

Nevena Marinović<sup>1</sup>  
Tamara Vlastelica<sup>2</sup>  
Jelena Krstić<sup>3</sup>

JEL: M39, M15  
DOI: 10.5937/industrija50-44052  
UDC: 005.73:005.57  
004.738.1  
766:659.126  
Original Scientific Paper

## Evaluating digital corporate identity: Application of AHP method in website quality analysis

*Article history:*

Received: 29 February 2023  
Sent for revision: 10 March 2023  
Received in revised form: 17 March 2023  
Accepted: 20 April 2023  
Available online: 12 May 2023

**Abstract:** *Due to the increasing importance of websites as elements of digital corporate identity, website quality has become an area of great importance in practice and academic research. The goal of the research is to evaluate the quality dimensions of the website and determine their importance in choosing the most desirable option among several competing options. Given that the online visibility of companies from the construction industry is unsatisfactory, this sector was selected for the research, and the web pages of selected companies from this sector were analyzed. By using the Analytical Hierarchy Process (AHP) method, it was examined which dimensions of quality have the greatest influence on the quality of a web page. It was found that loading speed (0.703) and information quality (0.554) have the greatest influence on the quality of the website. The results of the research can be used by companies and web designers in practice, in order to make the proper decisions regarding*

---

<sup>1</sup> NIS a.d. Novi Sad

<sup>2</sup> University of Belgrade, Faculty of Organizational Sciences,  
tamara.vlastelica@fon.bg.rs

<sup>3</sup> Economics Institute a.d. Belgrade

*website content, design and functionality and their use in the context of improving the digital corporate identity.*

**Keywords:** *website quality, quality dimensions, digital corporate identity, AHP*

## **Evaluacija digitalnog korporativnog identiteta: Primena AHP metode u analizi kvaliteta veb sajta**

**Apstrakt:** *Zbog sve većeg značaja veb sajtova kao elemenata digitalnog korporativnog identiteta, kvalitet veb stranica je postao oblast od velikog značaja u praksi i akademskim istraživanjima. Cilj istraživanja jeste evaluacija dimenzija kvaliteta veb sajta i utvrđivanje njihovog značaja u izboru najpoželjnije opcije među nekoliko konkurentskih. S obzirom da je primetna nedovoljna onlajn vidljivost kompanija iz oblasti građevinske industrije, ovaj sektor je odabran za istraživanje, i izvršena je analiza veb strana odabranih kompanija iz ovog sektora. Ispitano je koje dimenzije kvaliteta imaju najveći uticaj na kvalitet veb strane, primenom metode procesa analitičke hijerarhije (AHP). Utvrđeno je da najveći stepen uticaja na kvalitet veb strane imaju brzina učitavanja (0,703) i kvalitet informacije (0,554). Rezultate istraživanja kompanije i veb dizajneri mogu koristiti u praksi, kako bi donele ispravne odluke u vezi sa sadržajem, dizajnom i funkcionalnošću veb stranica i njihovim korišćenjem u kontekstu unapređenja digitalnog korporativnog identiteta.*

**Ključne reči:** *kvalitet veb strane, dimenzije kvaliteta, digitalni korporativni identitet, AHP*

### **1. Introduction**

Increased digitalization and Internet use have changed the way companies attract, communicate and build relationships with consumers (Ageeva, Foroudi, Melewar, Nguyen & Dennis, 2020). Digital environment creates new possibilities for interactions and two-way communication between companies and individuals (Syed Alwi, Melewar, Cuomo & Schwaiger, 2020; Azam, 2015). The expectations of consumers have changed, so a new type of digital customer, who is extensively active in virtual reality, has been created. The expectations and evaluation criteria of these digital consumers have to be taken as a basis for the development of corporate digital activities (Scwajca, 2019).

For companies, there is a need to find proper ways to present themselves to the online community, therefore, it is crucial to create an appropriate identity, image and reputation in the online environment. Since most corporate communications and transactions take place via the Internet and various digital platforms, it is necessary for companies to present to different stakeholders with

a carefully planned, designed and implemented digital identity. Companies must find ways to transfer all elements of their real corporate identity to the online space. One of the most prominent elements of corporate digital identity is a corporate website. Corporate websites are nowadays observed as a channel for achievement of critical objectives, such as gaining a competitive advantage, improving communication strategies and customer relationships, projecting the corporate identity and managing corporate image and reputation (Ageewa, Melewar, Foroudi, Dennis & Jin, 2018; Ageeva et al., 2020). Therefore, creating a favourable corporate website, which includes all necessary information and design aspects, is essential in order to ensure customer expectations are met (Ageeva et al., 2020).

Due to the increasing significance of websites as elements of digital corporate identity, website quality has become an area of great importance in practice and academic research. As noted by Ageewa et al. (2018), building and managing a proper "corporate website needs a combined approach, from an academic and professional perspective, to efficiently communicate with external and internal stakeholders". Despite the growing body of research evidence on this topic, there is still a lack of consensus on the most important quality dimensions. Also, such academic research is lacking in the Serbian context, which indicates the great space for filling this gap. Based on this, the objective of this study is to evaluate website quality dimensions and determine their significance in selecting the most preferred corporate website design among several alternatives.

The paper is structured as follows. After the introductory section, in the second section, the concept of digital corporate identity is explained with an emphasis on websites as its crucial element. In the third section, the literature review of the website quality and quality dimensions is given. The fourth section is dedicated to the methodology of the research. Results and discussion of the findings is given in the fifth section. The final section of the paper contains concluding remarks, research limitations, as well as further research directions.

## **2. Websites as elements of digital corporate identity**

Creation of digital corporate identity has increasingly become a pronounced topic in corporate context aiming to generate great online visibility and interactions with customers in digital era (Feher, 2015; Foroudi, Foroudi & Balmer, 2021). Online identity management still does not have standardized definition, but, in the broadest sense, it refers to the administration and design of a company's identity attributes in digital environment (Abdullah, Shahrina & Abdul Aziz, 2013). According to Windley (2005) and Holmner (2009), digital identity management can be understood as the creation, management and use

of data (information) related to corporate identity in a digital context. The design of the company's identity attributes must contribute to the visibility, authenticity, transparency and consistency of the company in an online environment.

The concept of the digital identity for companies mostly refers to their appearance in the digital environment (Balastegui-García, Sabau, Payá & Mora, 2023). Digital identity could be defined as a corporate identity displayed on the Internet. It can be referred to as the Internet equivalent of a real identity, created for the purposes of presenting a corporate identity to the online community (Papaioannou, Tsohou & Karyda, 2021). Digital identity can also be seen as the company's identity representing what it is (all its characteristics and attributes) and what makes it different from others (uniqueness). Comparing different definitions of digital identity, it can be concluded that all definitions refer to the identity that has been transferred from the real world to the online environment (Wang, Li & Wu, 2022). Therefore, digital identity consists of the same elements and equates to corporate identity, but it is displayed online.

One of the key requirements of a successful online corporate identity is the designed and implemented visual identity of the website that corresponds to the previously created real identity. Website, as a key element of digital corporate identity, is important because stakeholders in an online environment base their assessments up to a great extent on a company's website, which, further influences online corporate image and reputation (Dutot & Castellano, 2015). According to Gregersen and Johansen (2022), a well-designed corporate visual identity on a website must be unique, innovative, clear, and effective. The process of creating a website depends on user requirements, and the quality of a web page is one of the leading factors that determines a user choice of websites.

There is an increasing tendency towards creating a proper corporate website design in order to achieve representation of a corporate identity, gain a competitive advantage, and influence building positive image and reputation (Ageeva, Melewar, Foroudi, Dennis & Jin, 2018). Corporate websites are seen as major platforms for companies to project their corporate identities (Abdullah et al. 2013; Bravo, De Chernatony, Matute & Pina, 2013). Web pages should be informative, modern, functional and useful for users (Savelli, Cioppi & Tombari, 2017). If consumers have positive evaluations of a corporate website, they also develop a more favourable image of the company, and, finally, the company's reputation will improve (Ageeva et al., 2020).

### 3. Website quality dimensions

In order to achieve success in the highly competitive digital environment, understanding the impact of website quality on customer satisfaction and retention is of vital importance. In order to affect their satisfaction and motivate them to take desired behavioural actions, a website must meet the needs and numerous expectations of customers. Website quality is of great importance in achieving customer satisfaction (e.g. Lin, 2007; Liang & Chen, 2009; Kincl & Štrach, 2012; Hsu, Chang & Chen, 2012; Ali, 2016), customer trust (e.g. Liang & Chen, 2009; Wang et al., 2015), stimulating behavioural intentions (e.g. Chiu, Hsieh & Kao, 2005; Kuan, Bock & Vathanophas, 2008; Wells, Valachich & Hess, 2011; Ali, 2016; Hsu, Chang & Chen, 2012; Wang et al., 2015) and improving customer loyalty (e.g. Casaló et al., 2008; Caruana & Ewing, 2010; Chen, Huang & Davison, 2017).

Website quality is considered to be a multidimensional construct. Although studies have identified numerous website quality attributes, there is still no consensus on website quality attributes which have the most significant impact on the overall website evaluation. There are many quality indicators taken into consideration in research taken by different authors. Kalia (2017) noted that among many dimensions mentioned in the literature, security/privacy, website design, reliability, responsiveness and information quality emerged as most cited dimensions. Longstreet, Brooks, Featherman and Loiacono (2022) made a distinction between two categories of quality attributes - design and operational attributes of e-commerce websites, which are used by consumers to make an assessment of a website quality. The importance of three groups of website quality dimensions - information quality, system quality and service quality was examined by many authors (e.g. Lee & Kozar, 2006; Liang & Chen, 2009; Lin, 2010; Ho, Kuo & Lin, 2012; Chen, Huang & Davison, 2017). According to Rocha (2012), website quality can be grouped into three main dimensions: content quality, service quality, and technical quality.

By empirically testing the importance of system and information quality criteria in evaluating websites, Saha, Nath and Salehi-Sangari (2012) found out that accessibility and navigation are important dimensions of perceived system quality, whereas preciseness, timeliness, and sufficiency of information represent a key indicators of information quality of websites. Kim and Stoel (2004) identified following six website quality dimensions: web appearance, entertainment, informational fit-to-task, transaction capability, response time, and trust, and found out that informational fit-to-task, transaction capability, and response time, were the most important predictors of customer satisfaction. By using WebQualTM scale to examine the hierarchy of quality dimensions of websites, Kim and Stoel (2004a) observed website quality is a 12-dimensional

construct containing following dimensions: informational fit-to-task, tailored communication, online completeness, relative advantage, visual appeal, innovativeness, emotional appeal, consistent image, ease of understanding, intuitive operations, response time and trust. Kim and Lee (2006) identified following indicators of website quality in their research: informational fit-to-task, interactivity, trust, response time, design appeal, intuitiveness, visual appeal, readability and usability, innovativeness, integrated communications, transactions, flow-emotional appeal.

Lin (2007) emphasized following website quality dimensions: website design, interactivity, informativeness, security responsiveness, and trust affect customer satisfaction. Following six website quality factors: usability, website design, information quality, trust, perceived risk and empathy were considered in the research by Mohd Sam & Tahir (2009) and their impact on customers' online purchase intention was examined. Chiu, Hsieh and Kao (2005) found out that website quality consists of five important factors: connectivity, information quality, interactivity, playfulness and learning, and found out that these factors had positive influence on customer's behavioural intentions. The findings of Kim and Niehm (2009) noted that interactivity, online completeness, ease of use, and entertainment significantly influenced perceived information quality, which, further affected loyalty intentions toward retail websites. Shchiglik and Barnes (2004) emphasized three groups of quality dimensions: web information quality, web interaction quality and website design quality. Web information quality related to provision of accurate, timely and reliable information, web interaction quality related to good reputation and safety of transaction and personal data, whereas site design quality meant that the site is easy to navigate, has attractive appearance, and projects a sense of competency.

Kabadayi and Gupta (2011) focused on three website characteristics - content, convenience and customization in their research, and concluded that website content and customization significantly influenced customer satisfaction and revisiting intentions. Kincl and Štrach (2012) used a model of three categories of website quality attributes – content-related attributes (meaningfulness, comprehension, informativeness), presentation-related attributes (colours, visual appeal, layout and navigation) and overall impression. They concluded that content and navigation were key attributes of website quality. Bai, Law and Wen (2008) defined two categories of website quality dimensions in their research – functionality (information quality related attributes) and usability (language, layout and graphics, information architecture, user interface and navigation) and identified their positive impact on customer satisfaction and purchasing intentions.

Ageewa et al. (2018) noted that a combination of following factors: including visual, information, customer service, navigation, and usability, predicted corporate website favorability, which furthermore, influenced corporate image

and reputation. Ageeva et al. (2020) pointed out eight constructs which contribute to corporate website favourability: navigation design, visual identity/design, information design, usability, customization, security, availability and perceived corporate culture.

## **4. Research methodology**

### **4.1. Selection of websites for the analysis**

In order to fulfill the objective of the study, to determine the significance of website quality dimensions in selecting the most preferred website among several competing corporate websites, the research was conducted on a sample containing four websites of construction companies operating in Serbian market. The research was conducted in two phases. In the first phase, authors conducted a selection of companies which were used in the analysis. For this purpose, data from the Statistical Office of the Republic of Serbia and Serbian Business Registers Agency for year 2021 were used.

According to the data of the Statistical Office of the Republic of Serbia for the year 2021, 84.5% of all companies registered in Serbia possessed a website. However, this percentage varied among different industries. In the construction sector, this percentage was noticeably lower, 67.5% ([www.stat.gov.rs](http://www.stat.gov.rs)). Since insufficient online visibility of construction companies in Serbia was noticeable, this sector was chosen for the research, considering that there is a great space for the improvement of the digital corporate identity for companies in this sector. An additional reason for choosing this industry was a great importance of a corporate website for construction companies, given that they include both B2B and B2C market segments. Also, due to the nature and complexity of their business operations and offer, as well as target groups, they do not need to advertise through other marketing communication channels and to promote via social networks. Within a total sample of construction companies that possess a website, for the purpose of conducting an evaluation of website quality dimensions, four companies were selected. The selection criterion was the highest revenue achieved in 2021, according to the data of Serbian Business Registers Agency. After applying this criterion, four construction companies, which possessed a website and belonged to the group of companies with the highest revenue were identified and selected for the further analysis.

### **4.2. Application of AHP method**

In the second phase of the research, the process of qualitative analysis of the content of the websites of selected construction companies with the highest revenue was applied. Finally, Analytic Hierarchy Process (AHP method) was

applied, as one of the most widely used multi-criteria decision-making tools (Vaidya & Kumar, 2006; Ishizaka & Siraj, 2020). AHP has been previously applied by authors in researching website quality (e.g., Lee & Kozar, 2006; Lin, 2010). The analysis was conducted by using SpiceLogic AHP software. The popularity and practicality of AHP application lie in its flexibility and possibility to be used solely or in conjunction with other tools, applicability on small sample size, as well as high level of consistency, simplicity and availability of user-friendly software (Darko et al., 2019).

AHP, as a decision-making approach, is used for the purpose of comparison of alternatives under each of several possible criteria and sub-criteria by constituting a hierarchical structure. This method is based on the construction of pairwise comparison (PC) matrices within a set of alternatives related to each sub-criteria, and the PC among the criteria themselves (Ishizaka & Siraj, 2020; Kulakowski, 2020). The comparison between two alternatives is most often conducted by applying the relative importance scale between two alternatives suggested by Saaty (2005), which is based on the attribution of values ranging from 1 to 9, which reflect the relative importance of one alternative when compared with another. The PC quotients are elicited in the ratio scale ranges from 1 to 9 (where 1 means equality between items and 9 means a maximum importance of one item in relation to another one) and covering the entire comparison spectrum (Vaidya & Kumar, 2006; Kulakowski, 2020). Such way, the decision maker's preferences are obtained through pairwise comparisons, eventually showing which option (among sub-criteria and criteria) is more preferred and to what extent (Ishizaka & Siraj, 2020; Kulakowski, 2020). AHP is better adapted when the value of the degree of consistency (CR)  $< 0,1$ ; when the number of criteria remains reasonable and when the decision maker can evaluate 2 by 2 elements of the problem. The adaptability indicator is expressed by the degree of Consistency Ratio (CR). If the consistency condition is not met, a new evaluation of the importance of the criteria is performed, that is, one should return to the beginning and repeat the steps for a new priority matrix.

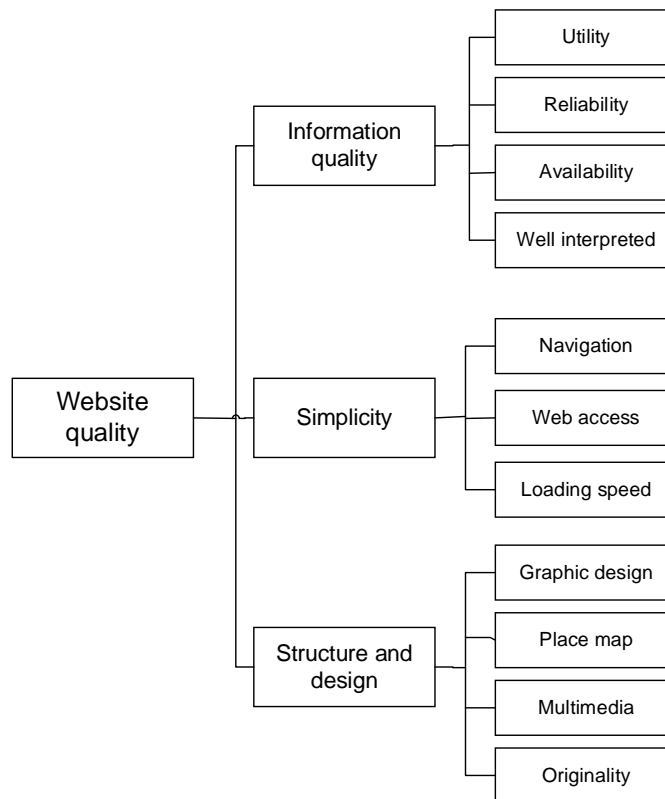
For the purpose of application of AHP, criteria and sub-criteria for web page quality assessment were formed. AHP is a process based on decomposing a complex problem into a hierarchy. The goal is at the top of the hierarchy, and criteria, sub-criteria and alternatives are at lower levels. The model containing criteria and sub-criteria for the analysis of websites of construction companies, which represented the hierarchical representation of the problem, is shown in Figure 1.

The model contained three main criteria are: (1) information quality; (2) simplicity; and (3) structure and design. The first main criterion, "Information quality", was broken down into four sub-criteria: utility, reliability, availability and well interpreted information. "Utility" referred to the usefulness of information, "Reliability" meant that the information must be important and significant, while



the sub-criterion “Availability” referred to the availability and easy access to information for end users whenever they need it. “Well interpreted information” (content syntax) referred to the manner of combining words in a sentence which enables the information to be clearly and easily understood.

Figure 1. Hierarchical model of criteria and sub-criteria for AHP analysis



Source: Authors

The second main criterion, “Simplicity”, was broken down into three sub-criteria: navigation, web access and loading speed. This criterion meant that a website enabled users to find information they were looking for rapidly and effortlessly. The first sub-criterion, “Navigation”, referred to the ease of movement through the content and pages of the site. The second sub-criterion, called “Web access” indicated the users’ ability to access site resources without subscription. The third sub-criterion was the “Loading speed” and it referred to the speed of accessing the website content.

The third main criterion, "Structure and design", was broken down into four sub-criteria: graphic design, place map, multimedia and originality. The first sub-criterion, "Graphic design" related to all design features of the website (colour, graphics, style). "Place map" indicated clearly shown business location. "Multimedia" related to tone, video and sound available on the website. Finally, "Originality" referred to the aesthetics in the presentation of content and its uniqueness in relation to competitors.

After defining the hierarchy, authors compared, in pairs, the elements of the criteria at the same level in order to determine mutual priorities. For this purpose, authors reviewed selected websites and analyzed the level of the fulfillment of the proposed criteria and sub-criteria according to Saaty scale (Table 1).

*Table 1. Saaty scale used in application of AHP method*

Definition	Numerical value
Equal importance	1
Moderate importance	3
Strong importance	5
Very strong importance	7
Extreme importance	9
Intermediate values	2,4,6,8

Source: Authors

Pairs were compared relatively to each other, and not to a defined or imagined quality or quantity. Observing the defined goal, for each pair of criteria, the value of the importance of one criterion in relation to the other was entered in the Comparison Matrix. In the same manner, the importance value of one sub-criterion was compared in relation to another sub-criterion.

## 5. Results and discussion

By using the Spice Logic AHP software, a hierarchy of criteria and sub-criteria formation was obtained (Figure 2). As regarding the criterion weight, the following results were obtained for three main criteria: "Information quality" - 0.554, "Simplicity" - 0.358 and "Structure and design" - 0.06, with a degree of consistency of 0.087 (Table 2). As the Consistency Ratio was less than 0.10, it meant that the condition of consistency was met.

The analysis showed that "Information quality" (0.554) was the most important criteria in website quality. "Simplicity" (0.385) was the second important and "Structure and design" (0.06) was on the third place. In other words, it was confirmed that the analysis of the quality of the website, according to the

criterion of the quality of information, showed the highest level of significance. The importance of the quality of information as a quality criterion for a website was also confirmed by other authors (e.g., Saha, Nath & Salehi-Sangari, 2012; Kim & Stoel, 2004; Kabadayi & Gupta, 2011; Bai, Law & Wen, 2008).

*Table 2. Website quality criteria Comparison Matrix*

Criteria	Information quality	Simplicity	Structure and design	Priorities
Information quality	1	2	7	0.554
Simplicity	0.5	1	9	0.385
Structure and design	0.143	0.111	1	0.06
*Consistency Ratio calculated at 0.087				

Source: Authors

Furthermore, criterion weights were calculated for all defined sub-criteria. The criterion weights for sub-criterion of a criterion "Information quality" are shown in Table 3. The criteria weights were obtained for the alternatives: Website 1, Website 2, Website 3, Website 4 in relation to all four sub-criteria.

*Table 3. Comparison Matrix of alternatives in relation to sub-criteria of the criterion "Information quality"*

Sub-criteria	Website No	WS 1	WS 2	WS 3	WS 4	Priorities
Utility <sup>a</sup> 0.497	WS 1	1	3	5	2	0.449
	WS 2	0.333	1	1	0.25	0.106
	WS 3	0.2	1	1	0.167	0.084
	WS 4	0.5	4	6	1	0.361
*Consistency Ratio calculated at 0.051						
Reliability <sup>b</sup> 0.263	WS 1	1	0.333	0.25	0.25	0.082
	WS 2	3	1	0.5	2	0.259
	WS 3	4	2	1	4	0.477
	WS 4	4	0.5	0.25	1	0.182
<sup>b</sup> Consistency Ratio calculated at 0.075						
Availability <sup>c</sup> 0.098	WS 1	1	3	3	3	0.473
	WS 2	0.333	1	0.5	2	0.156
	WS 3	0.333	2	1	4	0.271
	WS 4	0.333	0.5	0.25	1	0.099
<sup>c</sup> Consistency Ratio calculated at 0.069						
Well interpreted <sup>d</sup> 0.142	WS 1	1	4	2	2	0.42
	WS 2	0.25	1	0.333	0.5	0.099
	WS 3	0.5	3	1	0.333	0.192
	WS 4	0.5	2	3	1	0.289
<sup>d</sup> Consistency Ratio calculated at 0.088						

The sub-criterion weight for the sub-criterion “Utility” was 0.497 and the Consistency Ratio was 0.051. The sub-criterion weight for the sub-criterion “Reliability” was 0.263 and the Consistency Ratio was 0.263. The sub-criterion weight for the sub-criterion “Availability” was 0.098 and the Consistency Ratio was 0.069. The sub-criterion weight for the sub-criterion “Well interpreted” was 0.142 and the Consistency Ratio was 0.088. Among these four sub-criteria, “Utility” was considered to be the most important, since it possessed the highest weight.

The criterion weights for sub-criterion of a criterion “Simplicity” are shown in Table 4. The criteria weights were obtained for the four alternatives (Website 1, Website 2, Website 3 and Website 4) in relation to all three sub-criteria.

*Table 4. Comparison Matrix of alternatives in relation to sub-criteria of the criterion “Simplicity”*

Sub-criteria	Website No	WS 1	WS 2	WS 3	WS 4	Priorities
Navigation <sup>a</sup> 0.115	WS 1	1	2	2	2	0.387
	WS 2	0.5	1	0.5	2	0.198
	WS 3	0.5	2	1	2	0.275
	WS 4	0.5	0.5	0.5	1	0.14
<sup>a</sup> Consistency Ratio calculated at 0.045						
Web access <sup>b</sup> 0.182	WS 1	1	0.25	0.5	0.5	0.117
	WS 2	4	1	2	0.5	0.319
	WS 3	2	0.5	1	0.5	0.184
	WS 4	2	2	2	1	0.38
<sup>b</sup> Consistency Ratio calculated at 0.069						
Loading speed <sup>c</sup> 0.703	WS 1	1	4	2	2	0.441
	WS 2	0.25	1	0.5	2	0.164
	WS 3	0.5	2	1	2	0.256
	WS 4	0.5	0.5	0.5	1	0.139
<sup>c</sup> Consistency Ratio calculated at 0.07						

Source: Authors

The sub-criterion weight for the “Navigation” within the criterion “Simplicity” was 0.115 and the Consistency Ratio was 0.045. The sub-criterion weight for the “Web access” was 0.182 and the Consistency Ratio was 0.069. The sub-criterion weight for the “Loading speed” sub-criterion was 0.703 and the Consistency Ratio was 0.069. As can be seen, “Loading speed” was the sub-criterion with the highest weight.

The weights for sub-criterion of a criterion “Structure and design” are shown in Table 5. The criteria weights were obtained for all four alternatives, in relation to all four sub-criteria.

Table 5. Comparison Matrix of alternatives in relation to sub-criteria of the criterion “Structure and design”

Sub-criteria	Website No	WS 1	WS 2	WS 3	WS 4	Priorities
Graphic design <sup>a</sup> 0.414	WS 1	1	0.5	0.2	0.333	0.092
	WS 2	2	1	0.5	2	0.259
	WS 3	5	2	1	2	0.446
	WS 4	3	0.5	0.5	1	0.203
<sup>a</sup> Consistency Ratio calculated at 0.042						
Place map <sup>b</sup> 0.073	WS 1	1	2	2	2	0.387
	WS 2	0.5	1	0.5	2	0.198
	WS 3	0.5	2	1	2	0.275
	WS 4	0.5	0.5	0.5	1	0.14
<sup>b</sup> Consistency Ratio calculated at 0.045						
Multimedia <sup>c</sup> 0.294	WS 1	1	3	3	3	0.477
	WS 2	0.333	1	2	2	0.226
	WS 3	0.333	0.5	1	3	0.189
	WS 4	0.333	0.5	0.333	1	0.108
<sup>c</sup> Consistency Ratio calculated at 0.081						
Originality <sup>d</sup> 0.219	WS 1	1	0.25	0.5	0.5	0.1
	WS 2	4	1	3	8	0.573
	WS 3	2	0.333	1	3	0.216
	WS 4	2	0.125	0.333	1	0.111
<sup>d</sup> Consistency ratio calculated at 0.083						

Source: Authors

The sub-criterion weight of the sub-criterion “Graphic design” within the criteria “Structure and design” was 0.414 and the Consistency Ratio was 0.042. The sub-criterion weight for the “Place map” was 0.073 and the Consistency Ratio was 0.045. The weight for sub-criterion “Multimedia” was 0.294 and the Consistency Ratio was 0.081. The weight for the sub-criterion “Originality” was 0.219 and the Consistency Ratio was 0.083. By comparing sub-criteria weights, it can be seen that “Graphic design” was the most important in predicting website quality.

After determining all the weights and consistency ratios, the most dominant alternative (corporate website) was calculated by multiplying the weight of each alternative within the observed criterion by the weight of that criterion (so for all sub-criteria in turn), and finally the obtained results were added up. The most dominant alternative was the one with the highest weight (Table 6). As can be concluded, the best site (alternative) according to the given criteria of information quality, simplicity and structure and design was the Website 1. It

dominated in the majority of sub-criteria and criteria and as such represented the best option.

*Table 6. Criteria weights of alternatives*

Option name	Priorities
Website 1	0.353
Website 2	0.178
Website 3	0.235
Website 4	0.234

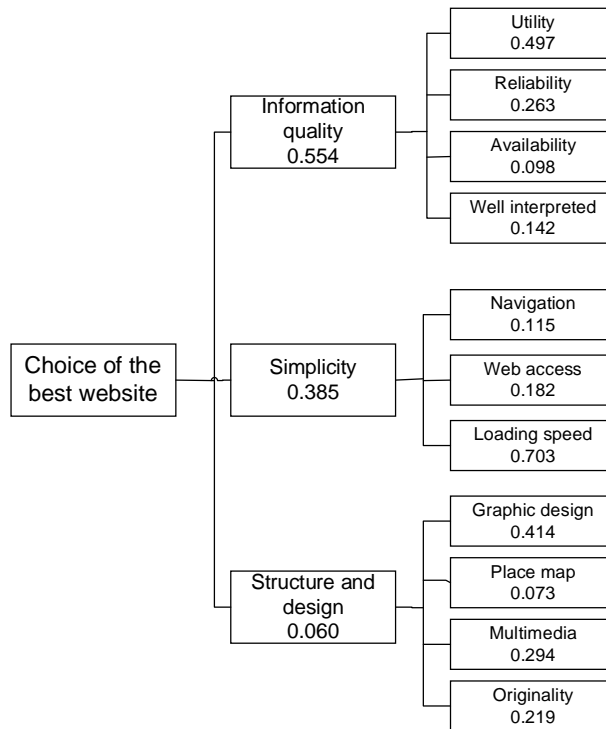
Source: Authors

In the analysis of the significance of the impact of sub-criteria on the quality of the website, it can be concluded that the sub-criterion "Loading speed" (0.703) was the most important sub-criterion in website quality. It was followed by "Reliability" (0.477), "Multimedia" (0.477), "Availability" (0.473), "Utility" (0.449), "Graphic design" (0.446), "Well interpreted" (0.42), "Navigation" (0.387), "Place map" (0.387), "Web access" (0.380) and "Originality" (0.219) (Figure 2). The sensitivity of the decision that the Website 1 is the best was 31.25%.

In this research, the loading speed seemed to be the most important sub-criterion in evaluating the quality of a web page. This conclusion was shared by other authors, who came to the same conclusion in their work. Sz wajca (2019) and Stringam and Gerdes (2019) also emphasized the importance of the speed of loading, since, if the website loads slowly, it can make customers quickly irritated and highly dissatisfied, and result in their leaving of the website.

In this research, the quality of information represented a high influence factor (criterion weight 0.554) on the web page quality, and sub-criteria "Utility" within this criterion also highly impacted overall website quality (sub-criterion weight 0.497). The results showed a slightly lower level of influence of Reliability, Availability and Well-interpreted of information. In this research, it was obvious that the quality of information had a more significant influence on the perception of quality than visual elements reflecting "Structure and design" criterion (weight 0.06). This attitude was also shown by Keshavarz and Norouzi (2022).

Figure 2. Hierarchy of the formation of criteria and sub-criteria based on the formulation of the problem of choosing the best website



Source: Authors

## 6. Conclusion

The core function of a corporate online identity is to enable a company to present itself to and communicate with various stakeholders in a digital environment and to develop, gain and maintain a competitive advantage in the online environment. In order to achieve these goals, it is necessary that the corporate digital identity contains all elements which enable the recognition of the company and distinction from the competition. The company's online

corporate identity is best represented by its website, so its importance has been rising.

The main characteristic of the digital corporate identity of construction companies in the Republic of Serbia is insufficient online presence, therefore, it points out to the need for the improvement of the situation in practice. In this paper, an analysis of the websites of four successful companies with high profits in the construction industry was conducted, in order to identify dimensions of the website quality which has the greater potential to contribute to the overall perceived quality of the website. By applying the AHP method, it was shown that the information quality and loading speed possess the greatest influence on the overall impression of corporate website, and, thus on the perception of the corporate identity in general.

Determining the most important aspects of website quality is significant since it provides guidelines for website designers to focus on those aspects that have the highest importance and identify the best way to improve website attractiveness and effectiveness. These findings can be used by construction companies in practice, in order to make proper decisions regarding websites and using them as an element of a digital corporate identity. The findings of the research may be useful for companies and website designers, by providing guidelines and helping them to identify strong points and weaknesses of their current design of corporate websites.

The research has certain limitations. The main limitation refers to the small sample of websites taken into consideration. Larger sample would have the greater explanatory power, and, thus, it should be used in future research. This research covers quality dimensions considered important by researchers; however, some other dimensions may be included in the further research. Also, this research is limited to websites of companies in the construction industry, so the findings might not necessarily apply to other business sectors.

## References

- Abdullah, Z., Shahrina, N., & Abdul Aziz, Y. (2013). Building a unique online corporate identity. *Marketing Intelligence and Planning*, 31(5), 451-471. <https://doi.org/10.1108/MIP-04-2013-0057>
- Ageeva, E., Foroudi, P., Melewar, T.C., Nguyen, B., & Dennis, C. (2020). A holistic framework of corporate website favourability. *Corporate Reputation Review*, 23, 201-214. <https://doi.org/10.1057/s41299-019-00079-9>
- Ageeva, E., Melewar, T.C., Foroudi, P., Dennis, C., & Jin, Z. (2018). Examining the influence of corporate website favorability on corporate image and corporate reputation: Findings from fsQCA. *Journal of Business Research*, 89, 287-304. <https://doi.org/10.1016/j.jbusres.2018.01.036>



- Ali, F. (2016). Hotel website quality, perceived flow, customer satisfaction and purchase intention. *Journal of Hospitality and Tourism Technology*, 7(2), 213-228. <https://doi.org/10.1108/JHTT-02-2016-0010>
- Azam, M., (2015). Diffusion of ICT and SME performance. In Quaddus, M. and Woodside, A.G. (Ed.), *E-Services Adoption: Processes by Firms in Developing Nations (Advances in Business Marketing and Purchasing, Vol. 23A)* (pp. 7-290). Emerald Group Publishing Limited, Bingley.
- Bai, B., Law, R., & Wen, I. (2008). The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors. *International Journal of Hospitality Management*, 27(3), 391-402, <https://doi.org/10.1016/j.ijhm.2007.10.008>.
- Balastegui-García, G., Sabau, E.M.S., Payá, A.S., & Mora, H. (2023). Corporate Digital Identity Based on Blockchain. In: Visvizi, A., Troisi, O., Grimaldi, M. (eds). *Research and Innovation Forum 2022: Springer Proceedings in Complexity*. Springer, Cham. pp 645-655. [https://doi.org/10.1007/978-3-031-19560-0\\_55](https://doi.org/10.1007/978-3-031-19560-0_55)
- Bravo, R., De Chernatony, L., Matute, J., & Pina, J.M. (2013). Projecting banks' identities through corporate websites: A comparative analysis of Spain and the United Kingdom. *Journal of Brand Management*, 20(7), 533-557. <https://doi.org/10.1057/bm.2012.59>
- Caruana, A., & Ewing, M.T. (2010). How corporate reputation, quality, and value influence online loyalty. *Journal of Business Research*, 63(9-10), 1103-1110. <https://doi.org/10.1016/j.jbusres.2009.04.030>.
- Casaló, L., Flavián, C., & Guinalíu, M. (2008). The role of perceived usability, reputation, satisfaction and consumer familiarity on the website loyalty formation process. *Computers in Human Behaviour*, 24(2), 325-345. <https://doi.org/10.1016/j.chb.2007.01.017>
- Chen, X., Huang, Q., & Davison, R.M. (2017). The role of website quality and social capital in building buyers' loyalty. *International Journal of Information Management*, 37(1), 1563-1574. <https://doi.org/10.1016/j.ijinfomgt.2016.07.005>
- Chiu, H-C., Hsieh, Y-C., & Kao, C-Y. (2005). Website quality and customer's behavioural intention: An exploratory study of the role of information asymmetry. *Total Quality Management & Business Excellence*, 16(2), 185-197. <https://doi.org/10.1080/14783360500054277>
- Darko, A., Chan, A.P.C., Ameyaw, E.E., Owusu, E.K., Pärn, E., & Edwards, D.J. (2019). Review of application of analytic hierarchy process (AHP) in construction. *International Journal of Construction Management*, 19(5), 436-452. <https://doi.org/10.1080/15623599.2018.1452098>
- Dutot, V., & Castellano, S. (2015). Designing a measurement scale for e-reputation. *Corporate Reputation Review*, 18, 294-313. <https://doi.org/10.1057/crr.2015.15>
- Feher, K. (2015). *Corporate digital identity: Key factors of policy and business*. Paper presented at the 2nd International Conference on "Trends in Multidisciplinary Business and Economic Research" (TMBER- 2015), Vol. 2, 352-363. Retrieved from [https://www.researchgate.net/publication/274713126\\_Corporate\\_Digital\\_Identity\\_Key\\_Factors\\_of\\_Policy\\_and\\_Business](https://www.researchgate.net/publication/274713126_Corporate_Digital_Identity_Key_Factors_of_Policy_and_Business)
- Foroudi, M., Foroudi, P., & Balmer, J., (2021). *Building corporate identity, image and reputation in the digital era* (1<sup>st</sup> ed). London, UK: Routledge.

- Gregersen, M.K., & Johansen, T.S. (2022). Organizational-level visual identity: An integrative literature review. *Corporate Communications: An International Journal*, 27(3), 441-456. <https://doi.org/10.1108/CCIJ-06-2021-0068>
- Ho, L-A., Kuo, T-H., & Lin, B. (2012). The mediating effect of website quality on Internet searching behavior. *Computers in Human Behavior*, 28(3), 840-848. <https://doi.org/10.1016/j.chb.2011.11.024>.
- Holmner, M. (2009). Digital identity management: Technological, business and social applications. *Online Information Review*, 33(5), 1008-1009. <https://doi.org/10.1108/14684520911001972119860>
- Hsu, C.L., Chang, K.C., & Chen, M.C. (2012). The impact of website quality on customer satisfaction and purchase intention: perceived playfulness and perceived flow as mediators. *Information Systems and e-Business Management*, 10, 549-570. <https://doi.org/10.1007/s10257-011-0181-5>
- Ishizaka, A., & Siraj, S. (2020). Interactive consistency correction in the analytic hierarchy process to preserve ranks. *Decisions in Economics and Finance*, 43, 443-464. <https://doi.org/10.1007/s10203-020-00309-4>
- Kabadayi, S., & Gupta, R. (2011). Managing motives and design to influence web site revisits. *Journal of Research in Interactive Marketing*, 5(2/3), 153-169. <https://doi.org/10.1108/17505931111187785>
- Kalia, P. (2017). Service quality scales in online retail: Methodological issues. *International Journal of Operations & Production Management*, 37(5), 630-663. <https://doi.org/10.1108/IJOPM-03-2015-0133>
- Keshavarz, H., & Norouzi, Y. (2022). A maturity model for digital information management in university libraries: A design science study. *International Information & Library Review*, 54(4), 299-314. <https://doi.org/10.1080/10572317.2021.2022388>
- Kim, H., & Niehm, L. S. (2009). The impact of website quality on information quality, value, and loyalty intentions in apparel retailing. *Journal of Interactive Marketing*, 23(3), 221-233. <https://doi.org/10.1016/j.intmar.2009.04.009>
- Kim, S., & Lee, Y. (2006). Global online marketplace: A cross-cultural comparison of website quality. *International Journal of Consumer Studies*, 30(6), 533-543. <https://doi.org/10.1111/j.1470-6431.2006.00522.x>
- Kim, S., & Stoel, L. (2004). Apparel retailers: website quality dimensions and satisfaction. *Journal of Retailing and Consumer Services*, 11(2), 109-117. [https://doi.org/10.1016/S0969-6989\(03\)00010-9](https://doi.org/10.1016/S0969-6989(03)00010-9)
- Kim, S., & Stoel, L. (2004a). Dimensional hierarchy of retail website quality. *Information & Management*, 41, 619-633. <https://doi.org/10.1016/j.im.2003.07.002>
- Kincl, T., & Štrach, P. (2012). Measuring website quality: Asymmetric effect of user satisfaction. *Behaviour & Information Technology*, 31(7), 647-657, <https://doi.org/10.1080/0144929X.2010.526150>
- Kuan, H-H., Bock, G-W., & Vathanophas, V. (2008). Comparing the effects of website quality on customer initial purchase and continued purchase at e-commerce websites. *Behaviour & Information Technology*, 27(1), 3-16. <http://dx.doi.org/10.1080/01449290600801959>
- Kulakowski, K. (2020). AHP as a Decision-making method. In K. Kulakowski (Ed.), *Understanding the Analytic Hierarchy Process* (pp. 1-27). Boca Raton, FL: Chapman and Hall/CRC, Taylor & Francis Group.

- Lee, Y., & Kozar, K.A. (2006). Investigating the effect of website quality on e-business success: An analytic hierarchy process (AHP) approach. *Decision Support Systems*, 42(3), 1383-1401. <https://doi.org/10.1016/j.dss.2005.11.005>.
- Liang, C-J., & Chen, H-J. (2009). A study of the impacts of website quality on customer relationship performance. *Total Quality Management & Business Excellence*, 20(9), 971-988, <https://doi.org/10.1080/14783360903181784>
- Lin, H-F. (2007). The impact of website quality dimensions on customer satisfaction in the B2C E-commerce context. *Total Quality Management & Business Excellence*, 18(4), 363-378. <https://doi.org/10.1080/14783360701231302>
- Lin, H-F. (2010). An application of fuzzy AHP for evaluating course website quality. *Computers & Education*, 54(4), 877-888, <https://doi.org/10.1016/j.compedu.2009.09.017>.
- Longstreet, P., Brooks, S., Featherman, M., & Loiacono, E. (2022). Evaluating website quality: which decision criteria do consumers use to evaluate website quality? *Information Technology & People*, 35(4), 1271-1297. <https://doi.org/10.1108/ITP-05-2020-0328>
- Mohd Sam, M.F., & Tahir, M.N.H. (2009). Website quality and consumer online purchase intention of air ticket. *International Journal of Basic & Applied Sciences*, 9(10), 20-25.
- Papaioannou, T., Tsohou, A., & Karyda, M. (2021). Forming digital identities in social networks: the role of privacy concerns and self-esteem. *Information and Computer Security*, 29(2), 240-262. <https://doi.org/10.1108/ICS-01-2020-0003>
- Rocha, Á. (2012). Framework for a global quality evaluation of a website. *Online Information Review*, 36(3), 374-382. <https://doi.org/10.1108/14684521211241404>
- Saaty, T.L. (2005). *Theory and applications of the analytic network process: Decision making with benefits, opportunities, costs, and risks*. Pittsburgh: RWS Publications.
- Saha, P., Nath, A.K., & Salehi-Sangari, E. (2012). Evaluation of government e-tax websites: An information quality and system quality approach. *Transforming Government: People, Process and Policy*, 6(3), 300-321. <https://doi.org/10.1108/17506161211251281>
- Savelli, E., Cioppi, M., Tombari, F., (2017). Web atmospherics as drivers of shopping centres' customer loyalty. *International Journal of Retail & Distribution Management*, 45(11), 1213-1240. <https://doi.org/10.1108/IJRDM-07-2016-0120>
- Serbian Business Registers Agency (2021). Retrieved from: [www.apr.gov.rs](http://www.apr.gov.rs)
- Shchiglik, C., & Barnes, S.J. (2004). Evaluating website quality in the airline industry. *Journal of Computer Information Systems*, 44(3), 17-25. <http://dx.doi.org/10.1080/08874417.2004.11647578>
- Statistical Office of the Republic of Serbia (2021). Retrieved from: [www.stat.gov.rs](http://www.stat.gov.rs)
- Stringam, B., & Gerdes, J., (2019). Service gap in hotel website load performance. *International Hospitality Review*, 33(1), 16-29. <https://doi.org/10.1108/IHR-09-2018-0012>
- Syed Alwi, S.F., Melewar, T.C., Cuomo, M.T., & Scwaiger, M. (2020). Digital society and corporate reputation: Towards the next generation of insights. *Corporate Reputation Review*, 23, 129-132. <https://doi.org/10.1057/s41299-020-00098-x>
- Szwajca, D. (2019). Digital customer as a creator of the reputation of modern companies. *Foundations of Management*, 11, 255-266. <https://doi.org/10.2478/fman-2019-0021>

- Vaidya, O.S., & Kumar, S. (2006). Analytic hierarchy process: An overview of applications. *European Journal of Operational Research*, 169(1), 1-29. <https://doi.org/10.1016/j.ejor.2004.04.028>
- Wang, L., Law, R., Guillet, B.D., Hung, K., & Fong, D.K.C. (2015). Impact of hotel website quality on online booking intentions: eTrust as a mediator. *International Journal of Hospitality Management*, 47, 108-115. <https://doi.org/10.1016/j.ijhm.2015.03.012>
- Wang, Y., Li, Y., & Wu, J. (2022). Digital identities of female founders and crowdfunding performance: an exploration based on the LDA topic model. *Gender in Management*, 37(5), 659-678. <https://doi.org/10.1108/GM-12-2020-0360>
- Wells, J.D., Valacich, J.S., & Hess, T.J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS Quarterly*, 35(2), 373-396. <https://doi.org/10.2307/23044048>
- Windley, P.J. (2005). *Digital identity*. London, UK: O Reilly Series