

MANAGING PEOPLE DURING AN EDUCATIONAL GLOBAL CRISIS

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ABSTRACT

During a global crisis, leaders around the world need to adapt fast. In these crucial moments, managing people effectively is the most important part, because through communication and collaboration situations can usually be overcome. This paper aims to highlight the two global crises faced by the education system in the 21st century: the global crisis due to the low level of development of some countries and the coronavirus pandemic. The paper summarizes the situation Sub-Saharan Africa regions have faced in the last 20 years, highlighting the need for a system that includes rules on: gender equality, equity, inclusion, and access to education for everybody. Moreover, the ongoing COVID-19 pandemic should also be analyzed in order to exemplify the importance of data collection by statistical institutions. The central research illustrates the importance of managing people during a global crisis, focusing on the rules and actions that must be taken into account when the educational system collapses. All of the aforementioned aspects of the paper emphasize the benefits brought by predictive analytics and how it can improve the educational system.

KEYWORDS: *collecting data, educational global crisis, managing people, predictive analytics*

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1. INTRODUCTION

Humanitarian emergencies that include mass displacement, conflict, health crises, and natural disasters, can severely affect education for millions of children by increasing poverty, influencing health, and making them more susceptible to exploitation (Ainscow, 2016). Access to quality education should also be provided for families affected by conflict, displacement, and natural disasters. Such emergencies can have a negative impact on the education sector by influencing areas such as: the quality of teaching, long-term functionality of the education system, and the ability of children to access learning materials.

In a rapidly changing environment, universities and schools should adapt to any sudden interruption of courses that may occur. It is necessary to anticipate and prepare for crisis situations. An efficient system is based on two main factors: effective communication and personal accountability (Cornelius, 2011). The safety of students and faculty is the most important aspect during a crisis and must be closely linked to effective communication. Communication must be two-way: to provide information and to collect responses. Only in this situation managers can receive quick guidance and can assign tasks to resolve issues. During a crisis, employees seek guidance from leaders. The latter must be prepared to manage such situations. Leaders need to be a source of confidence and stability during a crisis as their behavior and attitude supports the reaction of the employees (Pedersen et al, 2020).

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The pandemic coronavirus disease (COVID-19) has created an unprecedented crisis in education. This circumstance has led to the massive closure of educational institutions in over 190 countries in order to mitigate the impact in early 2020. According to The Economic Commission for Latin America and the Caribbean (ECLAC), the social aspect in the region was deteriorating even before the onset of the pandemic, due to rising poverty rates and persistent inequalities (Sharma et al, 2020). In this context, the crisis has had a profound negative impact on the education, as well as health, and labor. During this period, the United Nations Educational, Scientific and Cultural Organization (UNESCO) noted negative signs of unequal distribution of teachers, identifying the lack of qualified teachers in lower-income countries where populations are mostly immigrants.

Measures taken during the critical period of the pandemic were related to interruption of face-to-face classes and the transition to an online learning program, which created three main areas of action: ensuring the well-being and health of students, mobilizing educational staff, and using technology to support the learning sessions through specific online platforms (UNESCO, 2014b).

The goal of this research is to shed light on various consequences that the education system is facing as a result of a global crisis, and how managing people efficiently can help overcome the challenges. The aim is to emphasize the necessary norms to be adopted in the context of high financial inequality between countries and to showcase the different situations encountered at a global level. On top of the social-economic aspect, COVID-19 crisis has deepened the educational gap even further, which increases the need of data collection and thorough analysis through predictive analytics. The benefits of this new approach have been more and more visible in the higher education systems which recommends the approach to be extended to the other levels of education regardless of the economic status of the country or region.

2. LITERATURE REVIEW AND DISCUSSIONS

2.1 Managing people efficiently during a global crisis

According to the literature, in 2015, UNESCO, together with the World Bank, United Nations International Children's Emergency Fund (UNICEF), United Nations Population Fund (UNFPA), United Nations Development Programme (UNDP) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) organized the largest educational event in the world called World Education Forum 2015. Location of the event was in Incheon, Republic of Korea in May 19-22, 2015. Unexpectedly, this conference was attended by over 1600 people from 160 countries, such as ministers, members of delegations, officials of organizations, teachers and representatives of the private sector, and young people in order to adopt the Declaration of at Incheon for Education 2030 which establishes a new vision for education (UNESCO, 2015b). The vision of those present at the conference includes norms and reforms that will directly help transforming millions of lives. The agenda is built on pillars such as equality, equity, poverty minimization, population development, gender equality, and recognizing that education is a birthright in every country.

This conference was organized following a series of analysis created at regional and global level, through which UNESCO revealed that governments lose about \$ 129 billion a year due to the global learning crisis. The biggest issue is the one created by the differences in resources and the level of development between countries. According to the report Teaching and learning: Achieving quality for all (UNESCO, 2014a) it is observed that 10% of the global expenditures are lost due to poor education among primary schools, as they do not have the necessary resources to ensure a favorable environment for learning. Thus, 1 in 4 children in underdeveloped or poor countries does not have the ability to read a sentence (Tugba, 2015). The main action that can help in this context, and that should be prioritized, is the allocation of the best teachers where there is the greatest need (Bush, 2013).

Poor quality in education creates a higher illiteracy rate than previously thought. About 175 million young people in poor countries, which make up about a quarter of the youth population, do not have the ability to read a whole sentence. The forecast presented in the report states that even following the rules to be implemented, it will not be until 2072 that young women in Sub-Saharan Africa will fully complete lower secondary school. The calculations in the report show that about \$ 129 billion is lost annually to every 250 million children who do not complete primary school (UNESCO, 2015a).

Regarding high-income countries, large discrepancies are also observed in the educational system. In New Zealand, almost all young people from wealthy households manage to reach the minimum standards in the fourth grade, while the ones from the poor families only two thirds succeeded.

In order to achieve better education in both poor and rich environments, governments need to provide trained teachers and focus their teaching policies on meeting the needs of the disadvantaged. This can be achieved by attracting the best candidates, use mobility and also relevant training and incentives (Coombs and Laufer, 2018).

In a global crisis such as the one in education today, the most important aspect is to manage people towards the desired outcome with the help of organizations such as UNICEF and UNESCO in partnership with governments. The conference held in 2015, which provides objectives until 2030, is the main example supporting the idea that managing people and organizations efficiently can help reduce the consequences in a global crisis.

By processing the data provided by the World Bank, a graph will be created using the Tableau software for information purposes on the evolution of the Out-of-school primary school age by world region indicator between 1986 and 2019. This indicator is one of the most relevant ones in relation to the global education crisis discussed above.

Children out of school are the number of primary-school-age children not enrolled in primary or secondary school. Limitations and exceptions: Due to different data sources for enrollment and population data, the number may not capture the actual number of children not attending in primary school. Statistical concept and methodology: The number of out-of-school children is calculated by subtracting the number of primary school-age children enrolled in primary or secondary school from the total population of the official primary school-age children.

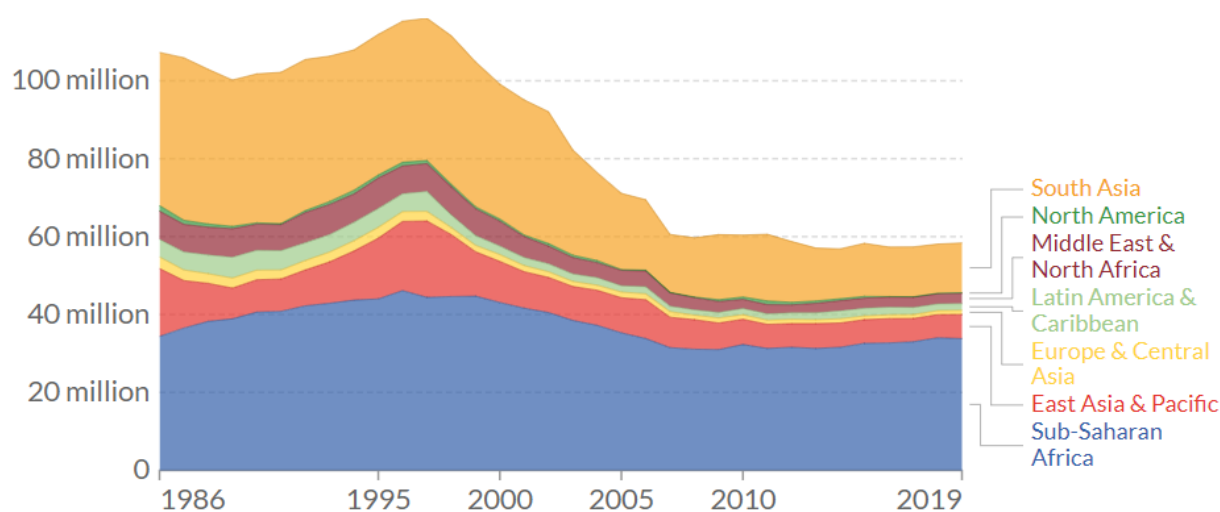


Figure 1. Out-of-school children of primary school age

Source: created by author

Analyzing the 21st century, it can be seen that the number of out-of-school children in the Sub-Saharan Africa area decreased by approximately 10 million children by 2019, from 43.1 million to

33.8 million. All world regions have significantly better results in 2019 compared to 1998 when the slope of values reached its maximum value. The biggest improvement in terms of the out-of-school children indicator can be seen in the South Asia world region, where in 2000 there were 34.6 million out-of-school children, and in 2019 just 12.8 million out-of-school children. Regarding Europe and Central Asia in 2010 there were 1.79 million out-of-school children, and in 2019, 1.11 million out-of-school children, with a decrease of 38%. Looking globally in 2000, there are 99.11 million out-of-school children, which has dropped significantly to 58.39 million out-of-school children.

In order to observe the world region in detail, a cluster analysis will be created using SPSS software and the same Out-of-school primary school age indicator by world region for 2019 in order to group these regions and observe similarities. I mention that these studies are used for information purposes to have an overview of the situation, which is why each method is summarized. The associated world region dendrogram is analyzed in order to explain the relationships between them.

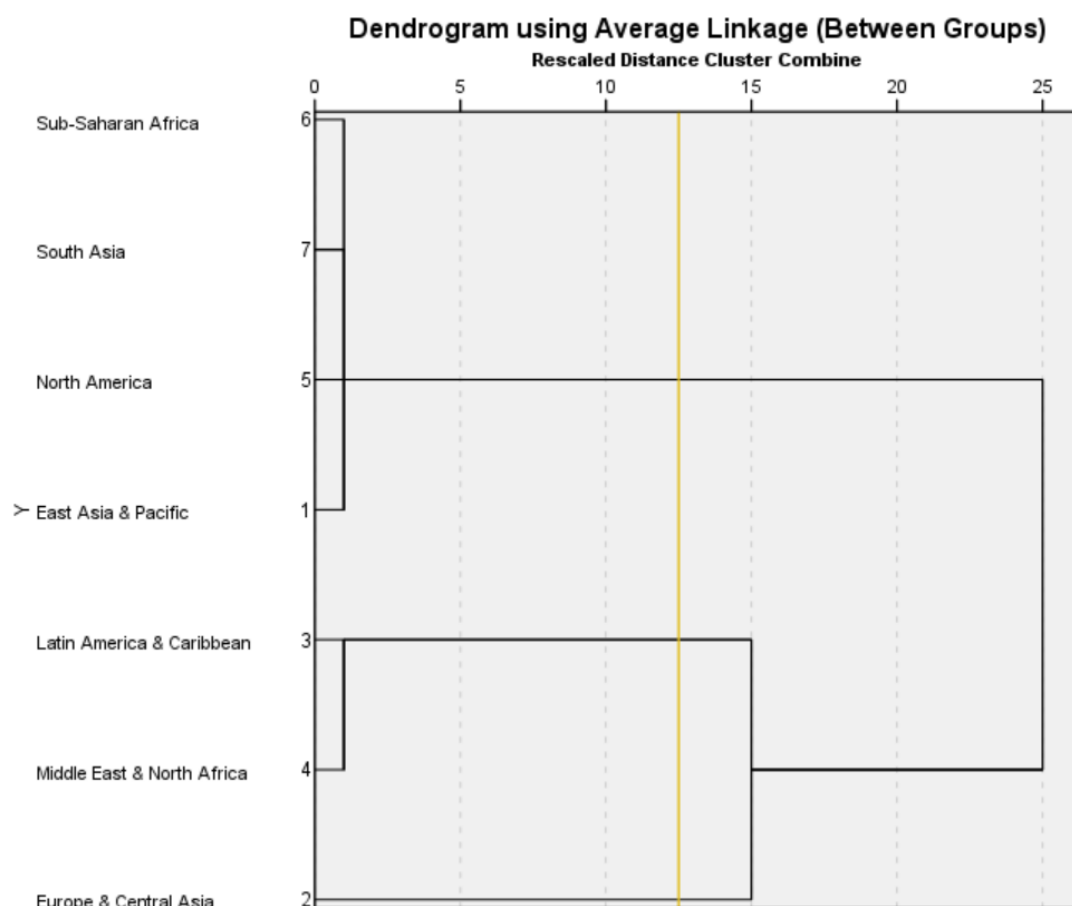


Figure 2. Dendrogram - Out of school children of primary school age
 Source: created by author

It is observed that the 7 world regions formed three main clusters. A cluster consists of the Europe & Central Asia region. According to the literature World Education Forum (2015) we can admit that the countries in these regions are more developed in terms of education, which is why, at this chosen level of granularity, these regions differentiate from the others. Analyzing Latin America & the Caribbean and the Middle East & North Africa, a main cluster can be seen. There are similarities between these two regions on several issues such as living standards or religion, both regions being made up of less developed countries. The third cluster consists of the Sub-Saharan Africa, South Asia, North America and East Asia & Pacific regions. A large part of the countries in

these regions have a very low level of development, and the main consequences are observed in the education system. The action points set out at the 2015 World Education Forum focused on such areas as Sub-Saharan Africa, show the need for assistance in bringing the education system as close as possible to the European level.

2.2 Pandemic aftermath

Starting with 2020, globally, the biggest economic crisis of the last centuries has set in, so different sectors of activity have had to adapt to the new norms and requirements. Regarding the educational system, this whole process, which included various restrictions, forced the organizations to adapt instantly and to offer solutions so that the teaching activity would suffer as little as possible. By May 2020, most countries in the world had closed their teaching units nationwide, affecting more than 1.57 billion learners, representing 90% of the total number of enrolled learners in the world. These measures have created a global learning crisis for all levels of the education system. To date, there are approximately 63 million teachers who have been affected by the pandemic, along with those affected by teacher training institutions, which may create a global shortage of qualified teachers in the future (UNESCO, 2020a).

The current crisis has been a lesson for the education system. Due to the consequences suffered, most organizations have perceived the importance of collecting data. Unfortunately, in most countries, data is not available, which makes it impossible to develop a strategy in a time of crisis. Statistical institutes around the world are facing significant pressure to collect data on the education system. There is a great need in this area as the effects of the COVID-19 pandemic are increasingly visible. Political decisions are made based on how the school year is divided. There are countries where the school year is divided into two calendar years and countries where the school year consists of only one calendar year. Depending on this program, the new policies for the new year include the implementation of a reduced curriculum, the implementation of teacher training and the implementation of distance learning. In both cases, the current data should help to monitor the effects of these imposed rules, in order to analyze and follow the consequences (Spawn, 2020). Learning opportunities are different, some children are likely to suffer more because of their country of origin, religion and level of development in the area. In such situations, statistical institutions must decide which are the most important educational variables they can collect in order to monitor the structural changes suffered by the COVID-19 pandemic (UNESCO, 2020c).

Collecting this data in the midst of a global crisis is extremely difficult. There are precarious situations in which teachers cannot report attendance according to the rules, students do not have access to the necessary technology made available in educational institutions or some teachers do not have the skills to browse online platforms. Given these circumstances, statistical institutions must select the essential data for decision-making processes, the education system must be helped to maintain its functioning at an acceptable level according to global rules. The negative economic impact may force some teachers to change their profession, change their location or interrupt teaching to help their family members, while some students who are old enough to work may drop out of school to help maintain their family (UNESCO, 2020b). These are some examples of scenarios that can create major changes in education and should be documented through educational data, but statistical institutions cannot overload schools with high data demands that cannot be obtained feasibly. In this situation, it would be essential to collect only a few key indicators decided at country level in a rapid collection format, which would include both students from high social classes and those from disadvantaged areas.

Starting in 2014 in Guinea, the Ebola epidemic rapidly spread throughout the country and to its neighbors Sierra Leone and Liberia, killing over 3,600 people in Liberia alone. The economic impact was very high, the World Bank (2014) reporting at that time a GDP decrease of 3.8%. In later reports, it was found that survivors suffered heavy loss of income, increased difficulties in accessing health, reduced employment opportunities and severe psychological trauma. Furthermore,

the Ebola pandemic affected citizens' perceptions of their own government due to incorrect and misleading official information, distrust of public health institutions, slow reactions and slow action even when the severity of the crisis was evident (Tulenکو, 2014).

The educational sector only began taking action 6 months after the first case was reported in Lofa County and because the virus is transmitted through physical contact, educational institutions were declared serious risk sites of transmission and were closed as a security measure. This measure was also taken in the case of the COVID-19 pandemic. Seven months later the schools were opened and the main rules implemented were the repairs of the institutions, awareness and prevention of the virus, educating the population through radio broadcasts and the implementation of national procedures. These protocols were aimed at anyone who came into physical contact with a patient and implemented a ban on attending courses for a period of 21 days (Skovgaard, 2015). Strategies adopted by educational institutions have focused on hygiene measures, such as regular hand washing, sanitation of work surfaces and constant information on Ebola symptoms.

2.3 Predictive analytics and its benefits

Today, educational institutions are highly interested to improve both their image and their facilities and opportunities offered to the students. In the 21st century predictive analytics and big data have become key factors in improving students' lives on campus, both socially and academically. Predictive analytics uses different statistical algorithms and machine learning to analyze patterns in data to obtain future outcomes. Learning organizations are following these new methods of analysis with interest because, based on data collected from student enrollment, or the use of facilities available on campus, they can generate future predictions. Big data collection is essential for improving recruitment rates, graduation, or monitoring a student's behavior. Data is the main pillar of business intelligence systems; it supports institutional objectives and improves the decision-making process. Educational organizations use predictive analytics to determine past behavior, performance, and trends in order to make it possible to predict future events (CSA, 2020).

The most used systems in academia that apply predictive analytics have been created to provide the most appropriate experience for each student. Inform Student Advising is found in the list of systems used by the students. It is an alert system that can identify students at risk of falling below the level of standard, so that the counselors of the support teams can provide help. Based on access to data, such as academic records, teachers can identify weaknesses and take steps to adapt to students' learning. Predictive analytics has a multitude of applications that help improve university's processes such as highlight progress, identify poor attendance levels and identify areas of potential student success (McNamara, 2020).

Currently, analyzing the global crisis in education generated by the COVID-19 pandemic, one can observe the usefulness of predictive analytics in monitoring the effects. Due to the very high social significance of the pandemic, it is of interest to investigate the impact of these effects on students, academia and the learning and teaching process (Thürmer, 2020).

In order to assess the impact of the pandemic on students, it was necessary to process educational data in most countries all over the world. This analysis was made possible by intelligent statistical methods such as machine learning, big data processing with symmetric and asymmetric information and multi-criteria decision making. Predictive analytics has been and continues to be used in an innovative way, bringing new information in the field of education since the first months of the pandemic (Zulfikri et al., 2021). These methods are constantly evolving, providing new information and comprehensive analysis of the world circumstances regarding the education system. Attempts to overcome the global pandemic crisis by academic institutions are constantly supported by predictive analytics that helps organizations with methods that can assess students' availability for distance learning or provide recommendations for improving the quality of learning (Doleck, 2020).

The novelty of the predictive analytics is essential in combating global crises, both in the COVID-19 pandemic context, and in other global crises that education faced in the 21st century. Predictive analytics can predict student behaviors, assess perceptions, analyze distance learning availability, and detect problems early, which could help academia save a lot of financial resources. With the development of these systems, the main objective would be that predictive analytics to be used in the primary education system, but currently, due to limited financial resources, only private primary schools can afford such analysis based on forecasts and big data.

3. CONCLUSIONS

On the one hand, the research paper can forever go into a debate about managing people during an educational crisis, on the other hand, the limitations of the paper are represented by the lack of analysis of indices such as Human Development Index (HDI) or the Corruption Perception Index (CPI). In the case of the HDI, three aspects; life expectancy at birth, expected years of schooling and gross national income per capita (health, education and wealth) are taken into account. The CPI is based on the opinion of a panel of experts and covers different types of political corruption like embezzlement of public funds or bribes. The scale of the index is from zero (highest level of corruption) to one hundred points (lowest level of corruption). According to the literature, countries that encounter difficulties in the educational sector often have a small HDI, and CPI tends towards 0 (Sarabia et al., 2020). In Sudan and Chad there are very low HDI values of 2.3 and the latter 3.7 whilst CPI numbers are at 20 and 41 in 2017 ("Our World in Data," n.d.). These figures, together with the previous research, confirm that there is an educational deficit in Sub-Saharan Africa, hence this problem is based on the country's low level of development and high levels of corruption.

In order to make significant progress in global education, the main focus of bilateral agreements between organizations and governments should include a quality level of learning for all learners regardless of the level of development of their country origin. With the gradual increase in the level of education in the world, all other areas will have significant improvements. This progress must be made among countries where gender inequality is high, and religion is an impediment to attending primary school. Partnerships between organizations and governments, global mobilization and managing teachers can bring major changes to the education system. During a crisis, increased attention is needed among the most severely affected, as vulnerable learners may undergo major changes such as dropping out of school.

The main aspects presented in the paper highlight the most important measures that can be taken today. This paper focuses on the benefits of data collection, which can be usefully processed by predictive analytical methods. In this way, the circumstances can be identified and measures be taken to reduce the negative effects. The education system requires an innovative approach, through which students around the world are equally protected.

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By submitting this paper, I declare that this study is entirely my own except those parts duly identified and referenced in my submission. It complies with any specified word limits and the requirements and regulations detailed in the assessment instructions and any other relevant program and module documentation. In submitting this paper, I acknowledge that I have read and understood the regulations and code regarding academic misconduct, including that relating to plagiarism.

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