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ENOCH AWOTWE

ONLINE EDUCATION DURING COVID-19: UNDERSTANDING ITS RESISTANCE
FACTORS IN PUBLIC UNIVERSITIES IN BRAZIL AND IN GHANA.

Rio de Janeiro

2023

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Undergraduate Thesis submitted to the School of Public
Administration at the Federal University of the State of
Rio de Janeiro as a partial requirement for the degree of
Bachelor of Public Administration

Supervisor: Prof. Marcus Brauer Gomes, Ph.D.

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RESUMO

A educação online oferece flexibilidade e conveniência por meio de diferentes abordagens, como aprendizado assíncrono e síncrono, mas também apresenta desafios, como comunicação retardada e falta de interação presencial. O principal objetivo deste estudo foi identificar os fatores de resistência da educação online durante a COVID-19 em universidades públicas no Brasil e em Gana. Foi utilizado um método de pesquisa descritiva, envolvendo a distribuição de questionários para estudantes dos departamentos de Administração Pública e Administração de universidades selecionadas. Os dados coletados foram minuciosamente analisados para determinar os desafios enfrentados pelos estudantes durante a educação online. Os resultados revelaram dificuldades em manter o foco, falta de motivação, problemas técnicos e percepções médias sobre a comunicação e os materiais do curso, indicando que, embora os estudantes tenham tido experiências positivas, eles não preferem a educação online além da pandemia. Esta pesquisa pode auxiliar na implementação e gestão de cursos de ensino à distância, especialmente em universidades públicas no Brasil e em Gana.

Palavras-chave: pandemia de COVID-19, educação online, universidades públicas, fatores de resistência, desafios, método de pesquisa descritiva.

ABSTRACT

Online education offers flexibility and convenience through different approaches such as asynchronous and synchronous learning, but it also poses challenges like delayed communication and a lack of face-to-face interaction. The main objective of this study was to identify the resistant factors of online education during COVID-19 in public Universities in Brazil and Ghana. A descriptive research method was used, involving the distribution of questionnaires to students in the Public Administration and Administration departments of selected universities. There was a thoroughly analyzed of data collected to determine the challenges faced by students during online education. The findings revealed difficulties in staying focused, lack of motivation, technical issues, and average perceptions of communication and course materials, indicating that while students had positive experiences, they did not prefer online education beyond the pandemic. This research may assist the implementation and management of distance learning courses, especially in public universities in Brazil and Ghana.

Key-words: COVID-19 pandemic, online education, public universities, resistant factors, challenges, descriptive research method

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1. INTRODUCTION

On December 31, 2019, a new strain of coronavirus was isolated and named severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) by the International Committee on Taxonomy of Viruses (ICTV) from patients with pneumonia of unknown etiology in Wuhan City, China (Phelan AL, Katz R, Gostin LO). On March 11, 2020, the World Health Organization (WHO) announced that COVID-19 is a 'public health emergency of international concern' (LI X, WANG W, ZHAO X, ET AL.)

Across the globe, countries were alerted, and the public took receptive care. Some of the measures which were put in place during the pandemic were handwashing, wearing face masks, physical distancing, and avoiding mass gatherings and assemblies. Staying home and Lockdown measures have been put in place to reduce the number of cases and control the spread of the disease (SINTEMA, 2020).

Education as part of human activities was also affected during the COVID-19 pandemic. University students have to equip themselves and also adapt to the various online applications (like Zoom, Google Meet, Google Classroom, Evernote, etc) with different devices at their disposal.

E-learning comprises all online platforms which are technology aided and being used by individuals and institutions to support teaching and learning, also providing the channel for accessing resource materials and the relationship between teachers and their students. (DELEN & LIEW, 2016).

Educational sectors in the world migrated from their traditional face-to-face teaching to online learning as part of a new phase in education including in Brazil and in Ghana. This situation complied especially students to adapt to the new pattern which they were not used to. E-learning has its own disadvantages that affect the quality of learning, regardless of the opportunities that online teaching offers. Many students will have to go through the suffering from losing the importance of education due to discouragement. (MAATUK, ELBERKAWI; ALJAWARNEH.; RASHAIDEH; ALHARBI, 2021). Modern communication technologies aid easy learning systems since the approach to social media is a useful source of information and communication. Online technology is considered an active element of both students' and teachers' learning systems. (HABES; SALLOUM; ALGHIZZAWI; AND ALSHIBLY, (2019)

1.1 Research Problem

The central driving question of the research can be stated as follows:

What elements cause the resistance to online education during COVID-19 in public Universities in Brazil and Ghana? This will be the problem that will guide the entire research and, from it, it is possible to establish the general and specific objectives.

1.2 Research Objectives

The main objective of this study is to identify the resistant factors of online education during COVID-19 in public Universities in Brazil and Ghana.

Specifically, the study also seeks to:

1. investigate the challenges students faced during online education during COVID-19.
2. ascertain how online education affects their studies during COVID-19.
3. how do students perceive the quality of online education from their experiences?

Research Questions

The main research question of this study is to identify the resistant factors of online education during COVID-19 in public Universities in Brazil and Ghana.

Other questions are:

1. what are the challenges students faced during online education during COVID-19?
2. How does online education affect their studies during COVID-19?
3. what is the experience of students who are receiving online education?

1.3 Justification

The COVID-19 pandemic necessitated a global shift to online learning, but resistance factors persist in public universities of developing nations like Brazil and Ghana. Challenges such as limited internet access, unreliable electricity, and insufficient institutional support contribute to these factors. To assess the quality of online education in these economies, understanding students' perceptions of their learning experience during the pandemic is crucial. This understanding will aid educational institutions and policymakers in devising strategies to overcome these barriers and enhance online learning quality. While research on online learning

during COVID-19 has been conducted in various countries, there is a need for additional studies, especially in developing nations like Brazil and Ghana. Thus, this research topic holds significance as it investigates resistance factors to online learning in public universities of Brazil and Ghana, with potential implications for enhancing online education in developing countries. The findings can guide national education policies and initiatives, promoting inclusive and resilient educational systems.

1.4 Limitations of the study

The research will be conducted with the students of Universidade Federal do Estado do Rio de Janeiro, Universidade do Estado do Rio de Janeiro, Kwame Nkrumah University of Science and Technology, and with the students of the University of Ghana Legon.

The focus of the research is to try to understand the resistance factors of online education during COVID-19 in public Universities in Brazil and in Ghana. This is delimited to the perception of students who have already had some experience with online studies, although it is interesting for future research to know the perception of teachers in relation to the theme that will be developed. Also, 50 participants responded to the questionnaires, and getting 100 participants was the target.

1.5 Definition of Terms

This study adopted the term online education identified by Paulsen (2002). According to Paulsen, online education is characterized by

- the separation of teachers and learners (which distinguishes it from face-to-face education),
- the influence of an educational organization (which distinguishes it from self-study and private tutoring),
- the use of a computer network to present or distribute some educational content
- the provision of two-way communication via a computer network so that students may benefit from communication with each other, teachers, and staff. (p.1.)

2 LITERATURE REVIEW

In the previous chapter, an introduction and background into the study area as well as the overall purpose and research questions were presented. This chapter presents a review of the literature relating to the objectives of the study.

2.1. EMPIRICAL REVIEW

2.1.1 Online education

Online education offers different approaches to learning: asynchronous, synchronous, or a combination of both. Asynchronous learning involves teaching and learning activities that do not take place at the same time (MOORE & KEARSLEY, 2011). On the other hand, synchronous learning involves real-time interaction between teachers and learners. In this context, asynchronous learning refers to a non-simultaneous approach to education, while synchronous learning pertains to simultaneous teaching and learning. Both types of learning are carried out via technology like the Internet. Most online courses and programs were synchronous and used chat rooms, instant messaging, and texting when online education first started in the late 20th century.

Online learning is also a choice for students' education (WANG, 2014), which is meant to emphasize critical thinking and creation. Online courses, on the other hand, are frequently governed by technology (CALLAWAY, 2012; COLE, SHELLEY, & SWARTZ, 2014) and are created more for the ease of the online platform and technology. Online education is clearly becoming more popular and a growing market in the twenty-first century as it continues to increase access to learning for more individuals (GALLAGHER & LA-BRIE, 2012). The creation of a learning community and engagement in online environments are both directly impacted by social presence, which is a crucial element in online education (KEHRWARD, 2008; SWAN, GARRISON, & RICHARDSON, 2009). Short, Willams, and Christie used the phrase "social presence" in 1976 to refer to social impacts that are primarily impacted by the level of participation of individuals at certain events. It is the sense of another person's presence that a communicator develops via conversation (SHORT ET AL., 1976).

“The ability of members of an online community of inquiry to project themselves socially and emotionally, as "actual" persons (i.e., their entire personality), through the communication medium being utilized is referred to as social presence in the context of online learning” (GARRISON ET AL, 2000, P. 94).

2.2. EVOLUTION COVID-19

The Chinese province of Hubei's capital city of Wuhan saw the first cases of the novel coronavirus strain known as severe acute respiratory syndrome (SARS-CoV-2) in late December 2019. (HUI, D.S. ET AL, 2019)

Although the coronavirus disease 2019 (COVID-19) outbreak was first only mildly contagious in China, the current situation is extremely damaging everywhere. The ongoing pandemic has had an enormous negative influence on the worldwide human population's social, economic, and health indicators in addition to placing a significant burden on the universal healthcare system (HUI, D.S. ET AL, 2019) (HOSSAIN, J. ET AL, 2021). SARS-CoV-2, a member of the Coronaviridae family and the type of β -coronavirus responsible for this pandemic arose from unidentified or enigmatic sources (CYRANOSKI, D. MYSTERY, 2020). On March 11, 2020, the World Health Organization (WHO) classified this public health emergency as a pandemic (HOSSAIN, J. ET AL, 2021) Around 234 million cases and nearly 4.8 million fatalities from this infectious disease and its sequelae had been reported by the international community as of September 2021. More than 210 million SARS-CoV-2 infected people have recovered from this virus as of right now, nonetheless (WORLDMETER. 19 JAN. 2021). According to the world meters statistics last update on July 30, 2022, at 01:34 GMT it was recorded that there are 580,830,153 coronavirus Cases, 6,417,570 deaths, and 550,802,410 recoveries (WORLDMETER, JULY 2022.)

According to the original research, this viral particle infects the respiratory system and results in respiratory problems that can range from very mild clinical signs of hypoxia to acute respiratory distress syndrome (ARDS) (LEUNG, ET AL 2020) (CHEN, ET AL 2020). Initial instances were discovered at a seafood market in Wuhan, China, where people had direct contact with contaminated animals (transmission from animal to human). Clinical examples of community transmission were then discovered. This backed up the theory that the virus may spread from person to person. In this sense, transmission from person to person is currently thought to be the main method of transmission. Although asymptomatic people can potentially spread the virus, symptomatic people are the main source of transmission. The first step in the transmission process is the exchange of respiratory droplets during coughing or sneezing (CASCELLA, ET AL, 2020). The study notes that close personal contact between people can result in transmission (GHINAI, ET AL 2020). Effectively reducing the illness's severity involves preventing the disease's spread, limiting its source, and safeguarding those who are

susceptible (SHEN, K.; ET AL.2020). The spread of COVID-19 can be limited by agreeing with rules given by WHO to the worldwide populace, which include avoiding public gatherings and maintaining social distancing of at least 1m, must wear face masks and covering coughs and sneezes to help prevent aerosol transmission, and several others. (WORLD HEALTH ORGANIZATION .2019)

2.3. OVERVIEW OF ONLINE EDUCATION AMIDST THE COVID-19

The COVID-19 pandemic is forcing universities and other educational institutions to quickly transition to remote and online learning, as we can witness across the globe today. Universities all across the world have been compelled to implement online education through COVID-19. We must respond to the emergency situation by using all of the available learning methods, including e-learning platforms and mobile learning applications. Both remote learning and online education are not new concepts to students. To investigate online teaching and learning potential, COVID-19 is resurrecting the need.

The closure of colleges and schools, according to UNESCO (2020), has a number of negative effects on students, including disrupted learning, which deprives students and youth of possibilities for growth and development. Online digital learning systems can therefore address this issue by providing quick internet connections and easy access to these systems. In fact, during this pandemic, e-learning resources are essential. E-learning platforms can help learning providers organize, schedule, carry out, and monitor the teaching and learning process. Additionally, it attempts to assist educators in facilitating student learning during times when universities and institutions are closed. Again, the majority of these tools are free, which can support sustaining learning throughout the current Coronavirus pandemic.

2.4. THE RESISTANT FACTORS OF ONLINE EDUCATION AMIDST THE COVID-19

During the COVID-19 pandemic, many universities are finding out that providing and utilizing online learning resources in e-learning systems is their biggest issue. The ubiquity (accessibility anywhere and at any time), low cost, simplicity of use, and interactive nature of e-learning systems make their major information sources. Any information system's effectiveness depends on how well it is used by its users (ALMAIAH 2018). Therefore, in the context of an e-learning system, student acceptance of e-learning is seen as one of the key success factors. Issues with the adoption of e-learning in numerous nations throughout the world have been covered in a number of studies in the literature. For instance, (AL-RAHMI ET AL 2019B). (ALMAIAH AND MAN 2016) used the TAM with IDT model to research the important aspects that influence how well Malaysian students use e-learning systems.

According to the findings, students' decisions to utilize an e-learning system in Malaysia are significantly influenced by relative advantages, observe ability, trial ability, perceived compatibility, complexity, and perceived enjoyment. UAE was used as a case study for a quantitative examination by (SALLOUM ET AL. 2019). According to AL-GAHTANI (2016), the study found that four factors - innovativeness, quality, trust, and information sharing - were found to have a positive impact on student acceptance of e-learning systems. The study also examined the factors that influence TAM3-based acceptance. e-learning adoption among students. He discovered that playfulness, self-efficacy, anxiety, perceptions of external control, subjective norms, and perceived utility were the most important drivers of e-learning adoption.

However, the acceptability of e-learning systems in Saudi Arabia was not linked to social impact, demonstrability, or subjective enjoyment. In a different study by Almaiah and Almulhem (ALMAIAH ET AL. 2016A), they suggested a new framework utilizing the Delphi approach to identify the successful aspects of the installation of an e-learning system in Saudi Arabia. The findings indicated 11 crucial elements broken down into four domains, including website quality, technological options, top management support, and faculty and student understanding of e-learning. Universities can better understand their students' demands by researching e-learning adoption, which will ultimately result in a successful e-learning system (EL-MASRI AND TARHINI 2017; ALKSASBEH ET AL. 2019). (BELLAAJ ET AL. 2015). Investigated variables influencing students' usage of e-learning systems at the University of

Tabuk in Saudi Arabia using the Unified Theory of Acceptance and Use of Technology (UTAUT) paradigm. They discovered that acceptance of e-learning was significantly influenced by expectations for effort and performance. (CHANG ET AL. 2017) found that subjective norms, experience, and enjoyment influenced the acceptability of e-learning in a different study conducted in Azerbaijan.

Using TAM, (ABDULLAH AND WARD 2016) also looked into aspects affecting the adoption of e-learning. Their research found that factors such as self-efficacy, subjective norms, enjoyment, anxiety, and computer experience all significantly influenced students' acceptance of online learning. In a similar vein, (ALHABEEB AND ROWLEY 2017) discovered that technological infrastructure, student computer literacy, and academic staff familiarity with learning technologies all significantly contributed to the effective adoption of e-learning in Saudi Arabian universities. Despite the fact that there are many studies on the adoption of e-learning, the current study intends to make a novel contribution to the body of knowledge by examining the major obstacles to and variables that affect the adoption of e-learning in new contexts.

2.5. CHALLENGES STUDENTS FACE DURING ONLINE EDUCATION

Numerous technologies are available for online schooling; however, they can occasionally cause significant problems. These challenges and troubles with modern technology include things like download glitches, installation problems, login issues, audio and video issues, and more. Online instruction can occasionally be tedious and uninteresting for students. Students never find the time to participate in online learning since it requires so much flexibility and time. A major problem with online learning is the lack of individualized attention. Students desire two-way communication, which can be challenging to execute. Students need to put what they learn into practice in order for the learning process to be as effective as possible. Online content can occasionally be entirely theoretical, making it difficult for students to practice and understand. Another serious problem is the subpar course material. Students believe that the biggest obstacles to online learning are a lack of community, technological issues, and difficulty understanding educational objectives (SONG ET AL., 2004).

In a study, it was discovered that students were not adequately prepared for juggling their study lives with their employment, family, and social lives in an online learning environment. Also, it was discovered that students lacked enough preparation for a number of academic styles and e-learning competencies. Additionally, the pupils are only moderately prepared to use learning management systems (PARKES ET AL., 2014).

2.6. HOW ONLINE EDUCATION AFFECTS STUDIES

In order to maintain the banner of education, universities modified their operational style to account for the change and implemented online teaching-learning. A significant shift in university human capital, including students, lecturers, support staff, and other employees, was required by this new structure. According to (HIGGINBOTHAM 2021), improvements in higher education are being made to how students are admitted, how exams are administered, how students are welcomed back to campus, and how they interact with one another. The main change that this study is concerned about is the shift from blended learning to completely online learning, which also happens to be taking place from a distance, or from home (ABUJAROUR ET AL, 2021).

Amid this unavoidable change, recognitions, sentiments, perceptions, and complaints emerged from the students who complained that the unused framework was not accommodative to them with the claim that the unused framework may have compromised the existing educational modules. These sees may not be detached from what (OMODAN, 2020A) alluded to as the crisis of the obscure within the colleges amid COVID-19 widespread. The discernments and sees on the conceivable outcomes of the educational modules compromise in executing online instructing and learning amid the COVID-19 modern ordinary may be associated with the factors such as course substance, social and innovative back, among others (ELUMALAI ET AL, 2020) (DI PIETRO, 2020).

The discoveries of (ELUMALAI ET AL. 2020) affirmed that there's a positive relationship between the course substance, social and innovative back, and quality of e-learning in colleges. This demonstrates that when there's a sudden change from the conventional teaching-learning framework to the unused typical, it may essentially influence the quality of educational modules execution. Boundless to the educational modules usage issue, college environmentalism such as the organization of the school framework. This incorporates defining and overseeing arrangements, teachers' and students drives, and students' environment (STRIKE, 2018A). This can be to bolster the claim that administrators' obligations may not be underrated within the execution of online learning (STRIKE, 2018B). Moreover, since students work from home, their environment may too altogether influence how to reply to the unused teaching and learning framework. This conclusion moreover suffixed in (OMODAN, KOLAWOLE, AND FAKUNLE'S 2018) discoveries that an environment where education and learning happens incorporates a critical relationship with students' scholastic performance.

In addition, these components are seen to be inadequate for students within the current education and learning drift. However, universities' unavoidable closure against students shows up to be an academic change that requires more than a fast reaction (CoSN, 2020) but gives educational resources for all the partners. Discoveries have affirmed that the student's challenges in the wake of COVID-19 seem to influence their academic execution, counting but not restricted to student's get to internet connectivity, most particularly, rustically found students (DUBE, 2020; OMODAN, 2020A; OREKU, 2021). Another challenge is the live streaming of theoretical educating and learning void of practicals by means of "Google Classroom, Zoom, Simple Lesson, Go To Assembly, Blackboard®, and WhatsApp" (OREKU, 2021; JIMOLA & OFODU, 2021) (JINADU ET AL, 2021).

These challenges may have contributed to the emotions and discernments that the educational programs' substance conveyance amid the COVID-19 new ordinary has been compromised. Besides, opposite disclosures appeared no impressive contrasts in students' academic performance sometime recently COVID-19 and amid the COVID-19 modern typical (MAHDY, 2020). The appearance of the modern typical in higher instruction education progresses the "continuation of students' learning procedures and in this manner progress their efficiency" (GONZÁLEZ, ET AL, 2020). This has advocated that receiving the modern change is steady with the initial purposeful of educational modules delivery.

2.7. STUDENTS PERCEIVED STRENGTHS OF ONLINE LEARNING

(PETRIDES, 2002) conducted a qualitative study to determine learners' viewpoints on web-based learning. The investigation was conducted in a mixed college online lesson, which suggests the course was a one-semester routinely planned course with web-based innovation (Learning Space) as a supplement. During interviews, some participants demonstrated a tendency to engage in deeper thinking about subject areas when providing written responses rather than verbal ones. They clarified that they were able to persistently reflect upon each other's reflections because of the open and lasting show of the discussion postings on the Internet. As expressed by one participant,

"There is something that forces you to think more deeply about subject areas when you have to respond in writing" (PETRIDES, 2002, P. 72).

Another participant emphasized this conclusion, showing that the online innovation permitted more reflection than in face-to-face classroom dialog. (VONDERWELL, 2003) met 22 students with respect to the discernment of their offbeat online learning encounters. A few members communicated that the asynchronous environment permitted them to type in carefully approximately their thoughts. For example, Vonderwell uncovered that one participant expressed,

"The discussion questions were not just for writing the answers; they required reflection" (VONDERWELL, 2003 P. 86).

Adaptability is a region of quality of the online learning environment that has been distinguished by researchers (PETRIDES, 2002; SCHRUM, 2002). In Petride's consideration, he detailed that participants uncovered that it was simpler to work in collaborative groups in an online course since there was no less need to improve everyone's plan. In expansion to adaptability with time, choices related to the learning experience were too detailed as positive. Participants (CHIZMAR AND WALBER'S 1999) consider web-based learning situations guided by standards of great instructing practice moreover shown that the capacity to openly choose and select from the menu of different learning encounters empowered them to discover the approaches that best fit the way they learn. Comfort is also an advantage detailed within online learning writing. For example, in (POOLE'S, 2000) study of student interest in a discussion-oriented online course, the discoveries demonstrated that students take an interest in online dialogs at the times which are most helpful to them, such as on weekends.

Poole discovered once more that the majority of students accessed the online course from their personal computers at home, which proved to be the most convenient location for them. Other researchers have moreover found comparable results that online learners examined and reacted to teacher's comments in online talks at times helpful to them e.g. early morning, and late evening (MURPHY & COLLINS, 1997)

2.8. STUDENTS PERCEIVED WEAKNESSES OF ONLINE LEARNING

Delayed communication is one shortcoming of online learning that's reported by numerous researchers (HOWLAND & MOORE, 2002; PETRIDE, 2002; HARA & KLING, 1999; VONDERWELL, 2003). Agreeing with the study (HOWLAND & MOORE 2002), communication between students and teachers was a critical issue. The non-appearance of face-to-face interaction between students and teachers contributed to the negative discernments of numerous students. Students felt unconfident in direction when the criticism from teachers was deferred. Again, in Howland & Moore's research, they found that most students reported that it was difficult to induce clarification on assignments, etc. due to the need for communication between students and teachers. The common impression of communication between students was moreover negative.

The message board was the most important communication door between students and educators. Each student was required to create a posting on a message board each week. The students frequently detailed that the message board posting was ineffectual and they were baffled by the level and quality of communication (HOWLAND & MOORE, 2002). (PETRIDE'S 2002) think about learners' points of view on web-based learning moreover detailed that a few participants felt a need for immediacy in reactions within the online setting in comparison to what seems to regularly happen in an organized face-to-face course discourse.

This shows up to be especially obvious in asynchronous online discussions when students ought to hold up for others to study and respond to their postings or email messages. (HARA AND KLING, 1999) did a qualitative case ponder of a web-based separate education course at a major U.S. college? Their members reported the need for quickness in getting reactions back from the educators, and as a result, they felt disappointed. Lately, studies show comparable comes about. For example, (VONDERWELL'S ,2003) considers one reported impediment of an online course was the delay of quick feedback from the teachers. One participant expressed,

“It might take hours, maybe a day or so before you get an answer back for the question”
(VONDERWELL, 2003, P. 84)

The lack of a sense of online community and the sentiments of isolation were other shortcomings that learners have detailed in their online learning encounters. (VONDERWELL, 2003) reported that online learning members showed a need for connection with the professors,

particularly “one-on-one” relationships with the professors. Vonderwell uncovered that one member expressed,

“I still feel like I know a little bit about my instructor, but not the same way that I would if I was in a class. I don’t know much about her personality at all” (p.83).

Other studies have found comparative results. For instance, (WOODS, 2002) in his study on online communication between professors and students detailed that online learners reported feeling disconnected from staff as well as other learners within the online courses they had taken.

3. METHODOLOGY

In this section of the methodology, the research type and method, constructs and their sources of origin, and research hypotheses will be presented. Additionally, sampling procedures, the sample obtained, and the data collection and analysis process will be discussed. The objective of the research is to identify the factors that hindered online education during the COVID-19 pandemic in public universities in Brazil and Ghana. The study will investigate the challenges that students faced during online education amidst the pandemic.

To achieve this objective, students from the Public Administration and Administration departments at Universidade Federal do Estado do Rio de Janeiro, Universidade do Estado do Rio de Janeiro, Kwame Nkrumah University of Science and Technology, and the students of the University of Ghana Legon will be asked to complete a questionnaire. The questionnaire will be distributed as an online survey link via email, WhatsApp, and other platforms, and will be available in both English and Portuguese. The use of dual-language surveys will facilitate a greater quantity and quality of data collection and ensure faster survey results.

Data and information collected from the survey will be cross-checked thoroughly to establish and clarify all factors hindering online education during the pandemic. All questionnaires will be analyzed to ensure the accuracy of the data collected for the students and the research purposes.

The choice of descriptive research method is appropriate for this study as it aims to describe the factors that hindered online education during COVID-19 in public universities in Brazil and Ghana. Descriptive research is used to collect data to answer a wide range of what, when, and how questions about a particular population or group. In this case, it is suitable to go through all the information collected in the survey. Visual aids will also be used to convey the message to the public more effectively.

4. RESULTS AND DISCUSSION

This chapter deals with the analysis and interpretation of the results of the data collected for the study. The first section presents the demographic characteristics of the study participants. It further presents the results in accordance with the objectives set for the study. Discussions on the results of the study then follows.

4.1. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1: Demographic Characteristics of Respondents

		Frequency	Percentage (%)
Nationality	Brazilian	32	64
	Ghanaian	18	36
	Total	50	100
School	Kwame Nkrumah University of Science and Technology	5	10
	Universidade Federal de Estado do Rio do Janeiro	33	66
	University of Ghana, Legon	12	24
	Total	50	100
Academic Level	undergraduate	48	96
	postgraduate	2	4
	Total	50	100

Source: Author, 2023

Table 1 represents the demographic characteristics of the respondents of the study taking into consideration their nationality, schools, and their levels of education. It's evidenced from the table that, majority of the respondents are Brazilians representing 64% of the total population, while the remaining 32% of the total population are Ghanaians. Also, from table 1, majority of the students belong to Universidade Federal de Estado do Rio do Janeiro and this is

represented by 66%, while the remaining respondents are students from University of Ghana, and Kwame Nkrumah University of Science and Technology, also represented by 24% and 10% respectively.

4.2. CHALLENGES STUDENTS FACED DURING ONLINE EDUCATION AMIDST THE COVID-19.

Table 2: Number of Challenges Faced by Students

Challenges	Frequency	Percentage (%)
Lack of motivation to study	17	34
Difficulty in staying focused during online classes	8	16
Technical issues with the online platform	6	12
Poor internet connectivity	18	36
Had no challenges	1	2
Total	50	100

Source: Author, 2023

Results on table 2 indicate that, the major challenge that students encountered during online classes amidst covid 19 was the difficulty in staying focused during online classes. This is evidenced by its greater percentage of 36%. The next challenge that was largely encountered by students was the lack of motivation to study, followed by the difficulty to understand the subject matter, poor internet connectivity, and technical issues with the online platform. These are evidenced by their respective percentage of 34%, 16%, and 12%. Moreover, 1 respondent indicated that he/she encountered no challenge during online classes, and this is represented by 2% on table 2.

Students were then asked to indicate the number of times they faced some of these challenges during their online classes. Responses are tabulated below

Table 3: How often students faced challenges

Statement	Rarely	Occasionally	Frequently	Almost always	Never
How often students faced technical issues with online platforms	10(20%)	24(48%)	13(26%)	2(4%)	1(2%)
How often students faced poor network connectivity	14(28%)	26(52%)	5(10%)	2(4%)	3(6%)

Source: Author, 2023

Results on table 3 show that both technical issues with online platforms, and poor network connectivity were occasionally encountered by majority of the study's respondents' online platforms. It therefore implies that, even though students encountered these problems, they were not on regular basis.

The study went further to investigate whether students had all necessary technology (e.g., computer, internet, software) to attend online classes. Responses show that majority of the students as represented by 34(68%) had all the necessary technology to attend online classes. 14 out of the total respondents represented by (28%) had some of the necessary technology while 2(4%) claim not to have had access to the necessary technology to attend online classes.

Table 4: Access to Necessary Technology

Response	Frequency	Percentage (%)
No, I did not have access to the necessary technology	2	4

Yes, I had all the necessary technology	34	68
I had some of the necessary technology	14	28
Total	50	100

Source: Author, 2023

Table 4 indicate that majority of the respondents 68% had all the necessary technology to undertake the online education. This is followed by 28% of the respondents who indicated that they had some of the necessary technology for the online education. Only 4% of the respondents indicated that they did not have access to the necessary technology for the online education.

4.3. HOW STUDENTS PERCEIVE THE QUALITY OF ONLINE EDUCATION

This session of the study sought to investigate the perception students have about the quality of online education based on their experience from online learning amidst covid 19. In that respect, students' perception was sought in relation to the communication quality between them and their professors, and, the quality of the online courses materials they used. Responses are tabulated as below;

Table 5: How students perceive the quality of online education

Response	Very poor	poor	average	Good	excellent
communication between students and their professors	3(6%)	11(22%)	20(40%)	15(30%)	1(2%)
Online course materials	1(2%)	11(22%)	19(38%)	17(34%)	3(4%)

Source: Author

Table 5 indicates that, students perceive the communication between them and their professors, and that of the quality of course materials as average. This is indicated by majority of them ascribing to the rate: “average”

Table 6: Students’ level of satisfaction with online education

Response	Frequency	Percentage (%)
Dissatisfied	16	32
Very dissatisfied	3	6
Very satisfied	2	4
Neutral	17	34
Satisfied	12	24
Total	50	100

Source: Author

The study again investigated how students were satisfied with the quality of online education they received during COVID-19. The study found that majority of the students were indifferent as to whether they were satisfied with the quality of online education they had. This is represented by 34% on table 6. 32% of the students were dissatisfied with it while 24% indicated that they were satisfied with the online education they had.

Table 7: Overall experience with online education

Response	Frequency	Percentage (%)
Very negative	4	8
Very positive	2	4
Negative	15	30
Neutral	14	28
Positive	15	30

Total	50	100
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Source: Author

The study also investigated how students rate their overall experience with online education during COVID-19. As depicted by table, majority of the students indicated positive and negative as their overall experience with the online education representing 30% and 30% respectively.

4.4. HOW ONLINE EDUCATION AFFECT STUDENTS

Students were asked How has the format of online education affected their ability to ask questions and participate in class discussions. Responses are tabulated below

Table 8: How students class participation is Affected

Response	Frequency	Percentage (%)
Made it easier to ask questions and participate	14	28
It had no effect	10	20
It made it more difficult to ask questions and participate	26	52
Total	50	100

From table 8, depicts that online education made it more difficult for students to ask questions and participate in class. This is evidence by 26(52%) of the total respondents. Also, to 14(28%) of the total respondent's online education made it easier to ask questions and participate in class whiles according to the remaining 10(20%), online education did not affect their class participation in any way.

The study went further to investigate how students coped with time management whiles they attend classes online. Students were asked whether they found it difficult to manage their time while attending online classes during COVID-19. Responses are captured by the table below;

Table 9: Difficulty in time management

Response	Frequency	Percentage (%)
It was somewhat difficult	24	48
No, it was not difficult at all	14	28
Yes, it was very difficult	12	24
Total	50	100

Source: Author, 2023

The table indicate that majority of the students, thus 48% found it quite difficult to manage their time as they engaged in online education. 28% the respondents indicated that it was not difficult for them to manage their time whiles 24% indicated that, it was very difficult for them to manage their time as they engaged in online education.

Also, the study investigated whether students received adequate support from their university during online education amidst COVID 19. Majority of them 52% indicated that they did not received adequate support from their school. This is followed by 48% of them who indicated that they did not receive adequate support.

Table 10: Support Received by Students

Response	Frequency	Percentage (%)
No, I did not receive adequate support	26	52
Yes, I received adequate support	24	48
Total	50	100

Source: Author, 2023

How online education affected students' social life were also investigated. Results show that majority of the students did not have their social life affected much by online education. This is evidenced by the table below

Table 11: How online education affected students' social life

Response	Frequency	Percentage (%)
Not at all	2	4
Very little	11	22
Somewhat	17	34
Quite a bit	12	24
Very much	8	16
Total	50	100

Source: Author, 2023

Even though students indicated that they had positive experiences from the online education, they indicated that they would not prefer to continue studying online even after the pandemic is over. This is evidenced by their response to the question, Would you prefer to continue studying online even after the pandemic is over?

Table 12: Would you prefer to continue studying online even after the pandemic is over?

Response	Frequency	Percentage (%)
No	22	44
Not sure	12	24
Yes	16	32
Total	50	100

Source: Author, 2023

The table below present the frequencies and percentages of the extent to which students agree or disagree to the various statements. Where SD = Strongly Disagree D =Disagree, SWD= Somewhat Disagree, N= Neutral, SWA= Somewhat Agree, SA= Strongly Agree, DK= Don't know.

Table 13: students' perception

Statement	SD	D	SWD	N	SWA	A	SA	DK
I do well in the online classroom	5 (9.8)	1(2.0)	8(15.7)	2(3.9)	8(15.7)	9(17.6)	12(23.5)	5(9.8)
I had a lot of experience in internet	0(2.0)	3(5.9)	2(3.9)	3(5.9)	13(25.5)	9(17.6)	6(11.8)	14(27.5)
I had a lot of computer knowledge	0(2.0)	1(2.0)	4(7.8)	4(7.8)	6(11.8)	12(23.5)	8(15.7)	15(29.4)
I found it easier to use a computer	0	0	1(2.0)	3(5.9)	3(5.9)	9(19.6)	12(23.5)	22(43.1)
I had the necessary training to do classes online	2(3.9)	5(9.8)	4(7.8)	6(11.6)	6(11.6)	9(17.6)	9(17.6)	9(17.6)
Learning online was easy for me	4(7.8)	3(5.9)	7(13.7)	8(15.7)	11(21.6)	6(11.8)	5(9.8)	6(11.8)
I took the online classes knowing the advantages of distance learning	8(15.7)	5(9.8)	3(5.9)	7(13.7)	10(19.6)	11(21.6)	3(5.9)	3(5.9)
It was easy to acquire skills during the online classes	4(7.8)	4(7.8)	9(17.6)	10(19.6)	8(15.7)	6(11.8)	5(9.8)	4(7.8)
I would recommend the use of online education to friends	7(13.7)	3(5.9)	4(7.8)	10(19.6)	10(19.6)	5(9.8)	3(5.9)	8(15.7)
I am disciplined	1(2.0)	2(3.9)	7(13.7)	4(7.8)	7(13.7)	7(13.7)	17(33.3)	5(9.8)

5. FINDINGS & RECOMMENDATIONS

This section summarizes the major findings of the study, conclusions and the appropriate recommendations on the study. The purpose of the study was to identify the resistant factors of online education during COVID-19 in public Universities in Brazil and Ghana. The following objectives were considered in order to achieve the main objective of the study:

1. To investigate the challenges students faced during online education amidst the COVID-19.
2. To ascertain how online education affects their studies amidst the COVID-19.
3. To determine how students, perceive the quality of online education from their experiences?

The choice of descriptive research method was adopted for this study. The study used a sample of 50 students from the public administration departments at Universidade Federal do Estado do Rio de Janeiro, University of Ghana Legon and Kwame Nkrumah University. The questionnaire was distributed as an online survey link via email, WhatsApp, and other platforms, the use of dual-language surveys was to facilitate a greater quantity and quality of data collection in order to ensure faster survey results.

The COVID-19 pandemic began in Wuhan, China in late 2019 and has since caused significant damage to the global social, economic, and health indicators. The virus primarily spreads through respiratory droplets during close personal contact, and preventative measures recommended by the WHO include avoiding public gatherings, maintaining social distancing, wearing face masks, and covering coughs and sneezes to help prevent aerosol transmission. Online education can be either asynchronous or synchronous and is carried out via technology like the Internet. It is becoming more popular and accessible, but the creation of a learning community and engagement in online environments are directly impacted by social presence,

which refers to the ability of individuals to project themselves socially and emotionally through the communication medium being utilized.

The COVID-19 pandemic has forced universities and educational institutions to rapidly transition to remote and online learning. E-learning platforms and mobile learning applications have become essential to address the negative effects of disrupted learning due to the closure of colleges and schools. However, the effective adoption of e-learning systems is a challenge due to factors such as student acceptance, technological issues, and subpar course material. Students also face challenges in online education, including a lack of individualized attention, theoretical content, and difficulty in juggling study, work, and personal lives. Research studies have highlighted the factors that influence the adoption of e-learning, such as relative advantages, observability, trialability, perceived compatibility, complexity, perceived enjoyment, innovativeness, quality, trust, and information sharing. Universities can better understand their students' demands by researching e-learning adoption to create a successful e-learning system. Online education providers need to address student concerns by providing engaging and practical content and individualized attention while also ensuring the seamless functioning of technological tools.

The COVID-19 pandemic has forced universities to rapidly transition to remote and online learning, which has led to changes in higher education in terms of admission, exams, and interactions among students. However, students have faced challenges in online education, such as a lack of individualized attention, theoretical content, and difficulty in juggling study, work, and personal lives. Universities can better understand their students' demands by researching e-learning adoption to create a successful e-learning system, which should provide engaging and practical content and individualized attention while ensuring the seamless functioning of technological tools. Online learning has both strengths and weaknesses. Students have reported that online learning allows for deeper reflection and flexible learning

experiences, including the ability to choose from a menu of different learning experiences and participate in online discussions at convenient times. However, students have also reported weaknesses in online learning, including a lack of immediate feedback and clarification on assignments, a sense of isolation and disconnection from instructors and other students, and ineffective communication channels.

5.1. FINDINGS

The study empirically assessed the online education during covid-19: understanding its resistance factors in public universities in Brazil and in Ghana. Specifically, the study investigated the challenges students faced during online education amidst the COVID-19, ascertained how online education affects their studies amidst the COVID-19 and identified how students perceive the quality of online education from their experiences.

From the study, it is evident that the study in its first objective was to identify the challenges faced by students during online classes due to the COVID-19 pandemic. The study found that the major challenge reported Poor internet connectivity, followed by lack of motivation to study, difficulty in staying focused during online classes and technical issues with the online platform. Also, in reporting for the frequency of technical issues with online platforms and poor network connectivity encountered by the study's respondents during online classes, the major findings were that these problems were occasionally encountered by most of the students. Additionally, the study investigated whether students had the necessary technology to attend online classes and found that 68% had all the necessary technology, 28% had some of the necessary technology, and 4% did not have access to the necessary technology.

In examining the second objective, the study in finding out the perception of students about quality of online education, students perceive the communication between themselves

and their professors, as well as the quality of course materials, to be average. The majority of students rated these factors as "average". Also, the study examined student satisfaction with the quality of online education during COVID-19 and found that most students were indifferent, with 34% indicating neutrality towards their satisfaction. Additionally, 32% of students were dissatisfied with the quality of online education, while only 24% were satisfied.

Finally, objective three found that, online education posed challenges for students in terms of asking questions and participating in class, with 52% of respondents finding it more difficult. Only 28% found it easier, while 20% reported no effect. In addition, the study explored the issue of time management for students attending online classes during COVID-19 and investigated whether they found it difficult to manage their time while attending classes remotely. The study further found that majority of students (48%) found it difficult to manage their time while engaging in online education during COVID-19, with 24% finding it very difficult. However, 28% of respondents reported that it was not difficult for them to manage their time. Additionally, the study explored student perceptions of the support they received from their university during online education and found that 48.1% of students felt that they received adequate support.

The study also found that majority of the students did not have their social life affected much by online education. Even though students indicated that they had positive experiences from the online education, they indicated that they would not prefer to continue studying online even after the pandemic is over.

5.2. RECOMMENDATIONS

Based on the findings from the study, the following recommendations are proposed for policymakers, academics, and researchers.

- a) Online students may need additional support from their universities to maintain concentration. Some ways to do this include incorporating active learning techniques into online lectures and allowing for frequent pauses. Universities also need to provide students with the tools they need to succeed in online courses, including constant, high-speed internet connection and the appropriate software and hardware.
- b) The quality of online education may be enhanced by making it easier for students to interact with their instructors and by providing superior resources for online learning. Some examples of this would be making professors more accessible during office hours and offering supplementary materials to students who are having difficulty with the material.
- c) Universidade Federal do Estado do Rio de Janeiro, University of Ghana Legon and Kwame Nkrumah University should offer adequate student support for distance learners. Tutoring, counselling, and other mental health services, as well as technological assistance, may be made available.
- d) In order to assist students better manage their time while enrolled in online courses, universities need to equip them with tools and guidance. Time management training, study skills courses, and access to digital resources might all fall under this category.
- e) Although there are many advantages to offering courses online, colleges and institutions should consider the interests of their students. Universidade Federal do Estado do Rio de Janeiro, University of Ghana Legon and Kwame Nkrumah University should consider providing conventional, in-person courses if students express a preference for them.

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