Original article

WCAG 2.0 as an element of external communication and branding of selected public administration institutions

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INFORMATIONS	ABSTRACT
	The article presents issues related to the elements of branding of public institutions (local government units) in the context of the implementation of effective standards for access to content published on the Internet (WCAG 2.0). The presented research results show a far-reaching divergence between the broadly understood image building and the complex aspects of the quality of communication, in particular directed to people with various disabilities.

Introduction

Branding, i.e. building brand awareness, is today one of the main research problems on which representatives of business practice and management sciences are focused. Areas such as brand elements [Melnyk et al. 2012], brand positioning [Chernev et al. 2011], brand associations [Torelli et al. 2004], brand measurement [Stahl et al. 2012], brand management [Cleeren et al. 2013] or brand expansion [Heath et al. 2011] are examined within this broad issue.

Existing studies on standards and accessibility of public institutions' websites are based on the American market research [Corcoran 2011] and individual *case studies* (such as Dubai) [Kamoun and Almourad 2014]. There is still a lack of studies on this issue on the European market, which is also indicated by other authors [Storto 2014].

This article is part of the first four cited currents of research on the issues of branding and external communication, referring simultaneously to the issues of Social Responsibility and digitalization of the communication process. It also fits into the indicated research gap regarding research on standards and accessibility of websites of public institutions in Europe.

It should be emphasized that external communication (focused on a customer, and in the case of public entities – on a user) using ICT is a broad issue, containing only a part of branding activities.

The Internet has become an immanent element of the reality that surrounds us. At the same time, it implements many basic, constitutionally enshrined laws, such as freedom of speech, access to information, the right to education, knowledge or access to cultural goods. Market reality is now inextricably linked to the Internet, and running a business is already based mainly on information provided via the Internet, thus the marketers as well as other participants in the branding process take a number of actions to reach their recipients in a digitized way. However, the needs and cognitive abilities of all persons (e.g. showing certain forms of disability or dysfunctions) are often not taken into account in this process, despite the fact that both practice (the concept of Social Responsibility is increasingly used in practice) and legislation (the EU and local regulations) notice this problem.

The aim of this article is to present a problem related to the accessibility of websites and online services of public institutions for people subject to digital exclusion (caused by dysfunctions) in the context of creating the brand's image and awareness (branding) of institutions of an administrative character, based on effective external communication using modern technologies.

The article was prepared based on the systematic analysis of both nationwide and global literature. It presents the results of own original research. It was carried out among selected local government units of the Lower Silesia Voivodship. The study covered the official websites of cities with poviat rights, as units with the largest group of recipients of published content, and the website of the Local Government of the Lower Silesian Voivodship. The verification was carried out in May 2017 in terms of implementation of selected guidelines of the WCAG 2.0 standard.

1. WCAG 2.0 – the concept and meaning
in the process of external communication of public institutions

Modern marketing, in addition to creating a high quality product, establishing an attractive price for it and ensuring its availability, also requires communication, understood as an interactive dialogue with existing and potential customers, suppliers or distributors [Marcinkiewicz 2011]. In the case of public institutions of an administrative nature (government and local government units), this communication takes place between a given institution (a sender of a message) and the society (recipients/users). Encoding, decoding and a feedback loop are functions of the communication process.

In principle, the essence of the functioning of public administration can be characterized through the prism of communication processes that have a constitutional character for them. Due to the broadly understood social communication, they can develop interpersonal relations [Serafin 2013].

Encoding is the transposition of a concept, an idea for a message constituting a combination of words and symbols. A correct message should consist of characters known to a recipient, and at the same time be unique. (…) Decoding is the process of interpreting a message by a recipient. The more it is simple and adapted to the type of auditorium, the greater the chances of its proper reception and, therefore, its effectiveness. It should be borne in mind that not only final consumers, but also intermediaries, competitors and a wide audience are message recipients. Unfortunately, the communication process is accompanied by distortions in the form of improper encoding or decoding, or negative recipients' attitudes caused by earlier messages [Szeszycka 1998]. The purpose of every message is to evoke the reaction of recipients in the form of a purchase. Another type of feedback is the creation of a friendly customer attitude towards a company and its offer (…) [Marcinkiewicz 2011].

There can be a great number of such "disturbances" in the case of the disabled people. Due to the stated purpose of a message, (public) institutions are obliged through WCAG 2.0 to predict and reduce them. Such activities, in addition to generating marketing communication to all recipients, correspond to the concept of Social Responsibility, which has a significant impact on creating the image of their brand, i.e. branding.

In 2006, during the ministerial conference in Riga "ICT for the Integrated Information Society", ministers representing Member States of the European Union, including Poland, signed a declaration that committed signatories to ensure full accessibility of all public websites in accordance with W3C consortium guidelines (World Wide Web Consortium). Pursuant to the provisions of the Regulation of the Council of Ministers regarding the National Interoperability Framework, public websites were to be fully available by the end of May 2015 [*Dostepnosc witryn*… 2013].

The availability of IT tools and the problem of adapting them to the specific needs of people with disabilities is undoubtedly a matter noticed by national and international bodies responsible for law making and defining social policies. Legal guarantees of accessibility are expressed in constitutional norms, international law acts as well as in statutory regulations and ordinances [*Dostepnosc witryn*… 2013]. The Communication of the Commission to the European Parliament, the Council and the European Economic and Social Committee 'European Digital Agenda' of 19 May 2010 and 'European Strategy on Disability 2010-2020: The renewed commitment to building a Europe without barriers", published in the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 15 November 2010 are of crucial importance in the process of adapting IT systems to achieve the policy objective aiming at full social inclusion of people with disabilities.

The aim of the strategy is to strengthen the disabled people's participation in social and economic life, as well as to improve the exercise of their rights. This document is based on the provisions of the Treaty on the Functioning of the European Union [*Wersja skonsolidowana*… 2010].

Furthermore, it should be mentioned that the WCAG 2.0 standard has functioned as the ISO/IEC 40500: 2012 standard since October 15, 2012 [2012].

WCAG 2.0 can be defined as a set of documents published by the Web Accessibility Initiative (WAI), addressed to website builders and administrators. They contain guidelines that allow the design of websites and online services available to all persons on an equal basis which means such the website's architecture that can also be used by people with disabilities without using additional devices and applications [Marcinkiewicz 2011]. This is particularly important in the context of the promoted (especially in EU countries) equal access policies of horizontal nature.

Elements of external communication (effective communication of information to users) and branding processes (creating the image of "accessibility and openness" for all citizens) implemented by public administration often fall into dissonance with reality.

According to the established principles and rules, all the contents on the Internet sites should be available to the widest possible group of recipients (the idea of accessibility for all). These concern in particular members of the digitally excluded society, including people with manual disabilities, foreigners as well as people with sensory disabilities (blind and visually impaired, deaf and hard of hearing). Some seniors, homeless people, illiterate people and poor people belong to the digitally excluded as well.

According to the report: "Accessibility of Websites of Public Institutions for People with Disabilities, Analysis and Recommendations" carried out on a sample of 3,000 public websites in terms of accessibility for people with disabilities and the compliance with the WCAG 2.0 standard and the Regulation of the Council of Ministers on the National Interoperability Framework, in the mid-year 2013:

- 70.5% of the public internet websites under examination were very difficult to access,
- 23.9% of portals sporadically experienced various problems in access to information,
- 5.5% of the studied websites were not available in any case,
- only 2.3% of public internet services were available to the majority of disabled and digitally excluded people [Marcinkiewicz 2011].

The research presented in this article is an introduction to further verification of these results.

The aspect of the accessibility of online services is important from the point of view of efficiency (effectiveness) of branding and communication activities.

2. Analysis of internet services of selected local government units

As mentioned, the official websites of cities with poviat rights of the Lower Silesian Voivodship, in Wroclaw, Jelenia Gora, Walbrzych and Legnica, as well as the website of the Lower Silesian Local Government were subjected to the study. The criterion selection resulted from the potential number of recipients of published content, in particular persons requiring mechanisms facilitating access to them. According to the statis-

tics of the website SimilarWeb [n.d.], the website of Wroclaw registers 1.5 million visits per month, Jelenia Gora 55 thousand, Walbrzych 34 thousand, Legnica 5 thousand, and the Local Government of Lower Silesia – 70 thousand.

The analysis was carried out in terms of the implementation of these guidelines of the WCAG 2.0 standard, which are imposed as a statutory obligation. Due to the architecture of websites (content management systems – CMS), only start (main) pages, which open after entering the address: wroclaw.pl, jeleniagora.pl, um.walbrzych.pl, um.legnica.eu and umwd.dolnyslask.pl were examined. This is due to the fact that subsequent subpages have very similar structure and look, which translates into the occurrence of the same errors or discrepancies with the standard.

The factors of perception, functionality and intelligibility (on the basis of WCAG 2.0) required by Annex 4 to the Regulation on the National Interoperability Framework, minimum requirements for public registers and information exchange in electronic form and minimum requirements for ICT systems were examined.

This is only one of the elements relevant to branding and communication processes. It refers to the increasingly widespread campaigns (especially by LGUs) of 'cities without barriers' and 'open and accessible places'. Extensive marketing campaigns turn out to be in opposition to the basic communication functions implemented by these units.

The test carried out with the use of IT tools has shown that the sites contain many errors and divergences with regard to WCAG 2.0. They have a diverse character and concern, among others, completeness of the page code, the so-called empty hyperlinks (no text) or no alternative text for the graphics presented.
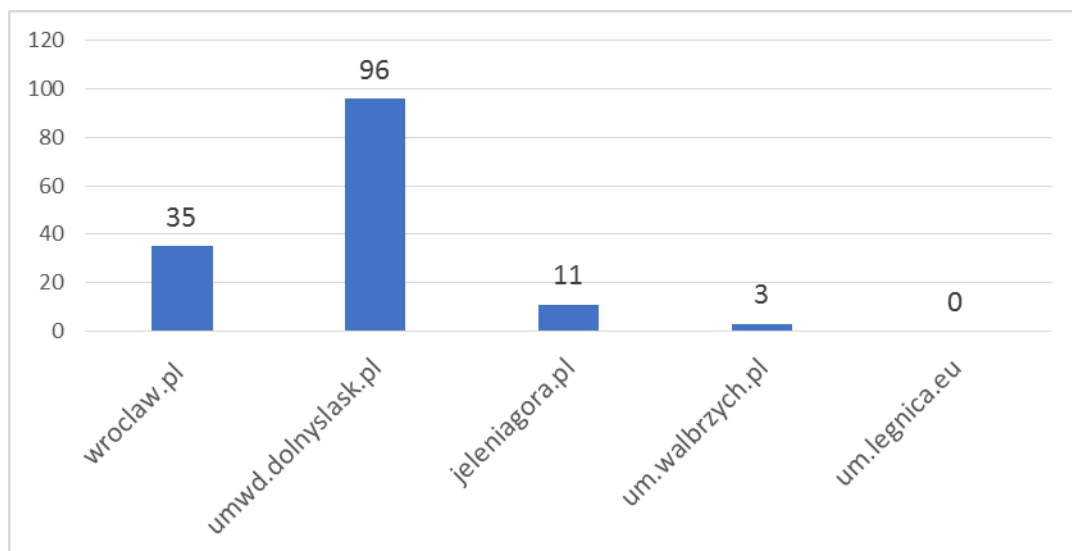

Fig. 1. WCAG 2.0 – the number of errors on websites (main page)
Source: [own study].

Figure 1 depicts the number of errors occurring on individual pages. The data presented in the diagrams are arranged in terms of the number of visitors to individual websites. The page wroclaw.pl contained 35 errors, umwd.dolnyslask.pl – 96, jeleniagora.pl

– 11, um.walbrzych.pl – 3. It is worth noting that not one single error was recorded on the website um.legnica.eu.

The occurrence of such errors may significantly hinder access to contents of the pages especially to people with visual impairments, who need additional elements to understand the contents, e.g. descriptions of the content of photos or graphics presented on the pages.

Another feature examined was exemptions from the WCAG 2.0 standard, which may adversely affect the reception of contents on the WWW page. An example of this is justifying text, which in the case of presenting content in narrow columns or reading on mobile devices can cause large gaps between words. This is the most common derogation requiring attention and analysis.

In this respect, the number of irregularities is significantly higher on the websites surveyed. The website of the City Office of Wroclaw contains 54 of them, the Marshal's Office of the Lower Silesian Voivodship – 151, the Municipal Office of Jelenia Gora – 6, of Walbrzych – 54 and of Legnica – 12.
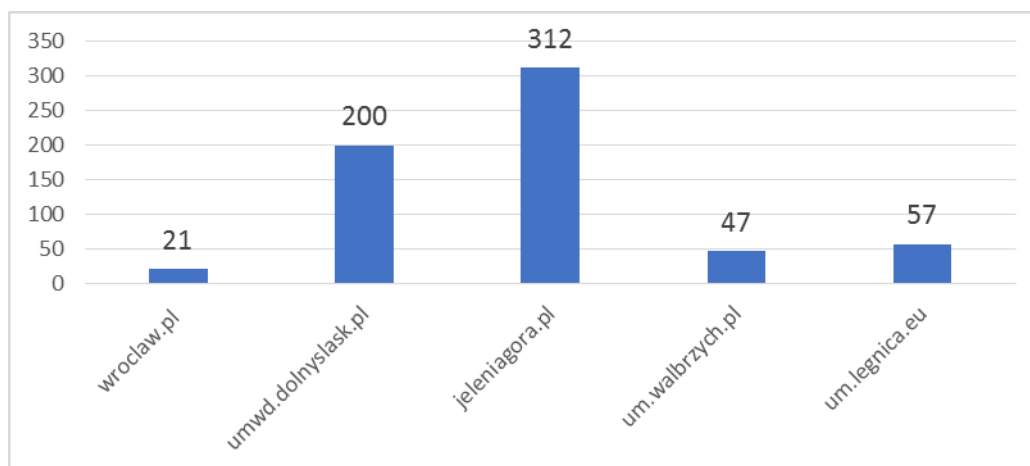

Fig. 2. WCAG 2.0 – the number of warnings related to irregularities on websites
Source: [own study].

While the issues discussed above are difficult to be precisely quantified and compared (the various nature of errors, the variable strength of their impact, the varied character of the handicap for people with sight dysfunctions or older people), the situation concerning the *sensu stricto* visual matter is different. The WCAG 2.0 standard defines the way of presenting contents in terms of the color and contrast of individual elements. The proposed solutions are to ensure the best possible readability of the text and graphics.

None of the websites surveyed meets the guidelines. The greatest number of elements that did not meet the requirements (in the case of a standard page in color) was recorded on umwd.dolnyslask.pl (151), wroclaw.pl and um.walbrzych.pl (54 each), um.legnica.eu – 12, and jeleniagora.pl – 6.

It is surprising, however, that the versions of these websites, which are to be adapted in color for people with deteriorated visual perception (increased contrast) also contain such errors. In the case of the Wroclaw website there are 15 of them, of the Marshal's Office – 10 and of Walbrzych – 3. Jelenia Gora and Legnica do not publish such versions of their sites (marked as "X" in Figure 1).
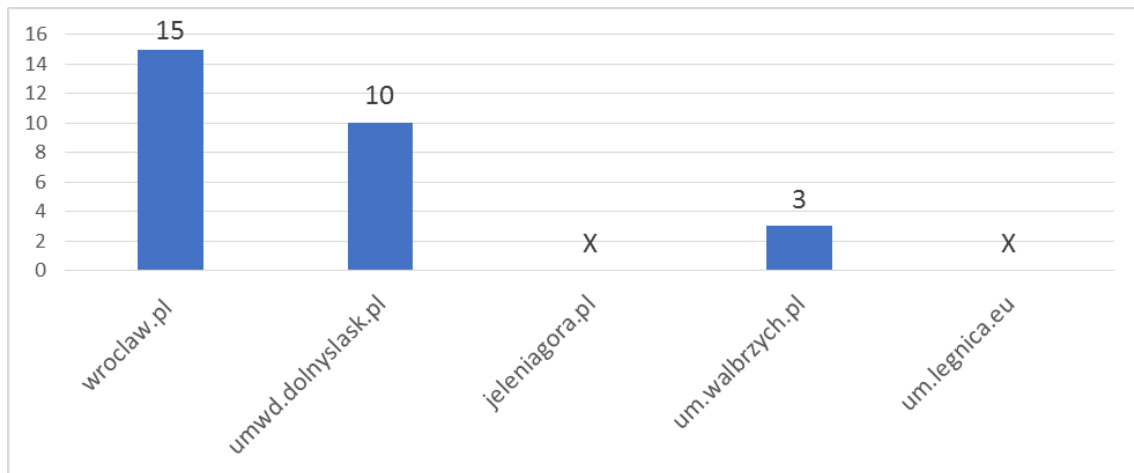

Fig. 3. The number of contrast errors (website version for visually impaired)
Source: [own study].

It should be emphasized that these are frequently very important elements of these websites. In the case of Wroclaw website, it is inter alia "Search" button.

It should be taken into account that the main pages were examined and the number of errors on individual sub-pages multiplies. More extensive services, such as the websites of Wroclaw or the Marshal Office, contain several thousand subpages.

Conclusion

The dynamic development of technology gives more and more opportunities to excluded people, nonetheless, there are still various groups for which information and Internet communication is not available. In the case of public administrative units, this is particularly important for the services they offer. The possibility of obtaining information via the Internet is essential for people with disabilities and older people. It happens that this is the only communication channel for them.

Both from the point of view of the branding process as well as the existing legal regulations, thus when creating websites of public institutions, it is necessary to pay special attention to make their availability equal for all people.

It should be noted that the WCAG 2.0 recommendations were developed in 2008, which in the context of the development of information technologies, including the Internet, constitutes an "epoch". The developed documents contain very detailed information, explanations and examples to help meeting these requirements.

The analysis of the solutions applied to facilitate access among selected entities raises questions in the field of building the image of LGUs (cities or voivodships) related to the directions of building brand awareness. The lack of adaptation of the main information pages to the needs of people with disabilities or digitally excluded creates a clear dissonance even for marketing activities conducted for many years under the slogan "Wroclaw without barriers" or "Lower Silesia without barriers". This state of affairs requires in-depth research, especially in the context of the causes of the situation as well as its perception by people using websites.

In addition, the impact of discrepancies between the declared "openness" or "accessibility" of local self-government units (represented, among others, by websites supporting external communication) and the positioning of the brand and its management should be verified.

Conflict of interests
The author declared no conflict of interests.

Author contributions
All authors contributed to the interpretation of results and writing of the paper. All authors read and approved the final manuscript.

Ethical statement
The research complies with all national and international ethical requirements.

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