The Customer Relations Government
The quality of electronic municipal services in the Netherlands

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Abstract

Municipalities in the Netherlands and all other industrialised countries are expected to increase their adeptness and efficiency on the digital highway. It is expected that there will be a continual increase in the level of digital services provided by municipalities for members of the public and businesses. However, will the municipalities live up to the high expectations? For example, can they succeed in effectively providing a significant number of products and services on their websites and also providing their clients with the opportunity to place digital orders? Improvements can be made, where required, by focusing on specific success factors.

Keywords: quality of digitalized services, municipal websites, provision of municipal services, Internet

Introduction

The notion of satisfying the customer is a growing trend, also in public sectors. All governmental bodies in industrialised countries are expected to supply rapid, efficient and demand-orientated services to members of the public and businesses. This can be achieved through digitalisation of these services (Bekkers & Zouridis, 1998; Bekkers, Zouridis & Korsten, 1998; Van Duivenboden, Lips & Korsten, 2002; Bekkers & Thaens, 2002). As a rule the town hall is more readily accessible via the digital highway than by car or public transport, furthermore it is more likely that there will be less queues and shorter waiting times at the digital counter in comparison to the Public Affairs or Social Services counter at the town hall.

This theory resulted in an initiative that was implemented by the Dutch government in 1998 to encourage municipalities to focus on providing Internet-based services. Reference can be made in this context to the 1998 Actieprogramma Elektronische Overheid [Electronic Public Service Action Programme] and the 1999 policy document De Digitale Delta, Nelderland oNLine [The Digital Delta, The Netherlands On-line]. At the end of 2002 all municipalities were to have their own websites containing one quarter of all municipal products and services (Vijver, 2001; Kenniscentrum Elektronische Overheid, 2003: 5).

Numerous Dutch municipalities co-operated with the government initiative. All municipalities now have their own website. In addition to this, the majority of municipalities have devoted their efforts during the last two years to creating digitalised versions of the majority of their services. Two years ago this seemed to have been only vaguely successful. The websites often contained only general information about the municipality, for example opening times and the locations of the various departments. In general no information was provided relating to the range of municipal services and products on offer. Digitally ¡®ordering¡¯ products or services was almost out of the question. At best it was possible to download and print application forms. The form then had to be returned by post, following which people could collect their passport, felling permit or extract from the population register from the town hall (Leenes, 2001; Weerts, 2001)

There have been improvements during the past two years. Approximately three quarters of the municipal websites now contain a product catalogue. There also appears to be an increase in the opportunity to digitally submit applications for products and services (Kenniscentrum Elektronische Overheid, 2003: 6). The current situation with respect to municipal electronic services and recommendations for improvements to these services are the key issues in this article.

These issues will be dealt with based on a large scale research project that was executed at the beginning of 2003.The research included a quarter of all Dutch municipalities. The selection of these 123 municipalities was a-select (Wissink, 2003: 51).

This was a four-phase research project. At the outset the quality of electronic services was evaluated against a specific number of criteria. The municipal websites in question were visited in order to do so. A subsequent evaluation was carried out regarding the degree to which specific factors were present within municipalities that, as literature states, are influential to the quality of the electronic services. This evaluation took place by means of a digital survey; 62 of the 123 municipalities participated in the survey. Finally the extent to which the relevant factors stated in literature are in actual fact influential to the quality of the electronic services was studied. A number of recommendations, partially based on this information, have been made concerning improvements to the digital services. The most important findings from each phase of the research will now be discussed.

Quality of the services provisions

There is a significant amount of literature available relating to required standards for the quality of governmental digital services (Poelmans & Kroon, 1999; Bekkers, 2000; Van den Broek, 2000; Veldhuis, 2000; Arnold, 2001; Harberden, 2001; Stoop & Van Wijngaarden, 2001). These quality requirements can be classified into six categories that correspond to various levels of electronic services provisions. The first category of quality requirements relates to the most fundamental level of digital service: the governmental body has an accessible and well laid-out website. Secondly, the website must contain sufficient information relating to the entire supply of products and services. The third category entails that members of the public and businesses can request information from the website about products and services. Fourthly, digital versions of application forms for products or services should be available on the website. Potential users of a product or service are then given the opportunity to download and print application forms, which saves them from making a journey or a telephone call to the governmental department. The fifth category of quality requirements concerns clients being given the opportunity to submit application forms via the website (the so-called digital intake). The last category of quality requirements relates to the highest level of digital service provisions: the entire procedure is digitally processed from submission of the application form to issuing the permit and dealing with the financial transactions.

The table below provides an overview of the quality requirements applied during this research; the categorisation in the foregoing has been used. For each quality requirement an assessment concerning the actual situation in the investigated municipalities is given. The category six quality standards were not used in our research because we knew on the basis of literature that (almost) none of the municipalities are able to comply with requirements such as these (Leenes & Tauritz, 2002: 344; Kenniscentrum Elektronische Overheid, 2003: 6). Moreover, researchers cannot readily evaluate the quality of digital municipal services based on a hypothetical submission of application forms due to the requirement that applicants must reside in the municipality in question in order to successfully apply for

a building permit or an extract from the local population register

Table 1: how well do municipalities comply with quality requirements?

Category quality requirements	Quality requirement	Percentage of municipalities that comply with the requirement
Accessible and well laid-out website	Website on-line 24 hours a day	94 % (N = 123)
	Clearly laid-out text sections	63 % (N = 123)
	Restrained design	64 % (N = 123)
	Multiple language texts	8 % (N = 123)
Information about products on offer	Product navigation system	72 % (N = 123)
	Catalogue with straightforward products (for example, copies of birth certificates)	85 % (N = 123)
	Catalogue which also includes more complex products (for example planning permission)	74 % (N = 123) ii
	Product descriptions	84 % (N = 123)
	Descriptions of product application procedures	84 % (N = 123)
	Current information about products	65 % (N = 123)
	Integrated supply of information per product	75 % (N = 123)
Possibility to obtain additional information	Notification of e-mail addresses of municipal departments	14 % (N = 123)
	Notification of e-mail addresses of individual civil servants	10 % (N = 123)
	Possibility to subscribe to a digital product newsletter	6 % (N = 123) ii
	Response or suggestion forms	49 % (N = 123)
	Response to completed response or suggestion forms within a week	45 % (N = 123)
Application forms	Printable forms for applications for products	35 % (N = 123)

	Application forms for straightforward products directly available from the product catalogue	30 % (N = 123)
	Application forms for complex products directly available from the product catalogue	13 % (N = 123)
Digital intake of application forms for products	Opportunity to digitally apply for a number of straightforward products	22 % (N = 123)
	Opportunity to digitally apply for a number of complex products	4 % (N = 123)
	Applicant identification based on passport number	15 % (N = 123)
	Applicant identification based on social security number	19 % (N = 123)

The table gives the general impression that municipal digital services leave a lot to be desired. High scores were only achieved for the first two categories. On the whole the requirement to provide an accessible and well laid-out website that includes sufficient information relating to services and products on offer has been achieved. However this information is only provided in Dutch in the majority of cases.

The level of compliance with the other categories is limited. There are only limited opportunities to contact a municipal department or an individual civil servant for additional information about the products and services via the Internet. This also applies to digital applications for products and services. One in three of the municipalities do provide the opportunity to print application forms via the website; however these forms cannot be digitally returned, which indicates that improvements are also required in this area.

The relatively pessimistic representation is partially attributable to political management situation within municipalities. There is an insufficient interest in digital service provisions within municipal boards. An investigation carried out in 2002 into 97 municipalities showed that digital service provisions are only allocated a high status on the political agenda in an extremely limited number of municipalities. Furthermore, the policy relating to integrating digital service provisions is in no way performing to an optimum. Slightly more than half of the municipalities have policies in place that explicitly ascribe to the objective of digitally providing products and services where possible. This objective is also only incorporated in the administrative policy plan in less than half of the municipalities. Finally only two out of three municipal ICT policy plans contain an objective relating to digital service provisions. Bearing this in mind, it is not surprising that researchers also ascertain that no more than eight percent of municipalities provide a high level of services through the Internet (Giarte Research, 2002: 5-6).

Therefore the missing elements in the digital service will undoubtedly continue to be partially attributable to the political administrative context. Nevertheless the main focus in our research was the factors stated in literature with a more direct link to the quality of electronic services. If these factors are proven to be influential to the quality of the services then they can be used as suitable leads for making recommendations.

Potential success factors

Literature states that there are specific factors that are influential to the quality of the electronic services (Kraemer & Kling, 1986; Tan, 1996; Van den Broek, 2000; Thaens, 2001; Stoop & Van Wijngaarden, 2001; Bekkers, 2002). These factors can be generally classified into three categories: knowledge, capacity and willingness. The success factors stated in literature are primarily related to the knowledge and expertise of civil servants in the field of information technology and service provisions, the extent to which the civil service body is properly equipped in terms of scale and infrastructure to

provide electronic services, and the willingness of administrators and civil servants to provide this type of services. The all-embracing categories of ¡®knowledge¡¯, ¡®capacity¡¯ and ¡®willingness¡¯ have been used as a framework for a clear presentation of the research findings in relation to a number of potential success factors. The potential success factors included in table 2 give specific form to the more generalising terms derived from literature.

Table 2: to what extent are the potential success factors actually present?

Category success factors	Success factor	Percentage of municipalities that have this factor
Knowledge	Hiring external expertise	66 % (N=62)
	Special courses or training for employees in the field of electronic service provisions	48 % (N=62)
Capacity	One or more permanent positions available for maintaining an up-to-date website	43 % (N=60)
	A sufficient number (in the opinion of the organisation) of employees dedicated to keeping the website up-to-date	43 % (N=56) ¡¡
	One or more permanent positions for responding to questions and requests via the website	52 % (N=42)
	Internet access at workplace	73 % (N=62)
	Personal e-mail addresses for employees	94 % (N=62)
Willingness	Agreements for each department relating to contributions to municipal website	71 % (N=61)
	Within the organisation a good amount of money reserved for maintaining an up-to-date website	61 % (N=31)
	Within the organisation a good amount of money reserved for responding to questions and requests via website	75 % (N=12)

The table provides an impression of the extent to which the potential success factors actually present themselves. The potential success factors do not appear to be present across the board in the investigated municipalities. The majority of the success factors were established in approximately 50-75% of all municipalities. External experts could for example be hired and the availability of at least one permanent position for maintaining an up-to-date website could be considered. Only one potential success factor is more or less a common factor, i.e. a personal e-mail address for employees.

Influence of potential success factors

The quality of the electronic services and the presence of potential success factors have now been established for a large number of municipalities. This in turn provides the opportunity to establish

the actual level of influence exerted by the potential success factors on the quality of the services, which subsequently took place using a number of multi-variation analyses.

Firstly a total score was calculated for each municipality relating to the quality of the electronic services. A summation index was constructed by adding up the scores for the individual quality aspects. This summation index is used as a yardstick for the municipal electronic services. Multi-variation analysis was used to determine the extent to which the municipality¡¯s scores on the summation index are influenced by the potential success factors. Seven success factors were used in the analysis: hiring external expertise, special courses or training for employees in the field of electronic service provisions, one or more permanent positions available for maintaining an up-to-date website, a sufficient number (in the opinion of the organisation) of employees dedicated to keeping the website up-to-date, one or more permanent positions for responding to questions and requests via the website, Internet access at workplace, and agreements per department relating to contributions to municipal website. Our analysis has shown that the total quality of the services, contrary to expectations, is not influenced by any of the potential success factors.

We then allocated a total score per quality-standard category for each investigated municipality. This took place by adding up the individual scores for each individual quality aspect of all quality requirement categories included in table 1 (accessible and well laid-out website, information about products and services on offer, etc.). Therefore five summation indices were constructed for the five quality criteria categories. Subsequently each summation index was evaluated based on the extent to which they are influenced by the seven previously stated potential success factors. The multi-variation analysis shows that only one in five of the summation indices is subjected to influence from (only one of) the potential success factors. The summation index for the category quality requirements that relates to the availability of application forms for services and products is influenced by the number of permanent positions that is available to respond to questions and requests from members of the public via the Internet. Yet again, contrary to expectations, there is a negative correlation here. The quality of the service decreases as the number of permanent positions available increases.

Thirdly we analysed each quality aspect in relation to whether or not the aspect is subjected to influence from the seven potential success factors. Once more a surprising conclusion was obtained from the multi-variation analysis. Only three quality aspects appear to be subjected to influence from a potential success factor, whereby this influence was also different to what was expected in two of the three cases. The presence of printable forms was negatively influenced by the number of formation places available for responding to questions and requests via the Internet. The possibility to digitally submit application forms for straightforward services is also negatively influenced by the number of formation places available for responding to digital questions and requests. On the other hand a positive link has been established between the possibility to electronically submit more complex applications and the situation relating to whether or not there are sufficient employees available (in the opinion of the organisation) in order to ensure that the website is kept up-to-date. Table 3 shows the relationships established during this research.

Table 3: which (categories) of quality aspects are influenced by which success factors?

Quality aspect	Success factor	Nature of correlation
Application forms (printable forms, forms for straightforward products, forms for complex products)	Number of permanent positions available for responding to questions and requests via website	Negative correlation (Beta = -0,432; p < 0,05; N=39)
Printable forms for product applications	Number of permanent positions available for responding to questions and requests via website	Negative correlation (B = -1,641; SE = 0,767; p < 0,05; N=39)
Possibility to digitally apply for a number of straightforward products	Number of permanent positions available for responding to questions and requests via website	Negative correlation (B = -1,648; SE = 0,805; p < 0,05;

		N=39)
Possibility to digitally apply for a number of complex products	A sufficient number of employees (in the opinion of the organisation) dedicated to keeping the website up-to-date	Positive correlation (B = 5,647; SE = 2,886; p £ 0,05; N=39)

Our analysis could only establish a limited number of links between the quality of the service and the potential success factors. The total quality of the service provisions does not seem to be influenced by any of the potential success factors. Only one out of the five categories of quality aspects is subjected to influence from a success factor. This relates to the category of quality aspects that corresponds with a high (namely the fourth) level of electronic services. Finally only four individual quality requirements are influenced by a success factor. This also concerns quality requirements that relate to a high (namely the fourth or the fifth) level of services. The lower levels of service provisions are therefore insensitive to the anticipated success factors. Only the higher levels of service provisions are influenced by the success factors used in this research.

However it must also be stated that on the whole the actual influence exerted by a success factor is the exact opposite of what would be expected. The quality of the service decreases as the number of formation places available for responding to applications and requests increases. The quality of the services only increases in accordance with the increasing positive opinion of the organisation regarding the number of employees that are available in order to ensure that the website is kept up-to-date.

Recommendations

The foregoing shows that the Dutch municipality¡¯s electronic services for members of the public and businesses can be improved in various respects. The level of conformance with quality requirements decreases in relation to a higher level of electronic services. Relatively good scores were achieved by the investigated municipalities relating to the lowest levels of services. In general they have an easily accessible and well-laid out website, which generally also provides sufficient information relating to the products and services on offer. The vast majority of municipalities only have this information available in Dutch.

There is a limited level of municipal conformance with the quality aspects that relate to higher levels of electronic services, e.g. in general it is not possible to approach a municipal department or an individual civil servant via the Internet for additional information relating to the products and services on offer. Also in the majority of the municipalities it is not possible to download and print application forms for products and services. An even smaller number of municipalities provide members of the public and businesses the opportunity to digitally submit application forms for products and services.

All in all improvement are required for a number of aspects of the service provisions. This can take place by specifically focusing on these quality aspects. However is there a possibility that this can also be achieved using a less direct approach? Could municipalities also opt to simultaneously focus on the controllable factors that have a positive influence on the quality of the services?

On the one hand our investigation apparently has not provided any suggestion for improvement. The lowest levels of the service provisions are not influenced by any of the potential success factors. Only the highest levels are susceptible to the success factors. The influence of the success factors is then often exactly the opposite of what is expected based on information from literature. Increasing the number of employees involved in the service provisions appears to have a detrimental effect on the quality of the service provisions rather than a positive effect. There is only a positive influence relating to the situation of whether or not the organisation is of the opinion that there is enough manpower available.

On the other hand these last findings can indicate that the working methods within the civil service body are more relevant to the quality of the service provisions than the number of employees

available. Our research only briefly touched on this organisational aspect of the service provisions. We merely assessed whether or not individual departmental agreements were made relating to contributions to the website. Future investigations should emphatically focus on a number of organisational aspects of the service provisions. In anticipation of research into this aspect, administrators and civil servants can also determine whether or not there are possible opportunities in this area for improving the services.

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