

# Factors Influencing the Graduation Time Among Undergraduates at University of Khartoum

Esraa Ahmed Elttayib Ali

College of Education, Hebei University, Baoding, China

**Abstract** Graduation time is a crucial factor that determines the success of any educational program. Considering the current situation in Sudan, students are facing graduation delay issues. This study aims to shed the light on the most influencing factors of the graduation time among the undergraduate students at the Capital's biggest and oldest university, which is the University of Khartoum represented in four colleges: Quantitative research utilizing a Likert scale questionnaire was employed to examine the extent to which individual, socioeconomic, institutional internal and external factors influenced graduation time. Descriptive statistics and exploratory factor analysis were used to analyse the collected data. The findings indicate that school closures and study suspensions necessitate by actor undergraduate student's graduation at the University of Khartoum. Based on the students' experiences, the study recommends that the university enhance its internet and technological infrastructure and provide support and training for faculty and staff in distance education these measures are essential to ensure the continuation of academic work, especially during periods of forced school closures and to optimize the overall educational experience.

**Keywords** Graduation time, University of Khartoum, Undergraduate students

## 1. Introduction

Graduation delay is a phenomenon where students take longer than the expected time to complete their degree, is a prevalent issue in higher education systems worldwide. Studies have shown that this issue affects countries such as the United States, Germany, France, Denmark, and Sweden [1]. Graduation delays not only disrupt individual students' future plans and career prospects but also have significant institutional consequences. For universities, prolonged student enrollment strains resources, limits opportunities for new students, and undermines the overall quality of academic programs. Addressing this issue requires identifying and implementing strategies to expedite the graduation process and reduce delays.

Factors contributing to delayed graduation vary across different countries and institutions [2], [3]. In the context of the University of Khartoum, understanding the specific factors that impact students' graduation time is critical. While previous studies have focused on academic factors such as students' GPA (Grade Point Average) and their effect on graduation time, there is a lack of research on institutional and individual factors, particularly in the unique context of Sudan. The current situation in Sudan, especially in Khartoum

State, has introduced additional challenges, such as safety concerns, campus unrest, and study suspensions, which may significantly influence students' ability to graduate on time.

This study aims to identify the most influential factors contributing to delayed graduation among undergraduate students at the University of Khartoum. Specifically, it focuses on institutional factors (e.g., study suspensions, campus unrest) and individual factors (e.g., family support, financial constraints, logistical challenges, and academic performance). To achieve this, the study employs a quantitative approach, using a structured questionnaire to collect data from undergraduate students. By examining these factors, this research seeks to fill a critical gap in literature and provide insights that can help universities develop targeted interventions to reduce graduation delays.

## 2. Literature Review

A consensus exists in the literature regarding the definition of graduation delay. Several studies, define graduation delay as a phenomenon where students take longer than the expected time to complete their degree programs [4]. In other words, it refers to the inability of higher education students to accomplish their degrees within the standard timeframe. Graduation delays can be categorized into two types: delayed graduation and dropout. Delayed graduation occurs when students extend their time in a program beyond the expected duration, while dropout refers to students who leave the program before completion. Furthermore, graduation delays

\* Corresponding author:

bebaxin2015@gmail.com (Esraa Ahmed Elttayib Ali)

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can be classified as either voluntary or involuntary. This paper focuses on involuntary graduation delays by examining the most influential factors affecting the graduation time of undergraduate students at the University of Khartoum.

Graduation delays have significant consequences for institutions, society, and individuals. Institutional effectiveness is often measured by graduation rates, which serve as a key indicator of success [5]. Universities that prioritize improving graduation rates typically implement policies, allocate resources, and establish support systems such as academic advising programs, tutoring services, and career development resources to enhance student success and timely degree completion. However, graduation delays create a bottleneck effect, as universities accumulate students who take longer to graduate. Thereby reducing the available capacity for new admissions and limiting enrollment opportunities.

Socioeconomically, graduation delays impact resource allocation, educational outcomes, and labor market dynamics. For instance, Chalaris et al. 2015 [4] highlights that legislation in Greek higher education institutions (HEIs) mandates the exclusion of students who "linger" too long in their programs, directly affecting their future prospects. Individually, delayed graduation can lead to over-education, resulting in wage penalties for graduates. Aina and Pastor, 2020 [3] found that per annum of graduation delay decreases employment probability by 0.8% and leads to lower net monthly incomes. These findings underscore the multifaceted impact of graduation delays on higher education effectiveness, socioeconomic systems, and individual career trajectories.

Previous studies have identified a range of factors contributing to graduation delays, categorizing them into institutional, economic, social, and individual factors. These factors vary across contexts and institutions, highlighting the complexity of the issue.

Individual factors play a noteworthy role in graduation delays. Academic challenges, low grades and poor admission process, low academic performance in the programs [6] in addition, pre-University background such as the quality of secondary education [7]. unclear academic goals and poor time management skills, are key contributors [8]. Jumadi 2020 [9] found a negative correlation between academic procrastination and effective time management, suggesting that students with better time management skills are less likely to procrastinate and more likely to graduate on time. less Self-discipline, self-control, self-efficacy and less motivation named as graduation obstacles which may lead to graduation delay among the higher education students as in [10]. Personal responsibilities, such as family caregiving, can also limit study time and contribute to delays [11]. Additionally, family dynamics significantly influence academic performance. as in Sidhu [12] mentioned that older age students or those who have family responsibilities and financial instability they often have to work part-time face timely graduation conflicts and majority of this figure prolong the graduation time. While Jumadi et al 2020 [13] highlights the positive impact of strong family support, the study identifies challenges such as uneducated parents, large

family sizes, and strained family relationships as hindrances to timely graduation. Additionally, excessive parental pressure has also been linked to academic failure [14].

Financial stress is another critical individual factor. [15] and [16] notes that financial constraints and work commitments often force students to work while studying, diverting time and energy from academic pursuits and delaying graduation. Academic factors, such as changing majors, lack of prerequisite courses, and limited course availability, further exacerbate delays [17]. Poor academic performance, which may necessitate retaking courses or reevaluating career paths, also extends graduation timelines.

Institutional factors can be divided into internal and external factors. Internal factors include inadequate course offerings, complex degree requirements, and high GPA requirements, all of which contribute to graduation delays [9]. Mismatches between the program requirements and the student's preparedness also exacerbate graduation delay as study results Letkiewicz et al., 2014 [18] emphasizes that teaching quality and research opportunities also influence graduation timelines. Additionally, campus instability and unrest directly disrupt academic processes, as highlighted by Tinto [19], who state that unstable campus environments negatively affect student progress and graduation timelines.

External factors, such as pandemics and socio-political unrest, have significantly disrupted academic schedules worldwide, leading to widespread graduation delays. Mohammed et al 2023 [20] highlights that social tensions, demonstrations, and strikes create unstable learning environments, hindering academic progress and resulting in delayed graduations [21] and [22]. For instance, Zunes [23] document the impact of prolonged social upheavals, such as the eight-month-long demonstrations and strikes in Khartoum during 2018–2019, on academic year work flow and campus stability.

Despite the extensive research on graduation delays, many institutions focus primarily on tracking graduation rates rather than investigating the underlying causes of individual delays. Moreover, while previous studies have examined academic and individual factors, there is a lack of research on institutional factors, particularly in the context of the University of Khartoum. The study aims to address this gap by identifying and evaluating the factors influencing graduation time, with a specific focus on the impact of institutional and external factors, such as campus unrest and socio-political instability, on undergraduate students' academic progress.

### 3. Methods and Data Collection

This study employed a quantitative research design to identify and analyze the key factors influencing undergraduate students' graduation time at the University of Khartoum. The quantitative approach was chosen to systematically measure and statistically analyze the relationships between various factors and graduation delays. Descriptive statistics and exploratory factor analysis (EFA) were used to analyze the data, with the latter helping to identify underlying patterns

and relationships among the factors.

### 3.1. Data Collection

Data were collected using an online questionnaire developed through Google Forms. The questionnaire was distributed to undergraduate students from four colleges at the University of Khartoum, covering the academic years from 2015 to 2019. A total of 350 students were targeted to participate, and 225 responses were received, yielding a response rate of 64.3%. The sampling method employed was random sampling to ensure representation across colleges and academic years from 2015 to 2019 college batches.

Participants were provided with clear instructions about the study's purpose, the voluntary nature of their participation, and the measures taken to ensure the confidentiality of their personal data. These measures included anonymize responses and storing data securely. The questionnaire consisted of 27 questions divided into 3 parts (sample characteristics, factors influencing on the graduation time and proposed measures and solutions) and the response percentage for each question was calculated to assess completion rates and identify any potential biases in the data.

## 4. Results and Discussion

The findings are detailed in three sections according to the research aims. The first gives participant's demographics. The second ranks factors affecting graduation time as experienced by participants. The third shows students' proposals for reducing these factors' impacts.

### 4.1. Scale Reliability

**Table 1.** Scale Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.804	19

To assess the internal consistency of the 19-item scale, Cronbach's Alpha was calculated. With a value of .804, the scale demonstrates good reliability, exceeding the commonly accepted threshold of .70 [24]. This suggests that the items are closely related and consistently measure the underlying construct. Regression analysis to examine the simultaneous impact of multiple independent variables on a dependent variable.

### 4.2. Results

As shown in Table (2), the sample primarily consists of participants aged 20-25 years (76.0%), with smaller proportions in the 18-20 years (0.9%) and 25-30 years (23.1%) age groups. The sample was fairly evenly split between genders, with 51.1% female and 48.9% male participants. The majority of the sample (80.0%) are unmarried while the remaining 20.0% are married. Regarding the academic majors, the largest group is from the faculty of arts (38.2%), followed by

engineering (33.3%), dentistry (25.3%), and medicine (3.1%). In terms of graduation status, 66.7% have not yet graduated. Among those who have not graduated, 36.0% are sophomores, 30.7% are seniors, 29.3% are in their fifth year, and 4.0% are juniors.

**Table 2.** Sample Characteristics

Figures		N	%
Age	18-20	2	0.9%
	20-25	171	76.0%
	25-30	52	23.1%
Gender	Female	115	51.1%
	Male	110	48.9%
Marital Status	Married	45	20.0%
	Unmarried	180	80.0%
What is your major?	Dentistry	57	25.3%
	Faculty of Arts	86	38.2%
	Faculty of Engineering	75	33.3%
	Medicine	7	3.1%
Have you graduated?	No	150	66.7%
	Yes	75	33.3%
If no: If you didn't graduate yet, what is your classification			
	Fifth year	44	29.3%
	Junior-	6	4.0%
	Senior-	46	30.7%
	Sophomore	54	36.0%

As provided in Table (3), the analysis of factors affecting graduation time reveals several key challenges faced by students at the university of Khartoum. School closures and study suspensions were the most significant factors, affecting 80.9% of participants. These disruptions hindered academic progress and student's time planning. Demonstration and strikes were also critical factors, impacting 69.3% and 62.7% of respondents, respectively. These events created unstable environments and disrupted academic focus. The COVID-19 lockdown was also a notable factor, with 62.2% of students affected, disrupting both academic activities and personal circumstances, making it difficult for students to maintain their academic momentum.

Instability on campus (61.8%) and safety concerns (39.6%) were also major concerns. Other factors included limited academic support (8.0%), transportation challenges (10.2%), off-campus living (8.4%), financial issues (7.1% and 6.2%), lack of clear academic goals (11.6%), balancing academic and extracurricular activities (6.7%), time management (9.3%), and lack of interest in major (3.6%).

Overall, the analysis highlights a complex interplay of external institutional, personal and logistical factors that contribute to delayed graduation. Addressing these issues requires comprehensive strategies to improve campus safety, provide better academic support, address logistical and financial barriers, and ensure a stable academic environment.

**Table 3.** Factors Influencing Students Graduation Time

Factor	Considerable influence		Little influence		Moderate influence		No influence	
	N	%	N	%	N	%	N	%
Lack of managing the time of daily study	21	9.30%	65	28.90%	37	16.40%	102	45.30%
Inability to balance academic and extra activities in the college	15	6.70%	57	25.30%	29	12.90%	124	55.10%
I do like my major, but I do not have clear academic goals	26	11.60%	51	22.70%	38	16.90%	110	48.90%
Lack of interest toward my major	8	3.60%	51	22.70%	17	7.60%	149	66.20%
I have to provide care for my family	14	6.20%	53	23.60%	43	19.10%	115	51.10%
I have to provide financial support to my family	16	7.10%	42	18.70%	42	18.70%	125	55.60%
I have to work while joining the college	14	6.20%	42	18.70%	40	17.80%	129	57.30%
Lack of financial support such as scholarship	20	8.90%	48	21.30%	44	19.60%	113	50.20%
Off campus living	19	8.40%	28	12.40%	38	16.90%	140	62.20%
Transportation and commute challenges	23	10.20%	46	20.40%	48	21.30%	108	48.00%
I have some academic difficulties	12	5.30%	69	30.70%	33	14.70%	111	49.30%
Difficulties with obtaining necessary study materials	8	3.60%	65	28.90%	30	13.30%	122	54.20%
Limited academic support or counselling	18	8.00%	68	30.20%	45	20.00%	94	41.80%
Covid - 19 lockdown	140	62.20%	7	3.10%	76	33.80%	2	0.90%
Instability inside the school campus	139	61.80%	28	12.40%	48	21.30%	10	4.40%
Strikes inside and outside the school campus	141	62.70%	26	11.60%	52	23.10%	6	2.70%
The demonstration inside and outside the school	156	69.30%	16	7.10%	50	22.20%	3	1.30%
Safety concerns on campus	89	39.60%	49	21.80%	51	22.70%	36	16.00%
School closure and study suspension	182	80.90%	4	1.80%	38	16.90%	1	0.40%

The factors influencing the timely graduation of undergraduate students at the University of Khartoum can be classified into five key categories: institutional, personal, logistical, financial, and academic factors. Each of these categories will be explored as below:

#### 4.2.1. Institutional Factors

**School Closure and Study Suspension:** A significant 80.9% of students indicated that interruptions due to school closures and suspensions heavily influence their graduation timeline. These interruptions can lead to a halt in academic progress, delaying the completion of courses and requirements.

**Demonstrations inside and outside the campus;** (69.3%) and strikes (62.7%) create a volatile environment that disrupts regular academic activities, leading to delays in coursework and examinations.

**Instability Inside the School Campus:** 61.8% of students reported that instability within the campus, such as administrative issues or conflicts, negatively affects their academic journey, causing delays.

**COVID-19 Lockdown** The pandemic lockdown affected 62.2% of students considerably, disrupting both academic and personal lives and extending the time required to graduate.

#### 4.2.2. Safety and Support Issues

**Campus Safety:** 39.6% of students mentioned that safety

concerns on campus hinder their ability to attend classes regularly and focus on their studies, contributing to delays in graduation.

**Limited Academic Support or Counseling:** 8.0% of respondents indicated that insufficient academic support or counseling services can exacerbate academic difficulties, leading to extended graduation timelines.

#### 4.2.3. Logistical Challenges

**Transportation and Commute Challenges:** 10.2% of students cited transportation and commuting difficulties as significant barriers to timely graduation, as these issues can lead to irregular attendance and missed classes.

**Off-Campus Living,** as 8.4% of students living off-campus face additional challenges in managing their time and resources effectively, which can impede their academic progress.

#### 4.2.4. Financial and Personal Responsibilities

**Providing Financial Support to Family:** 7.1% of students need to financially support their families, which divides their time and focus between work and study, leading to delays.

6.2% of students work while studying, which can detract from the time and energy they can dedicate to their academic responsibilities. **Providing Care for Family:** 6.2% of students also mentioned the need to provide care for their families as a significant factor that affects their ability to graduate on time.

#### 4.2.5. Academic and Personal Factors

11.6% of students indicated that not having clear academic goals contributes to delays in graduation, as they may lack direction and motivation.

Inability to Balance Academic and Extracurricular Activities 6.7% of students struggle to manage their academic workload alongside extracurricular activities, leading to extended time in college.

Lack of Managing Daily Study Time 9.3% of students reported difficulties in managing their daily study time effectively, which can delay their academic progress and graduation. Lack of Interest in Major: 3.6% of students cited a lack of interest in their major as a factor contributing to delayed graduation, as they may lack motivation to complete their studies.

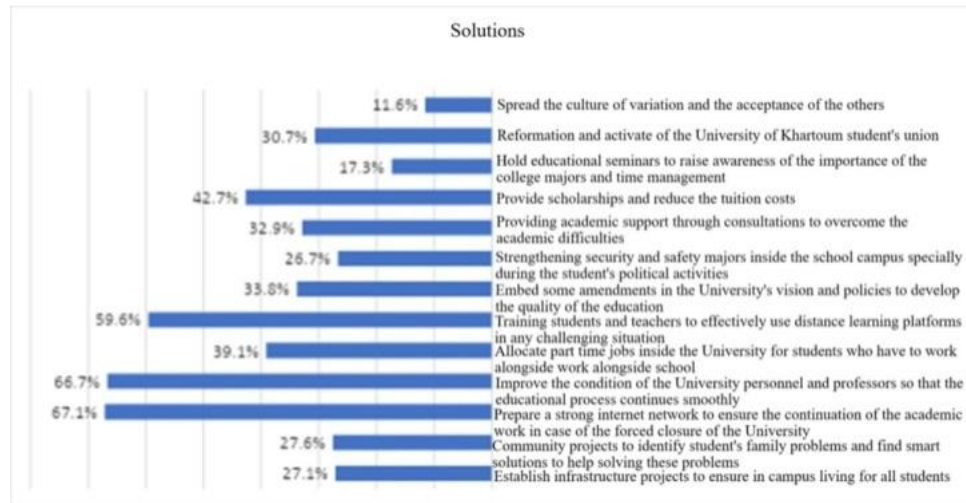
These factors represent the influencing factors on the graduation time of the undergraduate students at the university of Khartoum during the study time classified into five main categories.

As presented in Table (4), to effectively address the issue of delayed graduation at the University of Khartoum, the administration should focus on strengthening several key areas based on the responses provided by the participants. Coming at first is enhancing the internet and technological infrastructure is crucial. A strong internet infrastructure is essential for ensuring the continuation of academic work, particularly during forced closures such as those experienced during the COVID-19 pandemic. As 67.1% of cases highlighted the need, reliable internet connectivity can mitigate educational

disruptions by enabling students to access online resources and participate in virtual classes uninterrupted. Supporting university employees and professors is another critical area. Improving the working conditions for faculty and staff can ensure the smooth continuation of the educational process as 66.7% of participants emphasized, well-supported educators are better equipped to provide high-quality education and support to students, thus reducing delays in graduation. On the other hand, training for distance education is also essential, as 59.6% of participants emphasized, both students and teachers need to be proficient in using online educational platforms ensuring that academic activities can continue efficiently during any disruptive circumstances, such as political unrest or health crises. Financial and job support for students is crucial to reducing graduation delays. Allocating part-time job opportunities within the university can assist students who need to work while studying, as indicated by 39.1% of participants. Furthermore, providing scholarships and reducing tuition costs can alleviate financial burdens, as 42.7% of cases suggested. This financial support can enable students to focus more on their studies and less on financial struggles, facilitating timely graduation. Policy and educational quality improvements are necessary for long-term solutions. Embedding amendments in the university's vision and policies to enhance the quality of education was supported by 33.8% of participants. Organizing educational seminars to raise awareness about the importance of college majors and effective time management, as recommended by 17.3% of cases, can also help students set clearer academic goals and manage their time more efficiently.

**Table 4.** Proposed Measures and Solutions

Proposed measures and solutions	N	% of cases	%of responses
Establish infrastructure projects to ensure campus living for all students	61	27.1%	5.6%
Community projects to identify student's family problems and find smart solutions to help solve these problems	62	27.6%	5.7%
Prepare a strong internet network to ensure the continuation of academic work in case of the forced closure of the University	151	67.1%	13.9%
Improve the condition of the University employees and professors so that the educational process continues smoothly	150	66.7%	13.8%
Allocate part time jobs inside the University for students who have to work alongside work alongside school	88	39.1%	8.1%
Training students and teachers to handle distance educational platforms to ensure their effectiveness when resorting and using them under any coercive circumstances	134	59.6%	12.3%
Embed some amendments in the University's vision and policies to develop the quality of the education	76	33.8%	7.0%
Strengthening security and safety majors inside the school campus specially during the student's political activities	60	26.7%	5.5%
Providing academic support through consultations to overcome the academic difficulties	74	32.9%	6.8%
Provide scholarships and reduce the tuition costs	96	42.7%	8.8%
Hold educational seminars to raise awareness of the importance of college majors and time management	39	17.3%	3.6%
Reformation and activation of the University of Khartoum student's union	69	30.7%	6.4%
Spread the culture of variation and the acceptance of the others	26	11.6%	2.4%



**Figure 1.** Suggested Solutions to Reduce the Graduation Delay Issue

Providing academic support through consultations can help students overcome academic difficulties. This was noted by 32.9% of participants, indicating that personalized academic support can address specific student challenges improving their chances of graduating on time. Additionally, initiating community projects to address family-related issues can provide smart solutions to help students balance their academic and personal responsibilities, as suggested by 27.6% of respondents.

Strengthening safety measures, especially during periods of political activity inside and outside the University is crucial. As highlighted by 26.7% of participants. A secure learning environment allows students to focus on their studies without fear or distraction, contributing to timely graduation. Reforming and activating the student union is essential, as emphasized by 30.7% of participants. A vibrant and active student union can advocate for student's needs, enhancing the overall student experience and addressing issues that may lead to graduation delays. Other solution like Promoting cultural awareness and acceptance can foster a more inclusive and supportive academic environment, as advocated by 11.6% of respondents. This can help students from diverse backgrounds feel more comfortable and engaged in their studies. Establishing infrastructure projects for on-campus living can reduce commute times and provide a more stable and conducive environment for studying. This was emphasized by 27.1% of participants.

Establishing infrastructure projects for on-campus living can reduce commute times and provide a more stable and conducive environment for studying. This was emphasized by 27.1% of participants. Promoting cultural awareness and acceptance can foster a more inclusive and supportive academic environment, as advocated by 11.6% of respondents. This can help students from diverse backgrounds feel more comfortable and engaged in their studies. By focusing on these suggested solutions, the University of Khartoum can create a more supportive and effective educational environment, reducing the problem of delayed graduation and enhancing the overall

academic experience for its students.

#### 4.3. Discussion

An initial objective of this study was to identify the most influential factors on the graduation time of undergraduate students at the university of Khartoum. The study conducted a questionnaire to identify these factors and rank them according to their influence on graduation time.

The graduation time of undergraduate students at the University of Khartoum is significantly influenced by a range of institutional, personal, logistical, financial, and academic factors. Understanding these factors is crucial for developing effective interventions to support students in completing their degrees on time.

The results indicates that Institutional disruptions, such as school closures, demonstrations, and strikes, are among the most significant contributors to delayed graduation. The data revealed that 80.9% of students cited school closure and.

The study also shows that the academic year interruption is a major influence, while demonstrations (69.3%) and strikes as (62.7%) responded were also influential factors in delaying the graduation time. These set of factors are the main criterion for Khartoum University due to the ongoing political unrest in the city. Since the university is situated in the Khartoum city center, it is particularly affected by disturbances in the area, such as demonstrations and vigils., etc. These findings align with previous studies conducted by Mohammed [20] who indicating that political instability and institutional disruptions can severely impact students' academic progress, Ensuring a stable and uninterrupted academic calendar is critical for timely graduation. Besides that the safety concerns on campus, as reported by 39.6% of students reflects the broader issue of campus safety in regions with political unrest and instability. Less percentage given for limited academic support or counseling, noted by 8.0% of students, further exacerbates the problem. According to Tinto's 2012 theory of student retention, supportive academic environments are crucial for student success. Universities

should enhance counseling services and provide a safe and secure learning environment to mitigate these issues.

Logistical challenges such as transportation and commuting difficulties (10.2%) and off-campus living (8.4%), also contribute to delayed graduation. These challenges align with the study by Kuh et al [25], who found that students living off-campus or with lengthy commutes often face difficulties in maintaining regular attendance and engagement. Universities could address these issues by improving on-campus housing options and transportation services.

Financial burdens and personal responsibilities significantly impact students' academic timelines. The need to provide financial support to families (7.1%) and work while attending college (6.2%) were notable factors. These findings are supported by previous research indicating that financial stress can negatively affect academic performance and prolong graduation timelines by Witteveen and Attewell [15]. Providing scholarships, reducing tuition costs, and offering part-time jobs within the university can alleviate these financial pressures.

Academic challenges, such as lack of clear academic goals (11.6%), inability to balance academic and extracurricular activities (6.7%), and poor time management (9.3%), were also highlighted. These issues are consistent with the findings of Conley [6] who emphasized the importance of goal setting and time management skills for academic success. Interventions such as academic counseling, time management workshops, and goal-setting seminars can help students overcome these challenges.

## 5. Limitations

One limitation of this study is that the sample was drawn solely from the University of Khartoum for specific period of time and specific batches of undergraduate students. While it provides valuable insights into this specific institution, but it may not fully represent the experiences of students across all Universities in Khartoum State, which may vary in size and graduation timelines. Future research could explore the impact of these factors on a broader range of higher education students, including those in master's and Ph.D. programs. Additionally, future studies could investigate the current issue of student dropout rates at the University of Khartoum and other Universities all over Khartoum state and all over Sudan affected states after the war outbreak in April 2023. Another area for further research is to assess the effectiveness of distance learning in higher education and the dropout of higher education students in Sudan, during the period of Sudan's 2023 war.

## 6. Conclusions

This study identified the most influential factors on the graduation time of undergraduate students at the University of Khartoum, focusing on four colleges. The most significant

factors were institutional disruption including school closures and study suspension, which were largely the result of political and social unrest in Khartoum State, compounded by the COVID-19 pandemic. As indicated by 80.9% of participants, these disruptions had a considerable impact on their graduation time. To address these challenges, the study suggested several key improvements, including enhancing the internet and technological infrastructure, supporting university employees and professors, and providing financial and job support for students. By implementing these strategies, the University of Khartoum can create a more supportive and effective learning environment, reduce delays in graduation, and improve student outcomes. Improving the working conditions for faculty and staff can ensure that the educational process continues smoothly.

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