Government Multichannel Marketing: How to seduce citizens to the web channels?

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Abstract
Governments have a variety of channels at their disposal to interact with their citizens. Having realized that citizens still prefer the traditional channels, such as the front desk and the telephone, governments have to (re)think their multichannel marketing (MCM) strategies. In order to be successful, not only knowledge on citizen multichannel behavior is required but also on the effects of MCM instruments. Questions such as how do citizens’ perceive the various instruments and to what extent are the instruments associated with each other rise up. Moreover, can instruments be used to target specific citizen segments? Based on qualitative depth interviews we formulate constructs to measure the citizens’ perceptions on the instruments. Subsequently, we answer our research questions based on a quantitative survey amongst almost 2,000 citizens. As a result, this research increases the knowledge on government MCM and as such the possibilities to influence citizen multichannel behavior.

1. Introduction
Since the early nineties, governmental organizations have been using a variety of customer service channels. These channels have different characteristics and are used for communication, interaction, transaction and distribution of products and/or services. Among the traditional channels, like the front desk and the telephone, citizens have access to digital channels like websites and e-mail. These digital channels offer well known advantages such as 24/7 availability and the ability to store and present vast amounts of information.

Research shows that citizens mainly use the Internet to search for information, to provide the government with information and to order forms or documents [5][20]. So, regardless of the advantages citizens still prefer the more expensive personal channels (front desk and telephone) to the newer cost efficient digital channels [27][1]. It also seems that people add digital channels to their set of service channels instead of substituting traditional channels with digital channels [14].

From a government perspective increased usage of service delivery through the digital channels is expected to improve efficiency, overall costs and customer service. So, government agencies are trying to increase the service delivery through the digital channels. However, given citizen multichannel behavior, this objective does not seem to be realized easily.

Based on the literature, it becomes apparent that different instruments can be used to influence citizens’ multichannel behavior. In marketing, the 4p’s (price, product, place & promotion) [16], are well known. In public administration, communication, financial and legal instruments are typically used [26]. Reviewing these various instrument, a large overlap is found between for instance promotion and communication as well as financial and price. Nevertheless, it is unclear which of these instruments influences citizens’ usage of the digital channels most effectively.

This study aims at determining how these MCM instruments may have an influence on citizen multichannel behavior. We investigate this objective by determining (1) how citizens perceive the various MCM instruments and (2) which MCM instruments are best suited given various citizen characteristics. We empirically test our research questions based on survey data collected amongst the inhabitants of a medium sized municipality in the Netherlands. As a result, this paper provides valuable insights into how government agencies can seduce their citizens to use the web channels.

The paper is structured as follows. First, we present the theoretical background. The next section of the paper discusses the methodology to empirically test our research questions. This section is followed by a presentation of the findings. We end with a discussion of the findings and the main conclusions.

2. Literature background
In order to influence citizen multichannel behavior, we first need to understand it. Building on the work of media theorists, we propose a basic framework of citizens’ multichannel behavior [21]. The framework, as depicted in figure 1, shows that multi-channel behavior can be decomposed in a number of steps.
The first step concerns the channel choice; an individual’s specific decision to use a medium in a particular communication incident. The second step, channel use, refers to an individual’s broad pattern of medium usage over time [25]. Choice and usage can also be seen as ‘employing the communication medium for a certain task (usage)’ and ‘picking of a medium’ (choice). During the third step, channel evaluation, citizens evaluate – conscious or unconscious – their channel choice and usage. This experience influences both channel perceptions, as argued by Channel Expansion Theorists [8] and future channel choices [22].

Channel marketing can subsequently be proposed to influence this simplification of citizen multichannel behavior, especially through channel choice. Clearly, multichannel behavior in real life is far more complex, e.g., because citizens can use multiple channels at the same time. Furthermore, this model is a generalization of the process across all user groups. Citizens may vary in this process based on specific characteristics. Also, in order to be able to choose, some basic assumptions have to be fulfilled. For example, a citizen lacking ICT access cannot choose from the different electronic channels and is limited to the traditional service channels.

In the following paragraphs, we will first discuss the different types of marketing instruments, followed by a discussion of the different citizen characteristics and general requirements for multichannel behavior. Finally, we discuss in more detail citizen multichannel behavior.

2.1. MCM marketing instruments

Government agencies have various instruments that can be used to change citizen multichannel behavior. Previous research categorizes these instruments in three main topics, namely communicational, legal and economic instruments [26].

Communicational instruments are characterized by the transfer of information from the government to citizens. Examples are for instance mass media communication, propaganda and/or public relations. Communicational instruments are focused on improving the citizens' awareness, knowledge and perceptions of government services. As such this instrument is equal to promotion in the marketing mix [16].

The economical instrument is focused on changing citizen behavior through financial incentives. By either increasing or decreasing the prices of using particular channels, citizen can be persuaded to change their behavior. This instrument relies on the assumption that citizens carefully weigh the costs and benefits of various channels. Based on transaction cost theory [29] it is to be expected that citizens will choose the channel that offer the most benefit for the least amount of costs. The economical instrument is comparable to price in the marketing mix [16]. In a government setting subsidies and taxes are examples of the economical instrument.

The legal instrument aims at changing citizen behavior through rules and regulations, such as legislation and dispositions. An example can be found with the Dutch tax administration office. Since 2005, companies have been obliged to submit their taxes through the digital channel. The legal instrument regards the balance between have to and can in terms of citizen decisions. In contradiction to the other policy instruments, the legal instrument has a compulsory nature. In marketing, a similar – but not quite the same – instrument is place. Companies can choose to distribute their products or service exclusively through an outlet and as such limit their customers’ choices.

Besides the three policy instruments, we distinguish a fourth from marketing research, namely product. Given that most government agencies mainly provide services, we refer to service instead of product. Examples of this instrument include the physical evidence of the service, the reliability or the assurance. In general, this instrument allows for differentiating the quality of the service across various channels in order to change citizen behavior.
the LCE combination indicates dominant use of the legal instrument, followed by the communication and economic instruments. Given that the service is the core of the governments offering, it influences all combinations.

Based on the above, we can formulate the following research questions:

- Which MCM instruments can be distinguished?
- How do citizens perceive these MCM instruments and to what extent are associations present between the perceptions of these instruments?

2.2. Citizen characteristics

Given the aim of our paper, i.e. to what extent can certain instruments be used to change citizen multichannel behavior, it is important to determine if citizens with certain characteristics are more easily influenced. That is, is it possible to vary the use of the instruments across citizen segments?

Several studies indicate differences across user characteristics in multichannel behavior [7][3]. Research in a multichannel setting also shows that younger males with higher educational levels are more interested in technology [7]. This might also indicate that these users are more likely to perceive the channel marketing instruments more positively. As such, we formulate the following research question:

- How do citizen characteristics, like age, gender, educational level and household size, influence the perceptions of the channel marketing instruments?

2.3. Requirements for multichannel behavior

In order to seduce citizens to choose and use the digital channels, it is posited that three requirements need to be fulfilled [27]. First, citizens have to be able to use the Internet. That is, citizens without access – in their home, at work or elsewhere – cannot use the online services. Second, previous research has shown that experience with the Internet is a crucial factor in determining to choose for the online channel [19]. That is, citizens with no or limited experience are less likely to use the web service channels regardless of the amount of multichannel marketing. Third, in order to make the choice to use the web channels, citizens have to be aware and have a certain level of knowledge regarding the web service possibilities. Previous research shows that citizens in general have little awareness and knowledge on the web services [27].

Given the expectation that these requirements have a strong influence on channel choice, we expect them to also influence citizens’ perceptions of the various MCM instruments. The following research question is formulated:

- What is the influence of the requirements on the perceptions of the MCM instruments?

2.4. Citizen multichannel behavior

As argued in the introduction of this section, citizens’ multi-channel behavior consists of a number of steps. Channel marketing tries to influence this behavior and therefore focuses mostly on influencing channel choice. But what determines channel choices? A well-known theory in this field is the Media Richness Theory (MRT). This theory argues that people choose a certain medium for a certain task, based on the different characteristics of the various media.

The main difference, according to MRT, between communication media is that they vary in the capacity to process rich information [10]. The reason for these differences is that media vary in their capacity for immediate feedback, the number of cues and channels used personalization, and language variety [11].

Daft and Lengel ranked the following (at that time most common) media in order of decreasing richness, face-to-face is the richest medium, followed by the telephone, personal documents, impersonal written documents and finally numeric documents [10]. In 1990, electronic mail was fitted into the richness ranking and should be positioned just below the telephone, but higher than letters and notes [25].

Many studies on MRT have found mixed research findings [13][24]; this questions the validity of the theory and its underlying theoretical notions. Various theorists have tried to expand the Media richness perspective by offering other factors that influence the channel choice process. Pietersen & Van Dijk for example argue that personal and situational factors influence citizens’ channel choices [22]. Further, 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.

Carlson and Zmud propose the Channel Expansion Theory, as a means to improve MRT [8]. They state that when experience with a medium increases, its richness increases as well, i.e. the ‘channel expansion effect’. CET incorporates several theoretical approaches in one model so that one of the main points of critique in MRT, that richness is a more social and mentally variable rather than a fixed property, is accounted for.

In marketing research, many studies show 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’ [2], the personal focus or opportunity to clarify personal situations [23]. Marketing research also suggest factors such as ‘costs’ [3], proximity or contact speed [17], and the level of service [6][28]. Finally, a large stream of research has associated perceived ease of use and perceived usefulness, factors derived from the Technology Acceptance Model [12], with channel characteristics [9][15][19].
Based on this literature review, we expect not only that channel characteristics influence channel choice but also that it may impact how citizens perceive the channel marketing instruments. Moreover, we expect that the citizens’ channel use will also determine their perceptions of the channel marketing instrument. As such, we formulate the following research question:

How does citizen multichannel behavior – including the channel characteristics – vary the perceptions of the channel marketing instruments?

3. Research method

To answer the research questions, we conducted a two-stage research approach. We first conducted exploratory depth interviews with citizens of the municipality. In total 15 citizens participated in the qualitative stage. The semi-structured interviews focused on citizens’ attitudes towards online government services and more specifically instruments to promote these services such as price differentiation. Six main topics were leading in these interviews.

- Services used over the last year at the front desk of the municipality
- Appointments for services of the municipality
- Use of internet and online services
- E-mail contact
- Opinions on the various instruments

Based on the interviews and previous research the questionnaire for the quantitative stage was formulated. Secondly, we conducted a survey among Dutch citizens. The survey took place in a medium sized Dutch municipality (136,573 inhabitants). Citizens can contact local government in this region via the front desk, telephone and digital channels such as the website and email. In terms of size, population and services, the municipality can be characterized as average sized.

3.1. Data and sample

The survey was conducted through an online panel and the front desk of the municipality. These two forms of administering the survey allowed citizens with and without Internet access to participate in the survey. The online panel concerns a representation of the population of the municipality.

Early 2008, a total of 3,068 e-mails were sent out to the members of the online panel. The survey was online for two weeks. During these two weeks a total of 1,802 respondents completely filled out the survey, which results in a response rate of 58.7%. Besides the online survey, a total of 127 citizens filled out the survey at the front desk of the municipality.

The total sample contained 46% women and 54% men and a broad range of age categories: younger than 25 years: 2.4%, 25 to 45 years: 42.1%, 45 to 65 years: 45.2% and older than 65 years: 10.3%. The average age is 48 years. In terms of education; 15.2% has lower vocational education, 19.8% has intermediate vocational education or high school, 37.9% has higher vocational education and 17.1% has a university degree. Lastly, the majority of respondents indicate extensive or very extensive Internet experience (72%). Only a minority (6%) indicates very little (or none) Internet experience and 22% indicate not being very experienced nor very inexperienced (neutral) with the Internet. Considering the sample size, the sample is representative of the population of the municipality. Based on the size of the sample, the representativeness also holds in comparison to the Dutch population. When reviewing the socio-demographics, we only see a small deviation in terms of education compared to the overall Dutch population.

3.2. Scales

The respondents were asked to answer numerous items on the various MCM instruments. To our knowledge there is no existing research on citizens’ perceptions of MCM instruments with the aim to influence multichannel behavior. Hence, the formulated items were based on the qualitative depth interviews. A total of 16 items related to the MCM instruments were used, which were measured on a five point scale rating from completely disagree (1) to completely agree (5). Based on exploratory factor and reliability analyses, five underlying constructs were found. Table 1 shows the constructs with the example items and the corresponding Cronbach’s alpha.

Besides these items on the various MCM instruments, respondents were asked a number of questions regarding consumer characteristics, the requirements, channel choice, channel usage and channel characteristics.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
</table>
| Legal / exclusive distribution (LED) | Citizens are forced to use the Internet for particular services.  
Particular services are offered exclusively through the Internet.  
The front desk is made less accessible (e.g., reduced opening hours) | 0.72             |
| Communication for the web service (CWS) | Improved communication regarding the online service possibilities  
Increase communication on the advantages of the online services  
Promote the use of the website more strongly | 0.80             |
4. Results

We review our research questions through a serious of statistical analyses. First, we determine how citizens perceive the various MCM instruments. Second, we show the association between the various MCM instruments. Third, we find out to what extent citizen characteristics and the stated requirements influence the perceptions of the MCM instruments. Lastly, we determine the differences in MCM instruments perceptions related to citizens' multichannel behavior.

4.1. MCM instrument perceptions

The distributions of the constructs as show in Table 1 are normal. In order to determine the overall perception of the respondents on the MCM instruments, the means were calculated. All the means significantly deviated from the neutral point of the scale. Table 2 shows the results.

Table 2. Descriptives perceptions MCM instruments

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase price</td>
<td>Increase advertising regarding the website address</td>
<td>0.69</td>
</tr>
<tr>
<td>traditional channels</td>
<td>Increase prices of services through the traditional channels</td>
<td></td>
</tr>
<tr>
<td>(PTC)</td>
<td>Charge citizens for the costs of the traditional channels</td>
<td></td>
</tr>
<tr>
<td>Decrease price</td>
<td>Charge citizens administrative costs when using the traditional</td>
<td>0.69</td>
</tr>
<tr>
<td>web services (PWS)</td>
<td>channels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internet services should be cheaper than service through the traditional channels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decrease the prices of services distributed through the Internet</td>
<td></td>
</tr>
<tr>
<td>Web service offering</td>
<td>When offered a discount online, I would use the online services</td>
<td>0.70</td>
</tr>
<tr>
<td>(WSO)</td>
<td>Offer more services online</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide better access to the online services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide better services online</td>
<td></td>
</tr>
</tbody>
</table>

Based on the analyses, we conclude that citizens perceive communication, legal and economical instruments as proposed by van der Doelen [26]. Moreover, we find that the economical instrument reflects two constructs, namely PTC versus PWS. Lastly, we also find that citizens perceive the fourth instrument, namely WSO, as a separate construct.

Table 2 shows that citizens prefer the softer form of multichannel marketing, namely:
- increasing the communication regarding the web services,
- decreasing the price of the web services, and
- improving the online service offering.

Citizens do not appreciate legal instruments such as forced usage of the online channel or economical instruments in the form of ‘taxes’, i.e., increasing the prices in the traditional channels.

4.2. MCM instrument associations

In order to determine the association between the MCM instruments, we performed a correlation analysis. The Pearson correlation coefficient reflects the degree of linear relationship between two variables. The coefficient varies between -1 and 1. A coefficient between [0.1] and [0.3] is considered small. If the coefficient is between [0.3] and [0.5] it is considered to be of medium size. Large correlations are between [0.5] and [1.0] [18]. The results are presented in Table 3.

Table 3. Correlation coefficients between the MCM instruments

<table>
<thead>
<tr>
<th></th>
<th>LED</th>
<th>CWS</th>
<th>PTC</th>
<th>PWS</th>
<th>WSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED</td>
<td>1</td>
<td>.05*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CWS</td>
<td>.05*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTC</td>
<td>.49**</td>
<td>.14**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWS</td>
<td>.26**</td>
<td>.39**</td>
<td>.43**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>WSO</td>
<td>.03</td>
<td>.62**</td>
<td>.10**</td>
<td>.34**</td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

The results show that of the ten correlations, nine were positively significant. The insignificant correlation concerns LED and WSO. Apparently, even if citizens perceive the necessity to improve the web offering, they do not find it warranted to force the channel choice.
Four of the correlations are of small size. Another four correlations are of medium size. One correlation is large. This concerns the association between WSO and CWS. These MCM instruments are also perceived as most suitable according to the citizens. Hence, well designed web services and the communication regarding these possibilities seems to be the strongest instruments to influence citizen multichannel behavior.

Other strong combinations between the MCM instruments are LED and PTC, CWS and PWS, WSO and PWS and lastly PTC and PWS.

4.3. Citizen characteristics

The socio demographics concern age, gender, education and household size. We performed one-way Anova to determine if the groups vary in their perceptions of the MCM instruments. For the age groups we only found a significant difference for WSO \( F(4,1924)=3.05 \). The results show that especially younger groups value this instruments strongest. The group means varied from 3.78 for citizens younger than 35 years to 3.59 for citizens older than 66 years (see Figure 3).

![Figure 3. Differences in perceptions of web service offering](image)

In terms of gender differences, we found through performing an independent samples test that men have stronger (more positive) perceptions for PTC \( t=3.44 \) and WSO \( t=3.3 \).

The perceptions on WSO also significantly varied based on the educational level of citizens \( F(4,1911)=3.89 \). We found that higher educated citizens valued this instrument more positively than lower educated citizens (means varied from 3.62 for the lower educated citizens versus 3.83 for higher educated citizens).

Based on household size we found differences for PTC and PWS \( F(2,1797)=3.74 \); \( F(2,1797)=5.71 \). In both cases household with 2 adults and children favored the use of these economical instruments in comparison to single households (with or without children) and double households without children.

4.4. Requirements

The next category of characteristics concerns the previous stated requirements that should be fulfilled in order for citizens to be able to use the online services. The requirements concern, (1) access to and experience with the Internet, (2) awareness concerning the online services offered and (3) knowledge of the online services offered.

The citizens who participated in the survey where asked where they had access to the Internet. This ranged from nowhere (only 9 people in the sample) to everywhere. We divided the group into two subgroups. The first group concerns citizens who did not have access to the Internet or only at one location. The second group groups citizens who have access to the Internet at multiple locations, from at home and work to always and everywhere connected (e.g., through a pda).

The independent samples t-test shows that the groups differ significantly in their opinion on all MCM instruments except LED. Citizens with access to the Internet at multiple locations perceive all the instruments more favorably than citizens with limited access (low access versus high access respectively: CWS 3.76 vs. 3.82 \( t=2.02 \); PTC 2.11 vs. 2.22 \( t=2.92 \); PWS 3.40 vs. 3.50 \( t=2.43 \) and WSO 3.67 vs. 3.81 \( t=4.33 \)).

Besides access to the Internet, we asked respondents to what extent they considered themselves to be experienced with the Internet. Based on this question, we distinguished three groups, inexperienced Internet users, neutral, and experienced Internet users. The one-way Anova shows that the three groups vary significantly in their opinion of CWS, PWS and WSO. For all three instruments the more experienced citizens agree the most with using the instrument to change citizen multichannel behavior.

Next, we review whether citizens with a stronger awareness of the online services perceive the
instruments differently from citizens who do have a strong awareness of the online services. We asked if respondents were aware of the website of the municipality. The independents samples T-test shows that citizens who are not aware of the website are less positive about the instrument WSO (t=2.03). The groups do not vary in their perceptions of the other MCM instruments.

Lastly, we determine if a stronger knowledge of the services offered through the website of the municipality has an effect on how citizens perceive the instruments. We distinguish three groups: not knowledgeable, neutral, and knowledgeable. The one-way Anova analyses show that the groups differ in their perceptions of all instruments (F(2,1748) LED=3.83; F(2,1748) CWS=7.72; F(2,1748) PTC=7.24; F(2,1748) PWS=6.45; F(2,1748) WSO=6.48). Except for CWS and WSO the patterns are as expected. That is, the not knowledge group is least positive on the instruments and the knowledge groups is most positive on the use of the instruments (LED, PTC, PWS).

For CWS and WSO, we find that the two extremes are similar in their opinions (see Figure 4). We find that the ‘neutral knowledgeable’ group has the least positive perceptions of the instruments versus the two extremes (low knowledgeable and high knowledgeable).

Citizens whose last channel choice concerned the website, e-mail or post tend to have more positive perceptions of CWS and WSO. Citizens whose last channel choice concerned the website, e-mail or front desk seem to favor PWS. PTC is favored by citizens who last chose the website or e-mail. Citizens who indicate that their favorite channel is the website, e-mail or the telephone have more positive perceptions of all instruments except for LED.

Based on the ANOVA analyses, we find significant differences based on last channel choice for the instruments CWS (F(4,1775)=4.75), PTC (F(4,1775)=4.05), PWS (F(4,1775)=5.37) and for WSO (F(4,1775)=4.73). For CWS, the results show that citizens who chose the web site last have the strongest preference for the instrument (Xwebsite=3.89). Citizens choosing the telephone or front desk have the least preference for CWS (Xphone=3.71; Xdesk =3.76). For PTC, citizens using the website, email or front desk last are most positive. Citizens using the post are least positive. For WSO, citizens using the website, e-mail or post last are most positive. Citizens using the phone or post last are least positive. For PTC, citizens using the website, e-mail or post last are most positive. Citizens using the phone or post last are least positive.

For channel usage, we reviewed the differences in the instrument perceptions based on two variables, namely the channel used in the last year and the most frequently used channel.

![Figure 4. One-way Anova results WSO and CWS](image)

**Figure 4. One-way Anova results WSO and CWS**

### 4.5. Citizen multichannel behavior

In terms of citizen multichannel behavior we distinguish a number of variables, namely channel choice (last chosen channel and preferred channel), channel usage (channel usage during the last year and most frequently used channel) and channel characteristics (i.e., which channel is characterized as best to explain a personal situation).

Figure 5 shows the significant differences in perceptions of the MCM instruments based on the last chosen channel.

![Figure 5. Last channel choice and MCM instrument perceptions](image)

**Figure 5. Last channel choice and MCM instrument perceptions**
Table 4. Differences in MCM instrument perceptions based on channel usage over the last year

<table>
<thead>
<tr>
<th>Channel Type</th>
<th>LED</th>
<th>CWS</th>
<th>PTC</th>
<th>PWS</th>
<th>WSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>No contact</td>
<td>N</td>
<td>3.80</td>
<td>3.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>3.67</td>
<td>3.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front desk contact</td>
<td>N</td>
<td>1.74</td>
<td>2.20</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>1.66</td>
<td>2.06</td>
<td>3.36</td>
<td></td>
</tr>
<tr>
<td>Telephone contact</td>
<td>N</td>
<td>3.70</td>
<td>2.07</td>
<td>3.36</td>
<td>3.65</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>3.86</td>
<td>2.20</td>
<td>3.50</td>
<td>3.81</td>
</tr>
<tr>
<td>Website contact</td>
<td>N</td>
<td>1.68</td>
<td></td>
<td></td>
<td>3.72</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td>1.77</td>
<td></td>
<td></td>
<td>3.80</td>
</tr>
<tr>
<td>E-mail contact</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>3.45</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>3.31</td>
</tr>
</tbody>
</table>

*Means shown in the table differ significantly from each other on at the 0.05 level (2-tailed)

Table 4 shows that citizens who did have contact seem to favor CWS and PWS. There was no difference in instrument perceptions based on contact via the front desk over the last year. Citizens who did not have contact via the phone over the last year perceive LED, PTC and PWS more positively. Citizens who had contact via the website are most positive about all MCM instruments expect LED. Citizens who had contact via e-mail are most positively about LED and WSO. Finally, citizens who had contact via post are least positive about PWS.

Based on the most frequently used channel, we find significant differences for CWS, PWS and PTC. The results show that citizens who use the post the most are the most positive about all three instruments. Phone users are the least positive about CWS and PWS. E-mail users are the least positive about PTC.

Lastly, we determine if there are differences in the evaluation of the MCM instruments based on the channel characteristics citizens attach to the various channels. Citizens were asked to indicate which channel fitted a certain characteristic the best. Table 5 shows which channel choice – channel characteristic combination was most positive about the MCM instruments.

These results indicate that especially citizens who attribute channel characteristics to the website have a more positive evaluation for CWS, PTC, PWS and WSO. Citizens who attribute channel characteristics mostly to e-mail seem to have a more positive evaluation for LED.

Table 5. Combination of characteristic and channel indicate more positive MCM instrument perceptions

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>LED</th>
<th>CWS</th>
<th>PTC</th>
<th>PWS</th>
<th>WSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal situation</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>E</td>
</tr>
<tr>
<td>Language variation</td>
<td>W</td>
<td>E</td>
<td>W</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Fast answer</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Multiple cues</td>
<td>T</td>
<td>W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of use</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>E</td>
</tr>
<tr>
<td>Achieve goal</td>
<td>E</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Fast in contact</td>
<td></td>
<td></td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Most service</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Cheapest</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>Best experiences</td>
<td>E</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
</tbody>
</table>

E = E-mail, W = website, T = Telephone, blank cell indicates no significant differences in MCM instrument perceptions.

5. Conclusions

Research on citizen multichannel behavior and especially the MCM instruments to changes this behavior is a relative new area of research and is characterized by few papers focusing on this core issue. However, we do notice that this issue is of increasing importance to researchers and practitioners. Even though there are numerous studies determining the effects of marketing instruments in a commercial setting, we find that an empirical examination of the effects of MCM instruments in a government multichannel setting provides additional and new insights.

This study determines (1) which MCM instruments can be distinguished both in the literature as well as perceived by citizens, (2) to what extent these MCM instruments are associated and (3) to what extent citizen characteristics, requirements and citizen multichannel behavior vary these perceptions. Overall, our results indicate that improving the web service offering (WSO) and communication the website services (CWS) may be crucial in changing citizen multichannel behavior in the desired direction, i.e. an increased usage of the digital channels.

Based on the literature, the qualitative depth interviews and the quantitative survey, we find that citizens perceive four main instruments, namely legal (or forced), communication, price (which is further classified as prices in the traditional channels versus prices in the digital channels) and the web service offering. Citizens perceive CWS, WSO and PWS as the most positive. We also show that citizens who value WSO also value CWS.

LED and PTC are perceived as negative. This indicates that citizens would react positive to
improving the online offering, making it cheaper and/or communicating its benefits. Then again, the results also show that citizens do not appreciate forcing their hand either through legislation, exclusive distribution or increasing the prices of the traditional channels. These two instruments also show a strong correlation.

When reviewing the consumer characteristics, it becomes apparent that citizens who are younger, higher educated and/or male value WSO more strongly. When improving the online service offering, it can be expected that citizens with these characteristics will be among the first to adopt. Besides, we show that households with 2 adults and children seem to favor PTC and PWS. Increasing the prices in the traditional channels or decreasing the prices for the web services will most likely trigger the first change in behavior for these households.

Another finding of our study is that the proposition that the three requirements that need to be fulfilled in order to change citizen behavior [27] can be confirmed. Our results show that citizens with Internet access and a higher level of Internet experience are most positive with respect to marketing the web services. That is, they favor CWS, PWS and WSO. Moreover, citizens that are more aware about the online service offering are the most positive about WSO. Citizen with more knowledge about the online service offering also value LED, PTC and PWS more positively. Surprisingly, citizens who indicate that their level of knowledge with respect to the online service offering is neutral are the least positive about CWS and WSO. Neutral knowledge in this case may indicate that these citizens have a neutral disposition towards online services and hence do not perceive the value of CWS and WSO as strongly as citizens with high or low knowledge.

In terms of channel choice, as expected citizens with a preference for the online channels (website and e-mail) tend to perceive the MCM instruments (except LED) as more positive. Nevertheless, citizens who choose the post last, also favor CWS and WSO. Citizens who last choice considered the front desk are most positive on PWS. Lastly, if the phone is indicated as the favorite channel, all MCM instruments (except LED) will most likely influence channel behavior in the online direction.

In terms of channel usage, the results show that if citizens have had no contact in the last year, they are most positive about CWS and PWS. If they have had contact through the traditional channels, they are least positive about LED, PTC and PWS. If they have had contact through the digital channels, they are most positive about all MCM instruments. Besides, citizens who attribute channel characteristics to the website are most positive about CWS, PTC, PWS and WSO. In case of the attribution of channel characteristics to the e-mail, they are most positive about LED.

Our study is the first to assess the perceptions of citizens on the use of MCM instruments. As our study makes clear; a number of instruments can be used to influence citizen multichannel behavior, as suggested by various theories and multichannel management models. These MCM instruments clearly have varying potential impact dependent on the requirement, citizen characteristics and the channel behavior of citizens (incl. channel choice, channel usage and perceived channel characteristics). The differences shown in this study warrants a careful implementation of MCM instruments, especially in the case of negatively associated instruments such as LED and PTC.

Both practitioners in the field of service channels, as well as multichannel management theorists should take into account the results of this study when building or enhancing their strategies, models or theories.

Future research should aim at testing the impact of the MCM instruments in a longitudinal setting. The current study is limited in its power to draw conclusions on cause and effect relationships. Based on the current study, only tentative conclusions on the effectiveness of the MCM instruments can be drawn. In order to truly determine the effectiveness carefully designed field experiments with respect to the implementation of the MCM instruments are necessary.

Given the negative perceptions on the instruments LED and PTC, it would be interesting to determine how citizens would react if they were implemented. That is, would citizen really become dissatisfied? Or would it be possible to design these instruments in such a manner that citizens would not even notice that the limitation of their choices. If so, this would provide government organizations a tool to decrease their costs without dissatisfying their customers.

6. References


