



Социальный портрет интернет-пользователей в Республике Гана: образовательный аспект

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АННОТАЦИЯ

Введение. После пандемии COVID-19 в Гане заметно актуализирована информатизация общества, предоставление доступа к Интернету в быту и различных областях жизнедеятельности становится не менее значимым, чем доступ к образованию. При этом образовательная система сталкивается с вызовами, незнакомыми западным странам, действуя в условиях пересечения проблем ликвидации неграмотности, типичной для традиционного этапа развития обществ, и формирования цифровых навыков как признака обществ информационных. Для понимания прогресса государства в информатизации следует определить степень распространения Интернета в Гане, целевую аудиторию пользователей, их социально-демографические особенности. Определение внедрения Интернета в ганскую образовательную систему и специфики информатизации позволяет составить социальный портрет ганских пользователей среди учащихся, что и является целью исследования.

Материалы и методы. Использован культурологический подход к определению интеграции Интернета в образовательную систему Ганы, уточнению целевой аудитории пользователей в образовательной системе на уровне школ и вузов, выявлению специфики информатизации в ганском образовании. Ключевыми методами служили: культурологический анализ, контент-анализ, сравнительно-педагогический анализ, интервьюирование ганских студентов. Сквозным методом служил сравнительно-статистический анализ, позволивший сопоставить национальные сведения и данные отдельных зарубежных мониторингов и опросов по интернетизации Ганы для составления социального портрета пользователей в образовании.

Результаты исследования. Выявлены характеристики среднестатистического ганского пользователя и в рамках образовательной системы, в частности. Определены барьеры распространения Интернета в образовательных учреждениях, современные проблемы в данной сфере и меры их преодоления. Установлено, что Гана добилась значимых достижений в интернетизации в сравнении с большинством африканских стран, однако пока не способна предоставить доступ всем учебным заведениям, что тормозит повышение качества национального образования.

Выводы. Выявлено, что в образовательной системе типичный интернет-пользователь – это молодой человек 18-23 лет из обеспеченной семьи, обучающийся в государственном университете на юге, владеющий смартфоном и ноутбуком. Исследование помогает понять цифровой опыт и цифровую грамотность ганских учащихся, их особенности использования Интернета и будет полезны при обучении студентов из Ганы в вузах других стран в рамках академической мобильности.

КЛЮЧЕВЫЕ СЛОВА

образование в Африке, система образования Ганы, сравнительная педагогика, информатизация образования, модернизация образования в Гане, цифровизация образования, цифровые навыки

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Social Profile of Internet Users in the Republic of Ghana: The Educational Dimension

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ABSTRACT

Introduction. Since the COVID-19 pandemic in Ghana, the informatization of the society has become truly actualized; providing access to the Internet in the household and various areas of life is becoming no less important than access to education. At the same time, the educational system is facing challenges unfamiliar to Western countries, operating under the conditions of intersection between the elimination of illiteracy, typical of the traditional stage of societies' development, and the advancement of digital skills as a feature of information societies. To understand the state's progress in informatization, the extent of Internet popularity in Ghana as well as the target audience of users and their socio-demographic characteristics should be determined. Exploring the penetration of the Internet within the Ghanaian educational system and its specifics of informatization allows for a social portrait of Ghanaian users among students, which is the aim of the study.

Materials and Methods. The Cultural approach was used in order to determine the integration of the Internet into the educational system of Ghana, as well as to clarify the target audience of users in the educational system at the school and university level, and to identify the specifics of informatization in Ghanaian education. The key methods were as follows: cultural analysis, content analysis, comparative-pedagogical analysis, interviewing of Ghanaian students. The cross-cutting method was comparative-statistical analysis, which made it possible to compare national data and data of individual foreign monitorings and surveys on the internetization of Ghana in order to compile a social portrait of users in education.

Findings of the study. The study identifies characteristics of the average Ghanaian user along with those within the educational system in particular. Besides, it determines the barriers to Internet penetration in educational institutions as well as current challenges in this area, and measures to overcome them. Moreover, the study finds out that Ghana has made significant progress in internetization compared to most African countries, however is not yet able to provide access to all educational institutions, which hinders the national education enhancement.

Conclusions. It is revealed that in the educational system, a typical Internet user is a young 18–23-year-old man from a wealthy family, studying in a public university in the south, owning a smartphone and a laptop. The study helps to understand the digital experience and digital literacy of Ghanaian students as well as their Internet usage patterns, and will be useful in teaching Ghanaian students in higher education institutions in other countries as part of their academic mobility.

KEYWORDS

education in Africa, Ghanaian education system, comparative pedagogy, informatization of education, modernization of education in Ghana, digitalization of education, digital skills

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INTRODUCTION

According to DataReporta, in January 2024 there were 5.35 billion Internet users worldwide, representing more than 66% of the total population [1]. Since 2023, these numbers have increased by 1.8%. Comparing the annual growth in the number of users shows that the popularity of the Internet in the world is increasing exponentially. The most remarkable Internet integration is observed in Europe and in the USA (in the Scandinavian countries, for instance, it shows over 97%) [1]; the lowest level is noted in developing countries, including African ones. However, while East Africa has only 27% integration, a number of other regions have much higher rates, and Internet usage proves to be increasing everywhere.

In 2015 the UNO developed and accepted a set of sustainable development goals. The document embraces 17 global goals, according to which states build up their national strategies. These goals (economic, social and environmental) include extensive eradication of poverty and hunger, ensuring all-encompassing and impartial education, providing gender equality, promoting continuous economic growth, building solid infrastructure as well as measures to combat climate change, guaranteeing access to justice for everyone, etc. [2]. It seems obvious that, directly or indirectly, the Internet proves a workable means to achieve each of these goals.

The Republic of Ghana, together with the UNO, is also occupied by the sustainable development goals implementation as they aim at overcoming the national socio-economic block problems. Meanwhile, Ghana is one of the West-African countries where the Internet is broadly used in various spheres of life: trade, marketing and banking, management, entertainment and media. Mastering its capabilities in medicine and education is in high demand.

Progress in the digital transformation of the economy and social life became particularly noticeable during the pandemic, which highlighted the role of the Internet and intensified the integration of new technologies in Ghana. The education system's response to this challenge proved relatively successful, which was due to the government's long-lasting commitment to informatization. The legal basis for this work was laid in 2003 by the "Ghana ICT Policy for Enhanced Development", which claimed as one of its strategies "to provide access to the Internet to all educational institutions, including schools, universities and colleges" [3, p. 39]. In 2015 the Ministry of Education developed the concept of "ICT Policy in Education", and though the Internet is mentioned in the text no more than a few times, it is announced an information tool on an equal footing with other "new" (computers, satellite and wireless technologies) and traditional ones in the form of radio, television and telephone: "due to appropriate content, these tools can now be combined into a "networked world" - a vast infrastructure of interconnected telephone services, computer hardware, Internet, radio and television able to reach every corner of the globe" [4].

The Concept served as a basis for projecting such documents as "The National Education Development Strategy for the years 2018-2030", "The Digital Education Strategy for the years 2018-2023" and a number of others focusing on implementing new technologies into education at the classroom level. This required working out the infrastructure, updating the objectives, content, forms and methods of teaching, as well as teachers' professional development and the revision of the pedagogical process principles. Thus, the Internet, ICTs and digital technologies were gradually penetrating into the educational system, and when it faced the lockdown in 2020, it already had, unlike those of many developing countries, some grounding in this area. For almost a year, Ghanaian educational institutions functioned remotely using the Internet, television and radio content. This experience allowed to accumulate information about the pitfalls of mass distance education: J.-L.N. Upoalkpajor [5] and D. Adom [7] stated administrative and financial difficulties in ensuring not only educational equality, but the very access to education; surveys by M.Z. Douma and D. Armah-Atto [6] revealed the frequent impossibility of introducing information educational platforms in rural areas, concluding that regions are not yet ready for informatization; D.S. Yendork and S. James [8], having analyzed the lockdown educational practice, found out that it indirectly fostered the increase of social inequality in the country; a group of American authors [9] empirically identified the underlying problems of higher education informatization in Ghana at that time (lack of access to broadband Internet, shortage of ICT platforms, low digital skills of teachers and students); Ghanaian scientists also stated deficiencies in the teachers' technical training which retarded the informatization of higher education institutions [10]. The same experience, however, has explicitly confirmed the importance

of the Internet in organizing education process in the modern world and the role of the state in providing Ghanaian students with it [11; 12]. Consequently, since 2020, the aim of informatization of education has become more relevant, and the Government today recognizes it as a cross-cutting direction of development of the entire educational system.

In order to estimate Ghana's progress on this challenge, it is important to comprehend how widespread the Internet use is now in the country and who its main users are. Research show that the republic proves quite different in this respect, characterized simultaneously by significant achievements and serious obstacles to Internet access, which inevitably affects the functioning and quality of education.

Thus, *the purpose of the study* is to depict a social portrait of a Ghanaian Internet user and particularly the one in the Ghanaian educational system.

METHODS AND MATERIALS

The study is based on the results of surveys conducted by various international and Ghanaian organizations on selected aspects of Internet usage in the country since 2018, making a particular emphasis on the current state of internetization and the educational sphere. Precisely, there was employed the data collected within an international comparison of mobile Internet accessibility conducted by the GSM trade association, which promotes the mobile operators' interests in different countries, including African ones. To properly comprehend Ghana's uptake of the Internet, there were used rankings of such VPN services as Surfshark, Paradigm Initiative and DataReportal were valuable, which provide statistics on the Internet usage worldwide; information provided by World Bank data, Ghana Statistical Service data for recent years as well as the results of individual Ghanaian researchers on related topics also proved helpful. The extent to which the global network is integrated into education was explored primarily through empirical data they collected from local schools and higher education institutions in different regions.

The study was carried out at the intersection of Cultural Studies, Pedagogics, Country Studies, Sociology of Education, and Social Statistics. On account of the comparative specificity of the topic, the research base is fully represented by sources in English, the official language of Ghana. It is grounded on the Cultural approach, typical of Comparative Pedagogics and Cultural Studies, which presents the objects of reality under study in their interconnection and through links with the culture of the discovered countries and regions. The spread of the Internet and the modernization of education are phenomena of national culture, affected by its inner specifics (peculiarities of demography, geography, economic infrastructure, norms, values, etc.) and global trends (informatization, standardization, internationalization, etc.). The Cultural approach contributes to detecting the specifics of Internet promotion in the Ghanaian society and educational system, which is necessary to depict a portrait of an average Internet user in Ghanaian education.

The key methods of the study include analytical ones (cultural analysis, content analysis, systematization and generalization), the Descriptive method essential for describing the processes and phenomena presented, as well as Comparative-Pedagogical which allows to identify the features of contemporary Internet user in the Ghanaian educational system. The cross-cutting method was the Comparative-Statistical one, which made it possible to analyze the quantitative results of various surveys on the Internet usage within the Ghanaian society and education.

For the literature search, such databases as Springer Link and Google Scholar were mainly used, as they allowed to include various aspects of the research topic in the search query, embracing "informatization of education in Ghana", "digitalization of education in Ghana", "Internet users in Ghana", "Internet infrastructure in Ghana", and "Internet adoption in Ghanaian education".

RESEARCH FINDINGS

According to the World Bank's statistics published in 2016, Ghana ranked 6th among African countries with more than 8 technology hubs [13]. Its Internet service providers are developing their technologies to expand Internet access, moving rapidly from GPRS to 4G. This upsurges the speed of data transmission as well as energy efficiency and bandwidth for media, providing citizens with good connectivity, which therefore allows for deeper integration of digital technologies into all spheres of everyday life, including education.

Compared to other African countries, Ghana's statistics on Internet integration demonstrate serious progress. According to Surfshark rankings, only Morocco, Tunisia, South Africa and Kenya show a significantly better Internet penetration rate than Ghana. About 6 more countries have comparable integration results [14]. Together, these states represent a group of African leaders. Internet penetration level in Ghana is rising dynamically. According to DataReportal, the rate is now over 69.7% [15].

Thus, the GSMA report informs that in 2022, 62% of urban residents owned smartphones [16]. The most noticeable progress in the Internet field appears in the calculations of the World Bank economists: 69% of the population are users; 80% of urban residents have used the Internet via smartphones and computers [17]. National data are close to GSMA figures – 68% of urban residents are Internet users [18]. Despite the weighty statistical differences, it is important that Ghana's Internet penetration rates are in any case significantly higher than in most countries of Southern, Central and Eastern Africa. Differences in the number of users are also revealed according to the size of cities: in the capital it makes more than 90%, in large university cities – above 80%, in small towns it is comparable to rural areas [17].

As for the rural population with Internet access, the figures vary from 20% to above 56%. They look modest, except that in 2021 the average number of Internet users across Africa counted only 38% [19], that is why Ghana enjoys progress here, too. Notably, 93% of urban and 83% of rural Ghanaians have heard of the global web (while in rural areas of Ethiopia, for example, only 46% have) [16]. The number of users is growing most of all at the expense of the districts' population.

In general, there is a direct correlation between the number of users and the geography of residence: the highest rates are shown in the south (where the main large cities are concentrated), while the lowest rates are demonstrated in the northern mountainous regions. Inequality in Internet use in urban and rural areas stems from differences in infrastructure, digital skills, reading literacy skills and, to a large extent, citizens' income levels. In 2022, the majority of the population accessed the Internet via smartphones (68%) and only about 7% via computers or tablets [17]. Mobile connection proves more in demand than broadband, especially in regions, which also depends on price and geography factors.

All research show that digital technologies (primarily phones) and the Internet have got firmly integrated into the economy and everyday life of Ghanaians: they shop online, pay taxes, make money transfers, socialize, and entertain themselves. However, there are still many accessibility issues in the country. A report by Paradigm Initiative, a non-profit organization specializing in digital empowerment for African youth, showed that out of a total population of 34 million, more than 10 million Ghanaians did not use the Internet last year, i.e. more than 30% [20].

The main target Internet audience is the youth. A survey involving more than 1600 Ghanaians in 2022 showed that the topmost users are the population of 15-40 years old (according to different data, 70-80% [18]). For children, the figures do not exceed 50% [17], which is quite high for Africa. The smallest number of users, however, is counted among people in their forties. Unfortunately, the surveys do not reveal detailed age differentiation, and it remains unclear how attitudes towards the Internet differ in certain older age groups, as it is evident that they will be quite dissimilar for Generation X and baby boomers. Worldwide studies show that generations X, Y and Z are active users, and generation X are hardly inferior to the other two. There are few Ghanaian studies that touch upon the issues of national correlation of informatization and generational theory, but they also show that representatives of the age 40-55 group are determined consumers of online services, social networks, etc., although they prove less active in comparison with young people [21; 22].

Remarkable is the level of gender equality in the structure of Internet users. It is important to note that data on this issue also vary. Back in 2020, the international organization World Wide Web, engaged in the development of the global network, estimated that only 6% fewer women than men accessed the Internet in Ghana [23]. The results of another immense survey carried out in 2023 show a difference of 26% [24]. Given that there are countries where this difference goes up to 40%, in Ghana it is not grave. Moreover, gender differences in owning a cell phone make only 7%, hence, many women have the opportunity to go online, but for various reasons, some do not use it. It was found out that women's knowledge of the Internet opportunities is limited, and many of them either have not heard of the global network (rural areas, older age) or consider it only as a means of leisure and communication. All of this limits their ability to take advantage of the opportunities that digital technologies provide for employment, participation in civil society, education, entrepreneurship and a lot more.

The cost of digital devices, including phones, and the cost of connections continues to be a factor hindering Internet penetration in Ghana (especially in rural areas and among older generations). According to Surfshark's international ranking, in 2022 Ghana was ranked 109th in Internet affordability. The methodology was based on exploration of the price of minimum tariffs for broadband and mobile Internet in relation to the average salary in selected countries. It was found out that to buy 1 Gb of mobile Internet, a Ghanaian had to work almost 9 min. and to pay for broadband – more than 18 hours. The lowest connection cost was marked in Israel: 5 sec. and 19 min. respectively, and, of course, it is still unthinkable for African countries, but even by continental standards, Ghana's performance is above average (for example, in neighboring Côte-d'Ivoire, a month's access to fixed broadband Internet will cost 65 hours of work [14]. At the same time, Ghana was among the top 20 on the continent in terms of network availability, which opened up opportunities for using the Internet and digital technologies in education.

The educational system itself acts as a tool for the Internet implementation. Interestingly, within the group of citizens who have higher education in the background, the vast majority use it [18], but, according to 2021 statistics, 26% of all Ghanaian users did not even have primary education [17], therefore the level of education is an essential factor of the Internet integration. It is explained by better job opportunities that secondary and vocational education offer in Africa, the capability to solve professional tasks via the global network and to apply the information during learning, the simultaneous formation of digital competencies and the motivation to integrate technologies into one's life.

The Internet undoubtedly contributes to the productive organization of education and to the development of learners by providing opportunities to search for information, to perform tasks in a different form, to improve reading skills, to build up digital skills and to be creative. For African countries it is particularly important that the network should represent a workable means of getting educational opportunities equal for students and solving long-lasting problems such as universal primary education. This is why since early 2003 the informatization of schools and higher education institutions has been slowly moving on.

Despite all the existing deficiencies, it can be claimed that the Internet is already quite well-spread among the population. Digital citizens on average spend more than 3 hours a day online. The most popular online portals are sports betting, news feeds and social networks. As of January 2023, about 6.6 million Ghanaians were registered on social media, representing over 19% of the population. The most popular messenger is WhatsApp (83% of users), far beyond Facebook, Snapchat, Instagram, Telegram, Twitter and TikTok [25]. The second most attractive platform after WhatsApp is YouTube, which proves more popular among men.

It is noteworthy that, like in the rest of the world, the key reason for Ghanaians to go online is to search for information, and this still correlates with self-education. However, information is different, and in education it is not uncommon for students with smartphones or tablets to lack even the basic digital competencies required for learning. Communication with Ghanaians reveals that in universities there are students who do not know how to create documents in Microsoft Word or PowerPoint, or how to use e-mail, because most of them consider smartphones and laptops to be merely devices for accessing entertainment or social networks. This is also confirmed by internal research: a part of undergraduate students coming from rural areas where they hardly have Internet access experience difficulties in their studies due to their inability to deal with ICTs [26].

The situation is explained by the fact that today Africa finds itself under the condition of society types mix, where the difficulties and customs of the traditional society are combined with the industrialized society's economy and the post-industrial society's global challenges. As a result, Ghanaian education is coming through very specific challenges in the informatization of education. For instance, now its major concern is the limited digital experience of learners.

In 2018, there were conducted international comparative studies of students' digital experience, which were examining how much technology is used in education in particular countries, how students are able to use it, and what their preferences and opinions are in this regard; this gave an idea of the young generation's eagerness and capability to operate in the digital 21st century world. The JISC group launched the same questionnaire in the UK [27], Australia and New Zealand [28], with the total number of respondents approaching 100,000. The African authors offered the same questionnaire to students from Ghana, which allowed them to compare the responses of Ghanaians with foreign data [29].

It was found out that out of the almost 2 thousand senior university students surveyed in 2018, only 7% had a printer (compared, for example, with 51% of the British sample), yet 61% of respondents owned a laptop (93% in the UK), and 23% owned tablets (35%). As for smartphones, their share was the highest of all gadgets – 74% [29]. The latter fact supports the conclusion that educational level correlates with Internet use in Ghana. Compared to foreigners, of course, Ghanaians were poorer in personal ownership of digital technology due to the economic factor; however, the statistics shows that already in 2018, the majority of vocational and additional vocational education students had computer equipment and phones with Internet access. It is logical that this number, and thus the availability of digital technology, is even higher nowadays.

Assessing their access to such technology in the universities themselves, 47% of Ghanaian students noted the opportunity to use desktop computers, 13% – laptops (against 40% and 11% respectively in Great Britain), which cannot be considered a significant difference in the technical equipment of the educational process of universities in the two countries. However, the difference was observed in the availability of tablets (13% of responses in Ghana and only 4% in Britain) [29]. It is probably explained by a greater share of gadgets in the British students' personal ownership, on the one hand, and the greater optimality of tablets for educational institutions in comparison with laptops. Assessing the quality of digital services in higher education institutions (including the experience of using technology, software, educational environment), in Ghana 54% of respondents estimated it as good and excellent (in Britain 66%, which is also not a significant difference).

Recent research show that the availability of digital devices is increasing. The 2023 survey revealed that 96% of students already own smartphones, and more than 85% own laptops. Even printers are already owned by 50% of students [30].

More important, however, is the finding that despite growing access to the Internet, it is still seldom utilized in the learning process. In particular, according to new statistics on phone availability, it is mobile learning technology that could prove innovative and appropriate in Ghanaian universities. However, based on the students' responses, the ranked task-list for which they most often used their phone looks as follows: sending messages to other students, searching for information to do homework, projects, research, etc., visiting the university's educational platform; other reasons for going online were not related to education ("social networking" was a more popular response than "searching for information to prepare for classes") [30]. In 2021, having already the experience of distance learning after COVID-19, a survey among teachers at a country's leading university showed that they feel reluctant to use social networks and online tools for collaboration, although they are aware of how to use them; at the same time, some teachers include presentations in their work [31]. Despite the fact that the ICT integration policy in Ghana was launched in 2003, it is admitted to have been not enough successful and the processes of informatization in higher education "are still in their infancy" [32, c. 1484]. These gaps reveal the problem of outdated learning formats and at the same time represent an opportunity to increase the use of digital formats.

DISCUSSION

In the world rankings of higher education, African countries occupy the bottom positions (for example, according to QS, the place of the University of Ghana is about 1200). One of the reasons is the low priority of acquisition and efficiency in the use of advanced technologies. Ghana's higher education institutions are less provided with ICTs than those of Western countries, where almost every student owns a gadget with Internet access. This is also confirmed by other studies: not all higher education institutions have digital libraries [35], electricity supply is not reliable, Internet bandwidth is poor [33], IT specialists are not numerous, the competence of teachers themselves requires development [34], little attention is paid to digital learning, not all students have access to computer equipment [35], there occurs teachers' resistance to the transition from traditional to modern teaching methods [12; 33, etc.]. In fact, all shortfalls can be classified as problems related to insufficient infrastructure, human resources or awareness.

The problems seem even more acute and diverse at the level of general education. The school digitalization strategy faces obstacles that are untypical of higher education. One of them, for example, is the lack of electricity. According to 2020 data, only 44% of primary, 64% of secondary and 76% of high schools in the country were connected to electricity [36]. At the same time, only 8% of primary school and almost 40% of high schools had Internet connection [37]. Obviously, the share of institutions connected to the network and electricity is gradually increasing, but such dynamics makes us doubt that full coverage across the country is possible by 2030, as planned by the Government.

One of such infrastructure issues typical of most African countries is the phenomenon of schools without walls. There are about 5,000 rural schools across the country located in the shade of trees, under sheds or in buildings, initially designed not for learning [36]. Logically, they also usually lack light and communication kit. Material problems aggravate by the difficulty of maintaining the equipment. By the end of the 2022/2023 school year, only 15% of primary school and 13% of secondary schools had been provided with functioning ICT facilities [36]. All the aforementioned, certainly, does not refer to private academic institutions. They are connected to the Internet, equipped with digital technology that is used in teaching, besides, there are digital libraries at their disposal. This discrepancy between private and rural schools, however, upsurges social inequality even more, which confirms D. Adom's conclusion on the social-class inequality strengthening caused by e-learning practices [7].

One of restrictions of the Internet use in the educational process is the official prohibition for pupils to use their phones or other gadgets at school (under the threat of punishment, up to expulsion from school). This means that even in urban schools where many students own gadgets, the use of mobile learning technology is not available. As for educators, they also hardly use of the opportunities of personal gadgets to organize and perform lessons. A 2021 study in one of Ghana's regions found out that most teachers owned smartphones, but this had little impact on the pedagogical process. Given that mobile Internet has only recently entered the lives of most Ghanaians and before the pandemic informatization was not part of educational trends, we agree with the authors of the survey that the little inclusion of mobile technologies into education roots out of teachers' poor awareness of their phone's capabilities [38].

In order to provide schools with ICT, the state has launched 2 major projects. One of them is the "Smart Schools" program aimed at modernizing the educational content as well as means and methods of teaching in accordance with digital challenges. The chief measure of the program is to distribute among high school students more than a million tablets with downloaded software that do not require Internet access (to circumvent the problem of non-electrification). Another measure involves the establishment around the country of 100 cluster high schools equipped with innovative learning spaces. Under the other big project, since 2021 the state has been providing teachers with personal laptops, paying 70% of their cost.

In higher education, a project aimed at free Wi-Fi provision of universities was launched in 2020. This gave the government the opportunity, on the one hand, to identify the difficulties in providing this service before implementing it in hundreds of public senior secondary schools and teacher training colleges and, on the other hand, to equip universities with e-learning systems in case of a new pandemic.

The government together with non-profit organizations and international entities are making efforts to remove existing barriers and expand Internet accessibility through subsidies, special pricing for related goods, and sponsorships. The government has granted a 5G license to the Next Generation Infrastructure Company (NGIC) to provide affordable 5G mobile broadband services across the country. The initiative aims at advancing Ghana towards a fully digitized society by 2030. The government is undertaking a comprehensive modernization of education, focusing on the introduction of modern digital devices and the Internet into educational processes. However, we should accept the AfricaEduWatch group's conclusion that the ambitious aim of the national education policy to informatize schools by 2030 will hardly be achieved unless measures to provide schools with reliable Internet access prove effective in the next few years [36].

CONCLUSIONS

All the above-stated enables us to draw conclusions about Internet users in Ghana and make two types of Ghanaian user's social portraits. The former is based on the individual's territorial location in Ghana, while the latter stems from the current status of the learner.

Almost 70% of Ghanaians are the World Wide Web users. Internet accession and frequency are influenced by such factors as the user's area of residence and type of settlement, age and gender, education and wealth. The number of users is significantly higher in the south of the country, where more cities, including university towns, are located. The most active users are people aged 18-40, which accounts for professional education, professional socialization, financial independence, family formation, and social activity. Men are slightly more active online, due to a greater degree of financial independence, autonomy of decisions, education and specific gender interests. Access to the Internet is more important for people with educational background, as basic illiteracy makes an obstacle to acting online. The vast majority of Ghanaians with higher education are users of the network, who have shaped motivation to search for information and communicate, as well as financial capacity to pay the costs. The cost of the Internet in Ghana is quite high; therefore, it is the user's wealth that determines the type of connection and the number of digital devices he or she can afford. As a result, the following portrait emerges: a typical Ghanaian user is a young man with a general education living in one of the major cities of southern Ghana, who spends up to 3 hours a day on the Internet via his phone, mostly to make calls, write messages on WhatsApp, and catch up on news.

Among Ghanaians enrolled in the education system, the typical Internet user is a young man aged 19-23 from a middle-income family studying at a public university in the south of the country. He owns a smartphone and/or a laptop and uses the former to search for information during seminars and the latter – to search for information while preparing homework, doing research projects, writing term papers and so on. Most often, however, the student uses the Internet for entertainment (music, games, YouTube videos) and is an active user of social networks such as Facebook, Instagram and LinkedIn. In the educational process, he has little interaction with teachers via the Internet, although he is interested in digital learning models. He has well-developed basic digital skills (the ability to use email, social networks, messengers, text editor, as well as to save and copy information, etc.), but lacks intermediate skills (working with specialized programs such as Excel, knowledge of programming languages) and moreover advanced skills.

Information about the skills and interests of an average student-user should be taken into consideration when integrating Ghanaian students into Russian universities as part of academic mobility. Educational interaction through popular and familiar social networks and the use of basic level digital skills to complete assignments would be accessible and clear pedagogical tools. The findings on the lack of digital and Internet connectivity in Ghanaian higher educational institutions and schools should be considered when arranging the learning process within Ghana itself. Such work is being done in the direction of promoting the Russian language and Russian culture in the country in accordance with the Concept of the Humanitarian Policy of the Russian Federation Abroad.

FINDING

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REFERENCES

1. DataReportal. Internet use in 2024. Available at: <https://datareportal.com/reports/digital-2024-deep-dive-the-state-of-internet-adoption> (accessed 17 June 2024)
2. Resolution adopted by the General Assembly on 6 July 2017. United Nations. Available at: https://ggim.un.org/documents/a_res_71_313.pdf (accessed 20 July 2024)
3. The Ghana ICT for Accelerated Development [ICT4AD] Policy. Accra: The Government Press, 2003. 95 p.
4. Ministry of Education. ICT in education policy. Accra: The Government, 2015. 49 p.
5. Upoalkpajor J.-L.N., Upoalkpajor C.B. The Impact of COVID-19 on Education in Ghana. *Asian Journal of Education and Social Studies*, 2020, vol. 9, no.1, pp. 23–33. DOI.org/10.9734/ajess/2020/v9i130238
6. Dome M.Z., Armah-Atto D. Ghana's e-learning program during pandemic presents access challenges for many students. *Afrobarometer Dispatch*, 2020, vol. 374, pp. 1-9.
7. Adom D. Cultural and Educational Implications of the COVID-19 Global Pandemic in Ghana. *International and Multidisciplinary Journal of Social Sciences*, 2020, vol. 9, no. 3, pp. 541-559. DOI:10.17583/rimcis.2020.5416
8. Yendork J.S., James S. COVID-19 in Ghana: Changes and the way forward. *Journal of Comparative Family Studies*, 2020, vol. 51, no. 3-4, pp. 369–384. DOI:10.3138/jcfs.51.3-4.012
9. Kumi-Yeboah A., Kim Y., Armah Y.E. Strategies for overcoming the digital divide during the COVID-19 pandemic in higher education institutions in Ghana. *British Journal of Educational Technology*, 2023, vol. 54, no. 6, pp. 1441-1462. DOI:10.1111/bjet.13356
10. Nyamekye E., Baffour-Koduah D., Zengulaaru J, Osei-Owusu A. An Assessment of Ghanaian Language Teachers' Technological Pedagogical Content Knowledge amid the COVID-19 Pandemic in Ghana. *Social Education Research*, 2022, vol. 3, no. 3, pp. 1–10. DOI: 10.37256/ser.3320221383
11. Agormedah E.K., Adu Henaku E., Ayite D.M.K., Apori Ansah E. Online Learning in Higher Education during COVID-19 Pandemic: A case of Ghana. *Journal of Educational Technology and Online Learning*, 2020, vol. 3, no.3, pp. 183-210. DOI: 10.31681/jetol.726441
12. Asamoah M.K., Osafo J., Biney I., Agyekum B. Psychological and educational effects of the COVID-19 pandemic on online students and faculty of a Ghanaian university. *Journal of Adult and Continuing Education*, 2023, pp. 1–19. DOI: 10.1177/14779714231180298
13. Kelly T., Firestone R. How tech hubs are helping to drive economic growth in Africa. World Bank Press, 2016. Available at: <https://documents1.worldbank.org/curated/en/626981468195850883/pdf/102957-WP-Box394845B-PUBLIC-WDR16-BP-How-Tech-Hubs-are-helping-to-Drive-Economic-Growth-in-Africa-Kelly-Firestone.pdf> (accessed 27 June 2024)
14. Digital Quality of Life Index 2022. Available at: <https://surfshark.com/dql2022/> (accessed 10 July 2024)
15. DataReportal. Digital 2024: Ghana. Available at: <https://datareportal.com/reports/digital-2024-ghana> (accessed 17 June 2024)
16. Shanahan M., Bahia K. The State of Mobile Internet Connectivity. London: GSMA Press, 2023. 81 p.
17. Dabalenjustice A., Mensah T. Ten Facts About Digital Technology Adoption in Ghana World Bank Blogs. 2023. Available at: <https://blogs.worldbank.org/en/africacan/ten-facts-about-digital-technology-adoption-ghana> (accessed 11 July 2024)
18. Kpessa-Whyte M., Dzisah J. Digitalisation of Basic Services in Ghana: State of Policies in Action and Lesson for Progress. *INCLUDE*, 2022. Available at: <https://includeplatform.net/wp-content/uploads/2022/10/Digitalisation-of-Basic-Services-in-Ghana-State-of-Policies-in-Action-and-Lesson-for-Progress.pdf> (accessed 10 July 2024)
19. International Telecommunication Union. Measuring digital development: Facts and Figures. 2023. Available at: https://www.itu.int/dms_pub/itu-d/opb/ind/d-ind-ict_mdd-2023-1-pdf-e.pdf (accessed 01 July 2024)
20. LONDA 2023 – Digital Rights and Inclusion in Africa Report. Available at: <https://paradigmhq.org/wp-content/uploads/2024/06/Ghana-Country-Report.pdf> (accessed 21 June 2024)
21. Acheampong P., Zhiwen L., Hiran K.K., Serwaa O.E., Boateng F., Bediako I.A. Examining the intervening role of age and gender on mobile payment acceptance in Ghana: UTAUT model. *Canadian Journal of Applied Science and Technology*, 2018, vol. 6, no. 1, pp. 141–151.
22. Acheampong R. A., Siiba A., Okyere D.K., Tuffour J.P. Mobility-on-demand: An empirical study of internet-based ride-hailing adoption factors, travel characteristics and mode substitution effects. *Transportation Research Part C: Emerging Technologies*, 2020, vol. 115, DOI: 10.1016/j.trc.2020.102638

23. World Wide Web Foundation. Women's rights online: Closing the digital gender gap for a more equal world. 2020. Available at: <https://webfoundation.org/docs/2020/10/Womens-Rights-Online-Report-1.pdf> (accessed 10 July 2024)
24. GSMA. The Mobile Gender Gap Report 2023. Available at: <https://www.gsma.com/r/wp-content/uploads/2023/07/The-Mobile-Gender-Gap-Report-2023.pdf> (accessed 29 June 2024)
25. DataReportal. Digital 2023: Ghana. Available at: <https://datareportal.com/reports/digital-2023-ghana> (accessed 11 July 2024)
26. Ofori Atakorah P., Honlah E., Atta Poku J.P., Frimpong E., Achem G. Challenges to online studies during COVID-19: The perspective of Seventh-day Adventist College of Education students in Ghana. *Cogent Education*, 2023, vol. 10, no.1). DOI.org/10.1080/2331186X.2022.2162680
27. Beetham H., Newman T., Knight S. Digital experience insights survey 2018: findings from students in UK further and higher education. JISC, 2018. Available at: https://repository.jisc.ac.uk/6967/1/Digital_experience_insights_survey_2018.pdf (accessed 9 July 2024)
28. Beetham H., Newman T., Knight S. Digital experience insights survey 2018: findings from Australian and New Zealand university students. JISC, 2018. Available at: <https://repository.jisc.ac.uk/7202/1/digital-experience-insights-survey-anz-2018.pdf> (accessed 9 July 2024)
29. Armah J. Westhuizen D.V.D. Digital experiences of higher education students in Ghana: how does it compare. *ISTE International Conference on Mathematics, Science and Technology Education*. Mpumalanga, 2019. pp. 21-25.
30. Senyo Loglo F. Media Usage Patterns of African Higher Education Students: A Ghanaian Perspective. *Ubiquity Proceedings*, 2023, vol. 3, no.1, pp. 326-333. DOI: 10.5334/uproc.104
31. Labarre R.A.A. A Proposed Module for the Course Modalities and Assessment of Learning in Post-Baccalaureate Diploma in Alternative Learning System (PB-DALS). *European Journal of Education and Pedagogy*, 2021, vol. 2, no.3, pp. 56-62. DOI: 10.24018/ejedu.2021.2.3.42
32. Adarkwah M.A., Huang R. Technology addiction, abduction and adoption in higher education: Bird's eye view of the ICT4AD policy in Ghana 20 years on. *British Journal of Educational Technology*, 2023, vol. 54, pp. 1484-1504. DOI: 10.1111/bjet.13352
33. Sarpong R. Digitalisation of Education in Ghana: An Overview. *Teacher Education Journal of Bangladesh*, 2023, vol. 2, no.1, pp. 97-106.
34. Agbaglo E., Bonsu E.M. The Role of Digital Technologies in Higher Education during the Coronavirus Pandemic: Insights from a Ghanaian University. *Social Education Research*, 2022, vol. 3, no. 3, pp. 45-57. DOI: 10.37256/ser.3320221402
35. Asamoah M.K., Ananga P., Annor F. Investigating digital artistry of university students in a low-tech economy. *Journal of Adult and Continuing Education*, 2024, vol. 0. DOI: 10.1177/14779714241262519
36. Bridging The ICT Facilities Gap In Ghana's Public Basic Education System: A Fundamental Step Towards Digital Literacy. *Africa Education Watch*, 2024, vol. 30, pp. 1-5.
37. Tsapali M., Louis M., Kalifa D. Country-Level Research Review. *EdTech in Ghana*, 2021, vol. 3, pp. 1-92.
38. Abaidoo, N., & Akurigo, M.A. (2021). The Use of the Mobile Phone Technology as an Instructional Tool for Lesson Delivery at Abura Asebu Kwamankese District. *Journal of Education and Practice*, 2021, vol. 12, no. 9, pp. 138-148.

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