THE IMPACT OF DIGITALIZATION IN ACADEMIC MARKETING – A COMPARATIVE STUDY

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Rezumat: *Folosind ca punct de plecare transformarea continuă pe care o resimte mediul academic sub impactul fenomenului digitalizării, lucrarea noastră își propune o investigație științifică asupra prezenței online a ofertei educaționale a două universități. Metodele de actualitate preluate din modele teoretice și profesionale ne-au permis să evidențiem o serie de criterii care refelctă calitatea și performanța demersurilor de promovare digitală online a serviciilor de admitere în cazul a două universități reprezentative din România. Astfel, putem afirma că, prin construirea unui tablou de bord operațional, marketingul digital educațional poate beneficia de instrumente de suport al deciziei, utile atât în politica de branding, cât și în operaționalizarea prezenței și comunicării în mediul online.*

Cuvinte cheie: *marketing academic, tablou de bord, performanță web, branding online*

Abstract: *Using as a starting point the continuous transformation that the academic environment bears under the impact of the digitization phenomenon, our paper aims at a scientific investigation on the online presence of the educational offer of two universities. Current methods issued from theoretical and professional models have allowed us to highlight a series of criteria that reflect the quality and performance of online digital promotion of admission services in the case of two representative universities in Romania. Thus, we can say that, by building an operational dashboard, educational digital marketing can benefit from decision support tools, useful both in branding policy and in operationalizing online presence and communication.*

Keywords: *academic marketing, dashboard, web performance, online branding*

JEL Classification: M3

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1   INTRODUCTION

In recent decades, digitalization has gained momentum, and internet access has become a need. Globalization, in turn influenced by digitalization, has allowed the two elements to become the bridge between individuals, but also between organizations (Luo, 2021; Krishna Raj Bhandari, 2023). Communication processes between organizations and consumers have moved behind monitors into the virtual world, thus allowing access to information and answers much faster.

An essential element in globalization is higher education, a process widespread in various forms, a process that has had to adapt under the impact of student consumer requirements, but also changes in terms of access to information. The increased market demand for undergraduate and postgraduate studies has turned institutions into an important pillar on the digital knowledge market, and the competitive environment has transformed positioning and promotion strategies to bring added value.

The SARS-COV2 pandemic has had a huge impact not only on economic and social life, but also on education. Promoting and attracting future students, retaining those already enrolled, along with digitizing processes and creating an online presence, has been a real challenge for the education system.

This paper aims to analyze the determinants of the quality of promotion in the online environment within two universities in Romania, focusing on the admission process to master studies, by identifying a picture of indicators based on web analysis tools.

2   INVESTIGATED TOPIC DEFINED

Brown-Hemsle and Oplatka consider educational marketing to be services offered by universities to consumers tailored to their needs (Jane Hemsley-Brown, 2006). A novelty that comes with digital marketing compared to traditional marketing is that it takes place in the digital environment, the promotion having priority in order to increase the visibility of the company, institution.

Digital marketing is often defined as the digital technology used to create channels that enable organizations to achieve goals. It basically represents the digital footprint of an organization (Sawicki, 2016). The most common channels through which organizations offer personalized content for the selected target group are represented by the web page and its promotion through social media, search engine ranking or email. Promotion through the web page, although it is more neglected compared to social media pages, is a key element when we talk about the image, attractiveness of an organization, the cost often influencing the quality of the message transmitted. Currently, Search Engine Optimization (SEO) is increasingly used when referring to promotion through web pages. This is the process of optimizing the web page to attract more searches through appropriate keywords and links. This ensures that a web page is correctly indexed in search engines, which will allow ranking higher in search engines, the web page, respectively an increased organic traffic (Dirk Lewandowski, 2021).

According to "We are social", in January 2023, data showed that 73.3% of total advertising revenue across all media channels is done digitally. Moreover, according to the same source, 48.2% of consumers use search engines, respectively 43.1% use social networks to learn about a brand (DataReportal, 2023). These data show that the online presence of organizations is

an imperative and must adapt not only to the needs of consumers, the market trend, but also to the phenomenon of digitization as a whole.

Data from November 2022 shows that the number of internet users has increased in recent years, reaching over 5 billion of the total global population and is constantly growing (Statista, 2023). According to Data Reportal, the main reasons for internet use among 16- and 64-year-olds is to find information at 57.8%. The second place in preferences is 53.7% contact with family and friends, followed by information on events and news. In 10th place among the main reasons for Internet use, in a percentage of 38.3% are education and objectives related to study. (DataReportal, 2023).

Figure 1. Main reasons for using the Internet
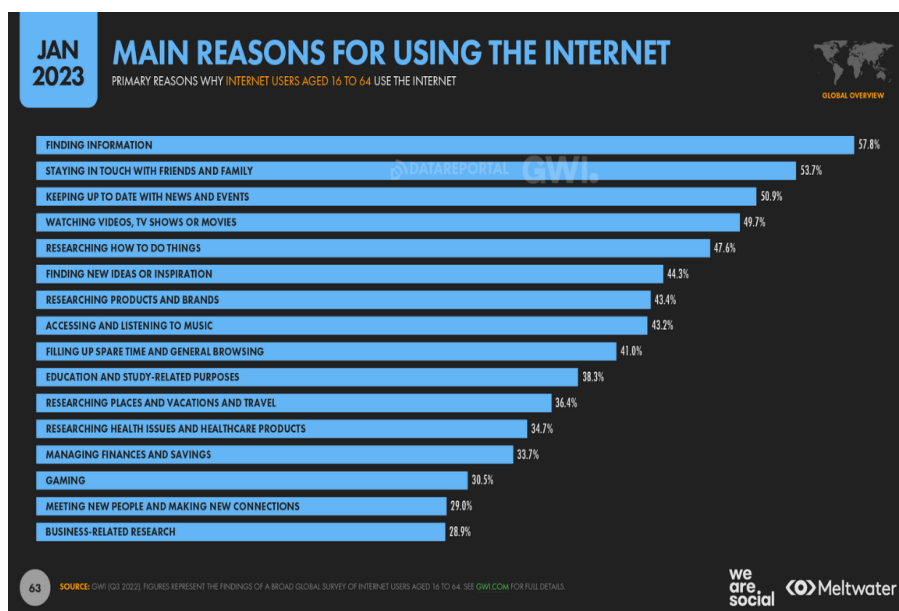
Source: Data Reportal – 2023

In 2019, 53% of web traffic came from mobile users at the expense of desktop users, and predictions show that in the coming years mobile internet users will exceed the number of desktop users (Bouchrika, 2023).

The first research hypothesis of this paper is that the user experience in accessing from mobile devices is better than the user experience from desktop devices. The second hypothesis proposed in the paper is that a larger university has a stronger online presence than a smaller university in terms of web pages dedicated to the recruitment process.

3   RESEARCH METHODOLOGY

The data was collected between March and June 2023, through visual analysis, but also investigation through web pages that serve as data collection tools. The method of data processing was quantitative by measuring results through statistical tools (tables, charts). The

data collected are quantitative, categorial-descriptive, ordinal, and quantifiable. In the paper, the method of interpreting the data was the comparison technique, and the indicators used are: Search Engine Optimization (SEO), speed, web page traffic and user experience.

Web page analysis is essential and necessary for collecting and analyzing data that will improve the web page and attract more visitors. Through the comparative analysis of several web pages, ideas for improvement in terms of user experience can be identified.

The visual analysis of a web page focuses on its chromatics, but more important is the way of presenting data, images. The information should be presented as attractively as possible in the form of infographics or images and should be as legible as possible.

The web tools used for data collection are: Page Speed Insights, Semrush. PageSpeed Insights allows the analysis of web pages from two perspectives, the first being the analysis of the page in terms of user experience. The use of the tool also allows the performance of the "Core Web Vitals" web page to be evaluated, in this case the loading, interactivity and visual stability of the page is aimed at (Page Speed Insighs, 2023; Bućko, 2022; Team, 2023).   The indicators followed in this case are:

- *Largest Contentful Paint* (LCP) measures page load performance. To provide a good user experience, the LCP should be 2.5 seconds from the first page load (Walton, 2023);
- *First Input Delay* (FID): measures interactivity. To provide a good user experience, pages should have a FID of 100 milliseconds or less (Bućko, ONELY, 2022);
- *Cumulative Layout Shift* (CLS): measures visual stability. To provide a good user experience, pages should maintain a CLS of 0.1 or less (Walton, 2023; Team, 2023);
- *The First Contentful Paint* (FCP) measures the time from when the page starts loading until any part of the page content is rendered on the screen. To provide a good user experience, sites should have content of 1.8 seconds or less (Team, 2023);
- *Interaction to Next Paint* (INP) is a metric that evaluates a page's overall responsiveness to user interactions, noting the latency of all click-through interactions that occur throughout a user's visit to a page. The final INP value is the longest observed interaction, ignoring outliers (Walton, 2023).

Semrush allows analysis of impact in terms of *Search Engine Optimization* (SEO) search mills that links have when sending hyperlinks to another site, represented by the "*Authority score*. "*Backlinks*", another indicator tracked by: the higher it is, the higher the frequency of occurrence in search engines. Last, but not least, "*Organic Search Traffic"* represents the traffic that the domain receives. Organic traffic is defined as visitors who have reached the web page through search engines (Semrush, 2023).

The pages followed within the paper are specialized web pages for admission to university studies. The first page is that of the "George Emil Palade" University of Medicine, Pharmacy, Sciences and Technology of Targu Mures: *https://adminfo.umfst.ro/*, the second being that of Babeș-Bolyai University of Cluj Napoca: *infoadmitere.ubbcluj.ro/ro/.*

4 FINDINGS AND DISCUSSIONS

From the point of view of user experience, accessing the page of the "George Emil Palade" University of Medicine, Pharmacy, Sciences and Technology of Targu Mures on the mobile device is a pleasant one, all 6 indicators followed correspond to the imposed norms they

MINISTERUL EDUCAȚIEI NAȚIONALE
ROMÂNIA

UNIVERSITATEA DE MEDICINĂ,
FARMACIE, ȘTIINȚE ȘI TEHNOLOGIE
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DIN TÂRGU MUREȘ

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are marked with green color, so we can conclude that loading, interactivity and visual stability are good.

Figure 2. Core Web Vitals Assessment (mobile) of adminfo.umfst.ro/ domain
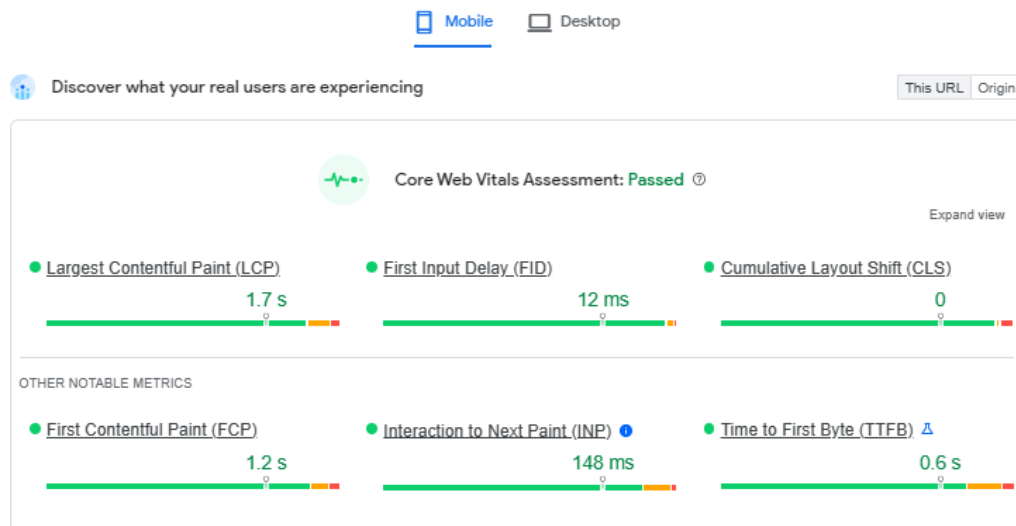
Source: Self-processing with Page Speed Insights 2023

When it comes to accessing from a desktop device, the user experience is less favorable compared to accessing from a mobile device. This is due to visual instability, with the CLS indicator exceeding the limit imposed for a pleasant experience by 0.3. In terms of interactivity and charging performance, they correspond to the norms imposed for both devices.

Figure 3. Core Web Vitals Assessment (desktop) of *adminfo.umfst.ro/* domain
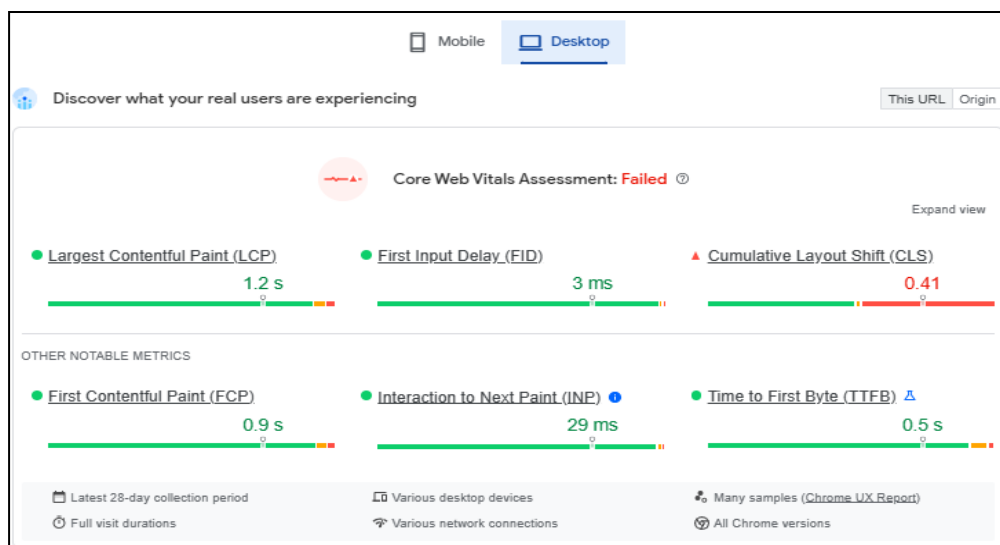
Source: Self-processing with Page Speed Insights 2023

From the graphs presented we can see that the web page on the desktop is significantly better at the performance level. In terms of accessibility, best practices and SEO, an improvement is needed by formatting images on the web page, such as choosing the special format for web pages or using images of the right size for mobile applications. The type of image used, and the chromaticity and contrast of images can also improve accessibility.

**Figure 4. Performance, Accessibility, SEO of the *adminfo.umfst.ro/*
- mobile versus desktop**
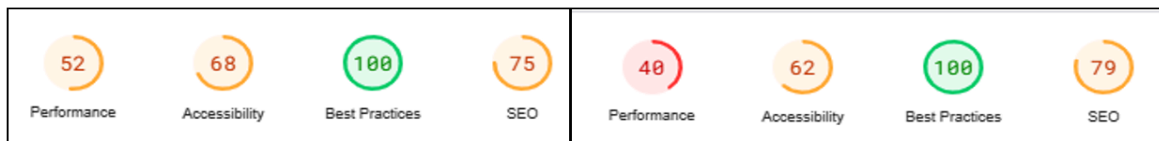
Source: Self-processing with Page Speed Insights - 2023

The user experience when accessing the Babeș-Bolyai University of Cluj Napoca page from a mobile device is favorable. Apart from CLS, which is at the upper limit of the imposed limit, which may pose a threat in the future when it comes to "Core Web Vitals", all parameters are properly framed.

Interactivity and charging performance match the norms imposed for the desktop device. Overall, the user experience is lower, compared to the one accessed from a mobile device. This is again due to visual instability, with the CLS indicator exceeding the required limit for a pleasant experience by 0.2.

**Figure 5. Core Web Vitals Assesment (mobile) of the infoadmitere.ubbcluj.ro/ro/
domain**
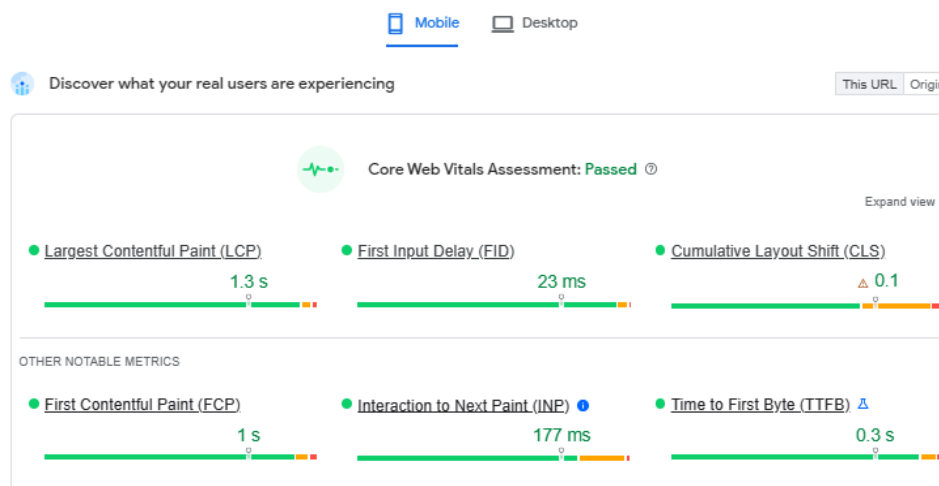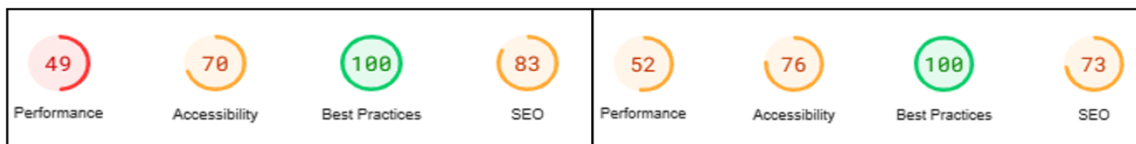

Source: Self-processing with Page Speed Insights 2023

Figura 6. *Core Web Vitals Assesment (desktop) of infoadmitere.ubbcluj.ro/ro/ domain*
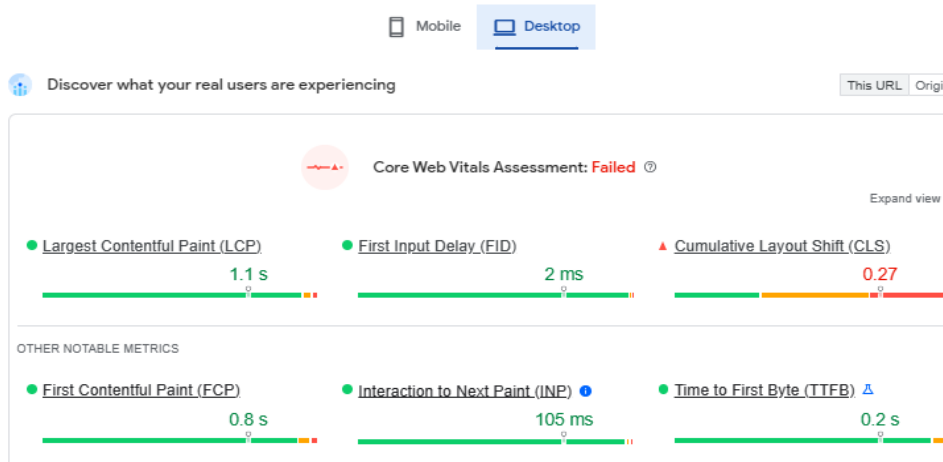
*Source: Self-processing with Page Speed Insights 2023*

When it comes to the performance of the web page accessed from the desktop, the level is higher overall, with better performance and accessibility. But from an SEO point of view, we notice that the mobile device is better placed, which allows searching through keywords, the web page being better indexed in search engines. Overall, the content for both devices allows room for improvement.

Figure 8. Performance, Accessibility, SEO of the *infoadmitere.ubbcluj.ro/ro/*
- mobile versus desktop

Source: Self-processing with Page Speed Insights 2023

Figure 9. Comparative overview of web domains
adminfo.umfst.ro/* versus *infoadmitere.ubbcluj.ro/ro/
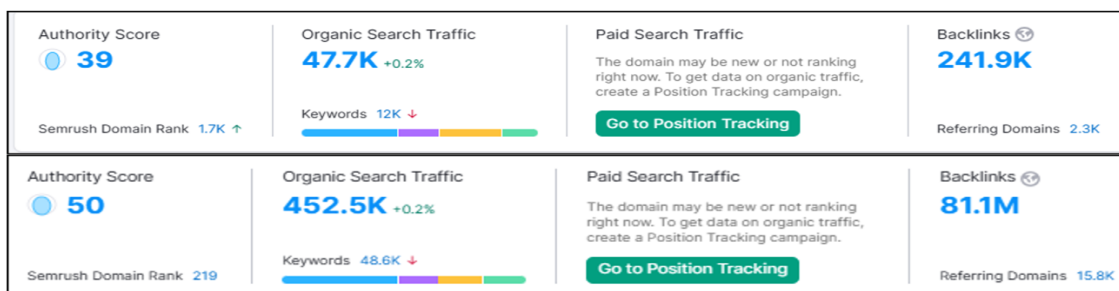
Source: Own Processing – Semrush Excerpt 2023

Comparing the two web pages specially dedicated to admission to university studies, we can see that accessing from the device the page of the University of Cluj Napoca offers a more pleasant experience overall. The user experience is similar for both competitors.

The domain traffic, i.e. the number of visitors who arrived through search engines on the web page, respectively the number of "*backlinks*" that is directly proportional to the frequency with which the web page appears in search engines.

Table 1. Web Performance Comparison Overview

	adminfo.umfst.ro		*infoadmitere.ubbcluj.ro*	
Device	*Mobile*	*Desktop*	*Mobile*	*Desktop*
Performance	40	52	49	52
Accesibility	62	68	70	76
Best Practice	100	100	100	100
SEO	79	75	83	73

Source: Own projection

Comparatively, between the two analyzed pages we can see that traffic is much higher in the case of the University of Cluj-Napoca page, and the increased number of "backlinks" allows a higher frequency when it comes to appearance in search engines, finally the impact of SEO is much higher.

5   CONCLUSIONS

The generalization of digitization services in recent decades has had a significant impact on the education system, and the SARS COV 2 pandemic has been an accelerator for universities around the world to change their daily activity by including digital technology, but also to come up with new promotion approaches in terms of attracting students.

This paper aimed at analyzing the quality of online promotion of the educational offer in general, and of master studies in particular, within the recruitment processes of two representative universities, and to identify the characteristics of online presence as decision-making elements for the academic marketing. Following the research, we can say that the user experience on mobile devices is not better compared to the user experience on desktop devices, and this represents an opportunity for future research, mobile device use representing an increasing trend globally. Secondly, it could be seen that a larger university has a stronger online presence than a smaller university in terms of web pages dedicated to recruitments, but the gap is not significantly better, which confirms that the online environment allows smaller organizations great flexibility and an agile approach to complement marketing policy.

This approach has also allowed us to see the limits of the current research, namely aspects of depth and factorial analysis, elements that, along with the use of other techniques by comparison, could allow us to design a more comprehensive picture in terms of performance in academic marketing.

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