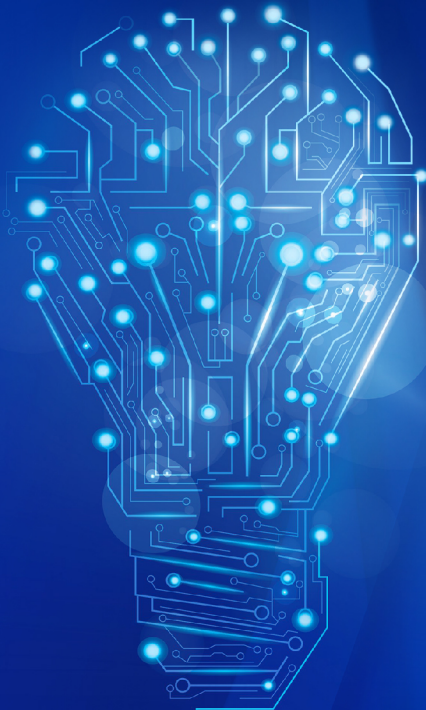# International Journal of INNOVATION AND KNOWLEDGE MANAGEMENT IN MIDDLE EAST AND NORTH AFRICA (IJIKMMENA)

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The Dynamics of social and technological change: COVID-19 and online learning at the University of Botswana

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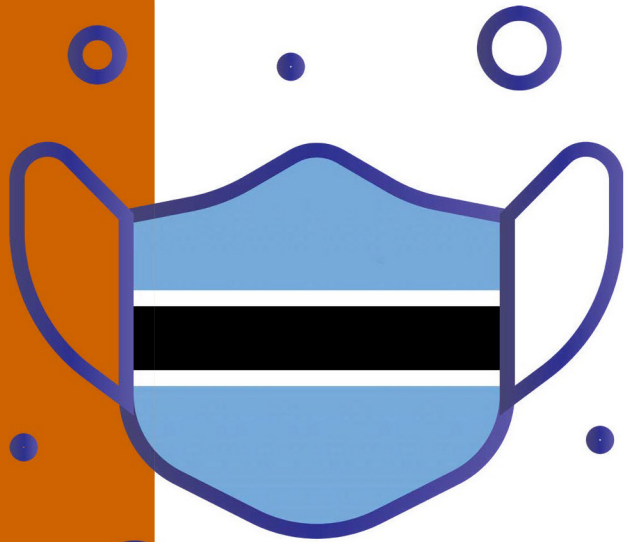
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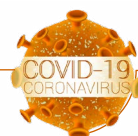
Abstract

Purpose

This paper is inspired by the emergence of COVID-19 and how it has profoundly changed the delivery of education and ushered in an online revolution in higher education. Like other institutions of higher learning, the University of Botswana was also affected. This paper explores issues around the embracement and implementation of online learning and the challenges faced in trying to adapt to change.

Methodology

Using critical realism as an underlying paradigm, the contextual background is given and a sociotechnical conceptual framework helps to appreciate the interrelations of the organisational system and the dynamics of dealing with turbulent change. A case study methodology is applied to explore the unique features.

Findings

Over the years, the University of Botswana has laid a solid foundation for online learning by adapting new technologies, which were mainly meant for traditional physical teaching. The advent of COVID-19 found the university unprepared to cope with the drastic disruptions. Some progress is being made as training of faculty has been accelerated and new digital tools are being used to facilitate online learning. However, staff motivation and requisite resources are lacking, yet these are critical drivers for the successful implementation of online learning.

The COVID-19 pandemic has had a major devastating effect on humanity and changed norms in ways never imagined nor experienced. Even as we move forward with the hope that, sooner rather than later, a vaccine will be found to heal the world, there is still a lingering cloud of uncertainty. The new normal, however, remains overshadowed by the old normal. The impact of the global economic crisis accentuated by the pandemic is felt across the political, institutional and digital spectrum, not least in education, where its disruptive knock has paralysed learning. This paper provides insight into the embracement and implementation of online blended learning at the University of Botswana in the wake of COVID-19. The current state of university readiness and adaptability is assessed, together with an analysis of challenges and a diagnosis of leadership response and role in managing technological change in uncertain times.

Introduction

The advent of the COVID-19 (Coronavirus, SARS-COV-2) pandemic has profoundly changed normal life and posed an existential threat to humankind. The significance of this plague is emblematic from the new narrative that motivates people to change, the "new normal". This change has had a profound impact on humans, social interactions, structural parameters and opened the technological space. According to the World Health Organization (WHO) situation report, as of 16 October 2020, there were over 38,789,204 COVID-19 cases, and 1,095,097 deaths reported globally. Of these, Africa recorded 1,249,998 infections and 28,110 deaths. Nearly half the confirmed cases are from South Africa (WHO, 2020). Although Botswana has only recorded 5,242 cases and 20 deaths, recent data show an upsurge of infections, which is relatively higher compared to the initial phase (Government of Botswana, 2020).

These staggering statistics reveal the extent to which the COVID-19 pandemic has obliterated lives and disrupted normal life. It has brought economies to a grinding halt, closed borders, shops, restaurants, led to household lockdowns and closed schools. Education across the spectrum has not been spared by the COVID 19 pandemic. The global context and impact on education is illustrated by the widespread closures of schools, colleges and universities; this affected 1.7 billion students in 193 countries (Quezada et al., 2020).
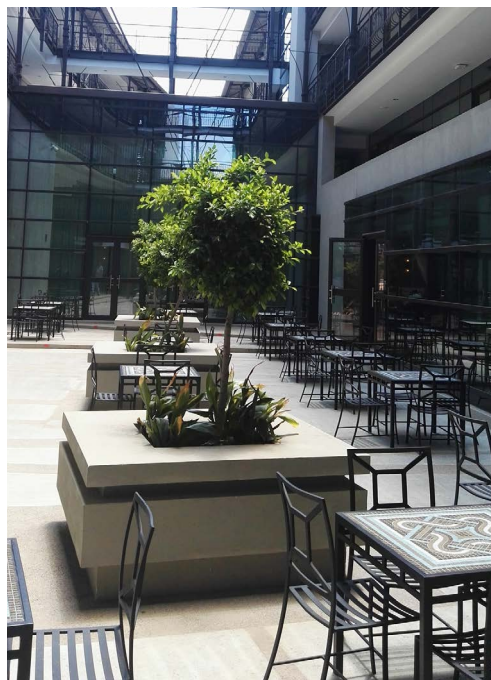
According to UNESCO, over 100 countries have implemented nationwide closures, impacting over half of world's student population (UNESCO, 2020). Higher education, such as universities, has experienced the disruption of the learning process. As a result, many universities were caught by surprise by this phenomenon. This meant they had to explore new strategic interventions to ensure uninterrupted learning and adopt safe health measures to protect faculty and students from infections. Comprehensive strategic decisions needed to be taken to facilitate the adoption of the "new normal". The coronavirus epoch presents a paradigm shift in the education workplace, from physical learning to virtual learning.

Similarly, the University of Botswana was hugely inconvenienced by the pandemic, as it was forced to close its campus on a number of occasions. They were challenged to respond to the imperative posed by the complexity and dynamics of the changing global educational landscape. This tested the institution to actualise its vision of being a "centre of excellence in the region and globally" and its newly crafted strategy, which premised on the knowledge economy (Norris, 2020). Addressing the public through government television, the Vice Chancellor announced the university's policy shift, which is consonance with the new government economic model. It seeks to transform an ailing economy heavily reliant on diamond resource mining to a knowledge economy. The impact of COVID-19 on Botswana's economy has been severe. This is due mainly to the diamond resource that depends on international trade and markets: China and the US are key import consumers of Botswana's diamond jewellery. Recently, it was no surprise that the global rating agency, Standards and Poor's, revised Botswana's economy from positive to negative (S&P Global, 2020). Also, the Bank of Botswana stated:

The contraction in GDP reflects the substantial curtailment of economic activity due to the necessary measures implemented to contain the spread of COVID-19 and safeguard human life. The resultant decrease in global demand and disruption in supply chains, as well as curtailed economic activity locally, has affected several sources of economic growth for Botswana. Notably, these include exports, such as minerals and tourism as well as non-food retail economic activity (Bank of Botswana, 2020).

Diamonds and tourism contribute a significant share to the economy and are key foreign revenue earners. When they are at the margin, it means there is less money for education as other competing sectors, such as health care, get more funding to fight the coronavirus disease and save lives.

Literature Review

Since COVID-19 is a recent phenomenon, there is currently scant literature to provide full information to appreciate its global impact on education. However, its profound impact on society and consequent ramifications on human life has ignited keen interest for researchers to investigate. This is especially true within the medical discipline where there is a genuine search for a vaccine. According to the medical journal, the Lancet, there is hope as the most promising vaccines are in phase three, with a possibility for cure expected late this year or early next year (Peiris and Leung, 2020). However this is not a given, and a profound insecurity for the near future remains. This uncertainty affects the education sector and many institutes of learning have embraced online learning.

Online learning evokes different meanings, depending on the context and specificity. Following, Rapata et al. (2020), online learning can be identified as an intentional mediated learning process via an Internet interface, in which both the learner and tutor are in different localities.

As such, the COVID-19 pandemic is not just a public health crisis, it is also a workplace issue as it has transformed work organisation (Thomas, 2020) and ruined the livelihoods of the working class globally. According to Roberts (2020), it has affected billions of workers through public health measures, such as lockdowns. A recent United Nations (UN) report acknowledges that COVID-19 has caused serious disruptions and changed the educational landscape:

The COVID-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. Closures of schools and other learning spaces have impacted 94 per cent of the world's student population, up to 99 per cent in low and lower-middle income countries (UN, 2020).
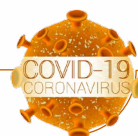
Similarly, in Botswana the same pattern of disruption has been experienced across all levels of education. Botswana's trade unions were way ahead of government, when they were the first to advocate for the closure of schools to protect pupils and teachers from COVID-19. Lately they recognised the disruptive impact of the pandemic on the learning process and rightly argued that as much as they suffered from the negative effects, they also pointed out that COVID-19 exposed some of the dysfunctionality of the education system as a result of lack of funds to buy requisite information systems and technology:

Botswana Sectors of Teachers Union (BOSETU) says CoVID-19 has negatively affected the education sector by deeply disrupting the education system. The intermittent lockdowns have resulted in halting of teaching and learning in schools. The Union indicated that the education system was caught napping and badly exposed when it came to the use of information systems, technological platforms and issues of digitalization. COVID-19 exposed glaring inefficiencies and deficiencies when it came to the use of ITC in schools. As a consequence, the union is calling on government to prioritize education in her budgeting to provide technological infrastructure and equipment including provision of tablets to students and teachers (Kgosiemang, 2020).

Teachers and educators found themselves in a completely transformed workplace, losing direct contact with students, having to learn new technology, acquire equipment and work in a house environment.

In higher education, the coronavirus pandemic has extensively impacted on global education (Crawford et al., 2020), together with challenges that shape the manner in which education is processed and delivered. It forced the universities to re-shift from a face-to-face traditional mode of teaching to new digital online methods. However, many universities did not appreciate the nature of change and its context, hence the lack of preparedness. As an OECD report found:

The COVID-19 pandemic has also had a severe impact on higher education as universities closed their premises and countries shut their borders in response to lockdown measures. Although higher education institutions were quick to replace face-to-face lectures with online learning, these closures affected learning and examinations as well as the safety and legal status of international students in their host country. Perhaps most importantly, the crisis raises questions about the value offered by a university education which includes networking and social opportunities as well as educational content. To remain relevant, universities will need to reinvent their learning environments so that digitalization expands and complements student-teacher and other relationships (Schleicher, 2020:4).

The effect of COVID-19 on education is felt in terms of management declaration and pronouncements in response to pressure to transition from traditional face-to-face teaching to emergency virtual learning, a phenomenon that Murphy (2020) calls "securitization" measures adopted to mitigate the effects of the pandemic. Some of these pressures of online teaching have been identified as stress and workload, making it difficult for teachers to balance the competing triple needs of teaching, research and service obligations (Rapata et al., 2020). Furthermore, teachers were expected to provide online learning without pedagogical content knowledge (PCK) (Gudmundsdottir and Shulman, 1987).

Uncertain times and dark moments also provide an opportunity for reflection and innovation to search for solutions. Accordingly, Gigliotti (2020) argues that in the aftermath of the COVID-19 crisis there is a need for organisational renewal that not only makes strategic decisions, but, more importantly, also calls for "values based leadership" that is sensitive to the needs of students and staff. This assertion is relevant because the "New normal" is not just about digitalisation; it is fundamentally about institutional and social change.

Many universities in the Global South were pushing for online learning because they had no other option. Their state of technology and pedagogical preparedness is far from matching their sister universities of the Global North. More than just technology, Bao (2020) postulates that most faculty members are facing the challenges of lacking online teaching experience, early preparation, or support from educational technology teams.
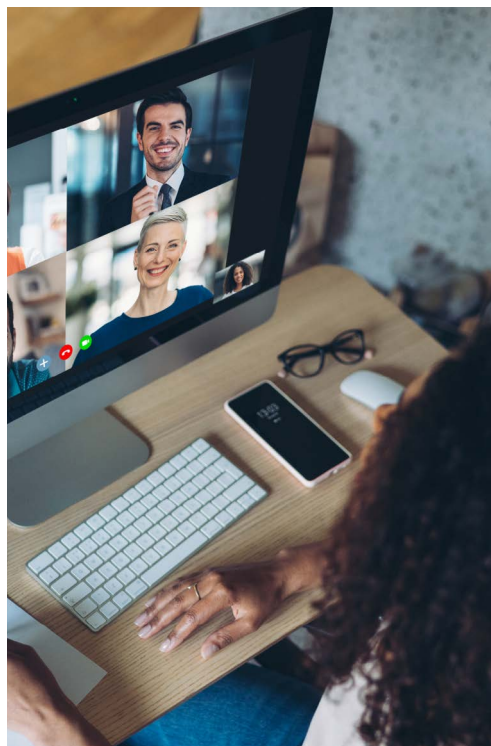
Methodology

This study adopts a realist philosophy to explore the underlying problems that enable the university to, or constrain it from, effectively deliver[ing] online teaching in the aftermath of COVID-19. Critical realism is credited for its ontological stratification based on three levels, the real, the actual, and the empirical (Bhaskar, 1975). With the three distinct phases of investigated phenomena, critical realism is able to illuminate the generative mechanisms that are behind observable events (Sayer, 2000). In this respect it transcends the empirical level and goes to deep analysis (Marobela, 2006; Fleetwood, 2005) by providing causal explanation. This is useful in examining the academic structures, relationships and mechanisms of the university governing system. With this contextuality we are able to appreciate the interface of relationships and powers in an institutional system. Realism is open to mixed methods (Modell, 2009) and relevant in case study research (Easton, 2010), to engage with the unique features of the case organisation. Data were sourced through desk research, by mainly relying on documentary analysis of organisational information and communication to staff on addressing COVID-19.
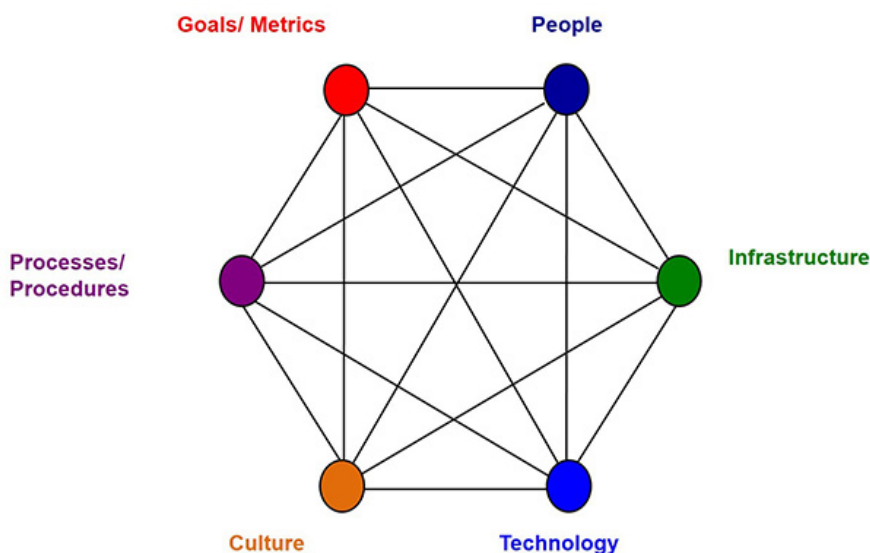

Figure 1: Conceptual Framework

Source: Leeds University, n.d.

Using the socio-technical model as a conceptual framework (Figure 1), as formulated by the Leeds University Business School, helps us to appreciate the organisation as a dialectical entity and an holistic system, and the interface of different composite elements and dynamics between elements. Based on the case study of the University of Botswana, there is a clear resonance on how COVID-19 has affected managerial decisions, organisational culture, processes, technology and people. Consequently, there is a need to adapt new innovative teaching strategies and technology to enhance the learning process and outcomes.

Transformation of the University of Botswana

Profound changes are shaping the world of work globally. At the centre of these transformations are political, economic, social and technological pressures. Equally, universities have been hugely affected by broad reforms shaping the educational landscape. According to Harvey (2005), Callinicos (2006), and Marobela and Andrae-Marobela (2013), these trajectories have been driven by neoliberalism, a political and economic process that seeks to restructure education into a marketised commodity sold for profit.

Over the years the University of Botswana has been going through changes, most notably its physical infrastructure with new buildings created, such as the new medical school. It is currently going through organisational change that affects the working conditions of staff. Some of the critical recent changes include a new strategy, a guiding framework that is informed by a neoliberal vison as the Vice Chancellor has set himself to turn the university into an entrepreneurial institution with a focus on business. As the Vice Chancellor articulates:

> *The University recently reviewed its strategy: A strategy of Excellence: University of Botswana Strategic Plan to 2016 and Beyond. The new strategy 'Creating a Future for the Knowledge Generation' sets a roadmap of the University Strategic direction for 2020-2029…..As a developmental University it is essential that the University has entrepreneurialism embedded in the work of staff and students. The University must strengthen and diversify its financial base to guarantee financial viability, the delivery of its academic mandate and to ensure long-term growth and development* (Norris, 2020).

In part, this urgency for transformation reflects the financial pressure from government as it expects the University to be self-financing. On the surface this seems realistic, but in reality it is a monumental challenge. The private sector in Botswana is small and funding staff for personal development is not a high priority. In addition, many parents cannot afford to pay tuition fees. Without government funding, the university can hardly survive. As a publicly funded institution originally funded by ordinary people through donations from its inception, the University

was expected to provide education in all areas of learning. The focus on entrepreneurship and neglect of humanities and arts is a departure from its historical mandate, to serve the community for public good.

Online learning and digitalisation at the University of Botswana

For the past decades, the University relied on two modes of learning; traditional physical personal teaching and online learning. There was more emphasis on face-to-face personal contact involving large classes, sometimes with up to thousands of students in a class. At the same time, however, new innovative learning and teaching methods and tools were encouraged and partly implemented. Notably, the Enterprise Resource Programme (ERP) to manage personal staff data, Blackboard in teaching, and Academic Student Administration System (ASAS) to record students' marks were implemented.

More recently, another online learning application (Moodle) was introduced and staff members were regularly trained on how to interface with it as an effective teaching aide. From this background, the University has done well in laying the basis for online learning. However, COVID-19 exposed the limits of the current initiatives and amplified a coordinated need to respond to disruptive change.

First, the University has no concrete policy plan for online teaching. Occasionally there is communication to staff motivating them to adapt to the new normal and the need to use digital learning. There is continuous training from IT staff who do their best within limited resources to help staff. Recently they have started to provide online tutoring on Microsoft Teams. However, most of the staff struggle with old desktops that are obsolete in the era of the online revolution. There is also a need for standardisation of teaching methods and content; these are currently unclear as it is left to the individual lecturer to produce content.

Findings

Analysis is based on my observations and reflections of online teaching of my MBA students doing the Management Information System module, also through interactions with colleagues. This resulted in several themes emerging from conversations and organisational documents, mainly communication through emails regarding the COVID-19 pandemic and attempts by management to introduce digitised learning practises.

Safety of Staff

Although there is constant communication to staff about the need to adhere to COVID-19 protocols, there is no clear policy of providing guidelines to follow; it is left to faculty to ensure that online learning continues. Considering that faculties are huge and organisations in their own right, it could have been prudent to appoint health and safety officers for each faculty to provide education and monitor adherence to COVID-19 guiding principles as set by the Ministry of Health. Academic staff members were not provided with the requisite personal protective equipment (PPE). Much worse, PPE was not provided for essential service workers such as cleaners and security who are on the frontline. These categories of workers are precarious and vulnerable as they are outsourced to small struggling private companies. It was revealing that the security officers went on strike demanding payment, long after the end of the month. Instead of distributing free masks, the University was selling PPE to its staff and freely donating face shields elsewhere.
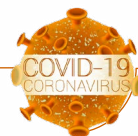
Work Organisation

The pandemic essentially changed the way work is organised. The office shifted from a physical to a virtual space. The University's main focus was on ensuring that workers adapt to new digitalised teaching, as a result negating the changing nature of the work process and organisation. With new technology, for example, it seems easier and empowering that people can work remotely or at home. But this also presents challenges as the development of education technologies is a dialectical process that changes nature of the forces and relations of production, with potential impact on the working conditions (Allmer, 2019). The University has always promoted flexible working for academic staff to allow them to prepare for class and do marking at home. Now, with digital requirements, there is more pressure on staff to resort to online platforms, even though they are still learning to adapt to equipment requirements. There is a potential for close monitoring of faculty remotely, or even spying on them, as the organisation has power over technology. In all, this has the potential to cause stressors and adversely affect mental health. In addition, the home environment poses additional challenges, such as space, family, distraction, lack of equipment and data connectivity.

Democratic participation

Consultation, participation and transparent engagement are critical essentials in the adaptation and ownership of new technology. With the University of Botswana, it is assumed that end users of technology have no say in decisions involving the nature and type of learning technologies they will need and use. This role is left to experts, and management decides what end users need. This, for example, was the case when management dictated high speed laptops that were not affordable as lecturers were buying them with their own money. The University only gave soft-loans payable in three months. The role of staff was simply to implement managerial decisions. When trouble-shooting problems were experienced, such as with ASAS and Microsoft Teams, management took a typical defensive and denial response. Resistance to change came from management not from ordinary staff as is normally the case with organisational change and development. As illustrated in Figure 1, an organisation is a system with interdependent parts; changing one aspect only, learning technologies, affects the entire ecosystem and other components as well as people, culture and structures, ultimately throwing the entire organisation into a state of entropy. Without a genuine consultative process, a good technological system can fail to realise its intended goals.

Resources and Training

The adequacy and availability of resources are a prerequisite for an effective and successful implementation of new policies and technology. At the University of Botswana, new measures were adopted to provide students with free data so they could access digital learning remotely. Strangely, however, the same support was not extended to faculty and staff. Instead, management decided that staff should buy laptops with their own funds through interest free loans, and it was left to individual staff whether or not to do so. This caused unnecessary apprehension and dissonance as lecturers could not understand why they had to buy personal computers for organisational use. It seems strange that even in the newly unveiled telephone policy, mobile phones were not extended to essential service staff in the technology support unit, but were confined to senior management, such as Vice Chancellors and Deans.

Although the University often talked about working from home, in actuality they were not keen as they did not want to buy Wi-Fi and laptops for staff. It seems that, from a management perspective, they were not yet ready to internalise virtual learning. They still feel people should come physically to the office to deliver online lectures. This brings in the issue of trust. It is assumed that when people work from home they do not really work, therefore there is a need for physical supervision to control them. Without a supportive teaching environment, which is open to faculty concerns, training and resources, it is difficult for the University to join the online revolution. Additionally, to realise this, the faculty needs sufficient support in the form of teaching assistants who are versatile with information technology to provide backup training support.

Governance Structure and Management

COVID-19 presented a crisis that no organisation was prepared to tackle. However, organisations as living and learning entities must quickly adjust to the new challenges. This calls for proactive, flexible and agile management to avert managing-by-crisis. Without clear guidelines on tackling emerging problems from the pandemic, management resorted to heuristic approaches. Therefore, a combination of online tools were used, Blue Jeans, Zoom, Microsoft Teams; without providing guidance, this brought confusion and stress to both staff and students. Even if one recognises the need for this, it has to be done in a structured way for people to follow easily.

It is not enough to respond to the challenges of COVID-19 by simply emphasising online pedagogy. There is a need to address fundamental issues around governance, motivation and structural impediments. The University's governing structure is detached from the current realities experienced by faculty and students. In part, the problems of resources are a reflection of the governing systems. Part of the problem of resources is a reflection of the governance inhibitions and outdated statutes. As a public university serving public interests, more resources are needed to avail sufficient funding to faculty to enable them to cope with the new normal.

In this respect, laptops and tablets are no longer luxuries but are essentials tools for the facilitation of the online learning process. It also follows that motivation of staff in terms of decent remuneration is a critical component of organisational change. In recent years the University has experienced high staff turnover as a result of lower employee morale and commitment. People are pivotal to any change; therefore, their needs and concerns, such as remuneration and equipment, must be given utmost priority if the institution is to ride on the waves of digitalisation.

Conclusions

COVID-19 remains deadly and a serious threat to humanity. Even when all efforts are made to halt its ramifications, new waves of infections still persist. In the education sector its effects are still enduring. COVID-19 has closed schools and paralysed learning. However, it has also ushered in the opportunity to change the educational landscape for the better.

As technology develops and we move towards the fourth Industrial Revolution, tools of learning fundamentally change. The days of desktops are gone. For the university to achieve its lofty goals of attaining academic excellence and knowledge learners, there is a need to provide staff with appropriate knowledge resources to enhance an innovative and motivational environment to inspire staff to embrace digitalisation and remote teaching.

Change is very sensitive as it brings uncertainty, and changing technology affects other elements of the organisation. The University management approach was mainly technical, procedural and goal driven. This negated other crucial components of the organization that were also affected, notably, people, processes, culture and needs. Although the University of Botswana has laid a solid foundation to transform from conventional learning to an online model, more needs to be done to meet the challenges presented by COVID-19. Despite publicised commitments to transform from traditional teaching to the new normal by management, in reality the institution has not really adapted as the critical resources necessary for driving an innovative and motivational environment to inspire staff to embrace digitalisation and remote teaching are still not available.

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Biography

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