

Current Practices in Museum Digital Communication: an Assessment of Museums' Online Accessibility Via Websites in Poland and Romania

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Abstract

This research explores how museums use their websites as communication tools in an environment defined by visitors' expectations for a smooth experience in transitioning from online to offline communication and from digital to physical experiences. We focus, therefore, on evaluating how museums in Poland and Romania use their websites and social media to attract visitors and facilitate a seamless transition from digital to physical experiences. A sample of 20 institutions (from Poland and Romania) was selected, covering 14 museums and six museum-like organizations representing diverse collections (art, history, art history, natural history, etc.). These institutions are located in cities of different sizes and cultural relevance, catering to residents and international tourists. We employed a heuristic user experience evaluation, analyzing eight key dimensions of the websites. They were reviewed in their native languages (Polish and Romanian) as well as in English, alongside their related social media channels. The analysis identified commonalities and differences in design approaches aimed at enhancing online engagement and communication, with its conclusions revealing various solutions to similar challenges as well as insights into how to better answer to increased expectations faced by museums to build up an online environment attuned to its online visitors.

Keywords

Accessibility of Museum Websites; Ease of Use of Museum Websites; Heuristics; Museum Website; User Experience.

Introduction

The current research is part of a three-fold project that aims to look into how museums are approaching their online communication in an environment that is increasingly shifting towards greater integration of online and offline communication. Considering the soaring popularity of mixed reality used in heritage sites and exhibitions to increase visitors' and/or prospective visitors' engagement with specific content, museums are likely to encounter even more significant challenges than before regarding user experience. Furthermore, a consistent digital presence constructed onsite through a phygital approach (Martusciello & Muccini, 2024; Turco & Giovannini, 2020) as well as by means of social media and websites may increase engagement and gain visibility for museums through digital recommendations, online sharing of museums' social media posts and referrals to website links. Keeping this in mind, our purpose is to examine how

museum websites, through their in-built features and content organization, create a seamless navigating experience likely to attract visitors and smooth the transition from online experiences to onsite visits and experiences.

Literature review

Amidst multidimensional changes occurring in their respective environments, museums must constantly rethink their management, operations, and communication with stakeholders (see Zbucnea, 2022; Zbucnea & Bîră, 2020). Most of the challenges museums face are connected to the reported financial scarcity (e.g., Najda-Janoszka & Sawczuk, 2024; Proteau, 2018), and if museums want to be attractive to the audience, they must consider how to overcome these difficulties. One of the crucial aspects, especially in the post-pandemic times, regards the usage of technology and communication with the audience and other stakeholders through social media platforms (e.g., Agostino, Arnaboldi, & Lampis, 2020). Nevertheless, it is not enough to exist on digital platforms in the current environment, as the digital presence and online communication must be maintained engagingly and consistently. Linked to the fact that one of the main users' touchpoints with museums (before a visit) are the organizational website and social media channels, if prepared appropriately, it may trigger the users' interest in conducting the next actions. Additionally, an engaging and less formal communication style increases the chances of direct interactions with the museum, considering the recent shift in knowledge sharing and the recognition of the public as relevant sources of knowledge.

The whole discussion about how museums should be presented in a digital area can be connected to a few additional factors. Firstly, current visitors (customers) are more demanding and address higher expectations (e.g., Black, 2018). Thus, they will go to another place if their needs are unmet, as they have limited free time. In light of limited donations, financial support from visitors will be of great importance - even to prove that the museum is perceived as an interesting and necessary place (e.g., Najda-Janoszka & Sawczuk, 2024). The crucial observation also regards the fact that museums do not operate only for themselves but are part of the community and can participate in socially important discussions (e.g., Zbucnea, 2014; Zbucnea, Bîră, & Romanelli, 2020). It can be arranged on different levels - by discussing climate change or supporting war refugees, but also by providing content in an accessible and inclusive manner. To a great extent, inclusivity is one of the concepts that have been mentioned in museum literature for quite a long time (e.g., Sandell, 2003), yet in light of recent changes and crises; it has gained particular importance.

Another challenging issue - however, not only for museums - regards the growing importance of the customer/visitor experience and the fact that experience happens not only in the offline area but simultaneously in the stationary and digital places. It is related to the concept of phygital experience (e.g., Debono, 2021; Jacob, Pez, & Volle, 2023), described as a situation in which experience occurs and touchpoints can be identified both offline and online. Moreover, organizations want to satisfy customers and provide them with a positive and unforgettable experience. Although this is not a new concept, in times of increasing competition and growing uncertainty, taking care of positive experiences is becoming especially relevant. Another challenge is that "experience" is a vague and highly individualistic concept (Mossberg, 2007) - each

individual has a different experience. Therefore, organizations cannot create an experience per se; instead, they can include conditions supporting those positive experiences (Mossberg, 2007). Nevertheless, it is of great importance, as users who will gain positive experiences from interacting with specific websites or applications may return to the organization again or even recommend particular products or services to others. Negative experiences, such as poor information architecture or too much technical language, will lead to frustration, negative experiences, and probably - negative word-of-mouth, which in social media times should not be overlooked.

Although experience is about a highly individualistic state, it does not mean that no framework or model to measure or evaluate experience can be identified. Among them, it is possible to identify, among others, the System Usability Scale (Richardson, Campbell-Yeo, & Smit, 2021) or the "UX honeycomb model" (e.g., Morville & Sullenger, 2010), which presents key elements affecting the overall and final user experience. According to this framework, a good user experience should be credible, useful, usable, desirable, findable, accessible, and valuable (e.g., Richardson et al., 2021). When looking at accessibility, it can be observed that this issue is closely connected to inclusivity, yet they are not the same (e.g., Sawczuk, 2023). Creating an inclusive design is focused on products or services addressed to people from all backgrounds and all levels of abilities. Hence, it can be mentioned among different dimensions of inclusive design, e.g., ethnicity, gender, origin, or socioeconomic status (Patrick & Hollenbeck, 2021; Sawczuk, 2023). Hence, accessibility is a part of inclusive design and it concerns fulfilling the needs and expectations of people with varied disabilities.

Another element of the honeycomb model is usability. Although it is not the only one concept, sometimes it can be observed that especially high interest is focused on this issue. Usability, according to varied sources, refers to the degree to which users can conduct specific tasks smoothly, quickly, and efficiently. Hence, according to the ISO definition, whether users can "achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use" (Sauer, Sonderegger, & Schmutz, 2020, p. 1208). This concept's relatively high importance means it is possible to identify various approaches and propositions for testing, measuring, or improving user usability. One of them is usability heuristics (e.g., Maquire & Isherwood, 2018), which are general rules helping to create more usable, intuitive, and user-friendly products. Although heuristics do not determine how to develop usable products step by step, they give an important overview and assistance in designing usability-oriented products.

Thus, users should always be informed about the situation and their actions, like the process of downloading or info about what buttons were selected. Hence, the system status has to be visible. The product (website or application) should provide information in an understandable manner - ideally, icons or descriptions should be based on real-world language. The issue of plain communication is also reflected in another heuristic - "help users with errors." Hence, if any error occurs, organizations or designers have to consider how to provide this information in an understandable manner, but also how to provide possible solutions (Sauer et al., 2020). Errors are considered to be one of the main factors affecting user experience. Hence, the most preferable situation will be to provide error-free content. However, as it can be challenging to achieve, the "help and documentation" should be easily offered. Moreover, the system should provide conditions preventing users from making errors, and messages about errors should be written in plain language. Usability is also related to navigation (Sauer et al., 2020;

Richardson et al., 2021) - hence, users should also be able to back and forward and undo any actions made by mistake. It is also important to provide visible information without recalling it from memory. Moreover, within the usability heuristics, it is evaluated whether the design is flexible and efficient to use and whether it is consistent (Chang & Johnson, 2021)- hence if all words or icons mean the same throughout the design. In terms of the design, it is also evaluating whether it is minimalistic, as too big clutter may not support positive user experiences.

Although all these issues may be important for museums as well, it can be observed that the usability and user experience issues are not intensively explored in the museum area or the context of museums from Eastern and Middle-Eastern Europe. Discussion about experiences – visitor experiences – are primarily focused on the exhibition space and areas accessible offline (Bronner & de Hoog, 2021; Gorchakova & Hyde, 2022). Hence, there are studies exploring visitors' satisfaction or dissatisfaction with some museum spaces (e.g., Yi & Kim, 2021), their emotions after the visit (Yin, Chen, & Ni, 2023), or ways of interacting with the space (e.g., Ponsignon & Derbaix, 2020). Museums are aware of the importance of digital presence – which is reflected, among others, by the vast number of studies related to social media communication (e.g., Najda-Janoszka & Sawczuk, 2021; Piancatelli, Massi, & Vocino, 2021). Nevertheless, the experience regarding interaction with the website is not so intensively explored. It can be considered an interesting case, as the proper design of the website should also consider the diversity of the users and their backgrounds (Morville & Sullenger, 2010). Thus, applying inclusivity principles to the museum practice can be a different facet. Moreover, suppose museums continuously try to apply a visitor-oriented principle. In that case, they should not overlook the virtual area, as current or future visitors will probably check the websites in the first place. The word-of-mouth specificity is also related to the museum practice (Yin, Chen, & Ni, 2023), as the online and offline areas of museums overlap. Even if modifications on the website are not really innovative, the user-oriented designed websites are really important element of still ongoing transformation towards a more visitor- and social-oriented perspective. In light of still happening dynamic changes in the environment, this topic is still relevant and actual.

Methodology

Drawing on the literature review, our study aims to explore how museums in Poland and Romania use their websites to attract visitors and facilitate a seamless transition from digital to physical experiences. We seek to broaden our understanding of how museums strive to create a larger online space to engage with their communities and maintain an active presence in the online environment.

The current research evaluates museum websites from a heuristic user experience perspective, based on a sample of 20 museums and museum-like organizations from Poland and Romania. Table 1 below contains all the organizations included in the current research alongside several of their characteristics (type of collection, funding source) as well as their website address. The museum sample consists of seven websites (from each country) belonging to museums that are popular with different categories of visitors (residents, international tourists) and whose collections and typology cover art, folk art, history and archaeology, natural history. Additionally, three museum-like institutions from each country were included in the sample: these organisations use the

term “museum” in their name or presentation, without actually being museums (nor are they recognized as such by the habilitated bodies, nor do they include heritage items in their proposed exhibitions and activities). All these institutions, apart from being diverse in their thematic profiles, are located in different cities: capitals, but also bigger cities or smaller towns.

Table 1. The analyzed sample

No.	Museums	profile	administratio n	website
1	Astra Museum	open-air museum, village museum	public, national	https://muzeulastra.ro/
2	The National Museum of Art of Romania	art museum	public, national	https://mnar.ro/
3	Maps Museum	history museum	public, national	https://www.muzeulhartilor.ro/
4	Natural History Museum - Constanta	natural history museum	public, local	https://www.delfinariu.ro/
5	National Museum of the Romanian Peasant	folk art museum	public, national	https://muzeultaranuluiroman.ro/en/home/
6	Recent Art Museum	art museum	private	https://mare.ro/
7	National Village Museum	open-air museum, village museum	public, national	https://muzeul-satului.ro/
8	Royal Castle in Warsaw	art museum	public, national	https://www.zamek-krolewski.pl
9	National Museum in Krakow	art museum	public, national	https://mnk.pl/
10	National Ethnographic Museum in Warsaw	ethnographic museum	public, national	https://ethnomuseum.pl/?lang=en
11	National Maritime Museum in Gdańsk	technical and science museum	public, national	https://nmm.pl/en/
12	National Museum in Wrocław	art. museum	public, national	https://mnwr.pl
13	Art. Museum in Łódź	art. museum (both old and contemporary art.)	public (national & local)	https://msl.org.pl
14	Warsaw Rising Museum	historical museum	public, local	https://www.1944.pl/en
	‘Not museums’			
15	Children museum	science, education, children activities, leisure	public, local	https://proedus.ro/muzeul-copiiilor/
16	MINA Museum	immersive art, children activities, leisure	private	https://www.minamuseum.com/
17	Museum of senses	children activities, leisure	private	https://museumofsenses.ro/about

18	Interactive Museum of Optical Illusions in Gdansk	interactive, science, digital art	private	https://dejavumuzeum.pl/en/about-us/
19	Melt Museum	immersive experience'	private	https://meltmuseum.com/
20	Copernicus Science Centre	science, education	public	https://www.kopernik.org.pl/

According to the literature and professional sources (Sauer et al., 2020; Nielsen Norman Group, Interaction Design Foundation), usability consists of around eight main elements, meanwhile usability heuristics consists of ten principles. Based on the appropriate literature, an analysis grid was put together to investigate what kind of features, patterns, and principles museum websites employ to build their digital presence through their respective websites. While preparing for the study and considering the specific context of museums, the basic usability heuristics principles were double-checked and discussed to look at what rules can be factually tested and applied. Finally, after conducting a preliminary analysis and verifying which principles can be identified in the given context, a set of dimensions were retained (see Figure 1), as follows: recognition rather than recall, matching between system and real world, flexibility and efficiency of use, content (preferably – if written in an understandable manner), consistency and standards, ease of use, visibility of system status and user control& freedom together with managing with errors. This last point combines heuristics closely connected to error-related situations.

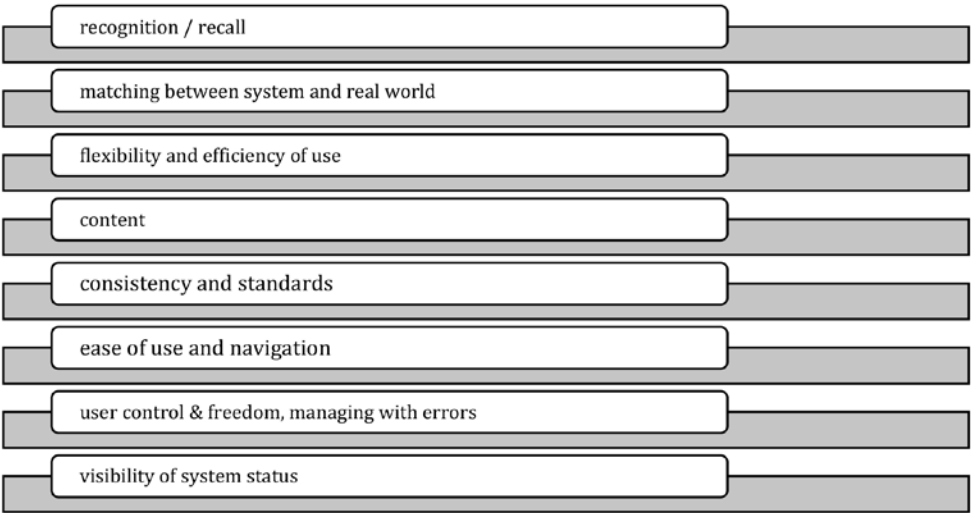


Figure 1. Website dimensions used in the analysis

Following initial explorations, we identified several key dimensions to focus on. These included consistency and standards, ease of use (also connected to the navigation), and content (whether it is plain language and to what extent it matches the ‘real world’ language). Considering museums’ specific features, we incorporated “accessibility” into the current selection, seeking to explore whether museums extend visitor-oriented principles to their digital presence. All the websites were examined in their “native” language (Polish and Romanian) as well as in their English versions, alongside several features of social media channels built in relation to the websites, to identify common

points and patterns but also differences between various design solutions employed by website developers to address the specific needs of museums in communicating with their audiences. However, the current article only includes findings related to websites.

Findings

Although the term "user experience" is broad, usability is one of the most often mentioned concepts in the literature (e.g., Sauer et al., 2020) and a main element of the UX honeycomb model. As this characteristic of the website is about how easy and efficiently the user can do some tasks, we decided to focus on specific features, keeping in mind that they are a bit connected and affect how users experience interactions with the website. Hence, it was website navigation and ease of use. Additionally, we explored issues of accessibility, consistency, and several characteristics of website content, under which we can examine, i.e., whether content provides enough elements to match the system and the real world. Under the label of "navigation," we grouped elements related to navigation, such as shortcut buttons (e.g., online shop, home) or the various modes of navigating through the website.

Navigation and overall structure of the websites

Efficiency and ease of use when conducting assumed tasks by users depend on those website features that ensure smooth navigation. Navigating concerns the possibility of clicking back and forth throughout the website, as well as perusing various website pages and switching from one tab to another. This issue does not seem to be a problem: on all websites (Polish and Romanian), users can go back to the main webpage mostly by clicking on the logo. This type of navigation becomes more complicated if the user accesses the online shop and/or the online tickets section. In some cases, it is clearly marked how to return to the main site from the online shop (e.g., Royal Castle in Warsaw). However, there are also instances when this feature was not embedded in the website (e.g., National Museum in Krakow, National Maritime Museum). The situation is similar for museums in Romania. Although not all museums' websites offer the option to buy tickets online (four museums out of seven), only three can return to the main page once the user has accessed the shopping page. For organizations similar to museums, the shopping process runs more smoothly, with the possibility to go back to the main page at different stages of the buying journey, but not after being re-directed to the page of secure payment used by the organization. Navigation is also connected to shortcut buttons, which may help move throughout the website. In the evaluated museum websites, shortcut buttons are used mostly for the online shop or for choosing another language version of the website. Nevertheless, sometimes shortcuts exist only in one version of the website - hence, in the case of the Ethnographic Museum, it is only in the Polish version. An interesting case is the National Museum in Krakow. Here, to buy tickets, it is one needs to hover over the menu, and "online tickets" will appear as a part of the main menu. As previously mentioned, half of websites from Romania offer the possibility to buy online tickets. However, when they do, they all have a shortcut button to the online shop included on both versions (in Romanian and English).

Shortcuts may also concern switching the language version of the website. No significant problems were reported here, with some slight exceptions: the National Museum in

Krakow, the Village Museum in Bucharest, and the Museum of Immersive Art in Bucharest (a museum-like, private organization). In the first case, hovering the cursor over the main logo is needed to see the option of switching the language to English; in the case of the above-mentioned organizations from Romania, the shortcut button for English is placed in the lower right part of the page, which renders this button more challenging to spot.

Regarding what language can be applied, in Poland, it is primarily English, sometimes German, and Ukrainian, meanwhile in Romania, there is only English, with the notable exception of the Children Museum, an organization that, although not officially recognized as a museum, proposes various activities primarily to schools, that does not have an English version

In addition, buying tickets or souvenirs in an online shop may be shortened by the possibility of logging in to the shop through social media accounts or a Google account. Nevertheless, this is not popular among Polish museums (both options are available in the Art Museum in Łódź and at Royal Castle in Warsaw, where it is possible to log in this way to the online shop), nor among museums in Romania. Since few of the analyzed museums in Romania offer the option to buy tickets online, it makes sense for this service not to be accessible from social media accounts (Facebook or Instagram).

The navigation will also be more straightforward if the headlines are written in an understandable manner, where there is no need to think about what can be found under a particular term or another. In this case, it is possible to find user-oriented and non-usable cases on the same website. Hence, on the website of the Warsaw Uprising Museum (the same that has the chatbot and section FAQ), information regarding educational workshops can be found under the tab "about the museum," which is usually dedicated to the institution's history or, less frequently, contact details. When analyzing the website navigation process, another important feature is linked to the number of actions one has to take to peruse the website, find relevant information, and act upon it or the length of time spent in order to figure out what under what tabs one may find various pieces of practical information.

It is a situation where, for example, there are separate sections of "exhibitions" or "today in a museum" (Art Museum in Łódź) or instead of having one list of current/upcoming exhibitions (as in the case of the National Museum in Krakow), the user has to check all branches subpages. Similar examples can be found on websites belonging to Romanian museums. For instance, on the website of the Peasant Museum in Bucharest, under the "Events" tab, there are three categories: "*exhibitions*," "*events*," and "*archive for events and exhibitions*." Another tab (included in the main horizontal menu) is labelled "collections" and presents all eight museum collections. Nevertheless, it is not immediately obvious where to look for temporary and permanent exhibitions (under events or collections), nor is it clear, at first glance, which events are still „ongoing.” Additional steps are needed to figure out the exact calendar of events. We also must point out that although a bit hard to find in the beginning, the information is organized consistently (see Figure 2.1 and Figure 2.2).



Figure 2.1. National Peasant Museum (Bucharest)
Website: <https://muzeultaranuluiroman.ro/>, accessed on 28.09.2024.



Figure 2.2. National Peasant Museum (Bucharest)
Website: <https://muzeultaranuluiroman.ro/>, accessed on 28.09.2024.

Concerning the same issue, namely how to figure out what is currently happening at the museum and what is next, the calendar displayed by the Village Museum in Bucharest is an excellent example of user-oriented content: it shows ongoing and upcoming events in a manner similar to a largely commercially available online calendar, thus ensuring familiarity, recognition, and ease-of-use (See Figure 3).

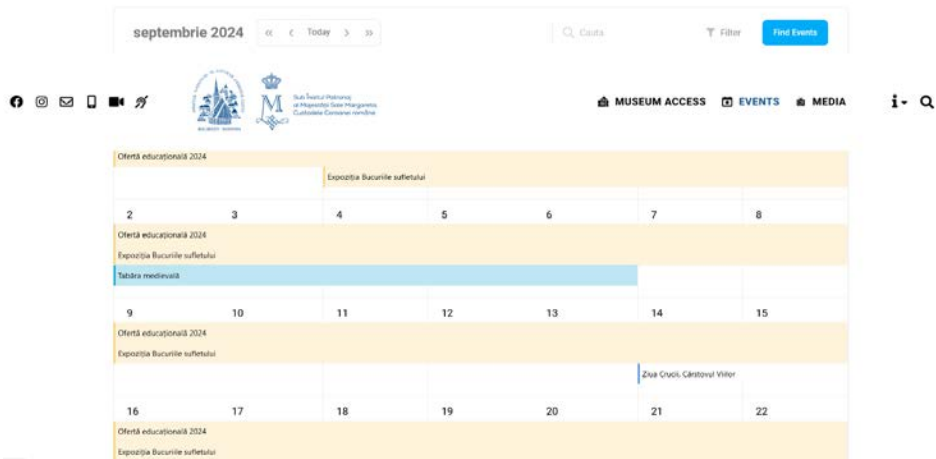


Figure 3. National Village Museum (Bucharest).

Website: <https://muzeul-satului.ro/en/calendar-evenimente/>, accessed on 28.09.2024.

As previously mentioned, an interesting case concerning the navigation issue and the discussion of whether this design respects "ease of use" for the users is the case of the National Museum in Krakow. On this website, social media shortcut buttons are only visible after hovering the cursor over the main logo - a list of social media sites is close to the small heart-shaped icon (Figure 3).

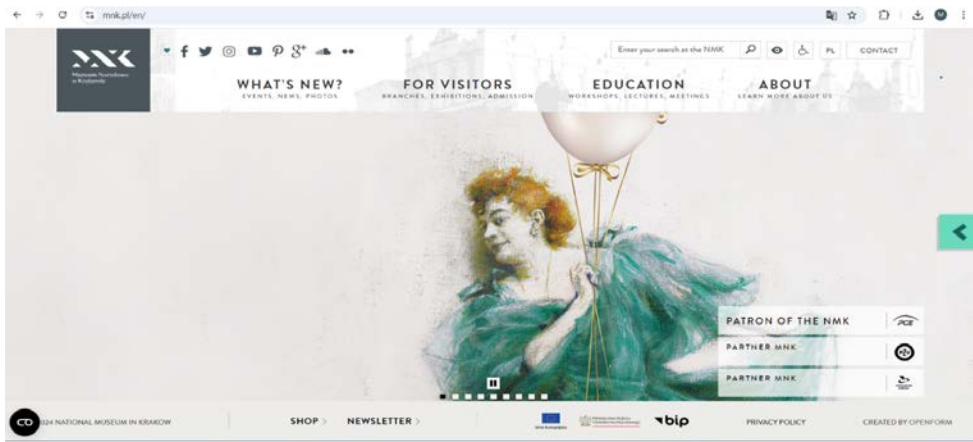


Figure 4. National Museum in Krakow

Website: <https://mnk.pl/en/>, accessed on 26.09.2024

Ease of use

This dimension refers to another important aspect of evaluating website usability. It basically consists of how easy it is to use a specific product or to find a particular piece of information, with the website including features such as the search button, the existence of sections such as "help" and/or FAQ, highlighted keywords, etc. While this is a relatively basic element of the websites, in Polish sample websites, two "not-museum"

and one museum (Ethnographic Museum in Warsaw) do not have search functionality. Comparatively, more than half of the analyzed websites in Romania have this button. Sometimes, a search button exists, yet it is not immediately visible (National Museum in Krakow). Also, no "help" button was identified on any of the Polish museums' websites and the situation is similar for websites in Romania. Some form of help and assistance may also be provided, thanks to the "FAQ section." It is quite a unique element of the Polish museum's websites. Nevertheless, it was identified during the evaluation process on the websites of Melt Museum, Kopernik Science Centre (hence - in the section "visit"), and Warsaw Uprising Museum. Warsaw Uprising Museum is also an interesting case, as this is the only website where something in the form of a "chatbot" was identified (Figure 4). Unfortunately, it was available only in the Polish language version.

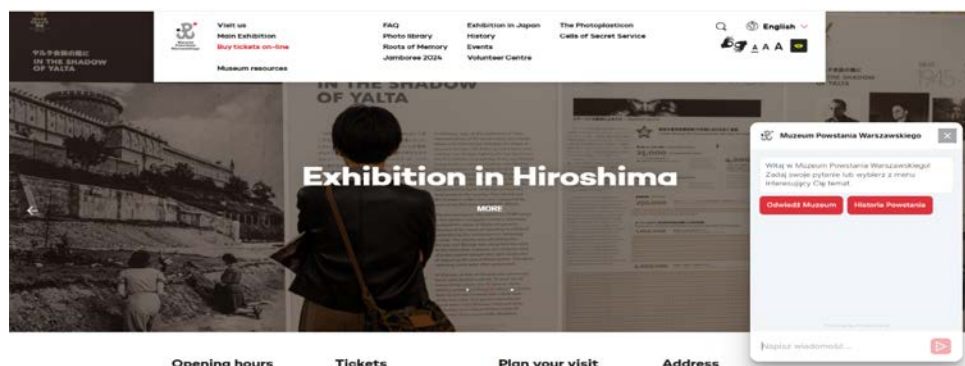


Figure 5. Warsaw Uprising Museum
Website: <https://www.1944.pl/en>, accessed on 26.09.2024

Regarding the Romanian sample, there is just one website with a FAQ section, and it belongs to a private museum (Recent Art Museum). However, to reach it, one must scroll down (a lot) on the main page, as the section is not visible in the main menu.

Accessibility

According to the UX principles, the user experience should also be accessible. Accessibility is a part of the inclusive design, focusing on users with different disabilities. Hence, in the case of the websites of Polish museums, different accessibility-oriented functions are provided. There are primarily possibilities for changing the font size and the contrast of the website colors. Sometimes institutions provide a service of sign language guide - hence, this is available only in Polish Sign Language (Royal Castle in Warsaw, Museum of Warsaw Uprising). In line with the ideas of phygital experience, websites are also channels to communicate about employing accessibility rules in the exhibition area. Such an approach was observed in the case of the National Museum in Krakow (whole tab about "declaration of accessibility"). Comparatively, no such features were observed within the Romanian sample. Nevertheless, accessibility of museums (onsite) is a complex issue: steps have been taken to make the buildings and some exhibitions accessible to people with various impairments, but more is needed to address the issue adequately. On this background, website accessibility is not a prominent feature on websites in Romania, although museums strive to ensure that visitors with reduced mobility feel welcomed despite onsite conditions.

Consistency

Whether there were no reported problems in terms of internal consistency and whether the design within one website is consistent, a more complicated situation concerns external consistency. An especially visible situation of such an approach is the website of the National Museum in Krakow, where links to social media profiles are visible only after hovering the cursor over the main logo of the museum. Another untypical approach was observed on the Melt Museum website, where it becomes crossed out after hovering the cursor over any headlines (Figure 6). It can be perceived as some element of brand image, yet it is also slightly an untypical design approach.



Figure 6. Melt Museum
Website: <https://meltmuseum.com/en/>, accessed on 26.09.2024

Evaluating consistency in terms of the online shop or buying tickets is slightly hard to achieve, as not all museums have an online shop (e.g., Ethnographic Museum in Warsaw and several museums in Romania), or sometimes they face technical problems regarding the process of buying tickets (National Maritime Museum in Poland). In the case of the National Maritime Museum, it is also possible to observe that the headline is not fully understandable and is situated in a not-so-visible place. Also, the headline is "reservations online" instead of just information about "online tickets". This "reservations online" button is placed under the category "museum websites" and is not accessible in the English version of the website. Similar observations can be made for websites in Romania: for example, The Children Museum in Bucharest has an „online reservation” button (that can eventually be used to get an idea about tickets availability and to buy tickets), meanwhile, all the other museums have opted for: "online tickets", "see prices", clearly communicating that the option to buy tickets is available. This is especially relevant taking into consideration that not all the analysed museums are offering this service online.

Content and communication

Aspects of **content and communication** can be, by some means, connected to the issue of whether a website/system provides information by using words familiar to the user (i.e. a match between the system and the real world). On the other hand, it can be about design: whether there is an intent to be consistent in terms of brand identity (e.g. having a logo displayed on all pages, having the same colour scheme throughout the website), if there is too much (or not enough) information on the website, in line with the UX principle "aesthetic and minimalistic design" and how the users feel while interacting with the website.

Having a logo and presenting it throughout the website was observed in all Polish and Romanian institutions (museums and "not museums"). It was mainly applied together with the same colour scheme and font types.

An interesting situation concerns the cases of multi-branch museums. In Poland, different approaches were observed. For example, on the National Museum in Krakow website, it is necessary to go to a separate subpage for information about any branch. In contrast, in the National Museum in the Wroclaw case, the branches' names are presented on the main page, each in a different color. Such diversity is also reflected in social media communication. In the Wroclaw case, branches have separate Facebook profiles (logos in various colors), while in Krakow, there is one Facebook profile (the



Czartoryski Museum branch is the slight exception). The Romanian sample includes only one multi-branch museum: The National Art Museum in Bucharest, where the same option as in the case of the National Museum in Wroclaw has been made, namely to have the branches' names presented on the main page, each in a different color (see Figure 8) with different Facebook pages for each branch. Nevertheless, in adopting the umbrella-brand strategy, there is more consistency in social media communication, as on Facebook all the branches display the same logo as the main museum.

Figure 7. National Museum of Art of Romania (Bucharest)
 Website: <https://mnar.ro/en/>, accessed on 28.09.2024

Another important issue regards the aspects of communication. In the case of public museums, both in Poland and Romania, sometimes, there is a tendency to perceive websites as a channel for more formal communication. Even if it is not genuinely an "impersonal" tone of communication, some institutions also try to present and describe themselves sophisticatedly. However, it is not a general rule that all public institutions in Poland do not apply more user-oriented communication, as the Ethnographic Museum in Warsaw presents the history of the institution in the form of a timeline

(Fig.8) and the Village Museum in Bucharest has opted for a friendly version of the events calendar. However, a formal style in communication does not necessarily imply stiffness or texts that are too elaborated, as one may observe in the case of the National Museum of Maps in Bucharest, which keeps a warm tone, being friendly but not informal.



Figure 8. National Ethnographic Museum in Warsaw
Website: <https://ethnomuseum.pl>, accessed on 25.09.2024

A bit different situation was observed in the case of Kopernik Science Centre, where on the website more direct communication is used, such as: *"When you come to Copernicus, you can stay as long as you'd like, until closing time. But don't worry if you don't end up seeing everything."* (<https://www.kopernik.org.pl/en/visit/how-visit>, access: 25.09.2024). In the case of Polish public art museums (National Museum in Krakow, National Museum in Wroclaw), this type of communication can be found more on social media pages, as in the case of museums in Romania: social media may give way to a more informal communication style. However, while evaluating to what extent communication is plain and informal, it is important to note that the amount of information differs when looking at the Polish and English versions of the websites (it was observed, for example, in the case of the National Museum in Wroclaw). Therefore, different expressions and experiences can emerge depending on the user's language.

Conclusions

Through our study, we explored different strategies Polish and Romanian museums applied to create user-oriented websites. We looked, among others, at the navigation principles, ease of use, and various ways of creating the content. Although the evaluated sample was not too extensive, some general conclusions can be observed. Hence, museums use their official websites mainly to inform about basic information such as opening hours and location, and this information is relatively easy to find. The situation

is sometimes slightly more complicated when it comes to finding additional info, like upcoming events or planned exhibitions. Thus, navigation principles are not always appropriately clear. Moreover, evaluating the design principles is a complicated and multidimensional task: when on the one side, principles such as straightforward navigation are not always applied; on the other, one museum applies them on its website chatbots and FAQ section. Hence, general evaluations of whether designs are good or bad are complex to conduct, as they depend on the specific part of the website.

Some form of inconsistency in terms of the quality of the design may also be connected to the lack of testing activities. Hence, after the design and prototype of the website are created, it is highly recommended that the website be tested with (preferably) final users. If such an action is not taken, then some parts of the website may not be user-friendly to an appropriate extent. Nevertheless, it is assumed that a lack of proper financial resources may be a barrier to such actions, but applying the UX and design thinking principles may also be beneficial to practices and patterns used when creating online content. Such practices can also constitute a key component for a more visitor-oriented website, as websites can potentially address individual visitors and various communities as significant stakeholders. Nevertheless, to empower museums in acting towards a more dynamic presence regarding digital communication, new skills are needed for cultural workers, in addition to their initial formation, skills related to digital literacy and digital communication, supported by appropriate training.

Although no website failed to meet the evaluation criteria, it can also be observed that this type of communication tends to be more official. Additionally, we noticed that excellent and less effective examples are often included on the same website. Thus, consistency in the quality of the delivered content should be double-checked and verified.

By using long, sophisticated, and elaborated texts in sections such as „about us” or „our history,” museums sometimes are parting with the idea of offering a user-friendly tone in all interactions. Although intelligible, long texts and descriptions are therefore inconsistent with the principle and recommendation to be a user-oriented institution; it also reflects a still existing gap between the theory of being a participatory and inclusive institution and practice. Therefore, from a practical point of view, it can also be necessary for museums to consider the needs and specificity of their end-users more closely. In this case, conducting a test session or asking for feedback from the final users may be relevant to assess if the content is understood. Also, a design that is at the same time attractive, interesting, and meets the expectations of end-users may be relevant when we consider that the website can be the primary source of information for other stakeholders as well, who may be interested in strengthening cooperation with the museums. The language issue is also related to the aspect of preparing multi-language offers and content, which, seeing the current levels of travel and demographic movements, is gradually gaining importance. Thus, it would be useful to translate not only small parts of the website but the whole information to ensure access to knowledge and not only practical information for people with different language backgrounds.

This comparative analysis also makes apparent that some decisions and actions (or lack thereof) are interconnected with broader systems and decisions of other stakeholders. For example, regarding accessibility policies, museums may undertake initiatives

(presented or not on their websites), yet more systemic support is needed for continuous and constant action.

While we have uncovered valuable insights regarding the implementation of UX principles in assessing museums' websites and museums' efforts towards a more user-friendly approach, the limitations of our study also have to be acknowledged. They are related to the limited number of museums included in the sample: extensive research covering a representative number of institutions in each country would for sure reveal other patterns and uncover a larger variety of good (and bad) practice examples. Additionally, linking these findings to further analysis that covers the usage of social media channels as well as user perceptions may provide a more nuanced understanding of current challenges faced by museums in constructing a compelling and user friendly digital presence.

References

- Agostino, D., Arnaboldi, M., & Lampis, A. (2020). Italian state museums during the COVID-19 crisis: from onsite closure to online openness. *Museum Management and Curatorship*, 35(4), 362-372. <https://doi.org/10.1080/09647775.2020.1790029>
- Black, G. (2018). Meeting the audience challenge in the 'Age of Participation'. *Museum Management and Curatorship*, 33(4), 302-319. <https://doi.org/10.1080/09647775.2018.1469097>
- Bronner, F., & de Hoog, R. (2021). Conspicuous leisure: The social visibility of cultural experiences. *International Journal of Market Research*, 63(3), 300-316. <https://doi.org/10.1177/147078531988071>
- Chang, C-C, & Johnson, T. (2021). Integrating heuristics and think-aloud approach to evaluate the usability of game-based learning material. *Journal of Computers in Education*, 8, 137-157. <https://doi.org/10.1007/s40692-020-00174-5>
- Debono, S. (2021). Thinking Phygital: A Museological Framework of Predictive Futures. *Museum International*, 73(3-4), 156-167. <https://doi.org/10.1080/13500775.2021.2016287>
- Gorchakova, V., & Hyde, K. F. (2022). The Impact on Well-Being of Experiences at Cultural Events. *Event Management*, 26(1), 89-106. <https://doi.org/10.3727/152599521X16192004803638>
- Jacob, F., Pez, V., & Volle, P. (2023). Shifting to phygital experience management with design science: a six-step method to manage customer journeys. *Journal of Strategic Marketing*, 31(5), 961-982. <https://doi.org/10.1080/0965254X.2021.2016894>
- Maquire, M., & Isherwood, P. (2018). A Comparison of User Testing and Heuristic Evaluation Methods for Identifying Website Usability Problems. In A. Marcus & W. Wang (Eds.), *Design, User Experience, and Usability: Theory and Practice. DUXU 2018. Lecture Notes in Computer Science*(vol. 10918, pp. 429-438), Springer. https://doi.org/10.1007/978-3-319-91797-9_31

Martusciello, F., & Muccini, H. (2024). A phygital gamification approach for Cultural Heritage in pre-visit, visit and post-visit. In *10th Italian Conference on ICT for Smart Cities and Communities*. <https://icities24.unime.it/papers/46.pdf>

Morville, P., & Sullenger, P. (2010). Ambient Findability: Libraries, Serials, and the Internet of Things. *The Serials Librarian*, 58(1-4), 33-38.
<https://doi.org/10.1080/03615261003622999>

Mossberg, L. (2007). A Marketing Approach to the Tourist Experience. *Scandinavian Journal of Hospitality and Tourism*, 7(1), 59-74.
<https://doi.org/10.1080/15022250701231915>

Najda-Janoszka, M., & Sawczuk, M. (2021). Interactive communication using social media—the case of museums in Southern Poland. *Museum Management and Curatorship*, 36(6), 590-609. <https://doi.org/10.1080/09647775.2021.1914135>

Najda-Janoszka, M., & Sawczuk, M. (2024). Crowdfunding in the museum context: Exploring alternative approaches to financial support. *Entrepreneurial Business and Economics Review*, 12(3), 83-97. <https://doi.org/10.15678/EBER.2024.120305>

Patrick V.M., & Hollenbeck C.R. (2021). Designing for All: Consumer Response to Inclusive Design. *Journal of Consumer Psychology*, 31(2), 360–381.
<https://doi.org/10.1002/jcpy.1225>

Piancatelli, C., Massi, M., & Vocino, A. (2021). # artoninstagram: Engaging with art in the era of the selfie. *International Journal of Market Research*, 63(2), 134-160.
<https://doi.org/10.1177/14707853209635>

Ponsignon, F., & Derbaix, M. (2020). The impact of interactive technologies on the social experience: An empirical study in a cultural tourism context. *Tourism Management Perspectives*, 35, 100723. <https://doi.org/10.1016/j.tmp.2020.100723>

Proteau, J. (2018). Reducing risky relationships: criteria for forming positive museum-corporate sponsorships. *Museum Management and Curatorship*, 33(3), 235-242.
<https://doi.org/10.1080/09647775.2018.1467274>

Richardson, B., Campbell-Yeo, M., & Smit, M. (2021). Mobile Application User Experience Checklist: A Tool to Assess Attention to Core UX Principles. *International Journal of Human-Computer Interaction*, 37(13), 1283-1290.
<https://doi.org/10.1080/10447318.2021.1876361>

Sandell, R. (2003). Social Inclusion, the Museum and the Dynamics of Sectoral Change. *Museum & Society*, 1(1), 45-62.

Sauer, J., Sonderegger, A., & Schmutz, S. (2020). Usability, user experience and accessibility: towards an integrative model, *Ergonomics*, 63(10), 1207-1220.
<https://doi.org/10.1080/00140139.2020.1774080>

Sawczuk, M. (2023). Assistance and inclusivity as a part of experience: museum context. *Zarządzanie Mediami*, 11(4), 327-343.

<https://doi.org/10.4467/23540214ZM.23.023.20054>

Turco, M. L., & Giovannini, E. C. (2020). Towards a phygital heritage approach for museum collection. *Journal of Archaeological Science: Reports*, 34, 102639.

<https://doi.org/10.1016/j.jasrep.2020.102639>

Yi, J. H., & Kim, H. S. (2021). User Experience Research, Experience Design, and Evaluation Methods for Museum Mixed Reality Experience. *Journal on Computing and Cultural Heritage*, 14(4), 1-28, <https://doi.org/10.1145/3462645>

Yin, J., Chen, H., & Ni, Y. (2023). Does temporary performance matter for word of mouth in museums?. *Journal of Hospitality and Tourism Management*, 57, 29-39.

<https://doi.org/10.1016/j.jhtm.2023.08.024>

Zbucea, A. (2014). *Marketing muzeal pentru nonmarketeri [Museum marketing for nonmarketers]*, Tritonic.

Zbucea, A. (2022). The Dynamics of the Museum Concept. *Culture. Society. Economy. Politics*, 2(2), 7-10. <https://doi.org/10.2478/csep-2022-0007>

Zbucea, A., & Bira, M. (2020). Does stakeholder management contribute to a museum's sustainable development?. *Management Dynamics in the Knowledge Economy*, 8(1), 95-107. <https://doi.org/10.2478/mdke-2020-0007>

Zbucea, A., Bira, M., & Romanelli, M. (2020). Activist museums—between intentions and perceptions. In C. Brătianu, A. Zbucea, F. Anghel, & B. Hrib (Eds.), *Strategica 2020. Preparing for tomorrow, today* (pp. 883-894). SNSPA Faculty of Management & Tritonic Publishing.