	<b>0.00</b>	0.00	1.00	0.92	0.27			
1	1	1	0	0	1	0	16.29	0.99	17.99	0.99	19.57	0.99	16.98	0.99	17.39	0.99			
1	1	1	0	0	1	1	<b>2.89</b>	<b>0.00</b>	1.61	0.14	<b>3.89</b>	<b>0.00</b>	-	0.99	1.10	0.34			
1	1	1	0	1	0	0	<b>2.22</b>	<b>0.00</b>	0.69	0.26	<b>1.66</b>	<b>0.00</b>	0.00	1.00	-0.29	0.71			
1	1	1	0	1	0	1	<b>1.86</b>	<b>0.00</b>	-0.22	0.74	<b>1.76</b>	<b>0.00</b>	-0.22	0.74	-1.61	0.14			
1	1	1	0	1	1	0	17.25	1.00	17.94	0.99	19.87	0.99	17.65	0.99	16.96	1.00			
1	1	1	0	1	1	1	<b>3.37</b>	<b>0.00</b>	1.10	0.34	<b>3.50</b>	<b>0.00</b>	0.69	0.57	<b>2.08</b>	<b>0.05</b>			
1	1	1	1	0	0	0	<b>1.91</b>	<b>0.00</b>	1.01	0.08	<b>2.05</b>	<b>0.00</b>	-0.69	0.42	-0.29	0.71			
1	1	1	1	0	0	1	<b>2.08</b>	<b>0.05</b>	<b>2.56</b>	<b>0.01</b>	<b>3.87</b>	<b>0.00</b>	1.61	0.14	1.10	0.34			
1	1	1	1	0	1	0	<b>2.20</b>	<b>0.00</b>	1.39	0.08	<b>3.07</b>	<b>0.00</b>	0.00	1.00	0.41	0.66			
1	1	1	1	0	1	1	<b>2.67</b>	<b>0.00</b>	0.00	1.00	<b>2.80</b>	<b>0.00</b>	0.41	0.66	1.10	0.18			
1	1	1	1	1	0	0	<b>1.95</b>	<b>0.00</b>	-0.92	0.27	<b>1.34</b>	<b>0.01</b>	-0.92	0.27	0.96	0.07			
1	1	1	1	1	0	1	15.01	0.99	17.41	0.99	18.94	0.99	17.50	0.99	16.11	0.99			
1	1	1	1	1	1	0	17.18	1.00	18.39	1.00	20.05	0.99	16.78	1.00	17.87	1.00			
1	1	1	1	1	1	1	<b>3.00</b>	<b>0.00</b>	1.95	0.07	<b>3.64</b>	<b>0.00</b>	1.10	0.34	1.79	0.10			

<sup>a</sup>D' = Distance; <sup>b</sup>T' = Importance; <sup>c</sup>A' = Ambiguity; <sup>d</sup>C' = Complexity; <sup>e</sup>E' = Emotions; <sup>f</sup>T' = Time; <sup>g</sup>N' = Need for Closure

## Samenvatting (Dutch Summary)

Als ik een vraag heb voor de overheid, heb ik meestal verschillende mogelijkheden om die vraag te beantwoorden; ik kan op een website kijken, ik kan bellen, een e-mail sturen of in veel gevallen naar een balie gaan. Maar wat bepaalt nou mijn kanaalkeuze? Waarom kiezen mensen in het ene geval de telefoon, terwijl ze in een heel andere situatie op een website zullen gaan kijken? De vraag welke factoren de kanaalkeuze van Nederlandse burgers bepalen voor hun contacten met de overheid staat centraal in dit proefschrift.

Door de komst van het internet, ongeveer twintig jaar geleden, ontstond een aantal nieuwe dienstverleningskanalen, zoals websites en e-mail. Ten tijde van de internethype, eind jaren negentig van de vorige eeuw, was het enthousiasme over deze nieuwe kanalen groot. De verwachting (niet alleen binnen de overheid) was dat de nieuwe kanalen het gebruik van de oude dienstverleningskanalen zou gaan marginaliseren. Waarom naar een balie afreizen, terwijl je ook vanuit je luie stoel 24 uur per dag alle informatie tot je kunt nemen vanachter je computer?

Inmiddels wordt duidelijk dat de hooggespannen verwachtingen niet volledig zijn uitgekomen. Elektronische dienstverlening is in sommige gevallen heel succesvol; meer dan 80 procent van alle belastingplichtigen doet elektronisch zijn inkomstenbelastingaangifte. Echter, het aantal telefoontjes en bezoekers aan de balie blijft bij de meeste overheidsorganisaties onverminderd hoog. Blijkbaar geven veel burgers nog steeds de voorkeur aan de 'traditionele' dienstverleningskanalen om hun diensten af te nemen. Dit roept de vraag op welke factoren eigenlijk de kanaalkeuze van burgers bepalen. Een antwoord op deze vraag is relevant voor een tweetal aspecten. In de eerste plaats is dat de inrichting van de dienstverlening. Dienstverlening is het meest efficiënt en effectief als deze is toegesneden op de wensen, behoeften en gedragingen van de klant. In de tweede plaats is een antwoord van belang voor de kanaalsturing van burgers door overheden. Het is voor de meeste organisaties het meest efficiënt om dienstverlening via de goedkopere (meestal de elektronische) kanalen te laten verlopen. Een antwoord op de centrale onderzoeksvraag kan helpen bij het dirigeren van de burger richting de meer kostenefficiënte kanalen.

### Samenvatting proefschrift

Het proefschrift is opgedeeld in een viertal delen. Het eerste deel bestaat uit de hoofdstukken 2 en 3 en dit deel dient vooral ter inkadering van het onderwerp. Het tweede deel beslaat de theoretisch hoofdstukken 4, 5 en 6. Het derde deel is het empirische deel en bestaat uit hoofdstuk 7, 8 en 9. Het laatste deel bestaat uit hoofdstuk 10 en vormt de conclusie van het onderzoek.

In hoofdstuk 1 zijn de achtergronden van het onderzoek beschreven. Hier is de directe aanleiding voor het onderzoek beschreven; burgers blijven gebruik maken van de

traditionele dienstverleningskanalen voor hun contacten met overheidsorganisaties. Hieruit volgt de centrale vraag welke gedragsdeterminanten ten grondslag liggen aan het kanaalkeuzeproces. Tegelijkertijd is er niet alleen de (praktische) vraag vanuit de overheid voor meer inzicht in kanaalkeuze, ook theoretici worstelen met de vraag hoe het kanaalkeuzegedrag eruit ziet en beschreven moet worden. Er is geen algemeen geaccepteerde theorie die voldoende inzicht geeft in het kanaalkeuzeproces. Hieruit volgt een tweede doel van het onderzoek; het verder bijdragen aan de theorievorming rondom kanaalkeuze.

In het tweede hoofdstuk is dieper ingegaan op overheidsdienstverlening. De strategieën die overheidsorganisaties hebben rondom de inrichting van hun dienstverlening(skanalen) zijn in de loop der jaren sterk veranderd. Vroeger was overheidsdienstverlening tamelijk eenvoudig ingericht; de meeste processen verliepen schriftelijk en als je als burger een vraag had kon je deze per brief, telefonisch of aan een balie stellen. De verschillende kanalen opereerden hierin naast elkaar (*parallel*), ze stonden onafhankelijk naast elkaar en boden ongeveer dezelfde functionaliteit.

De overheid probeert sinds de laatste decennia van de vorige eeuw om te veranderen van een intern- en aanbodgerichte, bureaucratische entiteit, naar een vraaggestuurde dienstverlener. Het is echter maar de vraag of deze omslag geheel gelukt is. Onderzoek wijst uit dat overheidsorganisaties nog steeds sterk rigide, bureaucratische, rationele, organisaties zijn. Dit heeft ook zijn weerslag op de beelden die bestaan binnen de overheid van de burger. In dit paradigma wordt de burger gezien als een rationele, emotionele, actor die bij de keuze voor een dienstverleningskanaal het 'beste' kanaal kiest gegeven de taak. Aangezien de elektronische dienstverleningskanalen een aantal (theoretische) voordelen hebben ten opzichte van de traditionele kanalen, zoals de snelheid, de 24/7 toegankelijkheid en de welhaast onbegrensde opslagcapaciteit, is het niet verwonderlijk dat deze kanalen door de overheid al snel gezien werden als de objectief 'beste' kanalen voor overheidsdienstverlening. Dit heeft binnen de overheid geleid tot de *vervangingsthese* waarbij gedacht werd dat het ene dienstverleningskanaal het andere zou kunnen vervangen vanwege de vermeende superioriteit van het kanaal.

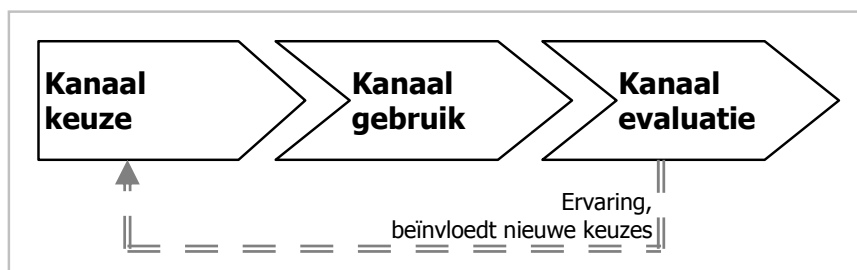
Het gedrag van de burger blijkt echter niet geheel conform deze verwachting te zijn. Burgers gebruiken verschillende kanalen voor verschillende typen diensten. De theorie suggereert ook dat verschillende kanalen verschillende eigenschappen hebben die ze geschikt maken voor bepaalde vormen van dienstverlening. Een website is bijvoorbeeld minder interactief dan een gesprek via de telefoon. Op basis hiervan zou een strategie wenselijk zijn waarin kanalen elkaar aanvullen (*supplementele strategie*) en de ene dienst via het ene en de andere dienst via het andere kanaal wordt aangeboden. Echter, dienstverlening bij de overheid is dermate complex dat een supplementele strategie bijna niet mogelijk is. Het is bijvoorbeeld voor de overheid lastig om groepen mensen (bijvoorbeeld mensen zonder internetaansluiting) uit te sluiten van bepaalde vormen van

dienstverlening. Daarnaast kiest de burger niet altijd hetzelfde kanaal voor een bepaalde dienst maar is zijn gedrag grilliger; het ene moment wordt het ene en het andere moment het andere kanaal gekozen. Dit zou ervoor pleiten om dienstverleningskanalen veel meer te integreren, zodat kanalen naar elkaar doorverwijzen en de burger automatisch naar de voor hem beste plaats gedirigeerd wordt terwijl tegelijkertijd de kosten van de dienstverlening in de hand worden gehouden. Er kunnen dus een viertal kanaalstrategieën onderscheiden worden, welke in de onderstaande tabel staan samengevat.

Nr	Name	Explanation
1	Vervangings-positionering	Kanalen kunnen elkaar vervangen. Uitgangspunt is dat kanalen in totaliteit superieur of inferieur aan elkaar kunnen zijn. De klant zou het beste kanaal autonoom gaan gebruiken en het ene kanaal door het ander vervangen.
2	Parallele positionering	Kanalen staan naast elkaar. Burger heeft de keuze uit de verschillende kanalen en het maakt daarbij niet uit welk kanaal hij kiest, alle diensten zijn bij alle kanalen gelijk.
3	Supplementele positionering	Kanalen vullen elkaar aan. Kanalen hebben verschillende eigenschappen en dat maakt ze geschikt voor verschillende diensten. Bepaalde diensten worden via het ene kanaal en andere alleen via het andere kanaal aangeboden.
4	Geïntegreerde positionering	Dienstverlening wordt geïntegreerd in de kanalen. Alle diensten worden in principe via alle kanalen aangeboden, maar bij de inrichting van de kanalen en vormgeving van de diensten wordt rekening gehouden met de eigenschappen van de kanalen. Dit kan ertoe leiden dat bepaalde diensten prominenter via bepaalde kanalen worden aangeboden. Daarnaast verwijzen, door de integratie, de kanalen naar elkaar zodat de klant naar het meest effectieve en efficiënte kanaal gedirigeerd wordt.

Tabel s.1: Kanaalstrategieën

In hoofdstuk drie is in meer detail naar het kanaalgedrag van burgers gekeken. In dit hoofdstuk is geprobeerd de eerste algemene onderzoeksvraag te beantwoorden; *Wat is de huidige stand van zaken betreffende het kanaalgedrag van burger?* We hebben een, heel algemeen, model gepresenteerd dat weergeeft uit welk stappen het kanaalgedrag van burgers bestaat:



Figuur s.1: Kanaalgedrag van burgers

Wat betreft kanaalkeuze kan geconcludeerd worden dat het bestaande onderzoek gefragmenteerd is en er weinig diepgaande inzichten zijn. Bestaand onderzoek is vaak

gericht op één kanaal of één type dienst. Verder ontbreekt het aan theorieën die kanaalkeuzeprocessen beschrijven. Er is wel wat onderzoek dat geprobeerd heeft kanaalkeuzefactoren in kaart te brengen en de analyse daarvan suggereert dat ten minste vier groepen factoren bestaan; *taakkenmerken*, *kanaalmerken*, *persoonlijke eigenschappen* en *situationele factoren*. Het is echter nog wel onduidelijk welke invloed deze factoren precies hebben.

Wat betreft kanaalgebruik laat het bestaande onderzoek zien dat de traditionele dienstverleningskanalen nog steeds het meest belangrijk zijn. Wat betreft de ontwikkelingen in het gebruik is het zeer onwaarschijnlijk dat de elektronische kanalen de traditionele kanalen op afzienbare termijn gaan vervangen. Onderzoek laat ook duidelijk zien dat verschillende kanalen voor verschillende typen diensten gebruikt worden. Dit is in lijn met het kanaalkeuze onderzoek waarin al gesteld is dat taakkenmerken een rol spelen in de kanaalkeuze.

De laatste fase van kanaalgedrag is de evaluatie van het kanaal. Hier kunnen we concluderen dat de burger positiever is over de elektronische kanalen dan over de traditionele kanalen. De evaluatie van de elektronische kanalen wordt door de jaren heen ook steeds positiever.

Het tweede deel van het proefschrift bestaat uit een analyse van de bestaande theoretische inzichten. Hierbij wordt vooral gekeken naar communicatietheorieën die ingaan op mediakeuze of mediagebruik<sup>26</sup>. De volgende, algemene, onderzoeksvraag staat hier centraal; *Wat zijn de belangrijkste inzichten over kanaalkeuze die we uit bestaande theorieën kunnen afleiden?* In hoofdstuk vier worden de theorieën besproken die bekend staan als de 'rationele' theorieën en in hoofdstuk vijf worden de theorieën besproken die bekend staan als '(inter)subjectief'. Deze twee stromingen worden vaak als dichotoom gezien en vandaar dat deze afzonderlijk besproken worden. In hoofdstuk 6 worden meer algemene keuzetheorieën besproken, alsmede theorieën die proberen rationale en (inter)subjectieve paradigma's te integreren.

In hoofdstuk vier zijn de rationale media theorieën besproken. De Media Richness Theory is hiervan de meest prominente. Basisgedachte achter deze theorie is dat zowel taken als kanalen verschillende eigenschappen hebben. Taken kunnen *onzeker* of *ambigu* zijn en media kunnen variëren in 'rijkheid' op basis van hun mogelijkheid tot directe feedback, het aantal cues dat gebruikt wordt (zoals audio en video), de mogelijkheid tot taalvariatie en

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<sup>26</sup> Het onderscheid tussen 'medium' en 'kanaal' is een complexe; waar de één zegt dat ze verschillen, zegt de ander dat er geen feitelijk onderscheid is tussen media en kanalen. Omdat in de dienstverleningscontext het woord 'kanaal' meer gebruikelijk is, hanteren wij dat begrip. In de communicatiewetenschap wordt in dezelfde betekenis vaak het woord medium gebruikt (zie hoofdstuk 1 van dit proefschrift voor een discussie).

de mogelijkheid tot personaliseren. Persoonlijke communicatie (face-to-face) is het meest 'rijk', gevolgd door de telefoon, e-mail en websites.

Vervolgens stelt de theorie dat communicatie het meest effectief is als het juiste kanaal voor de juiste taak gebruikt wordt, waarbij rijke kanalen gebruikt moeten worden voor ambigue vraagstukken en arme voor onzekere. Hoewel onbedoeld is de Media Richness Theory verworden tot een rationele keuzetheorie; de actor dient een rationele afweging te maken over de geschiktheid van een bepaald kanaal voor een bepaald vraagstuk. Deze gedachte is veel bekritiseerd als zou het een te beperkte verklaring van mediakeuze zijn. De mensen zou lang niet altijd rationeel zijn in het gedrag of zelf helemaal nooit.

In hoofdstuk vijf zijn we ingegaan op de (inter)subjectieve theorieën over kanaalkeuze. Veel van deze theorieën zijn geformuleerd als reactie of aanvulling op de Media Richness Theory. Deze theorieën hebben gemeen dat ze andere, minder rationele, verklaringen proberen te geven voor het keuzeproces onder de assumptie dat de mens geen (of een beperkt) rationele actor is. Andere assumptie die in alle theorieën gedeeld wordt is dat kanalen en taken geen (volledig) vaststaande eigenschappen hebben; je kunt niet van een medium of vraagstuk met objectieve maten vaststellen wat ervan de eigenschappen zijn. De eigenschappen zijn in werkelijkheid (voornamelijk) *percepties* die beïnvloed worden door de sociale omgeving (zoals het Social Influence Model stelt) of door eerdere ervaringen (zoals de Channel Expansion Theory stelt).

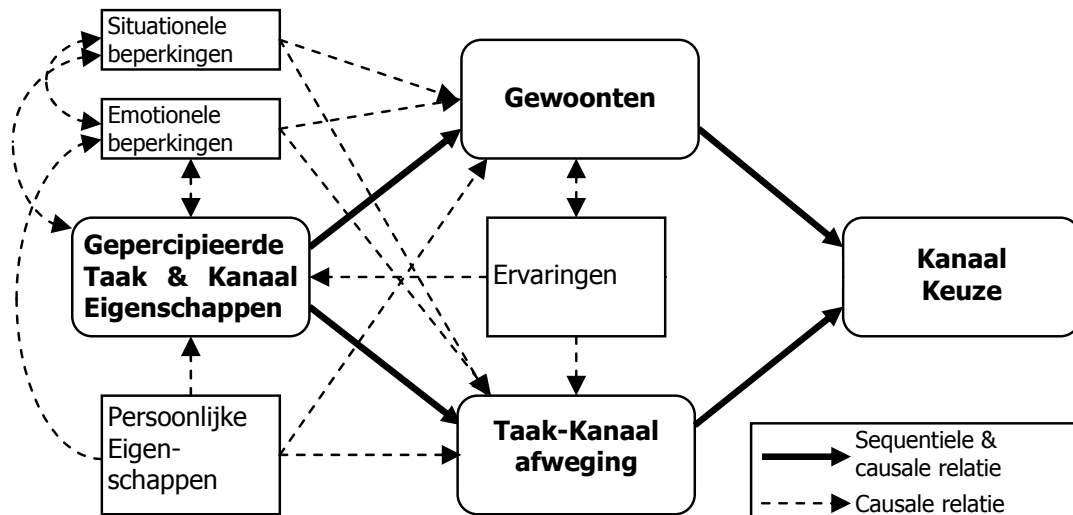
Echter, hoewel deze theorieën forse kritiek leveren op de, veronderstelde, rationaliteit in het gedrag door de Media Richness Theory, geeft geen van de in hoofdstuk 5 besproken theorieën een bevredigende alternatieve verklaring voor het gedrag van de actor. Samengevat, de theorieën geven aanvullende of alternatieve factoren die van invloed zijn op het kanaalkeuzeproces, maar zeggen eigenlijk niets over het proces zelf. Een aantal wetenschappers heeft ervoor gepleit om op zoek te gaan naar een theorie of model waarin de verschillende perspectieven (rationeel en (inter)subjectief) en factoren geïntegreerd worden, maar een dergelijke theorie ontbreekt voornamelijk.

De literatuur over keuzeprocessen in het algemeen (hoofdstuk 6), geeft hierover wel meer inzichten. Allereerst was vast te stellen dat dezelfde dichotomie die in de communicatietheorieën bestaat ook in de generieke 'decision making' literatuur te vinden is. Echter, er zijn hier wel meer pogingen gedaan tot integratie van de verschillende perspectieven. Zowel het 'meta rationality argument' als de 'adaptive decision-making hypothesis' stellen dat gedrag meer of minder rationeel is, afhankelijk van de situatie. Een aantal wetenschappers stelt dat mensen van nature op zoek zijn naar zo min mogelijk inspanning, hierbij zou het gemak dat het kanaal biedt belangrijker zijn dan het absolute nut. Echter, als het vraagstuk meer ambigu wordt, zullen mensen eerder geneigd zijn te gaan nadenken en gaat men meer rationeel wikken en wegen. Hierdoor neemt het belang van het nut van het kanaal toe, omdat mensen eerder geneigd zullen zijn om zekerheid te

zoeken om hun ambiguïteit te reduceren. De mate van rationaliteit in het nemen van besluiten is daarmee een functie van de vereiste inspanning (effort) en de verlangde zekerheid (accuracy). Beperkingen in de situatie, zoals de hoeveelheid beschikbare tijd beïnvloeden hoeveel inspanning in het keuzeprocess gestopt kan worden. Ten slotte leiden persoonlijke verschillen tot verschillende percepties van taken en kanalen en daarmee ook het keuzeprocess.

In het derde deel zijn de empirische studies besproken om na te gaan welke factoren precies van invloed zijn op de kanaalkeuze en om vast te stellen of het keuzeprocess variabel is, al naar gelang de situatie. In hoofdstuk 7 is geprobeerd een antwoord te vinden op de volgende onderzoeksvraag; *Welke factoren bepalen de kanaalkeuze van Nederlandse burgers voor de huidige dienstverlening van de overheid?* Dit is gedaan aan de hand van een kwalitatief onderzoek onder 58 Nederlandse burgers. De resultaten bevestigen de uitkomsten van de eerdere literatuurstudie grotendeels; de belangrijkste (groepen) factoren zijn *taakkenmerken, kanaalkenmerken, persoonlijke eigenschappen* en *situationele factoren*. Echter, er zijn ook nieuwe inzichten opgedaan, in de eerste plaats blijkt dat gewoonten een belangrijke rol spelen. Veel mensen denken nauwelijks (bewust) na bij het kiezen van een kanaal. Naast het (meer of minder) rationeel afwegen is er dus een tweede type keuzeprocess. In de tweede plaats blijkt dat emoties een grote rol spelen. Mensen handelen vaak uit hun primaire emoties, bijvoorbeeld omdat ze boos zijn op de overheid. Deze bevindingen zijn vooral relevant omdat geen van de bestaande (communicatie) theorieën gewoonten en emoties als factoren in het keuzeprocess opneemt.

In hoofdstuk acht stellen we een voorlopige theorie voor waarin we de inzichten uit de theorie en het verkennende onderzoek uit hoofdstuk zeven proberen te integreren. De volgende onderzoeksvraag stond hierbij centraal: *Hoe kunnen de theoretische en empirische) kwalitatieve inzichten gemodelleerd worden in een voorlopig raamwerk over kanaalkeuze?* Voornaamste assumptie in de voorlopige theorie is dat mensen verschillende keuzestrategieën hanteren bij het maken van een kanaalkeuze. De eerste strategie is er een waarbij mensen (meer of minder) rationeel een keuze maken uit de beschikbare kanalen. Hierbij spelen de taak- en kanaaleigenschappen een rol, alsmede de afweging tussen inspanning en zekerheid. De tweede strategie is er een waarbij geen bewust proces plaatsvindt, maar waarbij mensen op basis van hun gewoonten en ervaringen een keuze maken. Het keuzeprocess wordt beïnvloedt door de gepercipieerde taak en kanaaleigenschappen, situationele en emotionele beperkingen en persoonlijke eigenschappen. Gebaseerd op deze gedachten stellen we het volgende raamwerk voor:



Figuur s.2: Een sequentieel raamwerk van het kanaalkeuzeprocess van individuen met causale factoren.

In twee kwantitatieve studies is getracht vast te stellen of de gepercipieerde taak en kanaaleigenschappen, situationele en emotionele beperkingen en persoonlijke eigenschappen het kanaalkeuzeprocess beïnvloeden. Dit bleek voor elk van de groepen factoren zo te zijn. Een aantal zaken viel echter wel op; alhoewel de meeste mensen verschillende kanalen kiezen voor verschillende vraagstukken; is men wel *geneigd* om hetzelfde kanaal in elke situatie te kiezen. Dit lijkt een signaal te zijn dat mensen, uit gewoonte, steeds hetzelfde kanaal kiezen, maar dat er in (extreme) gevallen toch een bewust keuzeprocess plaatsvindt. Ten tweede worden de kanalen echt als verschillend gepercipieerd, deze percepties variëren echter wel tussen verschillende groepen mensen. Dit lijkt te bevestigen dat kanaaleigenschappen niet vaststaand zijn, maar (inter)subjectief geconstrueerd.

In de twee kwantitatieve studies uit hoofdstuk 8 is vooral gekeken naar de (rechtstreekse) relatie tussen steeds één factor en de kanaalkeuze. Hierbij is minder gekeken naar de relaties tussen de factoren en hoe de verschillende factoren interacteren. Dit was wel het doel van de studie beschreven in hoofdstuk 9. In dit hoofdstuk is de laatste algemene onderzoeksvraag beantwoord: *Welke kanaalkeuze factoren uit het voorlopige raamwerk zijn het belangrijkste voor kanaalkeuzes en hoe hangen deze factoren samen?* Aan de hand van een grootschalig kwantitatief onderzoek (n=2461) is geprobeerd deze vraag te beantwoorden. Het onderzoek bestond uit een tweetal delen. Allereerst zijn de percepties van burgers over hun kanaalkeuzes en de verschillende factoren in kaart gebracht. In de tweede plaats is met behulp van een vignette studie geprobeerd om uitspraken te doen over het keuzeprocess en de invloed van de verschillende factoren daarop.

De belangrijkste conclusie die getrokken kan worden na hoofdstuk 9 is dat er inderdaad verschillende kanaalkeuzestrategieën bestaan. De resultaten laten zien dat mensen in eerste instantie op zoek zijn naar een snel en gemakkelijk verkregen antwoord. Om dat



doel te bereiken is men geneigd om een kanaal te kiezen op basis van gewoonten en emoties. Vaak zijn dit de traditionele dienstverleningskanalen (balie en telefoon). Ook spelen situationele factoren, zoals de hoeveelheid tijd en de afstand tot de dienstverleningskanalen hierbij een belangrijke rol. In tweede instantie, als men er via het eerste kanaal niet uitkomt, dan gaat men nadenken en kiest men een kanaal op basis van een meer zorgvuldige afweging over de passendheid van kanaal en taak. In dit proces spelen vooral de eigenschappen van het vraagstuk een rol en verdwijnt de invloed van situationele en emotionele factoren.

Welke keuzestrategie gevolgd wordt blijkt af te hangen van al de verschillende groepen factoren, maar er is wel een verschil in belang. De situationele en emotionele factoren bleken het sterkst van invloed te zijn op de kanaalkeuze. Vooral de afstand tot het kanaal is daarbij relevant, mensen zijn eerder geneigd het kanaal te kiezen dat dichtbij is. Verder blijken hoogopgeleiden eerder rationeel te handelen en laten ouderen zich meer leiden door hun gewoonten. Wellicht hangt dit laatste samen met de invloed van ervaringen, die voor ouderen sterker is.

Tussen de twee onderdelen van het onderzoek vinden we consistente resultaten, alleen wat betreft de kanaaleigenschappen ontstaat ambiguïteit. De invloed hiervan varieert sterk en het is daarom aan vervolgonderzoek om hierover een finaal oordeel te vellen.

## Hoofdconclusie

De belangrijkste conclusie is dat kanaalkeuzeprocessen geen rechtlijnige processen van het koppelen van taken aan diensten zijn, zoals toch vaak wordt gedacht. Andere factoren blijken een (veel sterkere) rol te spelen, zoals de situationele beperkingen (plaats en tijd) en de emoties die de burger ervaart. Verder blijkt dat er vaak niet eens een bewust denkproces is, maar dat mensen zich laten leiden door hun gewoonten. Dit blijkt voor de respondenten in ons onderzoek zelfs de primaire keuzestrategie te zijn; een rationele afweging vindt pas in tweede instantie plaats.

Hiermee lijken de belangrijkste veronderstellingen uit onze theorie te worden ondersteund; er zijn twee keuzestrategieën, gebaseerd op gewoonten en op rationele afwegingen. De gekozen strategie wordt bepaald door taak- en kanaaleigenschappen, situationele en emotionele beperkingen en persoonlijke eigenschappen.

Hoewel het doel van het onderzoek vooral exploratief was; het in kaart brengen van factoren die een rol spelen in kanaalkeuzeprocessen suggereren de data dat we toch vrij stellige conclusies kunnen trekken. Niet alleen de significantie, de goede 'fit' van de modellen, maar ook de verklaarde variantie lijken valide en rigide uitkomsten te suggereren. Toch moet hier wel het (belangrijke) voorbehoud worden gemaakt dat er misschien wel 60% variantie verklaard is, maar dit maakt dat nog steeds 40% van de variantie in het kanaalkeuzegedrag niet verklaard kan worden.

## Theoretische Implicaties en aanbevelingen

Het onderzoek leidt tot een aantal theoretische implicaties. In de eerste plaats levert het onderzoek een bijdrage aan de verdere ontwikkeling van een geïntegreerde theorie over kanaalkeuze. De rationele en (inter)subjectieve theorieën sluiten elkaar niet uit, maar vullen elkaar aan en de situatie bepaalt welke keuzestrategie gevolgd wordt. De studie lijkt te suggereren dat deze situationele factoren kunnen fungeren als 'lijm' om de verschillende perspectieven bij elkaar te brengen.

In de tweede plaats vult de studie de reeds bekende set determinanten van kanaalkeuzeprocessen aan. Belangrijkste bijdrage hierin is dat duidelijk is geworden dat emoties, gewoonten en situationele kenmerken een belangrijke rol spelen. Het strekt aanbeveling deze factoren mee te nemen in de verdere theorievorming. Onze voorlopige theorie en het raamwerk zouden hiervoor een basis kunnen zijn.

In de derde plaats is het onderzoek dat gepresenteerd is in dit proefschrift een van de meest grootschalige, veelomvattende en diepgaande onderzoeken op dit terrein. Verschillende theorieën en bestaande onderzoeken zijn samen met kwalitatief onderzoek gebruikt om een nieuwe, voorlopige, theorie te ontwikkelen. In grootschalig kwantitatief onderzoek zijn de proposities uit deze theorie onderzocht. Het blijft echter een eerste aanzet tot een geïntegreerde theorie. Vervolgonderzoek en dan met name replicaties dienen de waarde van de theorie te bewijzen.

Ten slotte heeft het onderzoek duidelijk gemaakt dat de bestaande theorieën ontoereikend zijn om kanaalkeuzes te beschrijven en/of voorspellen. Het is merkwaardig hoeveel onderzoekers nog steeds theorieën gebruiken waarvan de tekortkomingen sinds jaar en dag bekend zijn. Het strekt, op zijn minst, ter aanbeveling om kritisch te kijken naar de bestaande theorieën alvorens deze te gebruiken of toe te passen.

## Praktische Implicaties en aanbevelingen

Op basis van de studie kunnen ook een aantal aanbevelingen gedaan worden voor de praktijk en dan met name de inrichting van de overheidsdienstverlening alsmede kanaalsturing van burgers door overheden.

Wat betreft de inrichting van de dienstverleningskanalen kan geconcludeerd worden dat deze in veel gevallen niet voldoet. De elektronische kanalen zijn niet in staat om de traditionele kanalen te vervangen, maar zijn een aanvulling op de bestaande kanalen. De verschillen in eigenschappen van kanalen bepalen dat deze geschikt zijn voor verschillende typen diensten en op basis daarvan zou een supplementele kanaalstrategie wenselijk zijn (zie Tabel s.1). Echter, de toepasbaarheid van deze strategie is niet volledig; verschillen tussen burgers leiden tot een verschillende geschiktheid van kanaal in relatie tot dienst én de gedragingen van de burger zijn veelal niet gebaseerd op een rationele afweging over de kanaal-dienst geschiktheid. Op basis hiervan strekt het tot aanbeveling om de

geïntegreerde kanaalstrategie toe te passen. Dit vereist echter wel veel meer kennis over de wensen, behoeften en gedragingen van burgers dan nu voorhanden is bij de meeste overheidsorganisaties. Een tweede aanbeveling is derhalve om meer kennis over de burger te verzamelen, in de eerste plaats door objectieve data uit de management informatiesystemen te halen over de feitelijke gedragingen van de burger en in de tweede plaats door subjectieve data te verzamelen in klantonderzoeken over de wensen, behoeften en evaluaties van de dienstverlening. Dit vereist echter wel dat de klantgegevens uit de verschillende systemen aan elkaar gekoppeld worden; alleen door deze gegevens te verbinden kan een compleet beeld geschetst worden van klantcontacten en klantgedragingen.

Tegelijkertijd is het voor de overheid wel wenselijk dat de burger, waar mogelijk, gebruik maakt van de meest kostenefficiënte kanalen. In veel gevallen zijn dit de elektronische dienstverleningskanalen. Hiertoe is het wenselijk om aan kanaalsturing te doen; het dirigeren van de burger naar het gewenste kanaal. Onderzoek (Teerling & Pieterse, 2009) heeft uitgewezen dat communicatie hiervoor, in de ogen van de burger, het meest geschikte instrument is. Tot op heden is communicatie wel ingezet als instrument, maar zonder veel effect. Dit onderzoek suggereert dat de inzet van het instrument wellicht verkeerd is geweest. Campagnes hebben veelal een informatief karakter en proberen op rationele gronden het gedrag van de burger te veranderen. Het is wellicht beter om de focus van campagnes te verschuiven van informeren naar instrueren en overtuigen teneinde te appelleren aan de emotionele component in het gedrag en om mensen ervaringen op te laten doen. Verder duren campagnes vaak te kort om gewoontes van mensen blijvend te veranderen.

De sterke invloed van situationele factoren op de kanaalkeuze impliceert dat ook hier belangrijke ruimte ligt om aan kanaalsturing te doen, bijvoorbeeld door de toegankelijkheid van de kanalen (openingstijden, locatie) aan te passen. Het impliceert ook dat in de inrichting van de kanalen met dit soort variabelen rekening gehouden moet worden. De 'luie' burger is meer gebaat bij een simpele website waar de informatie op staat waar hij echt behoefte aan heeft dan een complexe, uiterst volledige, juridisch juiste, website waar het gevaar van verdwaling op de loer ligt.

### Slotopmerking

De komst van de elektronische dienstverleningskanalen in de jaren 90 heeft een groot effect gehad op de dienstverlening van de overheid. De komst van nieuwe kanalen heeft tot vele mogelijkheden geleid om de publieke dienstverlening te verbeteren, niet alleen in termen van klanttevredenheid, maar ook om de kosten van de dienstverlening te reduceren. Helaas zijn deze mogelijkheden tot op heden niet waargemaakt. Het gebruik van de elektronische kanalen is enorm toegenomen en enkele organisaties hebben inderdaad de dienstverlening goedkoper weten te maken. In het algemeen blijft het gebruik van de traditionele dienstverleningskanalen echter onverminderd hoog, waardoor

de kosten van de elektronische dienstverlening 'extra' kosten gebleken zijn. In dit proefschrift hebben we geprobeerd een antwoord te vinden op de vraag welke factoren de keuze voor een kanaal van een burger bepalen als deze behoefte heeft aan contact met de overheid. Het onderzoek laat zien dat juist factoren waarvan het belang tot op heden nauwelijks werd onderkend een grote rol spelen; situationele beperkingen (plaats en tijd), emoties en gewoonten. Op een hoger niveau leidt dit resultaat tot een meer fundamentele conclusie; overheden zijn zich nauwelijks bewust van de gedragingen van burgers en de daadwerkelijke gedragsfactoren worden nauwelijks meegenomen in het (dienstverlenings)beleid. De verwondering die hierdoor ontstaat is aanzienlijk; hoe kunnen overheidsorganisaties hun dienstverlening richting de burger verbeteren als ze de fundamentele kennis over het gedrag van de burger niet hebben?

Hopelijk levert dit proefschrift in ieder geval een bijdrage aan de bewustwording binnen de overheid van het belang van kennis over de burger en de complexiteit van het gedrag van burgers. De assumpties die vaak gemaakt worden over de burger blijken te vaak niet te kloppen en misschien draagt dit proefschrift bij aan een betere beeldvorming. Ten slotte hopen we dat deze dissertatie de wetenschappelijke wereld verder helpt in de zoektocht naar betere theorieën en modellen die ingaan op het kanaalkeuzegedrag van individuen.

## Dankwoord (Acknowledgements)

Het lijkt alweer een hele tijd geleden dat ik voor het eerst bij de Belastingdienst kwam voor mijn afstudeerstage. Dit moet ergens in augustus 2003 geweest zijn. Hoewel ik lang twijfelde of ik wel bij een saaie, bureaucratische, overheidsorganisatie wilde afstuderen, besloot ik het toch te doen. Het duurde gelukkig niet lang of ik raakte gegrepen door de complexiteit van de overheidsdienstverlening, de politieke spelletjes, de eindeloze lijsten randvoorwaarden die altijd opdoemen én de noodzaak om ook vooral de 'klant' het centrale punt van de dienstverlening te maken. Hoewel paradoxaal heeft de trage stroperigheid in de besluitvorming bij dit soort organisaties juist een enorme dynamiek tot gevolg; steeds veranderende eisen van de politiek en steeds weer nieuwe inzichten die bepalen dat de proces- en productontwikkelaars continu moeten anticiperen.

Toen ik een jaar na mijn afstuderen gebeld werd door de Belastingdienst dat er een onderzoeksterrein was waar een aantal vragen over was en of ik zin had daar eens over te brainstormen, hoefde ik dan ook niet lang na te denken. Het onderzoeksterrein bleek dat van dienstverleningskanalen te zijn. Kort gesteld, de Belastingdienst vroeg zich af hoe het toch mogelijk was dat de organisatie al ruim tien jaar een prachtige website had, maar dat de klantgroepen toch bleven bellen en langskomen aan de balie. Toen ik met deze vraag terugkwam bij mijn, toen nog beoogde, promotor vroeg deze zich in eerste instantie af of er wel een promotieonderzoek inzat, maar gaf toch toestemming om verder met de thematiek aan de slag te gaan en na een aantal weken lag er een pracht van een onderzoeksplan.

Nu, ruim vier jaar later is er een hoop gebeurd. Gaandeweg het proces bleek dat niet alleen de Belastingdienst worstelde met haar dienstverleningskanalen, maar ook eigenlijk de meeste andere grote uitvoeringsorganisaties van overheidsdienstverlening in Nederland. Ik ben blij dat een presentatie over mijn onderzoek bij de "Manifestgroep" heeft geleid tot het project 'Kanalen in Balans', dat niet alleen voor mij tot gevolg had dat ik meer onderzoek kon doen, maar dat ook een wezenlijke bijdrage kan leveren aan het verbeteren van de dienstverlening van de overheid in Nederland.

Gelukkig is het kanalenvraagstuk na vier jaar onderzoek nog steeds relevant, ondanks de verdere ontwikkelingen in dienstverleningsland in de voorgaande jaren. Hoewel je natuurlijk nooit weet hoe en waar je proefschrift zal 'landen' bij de overheid heb ik sterk het gevoel dat de resultaten van mijn onderzoek van een zeker nut voor de (Nederlandse) publieke sector kunnen zijn. Ik hoop dat in ieder geval van dichtbij te kunnen meemaken, want die fascinatie voor overheidsdienstverlening is er nog steeds.

Hoewel het aantal mensen dat direct of indirect een bijdrage heeft geleverd aan dit proefschrift schier oneindig is en ik dus vast mensen vergeet, wil ik toch een aantal personen bedanken voor hun steun.

Allereerst zijn dat de mensen bij de Belastingdienst die aan de basis staan van dit proefschrift. Het Centrum voor Proces- en Productontwikkeling en dan in het bijzonder de Sector Onderzoek en Marketing verdient als hoofdsponsor van mijn onderzoek natuurlijk een ereplaats. Ook de begeleidingscommissie die zich keer op keer over de toelaatbaarheid van mijn uitspraken moest buigen ben ik veel dank verschuldigd. Bijzondere dank gaat uit naar Wim Schoonderbeek en Hanneke Hermsen die inhoudelijk sterk betrokken waren bij het onderzoek en het schrijven van het proefschrift. Waarschijnlijk kennen ze de inhoud beter dan ik. Het meest erkentelijk ben ik echter Margriet Buitenwerf, die niet alleen de directe aanleiding vormde voor het promotieonderzoek door mij te bellen in dat jaar na mijn afstuderen, maar zich altijd hard gemaakt heeft voor het onderzoek en de rompslomp die daarmee samenhangt.

Ook de mensen die bij het project Kanalen in Balans betrokken zijn, onderzoekers van de kennisinstellingen en mensen van de betrokken overheidsorganisaties, wil ik bedanken voor de discussies, praktijkervaringen en andere input bij mijn onderzoek. Marije, bedankt voor de gezelligheid en je nuttige opmerkingen. Wolfgang Ebbers, ten slotte, met wie ik die presentatie hield bij de Manifestgroep, wil ik bedanken voor zijn steun, het opzetten van KiB, het vele Duitse bier en natuurlijk "Kong Artur".

Jan van Dijk, als promotor, verdient uiteraard ook een woord van dank. Ik ben blij dat ik de ruimte kreeg om zelfstandig wat aan te klooiën de afgelopen vier jaar, maar dat je me inhoudelijk bij de les hield door me af en toe terug te fluiten. Vooral het advies om naast de kwantiteit ook eens wat aandacht te besteden aan de kwaliteit van mijn schrijfwerk heb ik ter harte genomen. Je zult je vast bij vlagen groen en geel geërgerd hebben aan de typografische foutjes in mijn stukken; sorry daarvoor. Desalniettemin, zonder je begeleiding had ik het niet op deze manier gered.

De Universiteit Twente heeft altijd als een warm bad gevoeld, dat was al zo tijdens de studietijd en het is ook zo gebleven. Een informeel contact met alle collega's, van alle rangen en standen, is daarvan een belangrijk punt. Het biedt de heerlijke kans om overall kennis vandaan te halen en daar inhoudelijk je voordeel mee te doen, maar het staat ook garant voor veel gezelligheid. De diverse kamergenoten die ik versleten heb ben ik dank verschuldigd voor het vele geouwehoer. Alex ben ik daarnaast extra dankbaar voor zijn belangrijke inbreng in de laatste jaren; de platenspeler die veel muziekplezier gegenereerd heeft. Ik ben de tel kwijt van het aantal 'buitenschoolse' activiteiten dat er de laatste jaren geweest is en die een directe link hebben met de collega's van de Universiteit; pubquizen, vrijmibo's, concerten, congressen, tennis, housewarmings, barbecues, 'gewone' feesten en natuurlijk "Voor Spek en Bonen" (Joris bedankt voor de kookavonturen en de oude jenever). Het was de moeite zeker waard. Hoewel niet helemaal gelieerd aan de Universiteit is ook de pokerclub wel de moeite van het vermelden waard, niet zozeer vanwege mijn geweldige pokerskills en de interessante discussies, maar wel vanwege de

afleiding die het altijd gegeven heeft (want laten we eerlijk zijn, zo heel diep gaan onze gesprekken nou ook weer niet).

Dat Arjan en Simon paranimf zijn geworden is geen toeval. Ik ga niet onze hele gezamenlijke geschiedenis ophoesten, maar dat deze lang is kent geen twijfel. Fijn dat jullie er nu en altijd geweest zijn. Als ik een derde paranimf had mogen kiezen was dat ongetwijfeld Roel geweest, om het kwartet compleet te maken, maar dat mocht dan weer net niet. Roel, Simon en Arjan; bedankt voor LL, de kerstmarktavonturen, de vakanties en het aanhoren van mijn promotiegezwets.

Pap en mam, bedankt voor alle (fysieke) hulp en geestelijke bijstand. Ik heb misschien iets teveel verbouwingen uitgevoerd tijdens mijn promotietijd en zonder jullie had ik dat zeker niet allemaal gered. Gelukkig ben ik voorlopig klaar met verbouwen. Mieke, ten slotte; als er iemand is geweest die het afgelopen jaar vaak naar verhalen over mijn promotie heeft moeten luisteren, dan ben jij het en je hebt ze allemaal aangehoord. Never fade away.