Implementation of Astria E-Learning Solutions in Zambia: A Survey of the University of Zambia-Institute of Distance Education

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Abstract

Up until 2016 since its inception in 1966, the University of Zambia, through the Institute of Distance Education (UNZA-IDE), had been running its distance mode of delivery manually, and that though amidst some successes encountered a myriad of challenges. From October 2016, UNZA-IDE, in partnership with Astria E-Learning Solutions, went fully fledged online. The study targeted about 3000 registered students at the time, but only 557 responded via Google Survey. The main objective of this study was to document benefits and challenges of the introduction and implementation of the online mode of delivery at UNZA-IDE. The study was anchored on the qualitative approach, and case study design was implored. The analysis of the findings provided the evidence that the majority about (80 %) of students accessed the Astria E-Learning platform and their interfacing with the platform made their academic life easier, cheaper to use, and it was generally easy to access study materials online. There were, however, challenges experienced by some students which included, high cost of bundles, erratic network interconnectivity, inadequate orientation and lack of basic Information Technology (IT) skills. This study recommends that UNZA-IDE conducts regular orientation to new students and continuous in-service training and workshops to the teaching and support staff; expanding the accessibility of internet services through various mobile providers and improvement of internet connectivity through responsive infrastructure.

Key words: **University of Zambia, Institute of Distance Education, Astria E-learning, Distance Education**

1. Background

The University of Zambia (UNZA) is a mixed institution (Peters, 2002). It is the first State University in Zambia and the 'Mother' of all public and private Universities in the Country. It was the first University to offer Open Distance Learning (ODL) education to suitably qualified candidates since its inception in 1966. The ODL at UNZA has gone through various developmental stages since inception. In 1963, before UNZA was established, the Lockwood Commission Report (UNZA, 2012) recommended that UNZA needed to offer distance education to qualified citizens and other nationals as an alternative to conventional face-to-face (F2F) mode of delivery. The Unit for distance education at UNZA started in 1966 as a small Department of Correspondence Studies (DCS) under the School of Education. In 1975, its name changed to the Centre for Continuing Education (CCE) after merging with Adult Education and Mass Communications. As the Unit continued to grow, it became the Directorate of Distance Education (DDE) in 1994, and the Institute of Distance Education (IDE) in

2009. All these changes were meant to meet the demands of distance education mode of delivery, on one hand, and driving the whole system to the autonomy of the Unit, on the other hand. According to Simonson (2016, p. ix) distance education is defined as "institutionally based formal education where the learning group is separated and where interactive communications technologies are used to connect students, teachers, and resources for learning". From inception till October 2016, UNZA-IDE did most of its operations manually. Prior to the introduction of the virtual learning environment (VLE), the University was synonymous with print media as a medium of instruction for a period of more than fifty (50) years (Mundende et al., 2016; Simui et al., 2018). According to Siaciwena (2000b), UNZA for some time had not been able to reach out to as many people as it would have potentially done, due to capacity to handle increasing numbers of students which exerted pressure on material development and inadequate learner support. At UNZA-IDE, the organisation, administration and coordination of Distance Education (DE) courses are responsibilities of IDE. As for tuition, preparation of study materials and assessment are responsibilities of

faculty members of various servicing Schools of the University in accordance with approved course outlines.

Before the introduction of E-Learning platform in October 2016, students, lecturers and IDE Management did everything manually. From the student point of view, they applied manually (that is, by buying a form and fill in their details and afterwards posted the documents or they travelled to Lusaka for verification and scrutiny). As regards study materials, at times, students received their modules and assignments through postal services, or they travelled to Lusaka (that is, the administrative centre) to collect them. For registration purposes, they all had to travel to Lusaka for verification and guide to avoid selecting wrong courses. During this time, students spent many days on queues to be cleared and that proved to be costly on their part in terms of time and money. From the lecturers' point of view, they marked students's assignments manually and through IDE, posted marked scripts back to students. Some of the posted works got lost and some of the marked work was lost at the hands of lecturers (faculty members). From the IDE administration, all units did things manually (That is, registration, admission and other processes). At times, there was communication breakdown, and some important information delayed in reaching the intended target. Since this meant providing each candidate with modules, it meant mass production of the study materials. This contributed to persistent breakdown of the only industrial machine, thus, becoming very costly to maintain the processes as well as to meet the demands of each student. It so happened that some students never received their study materials, yet they paid for them. One contributing factor to this was that some lecturers had not yet written the materials for students for them to access and prepare for their various assessments. One compounding problem has been that IDE does not have its own faculty, but depends on the conventional F2F staff. As earlier alluded to, administration of distance education is a preserve of IDE Management but teaching, preparation of study materials and assessment are a preserve of the teaching staff who hail from the University servicing schools, and the IDE Director has no full control over them. Taken together, this situation motivated UNZA-IDE to migrate from manual to technology-based service delivery to distance learners.

It is of no doubt that Information and Communication Technology (ICT) is thought to improve the effectiveness of education, aids literacy movements, enhances scope of education, facilitates mobile learning, inclusive learning, research and scholarly communication (Rahman, 2016). Accordingly, through vigorous consultations by IDE Management, in October 2016, UNZA-IDE went into partnership with Astria E-Learning Solutions (American based) to facilitate migration from manual to digital mode of delivery. To prepare for this transition, IDE management arranged for sensitisation and training sessions for both staff involved in distance education, including all IDE staff, and learners (during the Residential School, via brochures as well as step-by-step procedures of navigation on the Astria platform, sent on UNZA-IDE website and via sms). Furthermore, IDE management, on collaboration with Astria E-Learning Solutions, and MTN Zambia, procured highly subsidised IPads and dongles for learners as well as staff. Following successful registration (after payment of minimum allowed fees), students had free access to the Astria platform for the whole academic year. Students who purchased IPads had access to over 300 ebooks. The whole purpose of teaching and learning is to ensure that no learner is left behind in acquiring the knowledge, skills and attitudes (Mundende and Namafe, 2019). E-Learning is learning that can take place anywhere and anytime using digital tools (Moraine, 2017). In line with digital way of delivery, UNZA, in its 2018 – 2022 Strategic Plan, is determined to implement a fully-fledged E-Learning for all University programmes by 2020 (UNZA, 2018). This study therefore, seeks to document and share experiences of E-Learning in ODL at UNZA-IDE.

Since October 2016 when online mode of delivery (E-Learning) was introduced and implemented at UNZA-IDE, there has not been a systematic study solely focusing on its benefits and challenges. The problem question that may be raised is: Is the online mode of delivery the way to go for UNZA-IDE or the Institute should revert to manual mode of delivery, now that both fronts have been experienced? The main aim of this study was thus to share the voices of UNZA-IDE learners' practices and experiences concerning the introduction and implementation of the online mode of delivery. The Objectives of the study were to: (1) compare mode of delivery experiences before and after 2016 at UNZA-IDE, (2) determine the benefits and challenges of implementing online mode of delivery at UNZA-IDE, and (3) propose the better mode of delivery for the UNZA-IDE. The research questions of the study were (1). How has been the mode of delivery experience before 2016 at the UNZA-IDE? (2). What are the benefits of implementing online mode of delivery at the UNZA-IDE? (3).What are the challenges of implementing online mode of delivery at the UNZA-IDE? and (4).Which mode of delivery should be adopted for UNZA-IDE? It is hoped that the findings of this study may help: UNZA-IDE to provide necessary ITC infrastructures to support E-Learning; ODL practitioners to find solutions to the implementation of E-Learning to distance learners, and ODL policy makers to formulate E-Learning policies that are contextualised.

This study was anchored on Technology Acceptance Model (TAM) developed by Davis et al., (1989). Based on the theory of reasoned Action, Davis et al., (1989) developed the TAM which deals more specifically with the prediction of the acceptability of an information system. The purpose of this model is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users (Köck, 2014). From the theory of reasoned Action, the TAM postulates that the use of an

information system is on one hand determined by behavioural intention, but on the other hand, behavioural intention is determined by the person's attitude towards the use of the system and also by his perception of its utility. Thus, according to Davis et al., (1989), the attitude of an individual is not the only factor that determines his or her use of a system, but is also based on the impact which it may have on his or her performance. This theory was adopted because it addresses the challenges experienced in the implementation of online platform at UNZA-IDE using Astria E-Learning platform.

The migration from manual to digital, in 2016, brought a great relief to UNZA-IDE Management, lecturers and students. To Management, benefits included but not limited to the following: efficiency in registration and admission processes, prompt collection of tuition fees; to lecturers benefits included efficiency in instant feedback to students, continuous interfacing with students as and when need arises, no missing of students' assignments. To Students benefits included, instant feedback from IDE Administration and lecturers, and easy access of study materials.

The literature therefore indicates that technologies empower students to be more visually aware of their classmates, and be able to chat with them in real time, also get immediate feedback from their teachers, being cheaper and flexible despite their remote geographical location (Papagiannakis et al., 2015; and Aung et al., 2016). Gupta et al., (2018), and Palvia et al., (2018) cite obvious advantages of online programs to the university which include but not limited to the following: increasing enrollments and profits, extending university reach, increasing students technological skills, mitigating the projected shortfall in instructors, eliminating overcrowding of classroom, reducing infrastructure cost improving retention and graduation rates as well as allowing students to work at their own pace and learning style, as well as reducing faculty bias. According to Schindler et al., (2017), Universities that fail to effectively integrate technology into the learning experience miss opportunities to improve student outcome and meet the expectations of a student body that has grown accustomed to the integration of technology. By implication technology brings about changes that are progressive once embraced into every facet of life.

Despite so many benefits that are attached to the use of technology, there are equally various barriers or challenges which if they were not dealt with, may be detrimental to what may be progressive: Moakofhi et al., (2017) identified poor infrastructure (constant power outages, inadequate computer laboratories and poor internet services), inadequate IT support, lack of e-Learning policy as well as lack of university management support, lack of E-Learning policy, coupled with lack of appreciation and support by management is concern. Mutisya and Makokha (2016) indicated that insufficient internet connectivity, limited learning and communication

technology (ICT) skills, lack of incentives, shortage of computer/laptops, inadequate computer laboratories and inadequate time for online interaction, were major challenges in the adoption of E-Learning in Public Universities in Kenya.

Referring to some level of resistance as barrier, the study conducted by Simui et al., (2018) indicated that majority of distance education learners preferred physical interaction to cyber space interaction, use of hard copy to soft copy print learning materials and physical library to electric library. Similarly, Radzi and Othman (2016) in their study found out that there were many reasons as to why people resisted change, and many of such were due to personal characteristics, which included but not limited to intolerance with adjustment, periods of lack of psychological resilience and a reluctance to give up old habits. Muleya et al., (2019), observed the challenge of ICT infrastructure as being under developed, thus affecting the utilisation of the ICT tools for learning purpose.

Shahmoradi et al., (2018) conducted a study on "Challenges of E-learning system: Higher Educational Institutions Perspective". This study was conducted at Tehran University of Medical Sciences in Iran. Findings showed that half of participants had problems accessing the technology. The conclusion was that success in the implementation of E-Learning educational system as one of the main approaches in managing knowledge and educational needs of higher educational organisation would not be achieved without identifying the different skills, technical and cultural challenges. To overcome possible challenges, the researchers recommended establishment of IT infrastructure and standards, using experiences of the leading countries in the field of E-Learning, creation of proper culture, and familiarisation of learners and teachers to development and use of E-Learning materials.

Moakofhi et al., (2017) who conducted a study on "Challenges of Introducing E-Learning at Botswana University of Agriculture and National Resources: Lecturers' Perspective", identified poor infrastructure (constant power outages, inadequate computer laboratories and poor internet services), inadequate IT support, lack of E-Learning policy as well as lack of university management support, lack of E-Learning policy at BUAN, Coupled with lack of appreciation and support by management is concern as challenges. The study recommends the need to develop an E-Learning policy and create a plan to rationalise E-Learning activities such as optimisation of existing resources. BUAN may also consider having a dedicated member of staff from the IT department who would be able to offer support to the E-Learning community at the university. The study concludes that ICT had a huge potential in improving the provision and acquisition of education and learning.

Mtebe et al., (2013) who conducted a study titled "A critical Review of E-Learning Research Trends in Tanzania", revealed that lack of awareness, internet access and lack of support (lacked pedagogical support, lacked technical and managerial support and lacked training support) hindered E-Learning implementation in Tanzania. Further, Mtebe et al., (2013) works also reviewed that the University of Dar es Salaam (UDSM), Open University of Tanzania (OUT), and Mzumbe University had taken advantage of ICT to widen access to education via ICT-mediated distance education and to complement campus-based courses with online instructions.

Aung et al., (2016) identified lack of vital E-Learning components such as computers, electricity and skills and the active participation of students and instructors as challenges. The other challenges were access to ICT tools and network infrastructure as well as changing the perception of teachers and learners towards E-Learning and convincing them to accept it. Tarus et al., (2015) conducted a study in Kenya Public Universities which for some years then had adopted E-Learning as a new approach to teaching and learning. As for Kentnor (2015), lack of understanding of online pedagogy and online learning styles, lack of administrative support for online education and for marketing the program, number of students enrolled, faculty qualifications, tuition rates and length of the program were identified as challenges.

The literature, nonetheless provides factors that could be implored to successfully implement online systems. In their works, to successfully implement an E-Learning system, there was need to create technological infrastructure and standards and use the experiences of the developed countries in relation to E-Learning, create a suitable culture and familiarise teachers and learners by developing and using the E-Learning system (Shahmoradi et al., 2018). Mutisya and Mukokha (2016) indicated that to successfully adopt E-Learning in public universities in Kenya, they recommended heavy investment in the improvement of E-Learning infrastructure, E-Learning content development, capacity building, attitude change, and enhancement of E-Learning awareness.

2. Methodology

This study was conducted from July 26, 2019 to August 26, 2019, at the University of Zambia, Lusaka, Zambia. UNZA is situated within a lowly resourced community (Simui et al., 2017), and comprises two campuses, Great East Road (GER) and Ridgeway (RW) Campuses. The GER campus is situated on the south side of the Great East Road, aboutseven km from the Central Business District (CBD) in Lusaka, with an average area of about 290 hectares. The Campus is on a fairly level site and much of the property has been brought into use for academic and residential purposes. The Ridgeway Campus (where medicine related programmes are done) is located on the Nationalist Road at the University Teaching Hospital, South East of Lusaka, the Capital City of Zambia. It is aboutnine hectares in extent. Before independence, the Campus was known as Oppenheimer College for Social Development Studies, and in 1965 the existing buildings were donated for the use of the University (UNZA, 2012 and www.unza.zm). UNZA-IDE Administrative offices are situated about 100 metres, off GER, and abouteight kilometres from Lusaka CBD. It is located on Property 122, Mwambula Road, Jesmondine, Lusaka.

Research Method and Design

During the period of data collection (July – August, 2019), about 3000 students both undergraduate and postgraduate students, spread within Zambia's ten regions (urban and rural) and those in diaspora had registered, thus, were targeted in the study. The study was meant to collect data from all registered students at the time. At the close of the data collection, only 557 responded. This was a qualitative study. Qualitative approach seeks to interpret people's perception of different world events conducted in a natural setting in the course of their daily lives, and generally explores meanings and insights in a given situation (Arthur, 2019, Haradhan, 2018, Levitt et al., 2017, Gentles et al., 2015, and Walia, 2015). A case study design was implored, with the intention of understanding some aspect of behaviour in its social setting, gaining concrete and in depth knowledge about a specific real-world matter, in this context, the implementation of Astria E-Learning platform at UNZA-IDE (Tight, 2017). This design was used to describe the experiences of distance students in their interfacing with Astria E-Learning platform without authors interfering with what they would write. A questionnaire was posted on Google survey for students to complete the questions. The researchers used the Google Forms platform to generate evidence through a structured interviews schedule and an observation guide. Findings were analysed qualitatively using the Social Package for Social Sciences (SPSS). Through SPPS, themes were generated to address the Objectives of the study.

3. Results and Discussion

Access to the Astria E-Learning Platform

Participants were asked whether or not they had access to the Astria E-Learning platform for their various programmes. Our data show that 449 out of 550 responses representing (81.6 %) had accessed Astria E-Learning platform, while 101 out of 550 representing (18.4 %) did not. Researchers further asked participants how easy it was for them to access the Astria E-Learning platform. Results showed that 437 out of 549 responses, representing 79. 6 % said they easily accessed the platform, but 112 out of 549 responses, representing 20.4 % did not. These results suggest that the majority of

UNZA-IDE ODL students accessed the Astria E-Learning platform despite the minority who claimed they did not. Regarding the minority, there could be various factors at play that could have contributed to their failure to access the platform, and largely it could have been issues to do with internet connectivity, some due to their geographic location, assuming that mobile providers have not yet reached their locations with their installations of the services, and the other factor could ha-ve been the failure to pay tuition fees for them to access the platform.

Benefits experienced from the Astria E-learning Platform as an ODL Student

Participants were asked to indicate the benefits they experienced from their interfacing with the Astria E-Learning platform.   Results show that, 436 out of 550 responses representing 83 % included but not limited to the following benefits: 'Respondents were able to receive updates on time'; 'It was easy to submit assignments'; 'It was easy to access'; 'It saved travelling expenses'; 'It did not require to be in class'; 'It was cheaper to use'; 'One was able to see grades for all assessments'; 'It made it easier to interact with lecturers and fellow colleagues'; 'It was easy to send assignments from anywhere'; 'There was instant notification/feedback'; 'It was easy to study and work'; 'It was easy to view study materials and access online books'; 'Many other responses were related to what is submitted above'. In the same vein, some participants had the following to say: 'I'm learning in the comfort of my home'; 'I can send assignments anytime of the day before the due date, consult from the lecturer, and get assignments that have been sent by the lecturers on the platform'; 'I have benefited from the modules and everything has been easy to access'; 'I am able to study in the comfort of my home and work at the same time'; 'I have seen that on the platform one can actually have access to anything like post a question, one is unable to answer to the lecturer or even to friends who are able to help.' Another respondent said that, 'I don't need to go anywhere to send assignment but do it at the comfort of my laptop.' These results are consistent with the works of Papagiannakis et al., (2015), and Aung et al., (2016), who indicated that technologies empower students to be more visually aware of their classmates, and be able to chat with them in real time, also get immediate feedback from their teachers, being cheaper and flexible despite their remote geographical location. Similarly, Chen et al., (2015) said that surveys suggest that two-thirds of students use mobile devices for learning and believe that technology can help them achieve learning outcomes and better prepare them for a workforce that is increasingly dependent on technology.

Challenges Experienced from Astria E-learning Platform as an ODL Student

Participants were asked to indicate challenges that they experienced while interfacing with the Astria E-Learning platform. Results are summarised in figure 1 below.
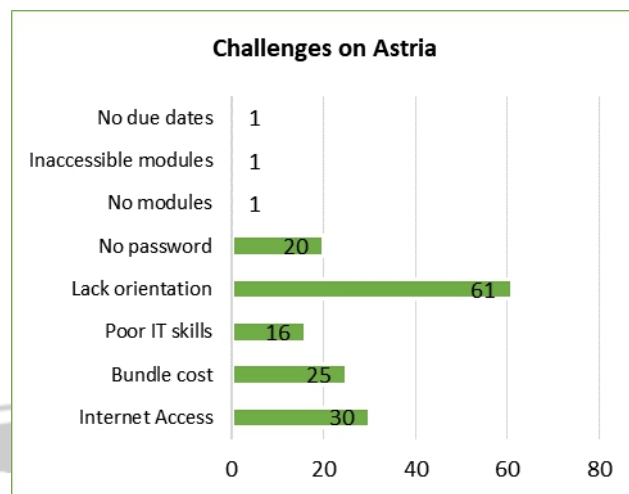

Figure 1: Challenges Faced by the minority UNZA-IDE Students in Accessing E-Learning Source: Google Forms

Of the proportion of learners with challenges to Astria E-Learning platform accessibility, (36.1 %) attributed it to lack of orientation, (17.8%) to lack of internet, and (14.8%) to the high cost of internet bundles.   Few isolated participants experienced the following challenges: 'There were no modules on the platform'; 'There is too much of re-sending of assignment's even after you send, you find that you are asked to send again and again, it's really consuming time'; Another one said 'At times the system does not open to courses, in need to open'; 'I cannot access my account' ;   'I am still having challenges downloading past papers and a few times I can't access the portal'; 'I cannot see the courses and fees attached to them despite paying the application fee'; 'Difficult to inbox lecturers'; 'Education Tabs do not work effectively'; 'At times there were no bundles and they were expensive to buy'; 'Sometimes the system was very slow (issues of erratic network connectivity)'; 'Difficult to access some assignments'; 'The system easily got congested'; 'Portal was not accessible if tuition fees were not settled'; 'Process of attaching and sending assignments was complicated'; 'Some lecturers did not give instant feedback'; and other responses are represented by the above.

As for the minority who claimed that they did not access the Astria E-Learning platform, they may not have given the correct picture. As earlier stated in the background, from October 2016, all communication, processes and assessments inclusive have been done online.   Arguably, even when participants were filling in the questionnaire for this study, they conveniently did so while connected online.   In addition, even the benefits and challenges they

cited in this study, could not have been experienced if they, in one way or another did not interact with the Astria platform. What probably could not be denied by researchers, is that participants (students) faced challenges as cited in the process of interacting with the system (Figures 1), and such needed urgent attention to reduce or eradicate them. Those who identified the cost of bundles to access the platform to be a challenge does not mean that they did not manage to buy bundles, but may be it could be an issue of financial constraints on their part, because the University does not buy internet bundles for students, though they are privileged to use wifi when they are at campus, and within the catchment area of its accessibility. It could equally be true that those challenges were being faced due to teething problems associated with the new innovation, the Astria E-Learning platform. On the other hand, the failure to access study materials on the platform as reported by some participants was, and is still a real challenge and can be explained from two fronts: First, there is some truth in what participants presented because some lecturers have not yet written study materials for use, despite being trained at the huge University cost for them to do so. What compounds the problem is what has been earlier alluded to that UNZA-IDE depends on lecturers from the servicing schools, who are not answerable to the IDE Director, despite all the allowances that they accrue when they service distance students. This is one anticipated challenge of the dual mode or mixed institution, where distance students are treated as second class students and conventional F2F students as first class students. What some lecturers do therefore, is to provide handouts or notes during residential school, when students meet their lecturers for two weeks before they sit for the end of year examinations. The other explanation as to why students do not access their modules, and instructions is that only registered and paid up students are able to access what is uploaded on the Astria platform. Students pay per course, so if some course (s) are not paid for, a student will not access anything in that particular course. Failure for the students to pay the required amounts in terms of tuition fees and other fees, incapacitates them to see announcements, feedback, results and anything that is uploaded online. Before 2016, when everything was manually done, some students never used to pay full amounts and only to be discovered before graduation, when they had no choice, but to clear their bills. This was all because everything was manually done, and tracing about registered students then was not easy.

Considering participants' challenges, what seems to be prominent is the accessibility of the Astria platform largely because of the internet challenges. All the challenges such as reluctance in embracing technology, delayed feedback, insufficient technological skills as well as lack of training for the teaching staff, as cited by participants are in harmony with the studies carried out by Moakofhi et al., (2017) at Botswana University of Agriculture and National Resources, who identified poor infrastructure (constant power outages, inadequate computer laboratories and poor internet services), inadequate IT support, lack of E-Learning policy, lack of

university management support, lack of E-Learning policy, as well as lack of appreciation and support by management as challenges. Similarly, Mtebe et al., (2013) who conducted a study adapted, "A critical Review of E-Learning Research Trends in Tanzania", identified lack of awareness, internet access and lack of support (lacked pedagogical support, lacked technical and managerial support and lacked training support) as hindrances in the implementing E-Learning.

These challenges could have been compounded by resistance to change as well as lack of vigorous orientation and training for both students and lecturers. Resistance to embracing Astria E-Learning platform by both learners and lecturers is consistent with what K observed in reference to the TAM theory that, the attitude of an individual in accepting technology was not the only factor that determined his or her use of a system, but was also based on the impact or utility, which it may have on his or her performance. People resisted change and mostly of personal characteristics, which were psychological in nature, lack of technical knowledge and /or scepticism about the efficacy of technology to improve learning outcomes, as well as simply reluctance to give up old habits (Radzi and Othman (2016), and Asrafzadeh and Sayadian, 2015). True to this, several Distance Students at UNZA-IDE as well as the teaching staff, resisted the change from manual to digital and their main argument was, they were used to the manual mode of delivery and print media mode. Therefore, resistance may be displayed by stakeholders some because of their attitude and others because they may not appreciate the benefits the new innovation may be accrued through the new innovation. As earlier alluded to in the background, at the introduction and implementation of the Astria platform (2016), efforts were made to orient students then, but IDE Management faced a lot of change resistance from both the students and lecturers who at every point did not support the change. Nonetheless, the Institute tries every academic year to orient new students, who are allotted one week to come to one point where the IDE ICT specialists would run them through the Astria E-Leaning platform, and there has been relaxation in resistance. IDE has also designed a "self-help Prospectus" with useful information to orient the learner on various aspects of the Astria platform. As expected, some attend the sessions and others due to various commitments, do not, and perhaps could be such who face challenges when they start interacting with the system. Besides this kind of support, the Institute has its support staff in all the 10 Regional Centres to provide learners support services closer to the students' places. They do not need to come to the central place which is usually Lusaka, but could be attended to from their Regions. However, what is true is that Astria partners have been in partnership with the MTN Zambia mobile providers. Apparently, not all students are able to access them, thus, the challenge. To compound the problem further, not all mobile providers are found in all areas especially the remote places of Zambia. In some areas ZAMTEL is very active, in others AIRTEL is and in others MTN Zambia is very active. Depending on where

students are, they could easily access the platform or not. At times students may experience such challenges at peak moments when perhaps they want to submit their assignments.

The failure by some lecturers to provide the feedback is two-fold. As earlier alluded to, some lectures did not embrace the training in matters of Astria Solutions, despite the efforts made to train everyone at their convenient time. Up to now some lecturers are not willing to be trained despite UNZA-IDE team being available for training, and retraining of such staff, about three years down the line of the implementation of the online system. Sadly, such lecturers even advise their students to submit their work through their emails or hand in hard copies. If such is encouraged, those students who do not pay for their courses would find a way of not paying. In such cases, it becomes difficult for students to receive feedback through the portal, thus, their genuine observation. In as much as there should be various ways to support a learner, it should not be at the expense of defeating the whole purpose of using the correct platform. The catch in this case is that they can only be paid for the work done, when they attach a print-out generated from Astria. So what such untrained lecturers do is to use some of their colleagues to do everything for them. The numbers of such lecturers though is not much. Despite the resistance, all efforts are being done to encourage every lecturer to give a detailed feedback because the students being dealt with are learning at a distance with a myriad of challenges. At times students enter their examinations without their continuous assessment (CA) because of the same turn in and turn out challenges, 'artificially' created by lectures and students.

The other challenge is that in as much as there is this partnership between UNZA and Astria E-Learning Solutions, not all functions are given to UNZA Information Technology (IT) Unit for them to be resolving the issues instantly, the reason why, some solutions to some of the challenges experienced by students take long to be resolved, because the IT Unit has to report the problem to their counterparts for them to fix it. At times it takes a while and in the process the student is waiting. It is from that point where affected students feel Astria does not perform well. Otherwise with all the teething problems ironed out, online system for UNZA-IDE has resolved so many challenges which include, no queues for students for anything, instant feedback to those connected to the system, time and financial saving to both students and IDE management and no missing of results because everything is visible on the platform. For a student who did not turn in his/her work, it shows on the platform, so there is no cheating as it was during the manual way of doing things. Ironically, in terms of the revenue collection that IDE collected on behalf of the University in the 2016/2017 academic year, which was paid by about 3, 500 registered students it was far more than what was collected before 2016, when the Institute had about 8,000 students on data base. By implication, before 2016, there

were more students on data base but little revenue collection, but at the introduction of the online system, the Institute experienced some drop outs, thus, there were fewer students because some withdrew with permission, yet with more money collected. These findings are consistent with the works of Gupta et al., (2018), and Palvia et al., (2018) who stated that IT facilitates and increases enrollments and revenue collection.

Participants were further asked whether they anticipated to experience challenges while interfacing with the Astria E-Learning platform, and the results were that, 276 (52 %) out of 530 responses indicated that there was a likelihood that they would still face challenges, and 254 (48%) out of 530 responses said that there was no likelihood of facing challenges on the Astria E-Learning platform.

Measures to Resolve Challenges Experienced by ODL Students from Astria E-learning Platform

Researchers asked participants to suggest measures that should be taken to resolve the challenges they experienced while interacting with the Astria E-learning platform. 272 responses suggested the following: 'There was need to call for a meeting with the students and hear their views'; 'Need to give guidelines how to go on every step, or rather put customer service'; 'Need to reset and ensure that all icons were open' One respondent said that, "I think IDE must work hand in hand with the lecturers because at times the answers we get are that there is a problem with the internet at IDE because I posted that work a long time ago". Other respondents said, "IDE should have constant system maintenance"; "IDE should provide new model tablets and improve on the internet"; "Lecturers should be encouraged to use the Astria platform more in order to enhance interaction between them and students"; 'Notifications to be sent via email or the app to pop the notification on the screen'; "IDE should provide free network at provincial centres"; "There was need to conduct training on how to use the platform" ; 'There should be proper guidance on how to go about ODL"; Lecturers should provide detailed feedback"; "IDE needed to create its our own network service". "There was need to improve on the internet connection that is on the tablets and also IDE should make sure that the connection is good". Other responses were similar to what has been presented above. The proposed measures by participants are supported by literature that heavy investment in the E-Learning infrastructure, E-Learning content development, attitude change, IT staff capacity building, E-Learning awareness, and collaboration with developed countries in relation to E-Learning could be advanced to implement the E-Learning platforms (Shahmoradi et al., 2018, and Mutisya and Mukokha (2016).

Therefore, going by the measures suggested by participants, there is need for serious consideration by the IDE Management to revisit the orientation programme,

embark on the retraining of lecturers and the IDE staff as well as put up robust IT infrastructure to mitigate the prevailing problems. There was need to introduce a compulsory IT Course to provide basic information especially to the beginners. This would assist beginners with IT skills challenges to be equipped. Since there are already existing computer programmes offered under ODL, the introduction of such a compulsory course cannot be a problem.

4. Conclusion and Recommendations

UNZA distance education provision has been in existence since 1966. So many people have been churned out to develop the country. The study found that the majority of participants easily accessed the Astria E-Learning platform by an average of 80 percent. Also, 436 out of 550 responses, representing 83 percent indicated that they received updates on time, easily submitted their assignments, received instant feedback, found the platform cheaper to use, and were able to see their grades for all assignments. The study also found that minority of participants faced challenges bordered on but not limited to: internet connectivity, high cost of bundles, accessibility of the platform, lack of orientation, and lack of computing skills. As for measures to resolve the identified challenges, 272 responses included the need to: call for a meeting with the students and hear their views; give IT skills to guide participants on how to go on every step; enhance sustainable internet accessibility; for lecturers to use the Astria platform more in order to enhance interaction between them and students; conduct training on how to use the platform; properly guide distance students how to go about ODL.

The implementation of Astria E-Learning systems at UNZA-IDE, is feasible and can be further interrogated to maximise the necessary benefits. Considering the benefits as opposed to the challenges, the institution is far much better off with the online system than the manual. Nonetheless, a blended mode during this transition, can still be entertained as and when need arises, and UNZA-IDE has been riding on that. Based on the analysis of the study, Authors recommend the following:

i. UNZA-IDE to conduct ICT orientation to students and lecturers at the beginning of every academic year

ii. Considering the difficulties distance students go through with Astria E-Learning platform, UNZA-IDE should introduce a compulsory course in IT for all beginners.

iii. UNZA – IDE to engage more than one mobile provider to take care of all students who subscribe to different mobile providers.

iv. UNZA-IDE to construct IT infrastructures in all regional centres and deploy both hard and software IT personnel to all the centres.

v. UNZA management to grant full autonomy to IDE to operationalise its ODL policy which in part endorses recruiting its own faculty.

vi. IDE ICT specialists to ensure that all technical issues regarding students portal are always rectified on time.

vii. Astria E-Learning Solutions to offload all necessary functions to UNZA-IDE IT specialists to enable them resolve frequent experienced challenges without delay.

References

Arthur, C. Introduction to Qualitative Research Methods: A Practice – Oriented. *Introduction for Students of Psychology and Education*. Riga, Latvia: Zinatne. 2019. doi:10.13140/RG. 2.1.3095.6888.

Ashrafzadeh, A., and Sayadian, S. University Instructors' concerns and Perceptions of Technology Integration. *Computers in Human Behavior*. 2015. 49: 62-73. Doi:10.1016/j.chb. 2015.01.071.

Aung, N. T. and Khaing, S.S. *Challenges of Implementing of E-Learning in Developing Countries: A Review*. Springer International Publishing Switzeland. 2016.

Chen, B., Seilhamer, R., Bennett, L.L., and Bauer, S. Students' Mobile Learning Practices in Higher Education: A Multi-year study. In *EDUCAUSE Review*. 2015. https://er.educause.edu/articles/2015/6/students-mobile-learning-practices-in-higher-edu-a-multiyear-study

Davis, F., Bagozzi, R. and Warshaw, R. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. Management Science. 1989. 35: 982 – 1003.

Gentles, S.J., Charles, C., Ploeg, J., and Mckibba, K. "Sampling in Qualitative Research from an Over view of the Methods Literature". *The Quantitative Report*. 2015. 20: 1772 - 1789.

Gupta, P., Mahapatra, D., Parida, R., Rosner, R and Sindhi, S. Online Education: Worldwide Status, Challenges, Trends, and Implications. *Journal of Global Information Technology Management*. 2018. 21: 233-241.

Haradhan, M. Qualitative Research Methodology in Social Sciences and Related Subjects. *Journal of Economic Development, Environment and People,*. 2018. 7: 23-48.

Kentnor, H.E. *Distance Education and the Evolution of Online in the United States*; Curriculum and

Teaching Dialogue, Information Age Publishing Charlottee. 2015. 17: 21-24.

Köck, J. The Technology Acceptance Model (TAM). An Overview. GRIN Verlag: Publishing GmbH. 2014.

Levitt, H.M., Motulsky, S.L., Welrtz, F.J., Morrow, S.L., and Ponterotto, J.G. Recommendations for Designing and Reviewing Qualitative Research in Psychology: Promoting Methodological Integrity, *Qualitative Psychology*. 2017. 4: 2 - 22.

Moakofhi, M., Leteane, O., Phiri, T. Pholele, T., and Sebalatlheng, P. Challenges of Introducing e-Learning at Botswana University of Agriculture and National Resources: Lecturers' Perspective, *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*. 2017. 13: 4-20.

Mtebe, S.J. and Raphael, C. A Critical Review of E-Learning Research Trends in Tanzania. *Journal of Learning for Development - JL4D*. 2013. 5: 163-178.

Muleya, F., Simui, F., Mundende, K., Kakana, F., Mwewa, G., and Namangala, B. Exploring Learning Cultures of Digital Immigrants in Technologically Mediated Postgraduate Distance Learning Mode at the University of Zambia, *Zambia Information Communication Technology (ICT) Journal*,. 2019. 3: 1 – 10.

Mundende, K. and Namafe, M. C. "Exploring the Concept of Equal Opportunity in Teaching and Learning of Geography in Selected Secondary Schools of Kabwe District, Zambia", *International Journal of Research in Geography (IJRG)*. 2019. 5: 23 – 33, ISSN 2454 – 8685 (online), http://dx.doi.org/10.20431/2454 - 8685.0504003, www.arcjournals.org

Mundende, K., Simui, F., Chishiba, A., Mwewa, G. and Namangala, B. Trends and Prospects of Instructional Material Development and Delivery at the University of Zambia. Global *Journal of Human Social Science: Linguistics and Education*. 2016. 16: 5-11, Retrieved from https://global journals.org/journals/human-social-science-journal

Moraine, K. *Micro Credentials, Personalizing the Learning of KM Educators*. 2017. https://www. Kmsd.edu/cms/lib/W101919005/Centricity/Domain/240/KMSD % 20 MC_Flyrer.pdf.

Mutisya, N.D. and Makokha, L.G. *Challenges Affecting Adoption of E-Learning in Public Universities in Kenya*. 2016. 13: 140 – 157. https://doi.org/10.1177/20427530/6672902).

Palvia, S., Aeron, P., Gupta, P., Mahapatra, D., Parida, R., Rosner, R. and Sindhi, S. Online Education: World wide Status, Challenges, Trends, and Implications, *Journal of Global Information Technology Management*. 2018. 21: 233-241.

Papagiannakis, G., Argento, E., Baka, E., Maniadakis, M. and Trahanias, P. A Virtual reality brainwave entrainment method for human augmentation applications. *Foundation for Research and Technology – Hellas (forth) Institute of Computer Science*. 2015.

Peters, O., *Learning and Teaching in Distance Education*. 2002. http://www.fernuni – hagen. De/ZIFF/V2 – ch40a.htm.

Radzi, M.I.N., and Othman, R. Resistance to Change: The Moderating Effects of Leader-Member Exchange and Role Breadth Self-Efficacy, *International Institute of Technology*. 2016. 4: 72-76.

Rahman, H. Human Development and Interaction in the Age of Ubiquitous Technology. *Hershey: Information Science Reference*. 2016.

Schindler, A.L., Burkholder, J.G., Morad, A.O., and Marsh, C. Computer-Based Technology and Student Engagement: A Critical Review of the Literature. *International Journal of Educational Technology in Higher Education*. 2017. 14: (25), https://doi.org/10.1186/s41239-017-0063-0

Shahmoradi, L., Changizi, V., Mehraeen, E., Bashiri., Jannat, B, and Hosseini, M. The Challenges of E-learning system: Higher Educational Institutions Perspective. *Journal of Education and Health Promotion (JEHP)*. 2018.

Siaciwena, R.M.C. *Management of Open and Distance Learning in Africa: The Case of the University of Zambia* (Unpublished). 2000.

[1] Simonson, M. (Ed.) *Distance Education, Institutional and International Applications: Readings from the pages of Distance Learning Journal.* IAP, inc. 2016.

Simui, F., Namangala, B., Tambulukani., T. and Ndhlovu, D. Demystifying the Process Policy Development in a dual – mode context: Lessons from Zambia, *Journal of Distance Education*, Routledge. 2018. DOI: 10.1080/01587919.2018.14.57947

Simui, F., Mwewa, G., Chota, A., Kakana, F., Mundende, K., Thompson, C.L., Mwanza, P., Ndhlovu, D. and Namangala, B. WhatsAPP" as a Learner Support Tool for Distance Education: Implications for Policy and Practice at the University of Zambia, *Zambia (ICT) Journal.* 2018. 2: 36 – 44.

Simui, F., Chibale., H. and Namangala, B. Distance Education Examination Management in Lowly Resourced North – Western Region of Zambia: A Phenomenological Approach, *Open Praxis*. 2017. 9: 299 – 312. DOI : 10.5944/Open praxis. 9.3.442.

Tarus, K.J., Gichoya, D., and Muumbo, A. Challenges of Implementing E-Learning in Kenya: A Case of Kenyan Public University, *The International Review of Research in Open and Distributed* Learning. 2015. 16: (1). https://doi.org/10.19173/irrodl.v16i1.1816.

The University of Zambia. *Strategic Plan: 2018 – 2022.* Lusaka, UNZA PRESS. 2018.

The University of Zambia. *Calendar 2011 – 2013).* Lusaka, UNZA PRESS. 2012.

[2] Tight, M. *Understanding Case Study Research: Small – Scale Research with Meaning*. London: SAGE Publications Ltd. 2017.

Walia, R. A Saga of Qualitative Research. *Social Crimonol*. 2015. 5: 124.