The Quality Evaluation of Lithuanian Municipalities Websites

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Abstract

The progress of information technology has led to the creation and development and of e-governance on the Internet. The increasing presence of various e-services and provided functions for citizens on Lithuanian municipal websites makes it important to discuss the communication between local authorities and citizens in the virtual digital space. The interaction between local government and citizens influences the political decisions made in the community. Websites represent the image of a political institution in the public digital space. The purpose of the article is to evaluate the applicability of the quality assessment model of Lithuanian municipalities' websites. It is important to reveal the main participants in the evaluation model of the websites of political institutions and to distinguish the evaluation criteria that determine the quality of the website. In the theoretical part of the article, models for evaluating the quality of online websites are analyzed, the research methodology is formed, and a qualitative study of the websites of Lithuanian municipalities is conducted. The article uses the following methods: analysis of scientific sources and content analysis. The result of the work is the revealed assessment of the quality of Lithuanian municipalities' websites, which helps to explain the operation of the implemented functions and reveal the interaction factor between local government and citizens. The evaluation of websites is ambiguous, it depends on the type of website, the implemented activities of the institution and the participants. Taking into account the possibilities of the website platform, Lithuanian municipalities apply e-governance services to citizens, but the interaction between citizens and local authorities is limited to individual consultations. Responsiveness can only be achieved through personal communication. In this case, the interaction is conditioned by the competence of the employee of the respective municipality.

Keywords: Communication, Government Websites, Local Municipalities

1. Introduction

Political institutions provide various services on the website using the e-government system. In this way, the state institutions modernized the work of the government. It is also the use of information and

communication technology (ICT) to increase government efficiency and effectiveness, as well as greater interaction with citizens to create a simple, moral, accountable and responsive and transparent (SMART) government (Gómez, Monjardín, 2015). Lithuanian municipalities are political institutions that represent the interests of local residents. The Lithuanian Free Market Institute announces the 2022 Lithuanian municipalities index, which evaluates the financial situation and investment environment of municipalities according to the 2021 data (Lietuvos laisvosios rinkos institutas, 2023). The ranking of Lithuanian municipalities encourages to achieve better work results and maintain sustainability. An important criterion is not only the financial situation of political institutions, but also their representativeness to citizens.

Advances in information technologies have led to rapid citizen involvement and participation in the Web 2.0 platform. This changed the traditional factor of citizen involvement in political decision-making. Digital content is inseparable from the daily activities of citizens, so an active citizen is not only participating in elections, but also observing and debating in the digital public space. Lithuanian municipalities govern local communities, thus communication between officials and members of the local community is an important factor that determines the adoption of political decisions. Websites represent a political institute – Lithuanian municipalities. Information search, navigation and communication take place in the digital space. Public sector activities are based on e-governance. One of the main services provided on municipal websites is electronic services. According to the Digital Economy and Society Index (DESI) 2022, Lithuania took tenth place. The evaluation of the quality of municipal websites helps to improve the adaptability of the services provided by the second generation website at the level of citizens. The leading position remains Sweden, Denmark and Finland. England and Norway also have a high ranking index. The latter EU members are ranked higher than Lithuania.

Research was conducted in the academic community (Domarkas, V., Luokševičienė, V., 2006; Domarkas, V., Laukaitytė, A., Mačiukas, V., 2012) on the application of e-governance in the study of municipal websites. V. Domarkas and V. Lukoševičienė (2006) analyzed the informativeness factor of Lithuanian municipalities. V. Domarkas, A. Laukaitytė, V. Mačiukas (2012) assessed municipal websites as a public relations tool for communicating with local residents.

The structure and management of websites of Lithuanian municipalities is regulated by the legal acts of the Republic of Lithuania. In 2018 The Information Society Development Committee at the Ministry of Communication conducted a study "Evaluation of the compliance of the websites of state and municipal institutions and bodies with the general requirements". In this study, websites of Lithuanian municipalities were clearly ranked. Many studies show that evaluation is a key tool in designing informative, effective and quality websites (Žilinskas, G., Petrauskienė, R., Darulytė, J., 2016). E-governance research has become one of the most important topics in academic literature (Irawan, B., Hidayat, M., N. 2022). When conducting scientific research on the evaluation of websites of Lithuanian municipalities, it is important to pay more attention to the factor of opportunities provided for citizens to communicate with local government representatives on websites.

The purpose of the article is to evaluate the applicability of the quality assessment model of Lithuanian municipalities' websites. The tasks of the article are:
1. To analyze the main criteria of online website evaluation models that determine the quality of interaction between local government and citizens;

2. Formulate a research methodology based on the assessment model of Lithuanian websites;
3. To reveal the applicability of the developed evaluation model of Lithuanian municipalities' websites.

The article presents a study of the quality assessment of the websites of major Lithuanian municipalities conducted in July-August 2023. The research was conducted based on a qualitative methodological approach, applying the analysis of scientific sources and the method of content analysis.

2. Interaction between Local Authorities and Citizens on Websites

One of the main directions of e-governance research is the evaluation of the municipal website (Irawan, B., Hidayat, M., N. 2022). E-governance conveys the principles of democracy and seeks to create a transparent, accountable, efficient, fair government and support citizen participation in development processes (United Nations, 2012). E-governance, by applying information technology tools in its activities, meets the expectations of modern society - the information society. Internet sites have become an integral part of the so-called information society, the infrastructure of which is based on information technology, computers and electronic communication systems (Jafar Mehrad, Eftekhar & Goltaji, 2020).

The second generation website (Museum 2.0) allows users to interactively participate by following, responding and engaging in political debates. The progress of information technology changed the traditional concept of democracy to the participatory electronic democracy. Consequently, citizen engagement in political participation is based on interaction between local government representatives and community members. One of the most frequently interpreted criteria for evaluating websites is the compatibility of the interests of the website creator and the user (Aurylaitė, 2022). The information presented on the website must be relevant to local residents and clearly visible to website visitors. It is the contribution provided by the authorities and the organized initiatives that determine and condition the emergence of interaction (Aurylaitė, 2017).

3. Website Evaluation Models

Websites can be evaluated in different ways, it depends on which evaluation model will be used. Most often, researchers indicate six main criteria for evaluating municipal websites: content, privacy/security, usability, quality, accessibility and citizen engagement (Karkin, N. & Janssen, M. 2014).

The content criterion is based on the placement of all information on the website. Content can be interpreted in textual form or in design evaluation. Content can be categorized into the appropriate type, genre/genre. The privacy/security criterion helps to ensure the confidentiality and security of the information provided by the person. The third criterion is usability, which refers to the user's ability to manage information. The convenience criterion has two dimensions: utilitarian and hedonistic (Irawan, B., Hidayat, M., N. 2022). The former is about functionality and goal-oriented performance, while the latter is about the fun, enjoyment and fun of the site (Wagner, Hassanein, & Head, 2014). The quality criterion includes an overall - final assessment, which includes the summation of all criteria.

Recent research on website quality assessment reveals the priority given to user interests. Every citizen has equal rights and opportunities to use municipal websites, because the development of websites is financed from the state budget. People with disabilities must also be able to use municipal websites. Article 29 of the United Nations Convention on the Rights of Persons with Disabilities regulates municipal institutions to create conditions for hearing impaired people to access information on websites Jungtinių Tautų Neįgaliųjų teisių konvencija, 2006).

The evaluation criteria of websites can be divided and prioritized in various ways. Most of the time, website quality assessment is based on the classic model, but when studying the specifics of websites, the most important criteria are distinguished. When examining municipal websites, the factor of citizen involvement becomes an important criterion (Fietkiewicz ir kt., 2017).

E-participation conveys the questions asked by citizens, which are usually presented in the form of comments to local government employees. Citizens' involvement can be determined by consultations, presentation of problems, or online voting. The interaction between local government and citizens helps to achieve citizen involvement, therefore more detailed attention is paid to the provided social services in the digital space when evaluating sites (Table 1).

Table 1: Website Evaluation Model

Website Evaluation Criteria	Applicability of the Evaluation Criterion
Privacy/Security	Privacy policy, authentication, data management, cookies.
Convenience	User-friendly design, branding, home page length, target audience links and channels, site search capabilities.
Content	Access to relevant information, public documents, notices, multiple materials (secondary materials).
Services	Registration of contracts, provision of services, interaction between citizens, government and business.
Civic and Social Engagement	Initiating and considering discussions in the public space, social media programs, evaluating the results of citizens' activities.

Source: Table based on (Holzer & Manoharan, 2016)

In conducting scientific research, not only readings of individual criteria are often used, but also formulated questions. In this way, it is much easier to cover the applicability of the evaluation criteria to the relevant case study. The latter practice was used in their research by Fietkiewicz et al. (2017) (Table 2).

Table 2: Application of Website Evaluation

Criterion	Applicability of Assessment
Information	Is contact information provided? Is information about the policy being implemented presented? Is there information about the provided e-services? Is the website content accessible on smartphones? Are there apps for smartphones installed? Is the website content adapted to foreign languages?
Communication	Do you use social media networks? Is it possible to arrange meetings with the staff of the institution? Can I leave feedback or complaints?
Contracts	Do e-banking services work? Can the site be personalized?

Criterion	Applicability of Assessment
Integration	Is it possible to get to the main page with a link? Are email inquiries being answered? Is there a database?
Participation	Are there forums and platforms for asking questions? Can I attend a community meeting? Is it possible to vote online?

Source: Adapted from (Fietkiewicz et al., 2017)

It is difficult to assess the impact of e-government, because a clear democratic aspect is not integrated. Considering the latter issue, Lee-Geiller and Lee (2019) developed a website evaluation model (DEWEM). This model distinguishes three aspects of democratic governance: transparency, service quality and citizen involvement (Table 3).

Table 3: DEWEM Model

Democratic Aspect	Variable
Transparency	Open access
	Non-discrimination
	Open license
	For free
	Not patented
	Smart apps
	Quality of information
Service quality	Coordination at the national level
	Accuracy
	Navigation structure
	Content organization
	Visual elements
	Reliability
	Error management
	Website management guidelines for citizens to use
	Privacy
	Safety
Commitment of Citizens	Political effectiveness
	Answers to inquiries/complaints
	Direct communication with politicians
	Initiation to participate in politics
	Sharing work done

Democratic Aspect	Variable
	Considerations
	Cooperation

Source: Compiled from (Lee-Geiller & Lee, 2019)

Evaluating websites includes not only recording the positive aspects, but it is also important to record errors or broken links. Communication between citizens and local government is based on the responsiveness criterion, which reveals the government's responsiveness to citizens' expressed interests. Government representatives' reactions to citizens' questions are important and must be responded to in a timely manner.

4. Methodology

In order to objectively study the communication between local authorities and citizens on the website, the website evaluation models of several authors were compared, and a literature analysis was carried out. Later, a model is constructed that could be applied in the study of websites created by Lithuanian municipalities.

During the research, the information that was presented on the websites of Lithuanian municipalities was coded. The collected data were coded based on two months of changes in the information posted on the websites. The research used a qualitative method of content analysis, which was carried out in July-August 2023. Finally, the data were analyzed.

During the selection of the study, the distribution of municipalities by population and territory was taken into account. Therefore, seven municipalities of big Lithuanian cities were selected: Alytus city municipality; Kaunas City Municipality; Klaipėda City Municipality; Municipality of Palanga City; Panevėžys city municipality; Šiauliai city municipality; Vilnius city municipality.

When forming the evaluation model of Lithuanian municipalities' websites, the aim was to apply technical and democratic dimensions, because the object of the study is e-government, therefore a lot of attention is paid to the criterion of interaction. The classic (Aurylaitė, 2022) internet evaluation model (VPTCS (French: Visibilité, Perception, Technique, Contenu, Services)) and their interrelationships – the user (visitor), the website developer and the customer – were also taken into account.

It is important to pay attention to the type of websites of Lithuanian municipalities, which we can classify as informational. When researching Lithuanian municipal websites, evaluation criteria were applied: content, privacy/security, convenience, quality, accessibility and citizen involvement (Karkin, N. & Janssen, M. 2014). Evaluation model of municipal websites (Table 4).

Table 4: Evaluation Model of Websites of Lithuanian Municipalities

Countries	Criterion	Application of Assessment
Lithuanian Municipality	Content	Does the information relate to local government activities?
		Does the information relate to local government activities?
		Is there contact information?
		Is there a calendar of events?

Countries	Criterion	Application of Assessment
Web 2.0 Platform	Design	Do the font and format match each other?
		Are the pictures descriptive?
	Interaction	Does the municipality initiate the discussion of questions and problems?
		Is there a developing discussion? Are questions answered?
	Technology	Are e-services working?
		Are there any broken links?
	Navigation	Is there a targeted sitemap?
		Is there an automatic search?
	Availability	Does the mobile version work?
		Does it work in a foreign language?
		Is there disabled access?
Citizens	Convenience	Is there a social media network?
	Security	Are cookies and privacy programs in place?
	Responsiveness	Is the information relevant to local residents?
		Are there discussions?
		Do the parties submit issues for consideration?

5. Evaluation of the Quality of Websites of Lithuanian Municipalities

The content published by Lithuanian municipalities on their websites is quite broad-spectrum, covering not only the activities of the local government, but also the activities of the entire local community. This information is relevant for citizens, revealing various topical issues and issues of concern. All municipalities update information two - three times a day. The website of the Kaunas city municipality lacks a chronological representation of events, the date of uploading the messages is not presented. Contact information is one of the most important indicators of websites, all municipalities presented it. There are no contacts listed at the end of the page of the Panevėžys City Municipality website, which makes it difficult to search. A clear presentation of events is ensured by the calendar of events, most municipalities apply this in their content. However, there is no calendar of events in the information content of Palanga, Panevėžys and Vilnius.

The design of websites of Lithuanian municipalities helps to develop the image of the city, to create its uniqueness and recognition among other cities. High contrast is achieved by using too bright colors in the design in the cases of Kaunas City Municipality and Šiauliai City Municipality. The illegibility of the font also depends on choosing the right color. The font colors used on the website of Šiauliai city municipalities give the impression of being off-centered and this impairs visibility. Other municipalities studied combined colors with the logo of the city they represent, creating a seamless design.

Public discussions and deliberations were not initiated on municipal websites, neither by creating open discussions nor by creating forms.

The Lithuanian municipality's communication with citizens is personal (private communication), by establishing virtual consultants, free telephone lines. The Kaunas city municipality uses questionnaires during which it surveys members of the local community and there are e-voting spaces for the initiation of various elections.

The Web 2.0 platform provides an opportunity to establish e-government services that facilitate citizens' acquisition of various services. All websites of Lithuanian city municipalities use e-services sections to form separate fields, or to establish separate sections, such as "e-democracy" or "e-city". In order to achieve prompt and smooth work, the platform should not be burdened by various inactive sections, these disturbances occurred on the websites of Klaipėda City Municipality, Palanga City Municipality and Vilnius City Municipality.

Browsing websites is a relatively static and limited virtual field, exploiting the relevant parts of it is very important. Information is often positioned differently, so it can be difficult to find the necessary information in the story. The sitemap serves its structural function. A map of the site was clearly highlighted and placed on the websites of the municipalities of the Lithuanian cities of Panevėžys, Šiauliai and Vilnius. Automatic search was implemented on all municipal websites, except for the Kaunas City Municipality website.

In order to ensure the accessibility of websites, it is important to take into account the ability of all visitors to use the Internet. Only one foreign language is established in the municipality of Alytus city, the content of the presented information is minimal. The content of Kaunas City Municipality is presented only in English, but the information is very detailed. The languages can be changed to four other foreign languages on the websites of the municipalities of Palanga and Vilnius. The websites of Klaipėda, Palanga and Vilnius city municipalities do not have content adapted for the disabled.

The dissemination of information technologies takes place through various internet platforms, so the integration of social media expands the dissemination of municipal information. Directed links to social network accounts were installed on all municipal websites. The municipality of Panevėžys limited itself to only one social network - Facebook. It is very important to ensure the security and privacy features of website users, so cookie policy is an integral part of modern society. A cookie policy was not implemented on the website of the Alytus city municipality.

6. Conclusions

The assessment of websites is ambiguous, as it depends on the type of website, the activities of the institution implemented and the participants. The evaluation of Lithuanian municipalities' websites must be based on a clear model that would distinguish between the participants: Lithuanian municipality and citizens. The technological possibilities provided by the platform for creating and publicizing information, as well as reacting to it, must also be taken into account accordingly. Communication between Lithuanian municipalities and citizens must be based on interaction, which helps to express the interests of local authorities and citizens. It is the coordination of interests that helps implement the principles of democracy in communities. In recent sources, website evaluation models are based on the actors (parties) distinguished by the classical model, consisting of the website information creator (municipalities) and the website user (citizens). When prioritizing website evaluation criteria, the main focus is on interaction. The questions assigned to the latter criterion are of various nature.

Taking into account the latest website evaluation models in the study of municipal websites, an evaluation model of Lithuanian municipal websites was created. The participants (countries) of the classic model were taken into account when developing the model. When coding the data, the website evaluation criteria are prioritized taking

into account two-way communication and the applicability of the principles of e-democracy in the digital public space.

Taking into account the possibilities of the website platform, Lithuanian municipalities apply e-government services to citizens, but the interaction between citizens and local government is limited to individual consultations. Responsiveness can only be achieved through personal communication. In this case, the interaction is conditioned by the competence of the employee of the relevant municipality. After conducting the research, it became clear that the aim is to spread quality content on the websites of Lithuanian municipalities, as a network with social media is being created on the websites. In large Lithuanian city municipalities, the network has more social networks, while in small city municipalities the networks are limited to only one social network - Facebook. The practice of Internet sites reveals that the aim is to develop the content of the site taking into account the criteria distinguished by the latest website quality assessment models. However, when evaluating the websites of the municipalities of the largest and smallest cities in Lithuania, their content is very different, because there is a lack of overall generalization of criteria - a qualitative assessment. We can make a recommendation that the competence of communication specialists among small city municipalities would increase if the dissemination of good practice sharing was applied.

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