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**The Performance of Governmental Digital Platforms
in Romania during the COVID-19 Pandemic**

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Abstract

The development of user-friendly government platforms that can be easily accessed and provide important information on public matters became even more obvious during the COVID-19 pandemic, when public entities from all over the world faced the challenge of correctly informing the public on the situation by providing trustworthy sources. Apart from normal channels, such as TV, radio, and newspapers, the opportunity to use the Internet also arose, and the Romanian government together with an NGO developed various platforms that were designed to keep the public correctly informed and avoid fake news. This paper aimed to analyze how citizens used two of these platforms, 'cemafac.ro' and 'stirioficial.ro' in order to gain a better understanding of how they performed during the COVID-19 crisis and provide some insight on how the users interacted with them. Among the results, we found that most of the visits came from smartphones and that there is a need to optimize the display of information so that users can access it more easily when needed.

Keywords: digitalization, digitization, e-government, COVID-19, public authorities, digital transformation.

JEL Classification: O52, M15, M21.

1. Introduction

Digital platforms are currently used by most types of organizations that want to streamline the transmission of information quickly and efficiently. This was also the case with the Romanian government during the COVID-19 lockdown in 2020, when it had to find solutions to correctly inform citizens on the pandemic, thus providing a place where citizens can get true information and circumvent fake news.

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In the case of informing the public, the Romanian government chose to collaborate with an NGO called Code for Romania, which aims to aid governmental entities with software solutions that benefit citizens. Through this collaboration, a number of software solutions were developed, and this article aims to analyze and compare the usage of two of the platforms, called *cecrebuiesafac.ro* and *stirioficial.ro*:

- *Stirioficial.ro* – The website's material is the official source of information for the public and media organizations on the situation created by the spread of the Coronavirus. This information contained on this platform was composed of press releases, links to other useful platforms, frequently asked questions, legislation, and sanitary conduct.
- *Cemafac.ro* – This platform is a website that contains suggested guidelines for contact, action, and conduct during the COVID-19 pandemic emergency scenario. It aims to educate the public about fundamental guidelines that the authorities prescribe in order for citizens to better manage the situation.

2. Literature Review

Discussions around digital transformation are becoming more and more common in the academic environment because this process not only improves operations, but can also greatly impact services and industries (Ivančić et al., 2019). Due to the rapidly changing private sector when it comes to this topic, the expectations of the public are also raised regarding the public sector (Mergel et al., 2019), a fact that also put a lot of pressure on the Romanian government regarding how it chose to communicate during the COVID crisis, which proved to emphasize the importance of the public sector's ability to tackle emergencies (Mazzucato, Kattel, 2020).

After the COVID-19 outbreak, the lockdown accelerated the adoption of digital solutions at an entirely unexpected rate (Budd et al., 2020; Paraschiv et al., 2022), opening up unexpected potential for scaling up alternative methods of conducting a social and economic existence. According to Hantrais et al. (2020), families have been shown to have become 'digital by default', as children were exposed to online risks and opportunities, while Alexopoulos et al. (2020) claim that people are turning more and more to digital platforms to aid their mental well-being.

Digital globalization is a new form of globalization (Schilirò, 2020). It brings significant adjustments to cross-border commerce, the flow of economic gains, and participation development. Ratten (2022) presents the ClickforVic government digital platform that was launched during the first 2020 lockdown in Melbourne, Australia, as a way for rural farmers to connect with urban consumers.

In the case of websites, there is a need to incorporate a lot of information, while also keeping pages simple, so that they can be easily navigated (Chen, 2020), which is a challenge, especially when it comes to developing websites containing important public information. This endeavor becomes even more complicated with the rapid rise of smartphone usage and access to websites through mobile phones (Rashid et al., 2020).

3. Methodology

This article aims to examine the official platforms "Stiri oficiale" and "Ce trebuie să fac", which were built by Code for Romania in collaboration with the Authority for the Digitalization of Romania, to see the usage of each of these two platforms by the public. The data that was of interest was the type of device used in order to access the websites, the countries from which it was accessed, rejection rate, pages per session, and average session duration.

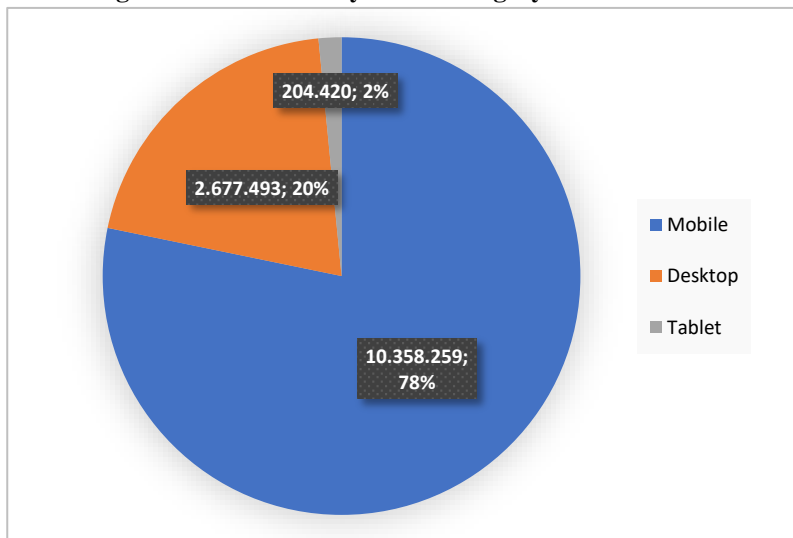
In order to gather the information, we approached the Authority for the Digitalization of Romania and asked for the official data for the websites "www.stirioficiale.ro" and "cetrebuiasafac.ro." In the backend of these websites, a Google Analytics module was set up, so it could keep track of the number of people who visit the website and all of the public information that we required.

4. Results and Discussions

Taking each of the data sets into consideration, some trends were noticeable regarding each platform, which will be detailed in the following pages.

In the case of the "Stiri oficiale" platform, the most popular device for accessing it was the smartphone, with 78% of total visits coming from mobile devices, 20% coming from personal computers, and 2% from tablets.

Figure 1. No of users by device category stirioficiale.ro



Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

Table 1. Stirioficial.ro digital platform

Device category	Users	Sessions	Bounce rate	Pages/session	Average session duration
Mobile	431.381	491.546	27,90%	4,39	113,75
Desktop	121.044	137.440	44,53%	2,71	97,54
Tablet	8.196	9.618	26,77%	5,02	152,76
Total	560.621	638.604	31,46%	4,04	110,85

Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

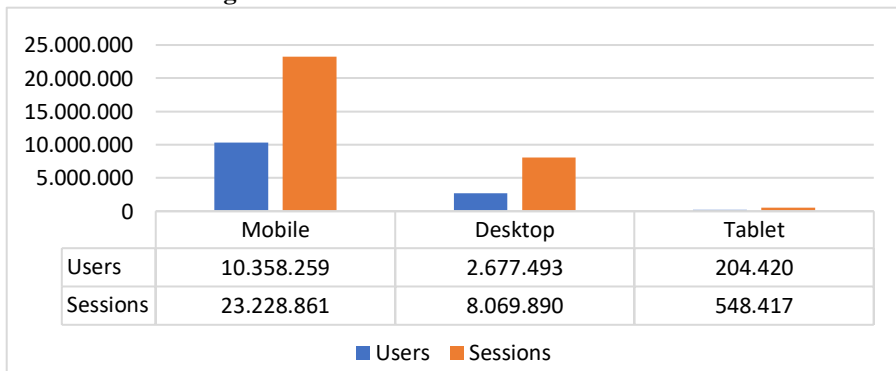
Table 2. Cemafac.ro digital platform

Device category	Users	Sessions	Bounce rate	Pages/session	Average session duration
Mobile	10.358.259	23.228.861	60,17%	1,99	78,07
Desktop	2.677.493	8.069.890	46,28%	2,58	149,38
Tablet	204.420	548.417	51,04%	2,31	104,24
Total	13.240.172	31.847.168	56,49%	2,15	96,59

Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

In the case of Stirioficial.ro, the number of sessions (times the website was accessed) is more than double the number of users that have accessed the platform in the case of tablets and mobile phone visits, and almost triple in the case of personal computer visits. This would suggest that the citizens found the platform useful enough to warrant returning for more information. Although this type of data collection does not account for transfers from one device to the other or the number of users that returned to the website, it does help in providing an overview of how the platforms performed with regard to recurrent visits.

Figure 2. Evolution of sessions stirioficial.ro



Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

The bounce rates of the "Stiri oficiale" platform are significantly higher than the bounce rate of cemafac.ro, as seen in Table 3. The bounce rate is the number of users who viewed only the first page without performing any other action. In the case of "Stiri oficiale" the percentages could be explained by the fact that most of the relevant information is posted on the first page, without needing the users to access subsequent other pages.

Table 3. Bounce rates of stirioficiale.ro and cemafac.ro platforms

Device category	Stirioficiale.ro Bounce rate	Cemafac.ro Bounce rate
Mobile	60,17%	27,90%
Desktop	46,28%	44,53%
Tablet	51,04%	26,77%
Total	56,49%	31,46%

Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

By comparing the performance of the two platforms, several differences could be observed.

- A. As can be observed in Tables 1 and 2, the number of users and sessions on the cemafac.ro platform is significantly lower than that of stirioficiale.ro. This could be explained by the fact that stirioficiale.ro was more heavily marketed in the public space, both on the television and online, whereas cemafac.ro was mainly advertised on the stirioficiale.ro website. This would mean that most of the visits on cemafac.ro could be from stirioficiale.ro, however, this data was not available for analysis.
- B. Unsurprisingly, the highest percentages of users accessing both websites were from Romania, but there were also a number of users from other countries, as can be seen in Table 4. This might account for Romanian citizens residing in those countries, wanting to find out information on restrictions or actions taken by the Romanian government regarding the COVID pandemic.

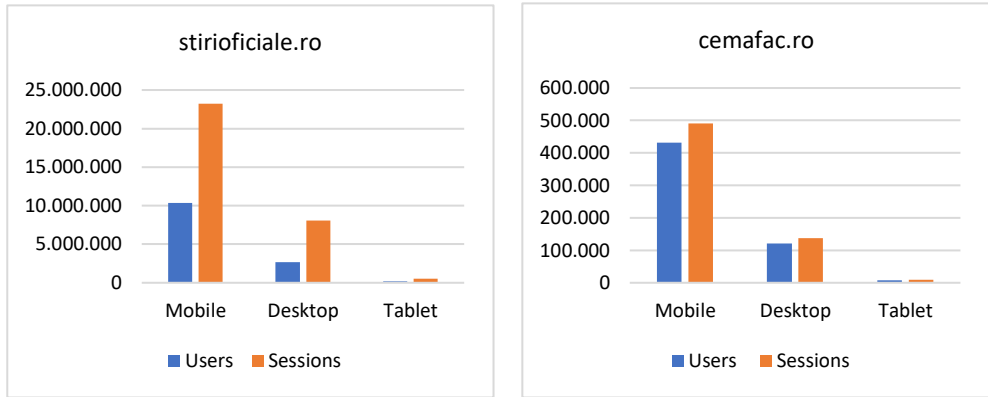
Table 4. Location of the users

Location	Cemafac.ro users	Cemafac.ro ratio	Stirioficiale.ro users	Stirioficiale.ro ratio
Romania	492.909	87,92%	11.156.403	84,26%
United Kingdom	11.336	2,02%	310.223	2,34%
Italy	10.600	1,89%	297.370	2,24%
Germany	8.998	1,60%	271.627	2,05%
Spain	4.091	0,72%	158.394	1,19%
Moldova	3.403	0,60%	117.450	0,88%
Belgium	3.212	0,57%	105.453	0,79%
France	3.191	0,56%	93.842	0,70%
Austria	2.530	0,451%	81.724	0,61%
Netherlands	2.487	0,44%	77.050	0,58%

Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

C. When comparing the number of sessions and users on both platforms, there is a large difference between them regarding the returning number of users. While in the case of stirioficial.ro there is a significantly high difference between the number of users and the number of sessions, with the latter being the largest, in the case of cemafac.ro, the difference is not significant in the case of cemafac.ro. This might suggest that users did not consider the information on cemafac.ro useful enough to warrant multiple visits to this website.

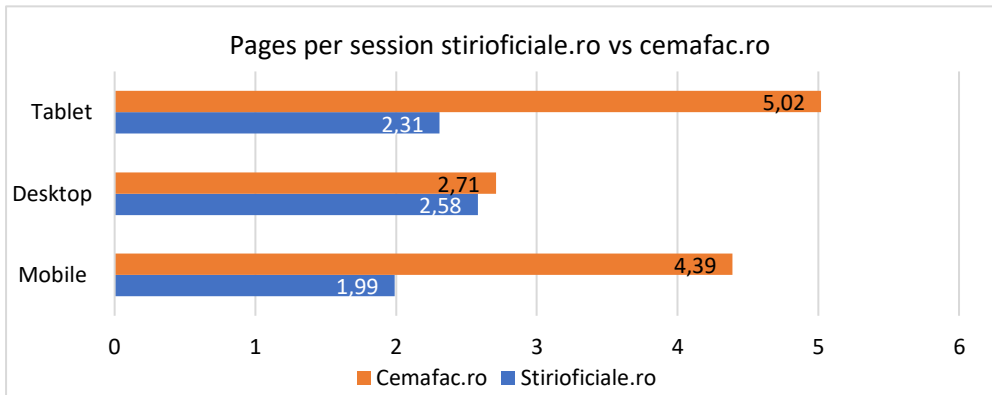
Figure 3. Number of sessions and users on stirioficial.ro and cemafac.ro



Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

D. As can be seen in Figure 4, users accessed more pages per session in the case of cemafac.ro. This could be explained by the fact that stirioficial.ro has all the information on the front page, whereas cemafac.ro has the information structured in multiple pages. This also explains the high bounce rate of stirioficial.ro, the counter of which only goes up if users leave the site after looking at the home page.

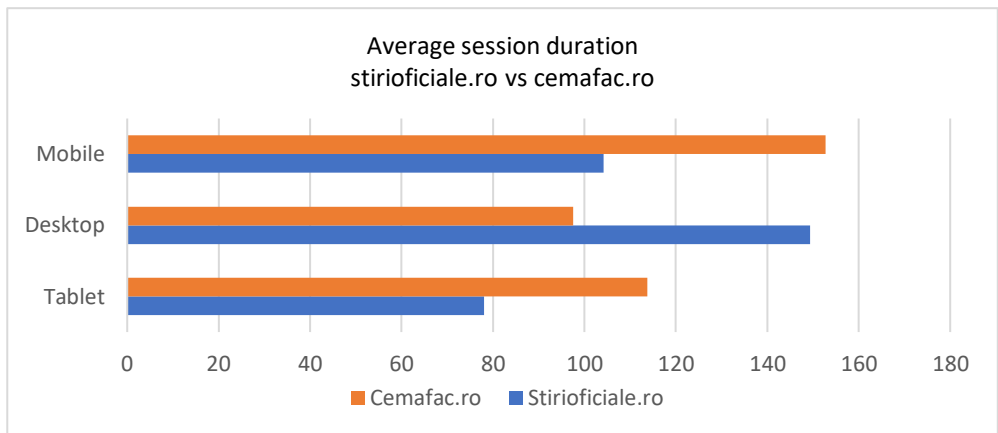
Figure 4. Pages per session on stirioficial.ro vs cemafac.ro



Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

E. There is also a difference between the two platforms in terms of the average duration of the session, which can also be seen at the level of device used. In the case of mobile devices (smartphones and tablets) the sessions were longer on cemafac.ro, whereas in the case of personal computers, the longer sessions were on stiriofficiale.ro. This could indicate the fact that the stiriofficiale.ro is better designed for being accessed on personal computers, whereas the information on cemafac.ro is better adapted to mobile devices. The longer average session duration on stiriofficiale.ro can also be due to the fact that if a user only accesses the home page and does not click on any button, Google analytics counts the session as being a bounce, with a duration of 0 (zero), which might significantly lower the average session duration of pages with high bounce rate.

Figure 5. Average session duration on stiriofficiale.ro and cemafac.ro



Source: Own representation based on data retrieved from the Authority for the Digitalization of Romania.

5. Conclusion

Although the large number of users who accessed these two platforms suggests the fact that they were successful, there is a noticeable difference between them. The study suggests the fact that more citizens chose to use the stiriofficiale.ro platform that has all of the information centralized and conveniently displayed on the front page. There is also a noticeable difference between the number of pages visited and the popularity of each platform. Even though there were more pages visited and longer sessions in the case of cemafac.ro, this did not predict the popularity of the platform, in comparison with the more widely used stiriofficiale.ro platform. In the case of device used, there is a very large percentage of users that accessed the platforms on mobile devices (especially smartphones), which confirms the fact that more attention should be paid to how information platforms should be designed in order to better accommodate visits from smartphones and tablets.

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