

STUDY ON THE USE OF DIGITAL PLATFORMS

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Abstract: The explosive technological evolution of recent years has allowed not only the considerable reduction in the size of storage and data management devices, but also the ever-higher performance of these devices, and their everwider availability, so very easy access to ever-higher performance. The situation has enormous advantages, obviously, but it also requires precautions or at least rules for using and/or accessing the applications offered by this unprecedented advance in technology. This article presents a study on the use of platforms to determine what are the main reasons why people use platforms and what are the problems encountered, and possible solutions to solve these problems or to reduce their effects.

Keywords: digital platform, consumer behavior, internet, information, problems with digital platforms.

INTRODUCTION

In the contemporary digital era, platforms have emerged as pivotal elements shaping global connectivity, business transactions, and societal interactions. The transformative influence of digital platforms on our daily lives is evident in their impact on communication, commerce, and entertainment. Despite their pervasive presence, a nuanced understanding of the challenges and advantages associated with these platforms is crucial. To address this gap, this study delves into the multifaceted landscape of digital platforms. Using the Google Trends search engine as a reference, a public service that shows how often a certain term is searched in several countries, the author observed the graph of the evolution of interest over time on "digital platform", over the past 5 years, until the present. Beyond mere observation, the study seeks to contribute to the existing body of knowledge by formulating a well-defined research question and aligning the investigation with the current state-of-the-art literature.

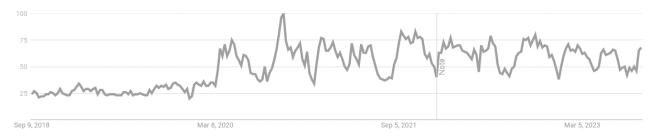


Figure 1: The evolution of interest in digital platform from 2018 to the present (*Adapted from https://trends.google.com/trends/*)

STUDY ABOUT THE USE OF DIGITAL PLATFORMS

Platforms are essentially online spaces or systems that facilitate the exchange of information, goods, and services. They provide a virtual environment where users can create, share, and consume content, engage with others, and access a wide range of resources. The popularity and widespread use of platforms can be attributed to several key factors [7]. First and foremost, connectivity is a major driver. Platforms such as Facebook, Twitter, and Instagram have redefined how people from different parts of the world can instantly connect and communicate [1]. These social media platforms have transformed the way we interact, allowing us to maintain relationships, express opinions, and stay updated on current events.

Accessibility is another crucial factor. Platforms have made information and resources more accessible than ever before. Search engines like Google and Bing provide instant access to a vast amount of knowledge. Educational platforms like Coursera and Khan Academy offer online courses and learning materials. E-commerce platforms such as Amazon and Alibaba have revolutionized shopping, making it possible to browse and purchase products from the comfort of our homes [2].

Economic opportunities have also expanded significantly due to platforms. Services like Airbnb and Uber have created opportunities for individuals to monetize their assets, such as renting out spare rooms or providing transportation services. Online marketplaces like Etsy and eBay enable individuals to sell handmade crafts and vintage items to a global customer base [2].

In the realm of entertainment and content consumption, platforms have had a profound impact. Streaming platforms like Netflix and YouTube offer a wide array of movies, TV shows, and videos, allowing users to personalize their entertainment preferences. Platforms like Spotify and Apple Music have revolutionized the music industry by providing convenient access to a vast library of songs and podcasts [3].

Methodology

This study employs a robust methodological approach to unravel the complexities of digital platforms. To conduct the proposed study, the authors employed various research methods, commencing with the selection of the research topic and the motivation behind this choice, leading to a thorough analysis of the subject matter [6]. These chosen methods encompassed the exploration of the issue through materials provided by various authoritative institutions and a review of specialized papers related to the topic of interest, culminating in the extraction of valuable information [3].

By framing the research variables and questions explicitly, the study enhances its clarity and focus. To navigate the complex terrain of digital platforms systematically, this study identifies key research variables and articulates corresponding research questions:

- User Satisfaction: Assessing users' satisfaction with digital platform content and services.
- *Time Spent*: Investigating the time users allocate to find information and comprehend platform content.
- Information Quality: Evaluating the perceived quality of information accessed on digital platforms.

The survey aspect of the study adopts a strategic approach, employing a semi-structured questionnaire distributed through Google Forms. With a deliberate focus on the local community, the survey captures perspectives on digital platform usage primarily in Romania. The choice of virtual platforms for survey distribution, including Facebook, WhatsApp, and email, is justified by their widespread usage in the target demographic. The survey was conducted in Romania, primarily through virtual platforms such as Facebook, WhatsApp, and email, during the months of May and June. To ensure the reliability of the findings, a sample of 101 individuals aged between 18 and 60 years participated in the survey. Subsequently, the collected data were processed and analyzed using the analytical capabilities embedded in Google Forms, including the generation of graphical representations. These visualizations provide a clear and concise representation of the survey findings, enhancing the accessibility and interpretability of the results.

Results and discussions

The demographic profile of the respondents resulted in being composed of 68.3% of women, 31.7% of them aged between 18-60 years, and 57.4% of people living in urban areas. A percentage of 67.3% have completed higher education, while 27.7% have pursued only secondary education, equivalent to high school, and a percentage of 5% have only elemental studies.

Given that the global count of internet users expanded by 171 million over the last 12 months, equating to an average of nearly half a million new users each day, and considering that the typical worldwide internet user now dedicates 6 hours and 37 minutes to online activities daily, it is unsurprising that the enthusiasm for engaging with social media platforms has also surged [4].

Figure 2 represents the second inquiry in the survey pertained to the identification of the most frequently accessed online platforms. Upon collating the responses, the findings revealed that social media platforms ranked as the predominant choice, garnering the preference of a majority, specifically 57 respondents. Subsequently, e-learning platforms were identified as the second most frequented, selected by 47.5% of the respondents. Information-oriented platforms received 36 responses, while e-commerce platforms received 32. Testing platforms garnered 14 responses, and streaming platforms registered the lowest preference, with only 10.9% of respondents opting for them.

2.What type of platform did you access?

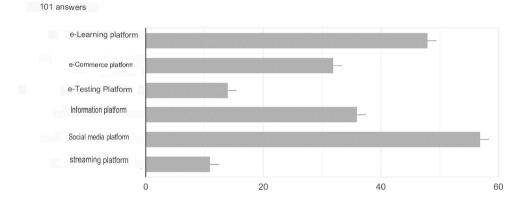


Figure 2: The most accessed platforms

The coronavirus pandemic has exerted a substantial influence on the amount of time people spend online. It has stimulated the necessity to establish connections through various means, as well as to seek solace and entertainment via social media platforms. The repercussions of these behavioral shifts can still be observed in the present moment [5]. In Figure 3, the authors see that the main reason why the respondents accessed the platforms was to participate in courses (34.7%), followed by online shopping with 25 answers (24.8%), a very close percentage to finding out some information (23.8%). Other answers were: the posting of course materials and tests, entertainment, or some respondents said that they accessed platforms for all the listed reasons.

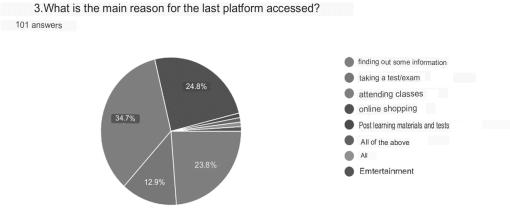


Figure 3: Motivation for accessing digital platforms

In Figure 4, most of the respondents found the information they needed in 5-10 minutes (26.7%) followed by the variant with less than 5 minutes, with 23 answers. In a tie for third place were the search time 10-20 minutes and 30-60 minutes, each with 18 responses (17.8%), followed by the 20-30 minutes variant which accumulated 13 responses. Only 2% of the respondents spent more than 60 minutes looking for what they needed. The average time in which the respondents found the information they needed was 18 minutes, which leads us to the conclusion that the information should be better structured to be easy to identify.

4. How long did it take you to find what you needed on the platform?

101 answers

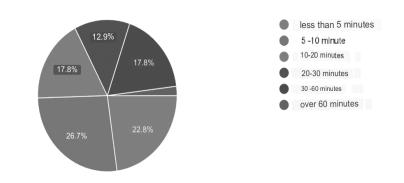
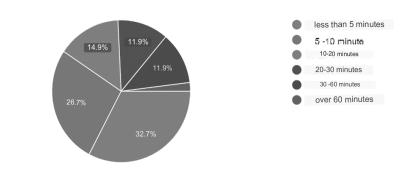


Figure 4: Time spent to find information

Figure 5 illustrates the extent of time respondents required to grasp the information they sought from the platform. The data reveals that the majority of respondents, comprising 32.7%, indicated a need for less than 5 minutes to comprehend the content. Approximately 26.7% of respondents fell within the 5-10 minutes bracket, while 14.9% reported requiring 10-20 minutes. Furthermore, 11.9% of respondents each mentioned needing 20-30 minutes and 30-60 minutes, respectively. Only 2 respondents stated a necessity for more than 60 minutes to understand the information. The average time for respondents to grasp the desired information from the platform was 15 minutes. These findings emphasize the importance of presenting platform content in an easily comprehensible manner.

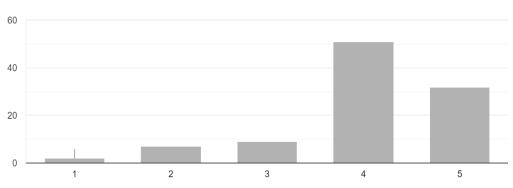
5. How long did it take you to understand the information you needed from the platform? 101 answers





101 answers

Respondents rated the information quality on a scale of 1 to 5, with 1 being very dissatisfied and 5 very satisfied (Figure 6). Notably, 50.5% expressed satisfaction, while 31.7% were very satisfied. An additional 8.9% remained neutral, 6.9% were dissatisfied, and 2% were very dissatisfied. The average score, 4.02, suggests overall satisfaction. This signifies that the majority of respondents were content with the information they accessed. To enhance information quality further, measures should include rigorous fact-checking and improved structural clarity to ensure ease of comprehension.



7. How satisfied are you, in general, with the quality of information found on the platform?

Figure 6: Satisfaction regarding the quality of information

Respondents were asked to rate their satisfaction with various aspects of their platform experience on a scale from 1 to 5, with 1 being very dissatisfied and 5 very satisfied, results are illustrated in figure 7.

Regarding the time spent on the platform to find the needed information, 45 respondents expressed satisfaction, 16 were neutral, 15 were very satisfied, 13 were dissatisfied, and 12 were much more dissatisfied, resulting in an average score of 3.37. This indicates that respondents were not entirely content with the time spent, suggesting a need for more efficient information presentation.

In terms of the relevance of the information, 42 respondents were satisfied, 18 were very satisfied, 18 were neutral, 12 were very dissatisfied, and 11 were dissatisfied. The average score was 3.42, signifying room for improvement in information structuring to enhance clarity and accessibility.

Regarding the structure and ease of understanding of the information, 36 respondents were satisfied, 21 were very satisfied, 20 were neutral, and 12 respondents expressed dissatisfaction. The average rating was 3.41, suggesting that information structuring could benefit from highlighting key concepts for better comprehension.

8. How satisfied were you with:

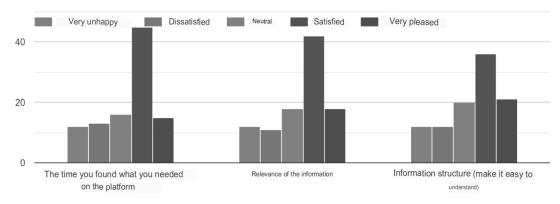


Figure 7: Satisfaction regarding the information

In the subsequent section of the questionnaire, respondents were asked to indicate their level of agreement with a series of statements on a scale ranging from 1 (indicating total disagreement) to 5 (indicating total agreement). The results for the factors mentioned are illustrated in Figures 8 through 12.

The first statement was about the fact that the platform is suitable for the needs of the respondents, 40 partially agreed with the statement, 26 said they strongly agreed with the statement, 17 respondents chose partially to disagree, 14 were neutral and 4 chose strongly to disagree. The average of the responses was 3.66 which means that there could be improvements for each need.

In terms of the need for socialization and relaxation, the average was 3.67 which means that people partially agree with what they find on social networks and the content should be improved by applying filters for each person's needs.

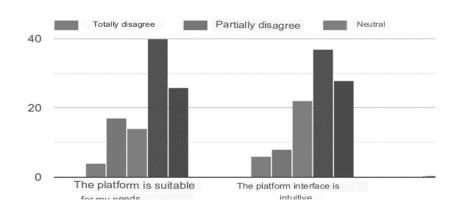
The next identified need was the learning need which had an average of 4.06, a higher average than the first which means that the respondents were more satisfied with the content found on the e-learning platforms, but also that it can become better through improving the quality of learning materials.

Another need identified was the need for information which had an average of 3.83 and regarding this aspect, the structuring of the information and its quality should be improved to make it easier to understand for each person.

The need to buy obtained an average of 3.93 from which we can deduce that people are generally satisfied with what they find on e-commerce sites but that there could be improvements here too regarding the way products are placed, their description, and all the details displayed.

In terms of information, there was an average of 3.42, being the lowest value among all those identified. Here the content of the tests should be improved so that the questions are easy to understand, if there are answer options, they should be as simple as possible and there should not be a very high degree of difficulty for the respondents.

The second statement referred to the interface of the platform, if they find it intuitive and 37 respondents partially agreed with the information, 28 fully agreed, 22 neutral, 8 partially disagreed and 6 totally disagreed. The average being 3.72 we can say that there are platforms that are easy to use but that they could be improved and become suggestive for those who access them.



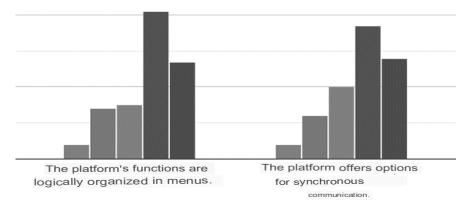
9. To what extent do you agree with the following statements:

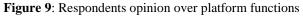
Figure 8: Respondents opinion over the utility of the platform

The third statement addressed the organization of the platform: "The platform's functions are logically organized in menus." Among respondents, 41 partially agreed, 27 fully agreed, 15 were neutral, 14 partially disagreed, and 4 strongly disagreed. The average response was 3.72, indicating potential for improving menu organization to make it more intuitive and comprehensible for the majority of users.

The fourth statement focused on synchronous communication on the platform. It was observed that 37 respondents partially agreed, 28 fully agreed, 20 were neutral, 12 partially disagreed, and 4 strongly disagreed. The average score was 3.72, suggesting room for improvement in synchronous communication. One way to enhance this aspect could be by employing specialized personnel to provide real-time responses to platform users.

9. To what extent do you agree with the following statements:



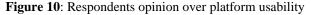


The subsequent statement pertained to the modes of asynchronous communication provided by the platform. It was found that 42 respondents partially agreed, 22 were neutral, 17 fully agreed, 14 partially disagreed, and 6 strongly disagreed. With an average score of 3.49, lower than that of synchronous communication, it suggests potential issues in message comprehension and extended waiting times, highlighting the need for improvements in these areas.

Another statement focused on the ease of selecting items from the platform menu. Among respondents, 37 partially agreed, 35 fully agreed, 16 were neutral, 10 partially disagreed, and 3 strongly disagreed. With an average score of 3.90, it is evident that menus should be made more intuitive to facilitate users in navigating the platform effectively.

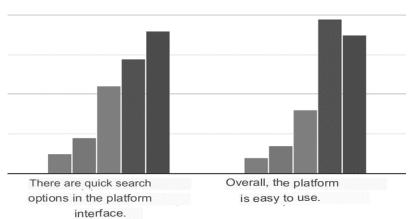
9. To what extent do you agree with the following statements:





In the context of this scientific study, an observation was made regarding the potential incorporation of a rapid search feature within the platform's interface. Among the surveyed participants, 36 individuals expressed strong agreement with this proposition, while 29 leaned towards partial agreement, 22 maintained a neutral stance, 9 tended towards partial disagreement, and 5 expressed complete disagreement. The calculated average rating of 3.81 indicates a clear consensus among respondents, affirming the perceived utility of implementing a keyword-based search functionality in the platform, thereby facilitating easy access to desired information.

In relation to the overarching assessment of the platform's user-friendliness, 39 respondents indicated partial agreement, while 35 respondents fully concurred with the statement. Additionally, 16 participants remained neutral, 7 opted for partial disagreement, and 4 registered complete disagreement. With an average rating of 3.93, it is evident that there exists room for enhancement to ensure the platform's accessibility to most users, a goal that could be realized through intuitive platform design.

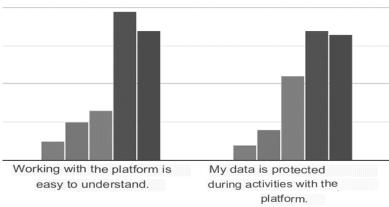


9. To what extent do you agree with the following statements:

Figure 11: Respondents opinion over the user experience offered by the platform

Regarding the ease of comprehending the platform's operational procedures, the responses were as follows: 39 participants expressed partial agreement, 34 respondents fully concurred, 13 maintained a neutral stance, 10 leaned towards partial disagreement, and 5 expressed complete disagreement. The calculated average score of 3.86 indicates a notable consensus that suggests room for enhancing the platform's structure to ensure broader accessibility.

In the context of data protection, 34 respondents partially agreed that their data is safeguarded, while 33 fully agreed. Meanwhile, 22 respondents remained neutral, 8 leaned towards partial disagreement, and 4 registered complete disagreement. With an average response rating of 3.83, it is evident that there is still some uncertainty among users regarding the security of their data. Information dissemination to clarify and assure users about data protection measures could prove beneficial in addressing these concerns.



9. To what extent do you agree with the following statements:

Figure 12: Agreement over working experience with a platform

When asked about the difficulties or problems encountered while using a platform, respondents provided a range of issues they've faced. Interestingly, some participants reported encountering no difficulties while using the platform, suggesting that a seamless user experience is indeed achievable. However, a noteworthy aspect of the feedback was the presence of SPAM and intrusive advertisements, which underscore the necessity of implementing effective content moderation and advertising management to preserve a user-friendly environment.

The expressed desire for a mobile version of the platform serves as a reminder of the growing importance of mobile accessibility in today's digital landscape. Furthermore, challenges such as difficulty in finding specific information due to search engine limitations highlight the critical importance of maintaining robust search functionality and information retrieval systems to facilitate user interactions.

Issues like slow loading times and congestion should not be overlooked, as they underline the need for continuous optimization of platform performance to mitigate user frustration effectively. Addressing non-intuitive interface design and hidden buttons becomes paramount to enhance user navigation and ensure an intuitive overall user experience.

Reports of receiving only partial information further emphasize the need for platforms to prioritize providing comprehensive and relevant content, aligning their offerings more closely with users' specific needs. Lastly, the challenges related to logging in, platform access, and extended waiting times underscore the significance of streamlining user authentication processes and reducing wait times to enhance overall user satisfaction.

CONCLUSIONS

Nevertheless, it is of utmost importance to acknowledge that while platforms offer a plethora of advantages, they also bring forth a multitude of intricate challenges and considerations. Concerns pertaining to data privacy, online security, algorithmic biases, and the consolidation of power within a limited number of dominant platforms necessitate thorough examination and the implementation of effective regulatory measures.

The research paper successfully attained its proposed objectives, successfully identifying, analyzing, and extracting essential information. In summary, platforms have unquestionably evolved into an integral aspect of contemporary society, fundamentally reshaping the way we connect, communicate, and engage with the world. Findings from the survey underscore the centrality of social media platforms, with most respondents favoring them over other online platforms. The impact of the COVID-19 pandemic on online behavior is evident, emphasizing the need for platforms to adapt to changing user motivations.

The motivations for accessing digital platforms, as illustrated in Figure 3, highlight a diverse range of user needs. It is noteworthy that respondents primarily accessed platforms for educational purposes, emphasizing the evolving role of platforms in facilitating learning.

The time-related figures (Figures 4 and 5) shed light on the efficiency of information retrieval and comprehension. Users generally spend a moderate amount of time finding and understanding information, emphasizing the importance of well-structured content for ease of access.

User satisfaction, as gauged in Figure 6, indicates a generally positive sentiment regarding information quality. However, specific aspects, such as time spent on the platform and the structure of information, reveal areas for improvement. The authors may choose to extend this study by enhancing the level of trustworthiness through the expansion of the respondent pool, encompassing a broader range of age groups and occupational backgrounds. This expansion would contribute to a more comprehensive understanding of the subject matter, potentially yielding deeper insights into the complexities surrounding platform usage and its implications.

REFERENCES

- [1] Benchmarking analiză și competivitate. *Available from:* https://vdocuments.mx/bench-marking-analizasicompetitivitate.html.
- [2] Brennan, J., & Shah, T. (2000). Managing Quality in Higher Education.Buckingham: Open University Press
- [3] Meyer, J. P., & Zhu, S. (2013). Fair and equitable measurement of student learning in MOOCs: An introduction to item response theory, scale linking, and score equating. Research & Practice in Assessment, 8, 26–39, <u>https://eric.ed.gov/?id=EJ1062822</u> [Accessed 2023-08-13]
- [4] Moosbrugger, H., & Kelava, A. (2012). Testtheorie und Fragebogenkonstruktion. In Statistik f
 ür Human- und Sozialwissenschaftler (pp. 7–26). Berlin, Heidelberg: Springer, http://doi.org/10.1007/978-3-642-20072-4_2, [Accessed 2023-08-13]
- [5] Oppl S., Reisinger F., Eckmaier A. & Helm C. (2017), A flexible online platform for computerized adaptive testing, International Journal of Educational Technology in Higher Education 2017 / 12 Vol. 14; Iss. 1, https://www.redalyc.org/pdf/5015/501550295008.pdf, [Accessed 2023-08-17]
- [6] Kröhne, U., & Frey, A. (2011). Multidimensional Adaptive Testing Environment (MATE)–Software for the Implementation of Computerized Adaptive Tests. Presented at the International Conference on Computerized Adaptive Testing, Pacific Grove, CA, USA, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5978497/, [Accessed 2023-08-19]
- [7] Veldkamp, B. P., & Matteucci, M. (2013). Bayesian computerized adaptive testing. Ensaio: Avaliação e Políticas Públicas em Educação, 21(78), 57–82. http://doi.org/10.1590/S0104-40362013005000001, [Accessed 2023-08-21]

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