

## The serendipities of the covid-19 pandemic in Zimbabwe's higher education institutions: A multiple case analysis.

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### ABSTRACT

This paper unearths the serendipities of the covid-19 pandemic in Higher Education Institutions (HEIs) of Zimbabwe. While acknowledging the unprecedented challenges of the covid-19 pandemic, and the ravaging effects it has brought on economies around the globe, the paper argues that there are notable positives that have been realised through the pandemic. To establish these fortunate and advantageous developments brought about by the covid-19 pandemic, a multiple qualitative case analysis of secondary data from seven universities in Zimbabwe was conducted. The universities are comprised of five public and two private universities. The data sources included university websites and repositories as well as government publications on the covid-19 pandemic. Findings of the study revealed that Zimbabwe's HEIs realised certain fortunes which fulfilled the Education 5.0 curriculum thrust due to the covid-19 pandemic. One of the serendipities of the covid-19 pandemic reported in the study is that the pandemic strengthened online teaching and learning technologies and enhanced research and publication. Besides, Zimbabwe's HEIs and industry developed a much closer and improved collaboration relationship in a bid to fight the scourge. From the study, it was also established that covid-19 serendipities were a conduit to innovation enhancement, achievement of the industrialisation agenda, bridging of the gap between HEIs and communities. Further to this, the pandemic brought about brand improvement and institutional visibility, fulfilment and motivation of employees derived from the room accorded to creative thinking and saving of employee operational costs as a result of working from home. This study, therefore, views the covid-19 pandemic not from a detrimental perspective but as having introduced a new lease of life on Zimbabwe's Higher Education Institutions' Education 5.0 Agenda, which has far-reaching effects into the future, and even into post-covid-19 period. The pandemic made HEIs realise and exploit their potential and capabilities which were lying dormant and became enablers in the attainment of Education 5.0. However, future research on the serendipities of the covid-19 pandemic can be in the form of field research aimed at understanding the perceptions and feelings of lecturers in HEIs on their employers' acknowledgement and recognition of their contribution in line with reciprocity theory.

### KEYWORDS

Coronavirus, global pandemic, serendipities, Higher Learning Institutions, Education 5.0, Zimbabwe.



## 1. Introduction

The ravaging effects of the covid-19 virus, since its discovery in late 2019 cannot be overemphasised. The pandemic has caused enormous suffering to nations, and communities around the globe. The dramatic loss of human life has led to devastating economic and social disruptions. The situation is worse-off for Zimbabwe, and other developing economies. For developing countries, the pandemic constitutes a perfect storm vulnerability are magnified by multiple shocks (Pazarbasioglu & Kose, 2020), attributed to weak healthcare systems, abject poverty and poor economic performance.

In trying to curb the unprecedented effects of the pandemic, the world almost came to a standstill through lockdowns and restrictions, with only essential services operating using skeletal staff (save for the health services) with the rest of the establishments resorting to remote working. The World Health Organisation (WHO) made a call to experts, researchers, institutions, politicians among other stakeholders to rise to the challenge and play their part in developing solutions to tackle the invisible enemy. Zimbabwe's HEIs conceded to the call and joined the rest of the world in seeking solutions to the predicament. In doing so, there has been some positive eventualities that have occurred which cannot go unrecognised.

The covid-19 pandemic ushered in innovations, inventions and new work arrangements and developments. Arguably, had it not been the pandemic, such developments and milestones would not have been reached. It is therefore, in the context of this paper, that we seek to look into the serendipities caused by the covid-19 pandemic in HEIs in Zimbabwe.

## 2. Covid-19: Where it all started

The novel coronavirus disease, also known as covid-19, was first discovered in December 2019 in the Chinese city of Wuhan. Since then, the disease has spread over the whole world (SARS-CoV-2). In January 2020, the covid-19 pandemic was declared by the WHO a world health emergency and on the 11th of March the outbreak was officially declared a global pandemic (WHO, 2020). The numbers in terms of new infections and deaths have been skyrocketing in many nations across the globe. Acknowledging that the numbers continue to escalate on a daily basis; as at 21 July 2021, there were a total of 192, 718, 665 confirmed cases, 4, 140, 508 confirmed deaths and 175, 187, 178 confirmed recoveries in 220 countries and territories (John Hopkins University, 2021; Worldometer, 2021).

It is estimated that some infections, deaths, and recoveries have gone unreported (Griette, Magal & Seydi, 2020; Liu, Magal, Seydi & Webb, 2020; Liu, Magal & Webb, 2021); Peng, Ao, Liu, Bao, Hu & Wang, 2021), particularly in African countries (Djilali, Benahmadi, Tridane, & Niri, (2020), BBC News 2020, Sky News, 2020). Studies have attributed unreported cases to insufficient testing, data depression of mild, and asymptomatic patients and a time-lag bias (Jung et al., 2020, Spychalski, Blazy, nska-Spycalska & Kobiela; 2020), resource constraints and people dying at home without seeking treatment (Matenga, 2021), administrative chaos and politicians trying to suppress inconvenient news about rising case numbers (Pathak, Frayer & Silver 2021; Goats & Soda, 2021).

Zimbabwe has not been spared by the covid-19 pandemic; a period described as catastrophic for the nation already experiencing an array of challenges. The government, through the advice from the Tripartite Negotiating Forum (TNF), declared covid-19 as a national disaster on the 18th of March 2020 (UNDP, 2020). On the 27<sup>th</sup> of March 2020, the Ministry of Health and Child Care, announced that out of the 188 tests conducted seven were covid-19 positive, 181 were negative and one death recorded (ZCTU, 2020). The numbers have been increasing since then, and as at 21 July 2021, there were 88,415 confirmed cases, 2,747 confirmed deaths and 58,155 confirmed recoveries (John Hopkins University, 2021; Ministry of Health and Child Care [MoHCC] Database, 2021). Since the first case was reported, the government swiftly moved to put in place covid-19 response mechanisms and these

included border controls involving the banning of non-essential travel, ban on entertainment, recreational and public gatherings. Citizens were encouraged to frequently wash their hands, wear masks, practice social distancing and stay at home to stop further spread of the disease. Subsequent to this was a total lockdown which started on the 30<sup>th</sup> March 2020 (ZCTU, 2020).

These response mechanisms have been revised and readjusted from time to time, in line with the dynamics presented by the pandemic patterns (1<sup>st</sup> -3<sup>rd</sup> wave phases). The responses were also revised according to health and socio-economic needs of the nation (MoHCC, 2020). The government through the MoHCC made a call to various stakeholders to develop home grown solutions that were to help the nation tackle and ultimately bring the pandemic to an end (Mbunge, Fashoto, Akinnuwesi & Gurajena; 2020). To this end, Zimbabwe's HEIs were among the stakeholders the government looked up to in achieving the endeavour. HEIs were expected to respond and confront the pandemic with sound science and advice. Daniels and Shadmi (2020) argue that when confronted with the pandemic of this magnitude, universities are required to play a role of trusted agents in combating the crisis, as they conduct and share essential research into the nature of covid-19, report data about its spread and impact, coordinate with governments to shape policies and develop technologies and products that will spare lives and hasten economic recovery.

### **3. Higher Education Institutions (HEIs) and the Education 5.0 Agenda**

Zimbabwe's HEIs are mandated, and operate, to achieve the Education 5.0 Agenda. Education 5.0 is a model recently adopted to strengthen the old 3.0 model by adding innovation and industrialisation to the already existing core areas of teaching, research and community service (*GZU News*, 2021). Presenting a public lecture at Great Zimbabwe University in 2019, the Minister of Higher and Tertiary Education, Science and Technology Development; Professor Amon Murwira, indicated that the move was driven by the ambition to deliver an education system that produces goods and services for the nation (*GZU*, 2019). According to the minister, Education 5.0 is a complete transformation of a mission that directs universities and tertiary institutions to launch and engage in outcome-focused national development activities that will bring about a competitive, modern and industrialised Zimbabwe.

Universities, by their nature, and character, are positioned to develop systems and technologies that will dramatically transform and reshape the global business and social landscape (Jonathan, 2019). Jonathan (2019) further asserts that, by combining critical thinking, creative thinking, innovativeness and entrepreneurial mindsets to technological systems, HEIs will take nations to greater heights. Because institutions of higher learning have a problem-solving and value-creation mandate, the covid-19 pandemic is, therefore, a problem awaiting to be solved by HEIs Education 5.0 Agenda. Thus, freeing people from the scourge, and the nation from the devastating impact of the pandemic and resultant economic transformations are all value addition outcomes.

### **4. Serendipities defined**

Serendipity is a term which was first coined by Horace Walpole in 1774 in a letter written to a friend explaining an unexpected discovery Horace Walpole had made by chance (Moore, 2020). In this paper, serendipity is loosely used to mean all the fortunate discoveries born out of the fight against the covid-19 pandemic in Zimbabwe's higher education fraternity. The intention was to combat the covid-19 pandemic, which rather resulted in a number of notable positives in the form of new ways of doing things and scientific and technological discoveries. We believe that, if it were not for the pandemic, such incidences and developments would not have occurred, or could have been realized at a slower pace and magnitude than it has happened under the pandemic conditions. These serendipities will have lasting effects even after the covid-19 period.

## 5. Problem Statement

While on the one hand, we admit that the covid-19 pandemic has wreaked havoc and has since left an indelible mark on the global economy, on the other hand, the pandemic has brought about positive effects in Zimbabwe's HEIs. This is in line with Liang (2020) who says its effects are at a scale never seen since the Great Depression, it is, however, argue that there are serendipities caused by covid-19 that are worth noting, particularly in HEIs.

We also note that while many studies have focused on the negative impacts of the pandemic on health (Gage & Bauhoff, 2020; Maclean & Simon, 2020; Lakhani, Sharma, Gupta, Kapila & Gupta, 2020; Grays, 2020), workplaces (ILO, 2020; Kaushik, 2020; Wong, Ho, Wong, Cheung, & Yeoh, 2020), food security (Elsahoryi, Al-Sayyed, Odeh, McGrattan & Hammad, 2020; Bahadur, 2020), women (UN Secretary-General's policy brief, 2020), economy (Nicola, Zaid, Sohrabi, Kerwan, Al-Jabir, Iosifidis, Agha & Agha, 2020; Alcoba, 2020; Espitia, Nadia & Michele, 2020; Malley & Richard, 2020) and education among other aspects; its positive effects are still under research to our knowledge.

The negative effects of the pandemic in the higher education fraternity- apart from the infections and loss of human capital through deaths, there has been disruption of teaching and learning activities. This has been as a result of closure and postponement of universities' on-campus events such as face-to-face lectures, workshops, conferences, sports, graduation ceremonies and other critical activities. All the effort bearing the intention to protect students, and staff members from the highly infectious disease (Sahu, 2020; Mudenda, Zulu, Phiri, Ngazimbi, Mufwambi, Kasanga & Banda, 2020). Be that as it may, there is still a paucity of studies on the positive developments which came as a result of the pandemic, particularly in Zimbabwe's state universities.

The pandemic brought an awakening call to certain activities (within the Education 5.0 realm) in Zimbabwe's HEIs. Nevertheless, the emphasis on its devastating effects has overshadowed such developments. This study thus, seeks to investigate and collate the fortunate and serendipitous activities that have been accomplished by Zimbabwe's HEIs as a result of the covid-19 pandemic despite its detrimental account globally.

## 6. Challenges presented by the covid-19 pandemic

There is abundant literature regarding the challenges posed by the covid-19 pandemic. Research studies from different parts of the world concur that covid-19 has brought the world into uncharted waters with many countries being placed under lockdown measures. Most economies ground to a halt and almost everyone is afraid of the dire consequences (Majumdar, Biswas & Sahu, 2020). This disease has been reported to be one of the most lethal pandemics the world has ever faced (Mudenda et al., 2020). The disease has emerged as a global health threat, with ravaging effects on all aspects of life (Srikanth et al., 2020).

The world has suffered from this pandemic which originated from Wuhan in China (Sahu, 2020). The world over experienced stoppages as a result of unprecedented changes. New work arrangements emerged in a bid to accomplish social distancing so as to stop the further spread of the disease (Majumdar, Biswas & Sahu, 2020). This, however, negatively affected the nations' economic performance. Institutional productivity fell as organisations had to, on very serious situations of transmission and workplace contamination, close or operate with very lean manpower. Demuyakor (2020) bemoans the decline in industrial production due to the sweeping effect of the pandemic.

### *HEIs in the context of the covid-19 pandemic*

In Zimbabwe, HEIs also enumerate their losses caused by the covid-19 pandemic. Daniel (2020), notes that the pandemic is a very huge challenge to the education

system. In view of the seriousness of the pandemic, Ali (2020) indicated that a growing number of tertiary institutions have shut down in regard to face-to-face classes globally and the coronavirus has revealed emerging vulnerabilities in education systems around the world. Lockdowns, and other restriction measures, made contact tuition impossible (Grange, 2020), and generally, HEIs across the world had to rush and embrace online learning and teaching.

Online teaching and learning had to be operationalised at very high costs for the learner, and the educator especially in situations where the learning institutions did not provide e-learning internet data. This view is buttressed by Demuyakor's (2020) findings where high costs of participating in online learning is singled out as a major challenge by Ghanaian students learning in China. Demuyakor (2020) again reiterates that internet connectivity was found to be slow for students enrolled at Chinese university campuses. Massive efforts towards improving technological infrastructure were suggested by Farrah and Hatem al-Bakry (2020) as the right foot forward towards winning the technological challenges. Mbunge et al. (2020) also recommended colleges and universities in Zimbabwe to improve the internet bandwidth, and increase Wi-Fi access points to achieve uninterrupted virtual teaching and learning.

#### *Covid-19 and the disruptions of HEIs' operational calendars*

Most HEIs worldwide lacked continuity plans for biological hazards such as the covid-19 emergency (Izimu et al. (2020). The pandemic has undoubtedly been viewed as a disruptive event in the smooth running of activities at HEIs. All global education institutions, including HEIs, had to make some adjustments to their academic calendars (Demuyakor, 2020). The majority, if not all the institutions of the world are now operating semesters behind of their normal learning calendar. Unstable academic calendar is considered as one of the challenges that has troubled HEIs as a result of the covid-19 pandemic (Ogunendo & Musa, 2020; Harsha & Bai, 2020).

Disruptions to academic calendars were not only necessitated by lockdown measures which halted teaching and learning activities, but were also a result of institutions' 'split-up' as campus decongestion measures to achieve maintenance of social distance as well as reduce overcrowding (Abdullah, Husin & Haider, 2020). The operationalisation of two separate groups attending campus per semester for physical interactive teaching, continuous assessments as well as final assessments meant that semesters had to be extended to cater for and accommodate the two-group change arrangement

#### *Challenges to effective teaching and learning at the onset of the pandemic in Zimbabwe's HEIs*

The first national lockdown in Zimbabwe, declared on the 30<sup>th</sup> March 2020 saw the talk-and-chalk mode of teaching and learning stopping abruptly (Nyabunze & Siavhundu, 2020). HEIs in Zimbabwe found themselves shrouded and grappling in a plethora of challenges in trying to switch to the virtual teaching and learning model. Maphosa, Sisassenkosi and Dhlamini's (2020) study at a university in Zimbabwe revealed that faculty staff were constrained by a number of challenges. These included digital skills, internet speed, cost of internet data and non-availability of appropriate hardware. The above findings are also echoed by Maphosa, Dude and Jita (2020) whose findings were that students failed to utilise other e-learning platforms that were in place due to unaffordable and exorbitant data cost.

The experience of the researcher in one of Zimbabwe's state universities was that, out of the thirteen students in the Organisational Behaviour module class, only three students (twenty three percent) participated consistently on the Google classroom platform while the remainder bemoaned data costs. Sibanda and Muyambo (2020) conclude that the least utilisation of the Google Classroom application was due to its novelty to a majority of students. Full class participation was only achieved after the adoption of the WhatsApp platform for teaching and learning. Maphosa et al. (2020) point out that despite WhatsApp being a social media and an 'unofficial' application it became the *de facto* teaching and learning tool for some universities due to its low

data consumption.

Kgari-Masondo and Chimbunde (2020) indicate that while universities sent their students home after lockdown announcements, they adopted online teaching approaches so as to continue with the education of their students. However, little was done to assist most students whose homes were located in, say remote parts of the country. This is an eye opener to technological development asymmetries and bifurcations between rural and urban areas, which is a reality impeding in the higher learning progress, and thus, requiring immediate attention. Students' resident in towns are privileged as they have easy access to tertiary institutions' WIFI services whereas their counterparts who migrated to the remote areas after lockdown announcements completely had no virtual learning means. The rural area connectivity challenges are two-fold as there is incapacity to purchase internet data, and/or poor network catapulted by bad connectivity, have had a high propensity to haunt the majority of learners resident in Zimbabwe's rural areas.

## 7. Methodology

Desk research was undertaken to obtain data for the study. Desk research, also referred to as secondary research, involves collecting and analysing data from existing data sets, reports, and documents, usually compiled by other persons or organisations, and often for purposes other than those of the present study (World Food Program, n.d.). Documentary analysis consisted of the universities' published reports, newsletters, research updates and events, and notices in the institutions' websites.

We visited each university's home page (website), searched for covid-19 related newsletters, and updates that centred on the Education 5.0 Agenda. The search was done using search keywords like 'covid-19', "covid-19 response", "covid-19 updates". Data from government publications and official communication through public notices, circulars and official government social media platforms (e.g., MoHCC Twitter handle and press releases), and websites was also used. The study targeted Zimbabwe's universities notably five state universities and two private universities. The basis of this inclusion was determined by the available data covering the Education 5.0 Agenda, that is, universities without published covid-19 developments in line with the Education 5.0 plan.

The study also, excluded all covid-19 developments from unverified sources such as social media. For ethical reasons, particularly related to the protection the identity of the universities under study, pseudo names were used wherein universities were referred to as University A, B, C and so on. The tenets of Education 5.0 that were investigated during the study are (1) teaching, (2) research, (3) community service, (4) innovation and (5) industrialisation.

## 8. Results and Discussion

### *Teaching and Learning during the Pandemic*

It was established that online teaching was adopted by all universities in Zimbabwe as the main teaching and learning model. As a mitigatory measure to physical learning disruptions due to lockdowns, Grange (2020) asserts that HEIs across the globe had to race and hasten the introduction of online learning, teaching and assessments. As shown in Table 1 below, all the universities adopted Google Classroom as their Online Learning Management System (OLMS), save for University G, which adopted MOODLE.

For meetings, seminars and conferences, Google Meet and Zoom were adopted by the universities under study. University A's newsletter indicated that although they launched their OLMSs pre-covid-19 time, the online learning platform was not being fully utilised and webinars were not common to many students and lecturers alike. It also indicates that most students and lecturers did not have the knowledge of how to go about the webinar system. Also, on University C's website, it is cited that covid-19 and lockdowns came as a blessing in disguise as the lockdowns afforded the

institution an opportunity to intensify on the use of e-learning platforms, in line with global technological advancements.

The covid-19 pandemic has breathed life into online-based models of teaching and learning. The seriousness with which universities have appreciated online teaching and learning has broadened the means of teaching and learning in all university contexts. Had it not been for the covid-19 pandemic institutions could have remained reliant on the talk-and-chalk means of instruction. Technology-enhanced learning platforms did not only emerge as alternatives to the traditional-physical learning model, that is, to complement and allow for blended learning but they have also enhanced students, lecturers and other stakeholders' technological skills.

The study also established that University A had also responded to the covid-19 by introducing new degree programmes under the Faculty of Medicine; a degree in Pharmacy and another in Medicinal and Pharmaceutical Chemistry, as part of its response mechanism to the pandemic. Therefore, the covid-19 pandemic created a programmes lacuna whose importance and significance in biological crisis and disease management, such as this covid-19 pandemic and any other unforeseeable malaises cannot be overemphasised.

University State/Private		Education 5.0 Deliverables				
		Teaching	Research	Community Service	Innovation	Industrialization
A	State	<ul style="list-style-type: none"> <li>- Online teaching and learning (Google Classroom)</li> <li>- Google meet- Webinar for presentations of papers and stakeholders' conferences and meetings</li> <li>- Introduction of two new degree programmes                             <ul style="list-style-type: none"> <li>* Degree in Pharmacy</li> <li>* Degree in Medicinal and Pharmaceutical Chemistry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Enrolment of 14 postgraduate students researching on Zimbabwe's indigenous fruits and herbs</li> <li>- Research publications on Covid-19</li> <li>- Signing MOU with a South African University to stimulate interdisciplinary research and innovations to fight the pandemic</li> <li>- Research on herbal medicine with respiratory healing properties</li> </ul>	<ul style="list-style-type: none"> <li>- Partnered with a provincial hospital to conduct Caesarean Section delivery on a Covid-19 patient.</li> <li>- Institution's medical staff working as frontline</li> <li>- Establishment of University Covid-19 Task Force</li> </ul>	<ul style="list-style-type: none"> <li>- Incubation hub</li> <li>- Set up a sanitizer production plant</li> <li>- Refurbishment of a factory in Industrial Park</li> <li>- Indigenous Fruits and Herbs innovation project</li> <li>- Discovery of healing properties of local African herb Zumbani/ Umsuzwane (Lippia Javanica)</li> </ul>	<ul style="list-style-type: none"> <li>- Manufacturing of pharmaceutical products, through bulk production of;                             <ul style="list-style-type: none"> <li>* hand sanitizers</li> <li>* face masks</li> </ul> </li> <li>- Procurement of the production of medical scrubs, nurse aid uniforms and surgical gowns</li> </ul>

B	State	<ul style="list-style-type: none"> <li>- Online teaching and learning (G- Suite for Education- Google Classroom)</li> <li>- Zoom meetings</li> </ul>	<ul style="list-style-type: none"> <li>- Research publications on Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Collaborated with industry to develop ideas on how to establish oxygen plant.</li> </ul>	<ul style="list-style-type: none"> <li>- Invention of,               <ul style="list-style-type: none"> <li>* The Covid-19 Ventilator</li> <li>* Mass Urban Bus Transport System (Tap Cards Payment System)</li> <li>* Covid-10 alert system</li> <li>* Sanitizers and Disinfectant line</li> </ul> </li> <li>- Construction of a medical oxygen plant</li> </ul>	<ul style="list-style-type: none"> <li>- Production and supply of ventilators</li> </ul>
C	State	<ul style="list-style-type: none"> <li>- Online teaching and learning (Google Classroom)</li> </ul>	<ul style="list-style-type: none"> <li>- Research publications on Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Partnered with the Robert Mugabe School of Education and Culture, on a study on how to add value to the indigenous baobab</li> </ul>	<ul style="list-style-type: none"> <li>- Installed a 15-kilowatt peak (kWp) solar power plant at the institution's Main Campus to ensure zero power outages and uninterrupted internet connectivity, for effective online learning</li> </ul>	<ul style="list-style-type: none"> <li>- Repackaging and supply of hand sanitizers</li> </ul>
D	State	<ul style="list-style-type: none"> <li>- Online teaching and learning (Google Class)</li> <li>- Google Meet and Zoom for meetings and conferences</li> </ul>	<ul style="list-style-type: none"> <li>- Research Publications on Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Partnerships with industry</li> </ul>	<ul style="list-style-type: none"> <li>- Invented machines that can perform diagnostic testing for COVID-19.</li> </ul>	<ul style="list-style-type: none"> <li>- Production and supply of hand sanitizers</li> </ul>
E	State	<ul style="list-style-type: none"> <li>- Online teaching and learning (Google Classroom)</li> </ul>	<ul style="list-style-type: none"> <li>- Research publications on Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Collaborations with industry</li> </ul>	<ul style="list-style-type: none"> <li>- Invention of sanitizer production machine</li> </ul>	<ul style="list-style-type: none"> <li>- through its Fashion Textile Department producing 3,500 face masks per day.</li> </ul>
F	Private	<ul style="list-style-type: none"> <li>- Online teaching and learning (Google Classroom)</li> <li>- Zoom meetings</li> </ul>	<ul style="list-style-type: none"> <li>- Research publications in Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Collaboration with industry</li> </ul>	<ul style="list-style-type: none"> <li>- Production of auto-fumigation sanitizing equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Production of hand sanitizers</li> </ul>
G	Private	<ul style="list-style-type: none"> <li>- Online teaching and learning (Moodle)</li> </ul>	<ul style="list-style-type: none"> <li>- Publications on Covid-19</li> <li>- Consultation and liaison with the MoHCC through the Provincial Medical Directorate on issues relating to the pandemic.</li> <li>- Collaborations with Old Mutual</li> </ul>	<ul style="list-style-type: none"> <li>- Provision of medical supplies and food hampers to families affected by the Covid-19 lockdown</li> <li>- Donated U-Safe Sanitizer to local hospitals</li> </ul>	<ul style="list-style-type: none"> <li>- Enhancement of innovation hub (<i>i5Hub</i>)</li> <li>- Creation of online commodities trading platforms</li> </ul>	<ul style="list-style-type: none"> <li>- Production of U-Safe Sanitizer</li> <li>- Manufacture face masks for use by members of the public</li> </ul>

Table 1: Institutions' Serendipities in line with Education 5.0 (Source: Researchers, 2021)



### *The covid-19 Pandemic as a research enabler and opportunity presenter*

Covid-19 has presented an opportunity for massive research activities through exploratory research, collaborations and the laboratory experiments. One of the critical five- focal university functions is research and publication as it builds and develops new knowledge that offers solutions to the communities' predicaments. Bertolami (2002) asserts that education coloured by research is a critical conduit in achieving the intellectual rigor necessary for the professional.

The covid-19 pandemic presented a two-fold fortune towards research. Firstly, because of the severity of the pandemic, the covid-19 pandemic became a hot topic for researchers from various disciplines. All universities' research repositories had vast publications on covid-19, ranging from its effects, response mechanisms, possible medical interventions that could cure it, among others aspects. Whilst the current researchers' focus is on the Zimbabwean context, global statistics of publications about the covid-19 pandemic are worth a mention as more than 89,000 publications were produced in relation to covid-19 since the day covid-19 was announced in Wuhan, China. This rate of publication appears to be exceptionally high, when compared to research papers published on other topic as a 137 average number of papers published since February 2020. This shows that despite the pandemic's downsides much has also accrued to the academic and intellectual arena in the form of publications by academic staff in HEIs. Had it not been for the pandemic which subdued the world into quandary and dilemma, all this research work could not have been realised.

Secondly, lockdowns and restrictions on mobility confined personnel in HEIs particularly lecturers, to work from home. This curtailed mobility of lectures afforded them more time for research and publication activities. Much of the time that was appropriated (wasted) in transit between residential places and campuses, and some spent at campus engaging in other activities, has been translated into research writing and innovation. Apart from this, virtual teaching, unlike interactive face-to-face teaching takes less time and the remainder is sacrificed to undertake research for publication of papers and or book chapters.

BBC Teach (2020) provides a similar discovery that Isaac Newton in 1665 worked from home when Cambridge University closed during the Bubonic plague. The article argues that it was during that time that defined the most productive period of his life, where he developed theories of optics, calculus and gravity.

This study established that a lecturer from University A was able to undertake research to determine the healing properties of an African herb called *Zumbani/Umsuzwane* during the lockdown period. This African herb was found effective in easing respiratory ailments among some of the ailments it could possibly cure. The COVID-19 pandemic therefore, triggered and improved the research intellect of individuals and institutions alike.

The current study also established that not only covid-19 related research was one of the unforeseen benefits of the covid-19 pandemic. The study further established that lockdown measures accorded academics more time to research on other socio-economic issues that affect people in different life settings.

### *Community Service during the Pandemic*

In connecting with the issue of community service, this study established that academic and non-academic staff from the universities investigated saw themselves at the service of communities through various community engagements during the covid-19 pandemic. These engagements included educational programmes (University B, C, D, E and F), provision of food hampers and medical supplies to needy families (University G), donations of sanitisers to hospitals (University G), and medical staff working as frontline workers (University A). The following is a congratulatory message which was made by the University A's Dean of Medicine:

*I commend the team for their dedication, professionalism, teamwork, benevolent spirit and work ethic as you continue to work on the frontline.*

The aforesaid comment was made after University A's medical team made a historic caesarean-section delivery on a covid-19 patient. This did not only improve the relationship between universities and communities but also dispelled the ivory-tower mentality communities had about Zimbabwe's HEIs. The same medical procedure also improved institutional reachability. The involvement of university personnel in communities to fight the pandemic assured communities that universities indeed offer answers to societal problems apart from their routine lecture theatre activities. This confirms the argument by the World Bank Report (2000 in Ali, 2010) that universities are there to serve and develop communities, and further states that "higher education is a public interest, it is there to improve individual and societal lives" (p. 3). Ali (2010) further argues that communities need universities more than ever before as the latter have proven to be people-serving and focused on driving economic progress.

The pandemic also led to extensive partnerships and collaborations between universities and various stakeholders such as hospitals, other local and foreign HEIs, life insurance companies among other stakeholders. The collaborations were meant to finance covid-19 research activities, and stimulate interdisciplinary research and innovation into new value chain paths that will enrich as well as strengthen institutions' cooperation, and their respective communities. Through partnerships, University C conducted significant researches relating to intermediate fruits and herbal remedies (indigenous baobab tree) which could be used in the treatment of covid-19 patients.

The covid-19 pandemic created a platform for extensive engagements that provide solutions to the current predicament and even beyond. Ali (2010) argues that collaborations between HEIs, and industry, have the greatest impact in influencing the production of cutting-edge researches, knowledge generation, discoveries as well as technological innovations and solutions.

#### *The covid-19 pandemic as a conduit to Innovations*

The covid-19 pandemic opened gates to the realization of the innovation thrust of the Education 5.0 plan. University A, erected sanitizer production plants through innovation hubs revamps, came up with innovative ideas and discoveries regarding the healing properties of indigenous herbs (e.g., *Zumbani/Umsuzwane*). In similar ways, University B developed ventilators for use in hospitals. Apart from this, University B also developed tap-cards to eradicate congestions at bus termini and a covid-19 alert system, while University C installed solar powered plants as a back-up system for the supply of electricity to address power outages that interrupt and impact the effectiveness of online learning.

Finally, University D on the one hand, came up with machines that can perform diagnostic testing of covid-19 while University F on the other hand developed automatic fumigation and sanitising equipment. Not to be outdone was University G where there was an improvement in their innovation hub (i5Hub) through the creation of an online commodities trading platform. In view of all these innovations, the covid-19 pandemic was, therefore, a conduit in achieving the said successes. Cai, Ma and Chen (2020) say HEIs are entrusted with the mandate to be innovation engines and catalysts for sustainable development. In the context of this study, it was discovered that all these innovations were born and driven by the outbreak of the pandemic and its ravaging effects.

#### *The industrialisation of HEIs during the pandemic*

As regards the issue of industrialisation, the study established that universities contributed to their balances through industrialisation during the covid-19 pandemic as they became producers of the much-required products such as sanitisers, face masks, ventilators, fumigation equipment, tap-cards, covid-19 alert machines, herbal tea-bags, among others. Universities also became major service providers as their staff worked as frontline health workers, provided fumigation services and other services related to the detection of covid-19 infections and supplied oxygen to covid-19 patients.

From the above aspects related to industrialisation by HEIs during the covid-19 pandemic, it is clear that creative and innovative thinking translated ideas into tangible products which were supplied to the communities and beyond. The market for the products and services were local hospitals, schools, supermarkets and the general public. Communities had the privilege to acquire and use products, and services, from universities. These services, and equipment, were critical in the prevention and detection of covid-19 as well as in the treatment of covid-19 patients in homes and hospitals. In a way, the pandemic, therefore, became an apparatus to stretch and test the capabilities and potential of Zimbabwe's HEIs. The sentiments of the former Vice President Kembo Mohadi attest to this when he said that the pandemic was not entirely a curse, but also a kind of a blessing because HEIs have woken-up to undertake things on their own for the socio-economic development of the nation (MSU Newsletter, 2020).

#### *Employees flexing their creativity as a result of the covid-19 pandemic*

Covid-19 did not only bring about positive developments in the Education 5.0 bar, but rather, it also accorded people an opportunity to showcase their skills and intellectual capabilities. Innovation is a product of creative thinking which is a human component. While human creativity is a means to an end, on the other hand, it is an end in itself (Sirkwoo, 2015). It was the sole instrument that helped universities achieve their Education 5.0 Agenda deliverables as shown in Table 1 above. Tripathy (2018) asserts that critical and creative thinking is crucial in crisis management and further argues that creative thinking means thinking outside the box. In averting the detrimental effects of the pandemic, academics and researchers in their respective disciplines had to navigate ways of developing practical solutions to circumvent the pandemic. They had to search for ideas, generate knowledge and apply their thoughts and skills in developing products and services to tackle coronavirus. As a result, HEIs are taking pride on the invaluable insights that their employees and students have delivered. HEIs engaged in researches, discoveries and technological innovations. Sense of growth and achievement on their own right provide fulfilment, satisfaction and sense of being indispensable and resultantly intrinsic motivation has also been achieved by individuals, which is an end in itself. According to Tripathy (2018, p. 5), "creative thinking can inspire employees to come up with atypical yet insightful ideas that can question the generalized assumptions and arise with ground breaking solutions." In the case of this study, it was revealed that the pandemic unleashed people's potential and capabilities which were lying dormant.

#### *Brand management and institutional visibility*

It was established that through the covid-19 pandemic, community service activities, innovations and industrialisation outputs that universities were involved in; their brand and institutional visibility were improved and enhanced. Thus, the covid-19 pandemic became an opportunity for HEIs to decorate their image and buttress their existence. Building and maintenance of good names is the way to go in achieving better enrolment and improve in terms of international and local university rankings. This will have far reaching effects in the future of HEIs.

### **9. Conclusion**

This study established that there have been some serendipities that have been born out of the covid-19 pandemic. Data collated from secondary sources indicated that HEIs adopted online learning platforms to complement physical learning in the face of the pandemic. The pandemic also led to extensive research, collaborations and scientific discoveries by researchers in Zimbabwe's HEIs. Innovations were the absolute outcome of scientific discoveries and creative thinking by employees. The study noted various inventions which included the setting up of production plants, incubation hubs and the discovery of healing properties of local African herbs and fruits.

Further to this, the study also noted that in some institutions the manufacture of

home-designed ventilators, auto-fumigation and sanitizing equipment took the centre stage while in others, covid-19 diagnostic machines, tap-cards were developed to address the congestions in bus termini. Finally, various sanitisers and disinfectant lines among other critical requirements produced.

The above means that researchers' ideas were translated into areas of industrialisation; production of goods and services (sanitiser, masks, ventilators and frontline services). The end users of these products are the communities saved from the severe effects of the pandemic. In conclusion, as a result of the covid-19 HEIs realised what they are capable of, and if more ideas are generated with the passage of time, there is still room for further improvements and developments. This will drive the nation towards modernisation and economic development even after the covid-19 pandemic.

### **Recommendations for Further Research**

As already indicated, secondary data methods were used for the study, by analysing HEIs and Government of Zimbabwe's published material on how HEIs have dealt and responded to the covid-19 pandemic. The research methodology applied for this study did not afford the researchers time to explore people's views, opinions and feelings in respect to invaluable contributions in the realisation of the covid-19 serendipities. For further research, we recommend field research with the intention to understand the HEIs lecturers and/or researchers' feelings for the milestone achieved as they apply their creative thinking and seek solutions to deal with a crisis, as well as their perceptions on employer's acknowledgement and recognition of the effort and contribution they would have made, in line with reciprocity theory.

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