



Harare
Institute of
Technology

success through innovation

2021



ANNUAL REPORT

The Innovation and Technopreneurial University

www.hit.ac.zw

Our Destiny

**To be the stimulant of scholarship
in innovation.**

Our Cause

**To cultivate commitment towards
technopreneurial leadership.**

Our Calling

**To commercialise technology through
professionalism rooted in integrity.**

Our Core Values

Innovation

Leadership

Integrity

Commitment

Professionalism

The Innovation and Technopreneurial University

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Table of Contents

	Page
His Excellency	I
Institute Board	1
Principal Officers & Senior Management of the Institute	2
Chairman's Statement	3
Vice Chancellor's Message	5
About HIT	7
Academic Programmes	9
Centres of Excellence	10
Registrar's Report	12
Schools Report	17
Technology Transfer, Licencing and Commercialisation Centre	20
EMRECC	25
Works, Infrastructure and Estates	30
Communications And International Relations	33
Challenges	35



HIS EXCELLENCY & CHANCELLOR, DR E.D MNANGAGWA

THE INSTITUTE BOARD



Eng. F. Mavhiya Bhiza: Board Chairperson



*Dr Eng. B. Rafemoyo
Deputy Chairperson*



Mrs R.B. Ncube



Eng. T.I. Kunaka



Prof S. Sibanda



Mrs A. Machida



Eng J.M. Mberi



Mrs A. Hove

Principal Officers



**Pro Vice Chancellor
Dr Eng T. Garikayi**



**Vice Chancellor
Dr Engr. Q.C. Kanhukamwe**



**A/ Pro Vice Chancellor
Mr W. Gwarimbo**



**Registrar
Mr H. Njonga**



**Librarian
Mr. J.L. Maenzanise**



**Financial Director
Mr. T. Kachambwa**

Senior Management Team



**Dean Dr E. Maputi -
School of Engineering &
Technology**



**Dean T. Zimucha -
School of Business &
Management Sciences**



**Dean T. Makausi -
School of Information
Science & Technology**



**Dean Dr. A. Musengi
School of Industrial
Science
&Technology**



**A/ Dean Y. Guwuriro -
Student Affairs**



**Mr. T. Mutema
Director- CIR**



**Mrs. M. Chahuruwa
Director- ICTS**



**Mr S. Machingamidze
A/ Director- Works**



**Eng. L. Masiyazi
A/ Director- TTLCC**



**Mr. L. Kusema
Director - Quality
Assurance**



**Ms. T. Dzaramba
Director-
Procurement**



**Mr. E. Nyandoro
Chief Security
Officer**



**Mr. I. Rukobo
Chief Internal
Auditor**



**Dr. A. Phiri
Director - EMRECC**

Board Chairperson's Remarks



Eng. F. Mavhiya Bhiza

I will start off with congratulating the Vice Chancellor and his team for the successful hosting of the Institute's 12th Graduation Ceremony. We all know that this was culmination of hard work from all staff members of the university beyond the call of duty in light of the impact of COVID-19 on the Academic Calendar in 2021. As the pandemic is still within our midst. A fourth wave has begun to set in and we urge management and staff to take a proactive approach to ensure that the operations of the university are not adversely impacted.

Allow me to also celebrate with the Institute on the successful launch of the National Fuel Management System. On behalf of the Board, I would like to thank our staff and students who collaborated to raise the banner of the University higher. This milestone was surely in line with the HIT Mandate to the nation and I would like to impress on management to keep focus on such initiatives. The Board noted with excitement the recent signing of the Memorandum of Understanding with the Zimbabwe Revenue Authority. It is our hope that partnership will be fruitful.

The task ahead is daunting and exciting at the same time. Daunting in light of resource constraints within the country and exciting in that it presents us with an opportunity to be disruptive and transform the education sector and economy at large. It will require dedication and perseverance, and, for many of us, a significant investment of time and energy as we confront our new realities and rethink the way that we structure and conduct our work. On behalf of the entire board, I would like to salute all HIT Staff and Students for standing firm to facilitate for us to complete the Academic Calendar for 2021 despite the adverse environment.

Our priority as we move into 2022 is to ensure that the university becomes sustainable in terms of its operations. This calls for the implementation of robust resource mobilization efforts, review of our staff retention and reward management processes. Work on planned construction projects should be expedited in light of their alignment to the strategic direction and growth of the university. Staff

development and retention remain key to the success of the university and we will collaborate with management to find ways to ensuring that we make great strides in these areas. As a Board, we would like to assure you of our unwavering commitment to the work of the university. We will continue to explore new and dynamic ways of supporting the business of the university.

In closing, I would like to challenge the Vice Chancellor and Staff in the coming year to gear up on interventions that will ensure that the Institute remains ahead of the pack in terms of commercialization of its research and innovation outputs.

Thank you

Vice Chancellor's Message



Dr Engr. Q.C. Kanhukamwe

On behalf of the Harare Institute of Technology Management, staff and students, I humbly present Zimbabwe's premier Innovation and Technopreneurial University's 2021 Annual Report.

The purpose of this report is fivefold:

- Apprise our stakeholders of what the University has been up to since the last report in 2020.
- Afford our key partners the opportunity to assess the extent to which the University has delivered on its Mandate
- Afford the general citizenry the opportunity to ascertain the University's contribution towards the National Development Strategy 1 and Vision 2030.
- Inform the stakeholders of the challenges affecting the performance of HIT and,
- To provide a wider platform for constructive engagement and interaction.

Underpinning this report is the nation's legitimate expectation that HIT should deliver technological outcomes that spur Zimbabwe's Modernisation and Industrialisation Agenda. To achieve this, HIT has been relentless in pursuing innovation and commercialization outputs that lead to the formation of hi-tech enterprises critical to national wealth creation.

We want to pay our special tribute to Our Chancellor, His Excellency the President of the Republic of Zimbabwe, Dr E.D Mngagwa for the invaluable role that his administration continues to play, making it possible for the University to execute its mandate of developing, incubating, transferring and commercializing technology for rapid national modernisation and industrialisation. This year, the Government availed funding to a total of ZWL \$359 612 539.00. From that total, ZWL \$244 612 539.00 went towards salaries, ZWL \$15 000 000.00 for operations support; ZWL \$50 000 000.00 for PSIP support and ZWL \$50 000 000.00 for the refurbishment of infrastructure.

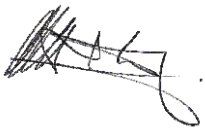
The HIT family is highly appreciative of the timeous appointment of the Institute Board led by renowned Engineer, Engr Farai Mavhiya-Bhiza. The Board has since hit the ground running providing the much needed oversight role to the functions of the University. We have no doubt in their capacity to provide the much needed impetus in taking the University to its desired next level of development.

May I take this opportunity to personally applaud the Government for its shrewd stewardship and able leadership, that enabled it to come up with strategies to contain the COVID-19 pandemic that has earned the country global accolades for its management of the COVID-19 vaccination campaign and the general populace's access to these vaccines. These efforts have resulted in Zimbabwe having the necessary herd immunity to allow for the resumption of economic, religious and social activities.

The Harare Institute of Technology tabled a new University Strategic Plan, **Vision 2025 “Designing the Future”** which has become the key driver of all our institutional activities and gives us the zeal to move on. The Plan is intricately linked to the National Development Strategy 1 (NDS1) and is enabling us to deliver in our own unique way the attainment of Vision 2030. The Plan was reviewed with the facilitation of the OPC, PSC and Treasury to align it to Integrated Results Based Budgeting as required by Government.

To cut the long story short, this report is an explanation of the extent to which the University has aligned itself to the mandate and the broader national development aspirations during the course of 2021, but also as the means through which we seek to inform our stakeholders of the other important aspects that guides the performance of HIT

I thank you

A handwritten signature in black ink, appearing to be a stylized name or set of initials, located below the text 'I thank you'.

About HIT

Our Mandate

HIT has been mandated to oversee the development, incubation, transfer and commercialisation of technology, as set out in section 4:1 of the Harare Institute of Technology Act [Chapter 25:26] which are:

- The advancement of knowledge;
- The development, incubation, transfer and commercialisation of technology;
- Development of high level technical manpower;
- The establishment of production centres linked to departments and development of a Science Park
- The production of technical lecturers;
- To offer education programmes focusing on design, production, and maintenance technology with an entrepreneurial and innovative thrust for continued relevance to industry and all other sectors of Zimbabwe's economy
- Deliver useful, innovative, timely and cost effective research outcomes characterised by excellence;
- The nurturing of intellectual, aesthetic, social gender sensitivity and moral growth of the students and staff of the Institute
- The nurturing of the spirit of patriotism

Our Innovation and Technopreneurship Signature

Our vision at HIT is premised on the belief that innovation is the key driver of development and indeed, as expressed by our motto; 'success through innovation', we continue to reinforce this by other monikers such as 'innovation is our DNA,' to describe our deep commitment to the precepts of innovation. We firmly believe that the ideological foundations of innovation are the ones which power inventions, through independent thought and enquiry, which goes on to transform economies; which ushers in national development. At the heart of all our programmes are the Technopreneurship and the Design and Innovation project development modules, thus offering our students the foundations of entrepreneurship as a cornerstone for wealth creation as well as inculcation of a hands-on approach through design projects. This reinforces the desire in us to produce job and wealth creators with the stamina and courage to venture into hi-tech enterprises development as opposed to job seekers.

At its inception, the Harare Institute of Technology purposefully crafted curriculum which would speak to

the institutional mandate. The concept of Capstone Design Projects; a unique aspect of HIT, was infused into the Curriculum to provide students with room to prove their proficiency in translating scientific concepts into tangible outputs. The capstone design projects are informed by the philosophical precepts of innovation, technopreneurship and creativity and hold the potential for development of the new enterprises.

HIT Strategic Goals:

- Promote Scholarship, Innovation, Result-Based Research, and Professional Development
- Promote Science, Engineering and Technology Programmes
- Enhance Technopreneurship, Technology Commercialisation and Enterprise Development
- Provide Quality and Accountable Management

- Promote International Standing and Enhance Strategic Networking
- Promote the Cultured Citizenship Ethos

Our Commitment

- Develop, incubate, transfer and commercialise technology for Zimbabwe's rapid industrialisation
- Provide high-end training in Science, Engineering and Technology
- Promote innovation and technopreneurial skills amongst our students.
- Promote a robust research, development and innovation agenda guided by the following key areas: Development of software application packages, Energy generation models, renewable energy, Agricultural engineering, Value addition of natural resources, Promotion of indigenous knowledge systems, Herbal medicines research
- Provide highly specialized training to industry and commerce in areas of cyber security, nanotechnology, biotechnology, chemical engineering, forensics accounting and financial engineering among others
- Promote strong university-industry partnerships
- Place emphasis on practical and hands-on learning
- Maintain a student population commensurate with infrastructure and equipment
- Avail highly specialised and talented pool of engineers - (electronic, chemical, materials, industrial and manufacturing,), food technologists, IT specialists, Software Engineers, Computer scientists, Cyber security experts, nanotechnologists, pharmacists, financial engineers, forensic accounting and auditing specialists and electronic commerce.



Academic Programmes

Harare Institute of Technology has five Schools that seventeen Academic Departments (17).

Undergraduate Programmes

The Institute has five Schools with the following departments:

School of Engineering and Technology

- Industrial and Manufacturing Engineering
- Electronic Engineering
- Chemical and Process Systems Engineering
- Materials Technology & Engineering
- Polymer Technology & Engineering
- Biomedical Engineering

School of Industrial Sciences and Technology

- Food Processing Technology
- Biotechnology
- Pharmaceutical Technology

School of Allied Health Sciences

- Diagnostic Radiography
- Therapeutic Radiography

School of Information Science and Technology

- Computer Science
- Information Security & Assurance
- Information Technology

- Software Engineering

School of Business and Management Sciences

- Financial Engineering
- Electronic Commerce
- Forensic Accounting & Auditing

Postgraduate Diploma Programmes

School of Allied Health Sciences

- Postgraduate Diploma in Medical Ultrasound
- Postgraduate Diploma in Medical Dosimetry

Master of Technology Degree Programmes

School of Engineering and Technology

- Master of Technology Degree in Machine Design

School of Information Science and Technology

- Master of Technology Degree in Cloud Computing
- Master of Technology Degree in Information Technology
- Master of Technology Degree in Software Engineering

School of Business and Management Sciences

- Master of Technology Degree in Strategy and Innovation



Centres of Excellence

To give more impetus to the execution of the HIT mandate, the University has the following Centres:

Technology Centre (TC)

The TC pulls together all workshops and laboratories at HIT and promotes (the development of) production and manufacturing activities across the University's academic departments in an inter and multidisciplinary manner. The Centre provides a wider platform for students to turn their Capstone Design Projects into tangible prototypes. It also bridges the gap between industry and academic activities by offering training and product development opportunities as well as offering machining services of scarce industrial components.

The TC has two distinct and complementary units, which are the Technical Training Unit and the Production Unit. The Technical Training Unit links all academic departments in order to provide tailor-made programmes and customised short courses responsive to industry's needs. The Production Unit brings workshops and laboratories of all academic units together in an interdisciplinary and multi-disciplinary approach to enhance research & development as well as maximising on production orders from industry and commerce.

Technopreneurship Development Centre (TDC)

The Technopreneurship Development Centre (TDC) is one of the University's strategic units, which is driven by the philosophy that technopreneurs can be created and developed with appropriate business technopreneurial skills, attitudes and motivation. Through its courses, the TDC inculcates technopreneurial values amongst HIT students in order to develop knowledgeable and technological entrepreneurs. It also enhances the capabilities of new and existing entrepreneurs through technopreneurial development programmes. The ultimate objective of the TDC is to create a cadre with the stamina and courage to venture into and establish Hi-Tech business enterprises.

Technology Education Centre (TEC)

The Technology Education Centre (TEC) focuses on the pedagogy of Science, Engineering and Technology (SET). The Centre recognises the strategic role that Research and Development plays as a vehicle for technological innovation. For the Centre, a research based approach is a stimulant for Quality Assurance and the development of national standards of technology education. TEC values stakeholder participation in programme formulation and review. It benefits from the wisdom and knowledge of a Centre Advisory Board. The Centre has earmarked training programmes in curricula and course design to support the technology education initiative.

Environmental Management, Renewable Energy and Climate Change (EMRECC)

The Centre focuses on research and teaching in sustainable development. The main thrust is environment management, energy efficiency and climate change adaptation strategies. The Centre also provides technopreneurial solutions and adaptation strategies to unpredictable climate change, environmental pollution and energy resource dwindling challenges facing Zimbabwe and the world at large. The Centre interacts with all departments, by providing expertise, and drawing expertise from departments in executing projects which focus on sustainable development issues through sustainable technologies.

EMRECC is also responsible for technology transfer in terms of bringing about the commercialisation of inventions and discoveries flowing from research at HIT. This is done through technology licensing, commercial investment and other avenues including, but not limited to joint venture partnerships and

venture capital amongst others. It offers venture mentoring services and provides a forum for technopreneurship. The Centre advises on synthesis and extraction of registrable Intellectual Property.

Technology Transfer, Licensing and Commercialisation Centre (TTLCC)

The Centre is responsible for technology transfer in terms of bringing about the commercialisation of inventions and discoveries flowing from research at HIT. This is done through technology licensing, commercial investment and other avenues including, but not limited to joint venture partnerships and venture capital amongst others. It offers venture mentoring services and provides a forum for technopreneurship. The Centre also advises on synthesis and extraction of registrable Intellectual Property.



Registrar's Report



Mr H. Njonga - Registrar

Academic Programmes

Harare Institute of Technology has five Schools with seventeen academic departments offering degree programmes designed to respond to the Science, Engineering, and Technology Agenda. The programmes offered by HIT are informed by the institutional strategic goals, which were drawn up to enable the Institute to respond effectively to the nation's developmental agenda.

Undergraduate Degree Programmes

The Zimbabwe Council for Higher Education (ZIMCHE), starting this 2020 academic year granted HIT the approval to offer a degree in Biomedical Engineering under the School of Engineering and Technology.

School of Engineering and Technology Programmes Offered:

- Bachelor of Technology (Hons) Food Processing Technology
- Bachelor of Technology (Hons) Industrial and Manufacturing Engineering
- Bachelor of Technology (Hons) Materials Technology and Engineering
- Bachelor of Technology (Hons) Electronic Engineering
- Bachelor of Technology (Hons) Polymer Technology and Engineering
- Bachelor of Technology (Hons) Biomedical Engineering

School of Industrial Sciences and Technology Programmes Offered:

- Bachelor of Technology (Hons) Food Processing Technology
- Bachelor of Technology (Hons) Biotechnology
- Bachelor of Pharmacy Honours Degree

School of Allied Health Sciences Programmes Offered:

- Bachelor of Science (Hons) Degree in Diagnostic Radiography
- Bachelor of Science (Hons) Degree in Diagnostic Radiography

School of Information Science and Technology Programmes Offered:

- Bachelor of Technology (Hons) Computer Science
- Bachelor of Technology (Hons) Information Security and Assurance
- Bachelor of Technology (Hons) Information Technology
- Bachelor of Technology (Hons) Software Engineering

School of Business and Management Sciences Programmes Offered:

- Bachelor of Technology (Hons) Financial Engineering
- Bachelor of Technology (Hons) Forensic Accounting and Auditing
- Bachelor of Technology (Hons) Electronic Commerce

Postgraduate Diploma Programmes

School of Allied Health Sciences

- Postgraduate Diploma in Medical Ultrasound
- Postgraduate Diploma in Medical Dosimetry

MASTER OF TECHNOLOGY DEGREE PROGRAMMES

School of Engineering and Technology

- Master of Technology Degree in Machine Design

School of Information Science and Technology

- Master of Technology Degree in Cloud Computing
- Master of Technology Degree in Information Technology
- Master of Technology Degree in Software Engineering

School of Business and Management Sciences

- Master of Technology Degree in Strategy and Innovation

STUDENT ENROLMENT

Undergraduate Programmes

The total student enrolment currently stands at 2 348 up from the previous year's enrolment figure of 2 314.

2021 Undergraduate Programmes Enrolment by School by Year of Study

Name of School	Year of Study				TOTAL
	First	Second	Third	Fourth	
Engineering & Technology	281	214	203	104	802
Industrial Sciences & Technology	165	114	104	73	456
Allied Health Sciences	35	25	28	0	88
Information Science & Technology	162	133	113	103	511
Business & Management Sciences	170	128	106	87	491
TOTAL	813	614	554	367	2 348

New Programmes

The following market driven programmes are currently undergoing through the accreditation process with ZIMCHE and will be launched in the coming year.

- Master of Technology Degree in Electronic Commerce
- Master of Technology Degree in Financial Engineering

2021 Postgraduate Programme Student Statistics by School and Gender

Name of School	Male	Females	%Female	TOTAL
Business & Management Sciences	25	9	26.5	34
Engineering & Technology	19	3	13.6	22
Information Science & Technology	57	20	26.0	77
Allied Health Sciences	22	25	53.2	47
TOTAL	123	57	31.7	180



2021 GRADUANDS

Undergraduate Degree Programmes

The University presented a total of 384 Graduands for capping with 39.6 of these being female as illustrated in the table below;

School/Department	Male	Females	%Female	TOTAL
Engineering & Technology				
Chemical & Process Systems Engineering	15	8	34.8	23
Electronic Engineering	31	6	16.2	37
Industrial & Manufacturing Engineering	27	3	10.0	30
Polymer Technology & Engineering	4	4	50.0	8
TOTAL FOR SCHOOL	77	21	21.4	98

School/Department	Male	Females	%Female	TOTAL
Industrial Sciences & Technology				
Biotechnology	7	17	70.8	24
Food Processing Technology	5	16	76.2	21
Pharmacy	17	17	50.0	34
TOTAL FOR SCHOOL	29	50	63.3	79

School/Department	Male	Females	%Female	TOTAL
Information Science & Technology				
Computer Science	14	8	34.4	22
Information Security & Assurance	16	4	20.0	20
Information Technology	18	4	18.2	22
Software Engineering	23	4	14.8	27
TOTAL FOR SCHOOL	71	20	22.0	91

School/Department	Male	Females	%Female	TOTAL
Business & Management Sciences				
Electronic Commerce	18	23	56.1	41
Financial Engineering	15	14	48.3	29
Forensic Accounting & Auditing	7	9	56.3	16
TOTAL FOR SCHOOL	40	46	53.5	86
TOTAL UNDERGRADUATES	217	137	38.7	354

POST GRADUATE DIPLOMAS

School/Department	Male	Females	%Female	TOTAL
Allied Health Sciences				
Medical Dosimetry	2	3	60.0	5
Medical Ultrasound	4	8	66.7	12
TOTAL	6	11	64.7	17

Postgraduate Degrees

School/Department	Male	Females	%Female	TOTAL
Business & Management Sciences				
Master of Technology in Strategy & innovation	9	4	30.8	13
TOTAL	9	4	30.8	13

University Total

	Male	Females	%Female	TOTAL
GRAND TOTAL	232	152	39.6	384

STAFF COMPLIMENT

This year, the University welcomed a new team of Principal Officers comprising the Pro Vice Chancellor for Research Innovation and Commercialization, the Registrar and Financial Director. We appreciate the timely processing of these appointments. In them we have reposed hope that they will provide the requisite strategic leadership to take the university to the next level. The University's increasing vacancy rate in the critical talent and technical categories that we had heavily invested in, is quite worrisome.

Critical Staff Requirements

The University had 110 vacancies attributable to staff that left employment in the year 2021. We also requested through our parent ministry for treasury approval and support to recruit 114 new strategy responsive critical staff. We therefore, need to employ 224 members of staff to function optimally.

Human Capital Development

The University witnessed the attainment of doctoral degrees by seven (7) staff members during the period under review. Our fear is that we might not be able to retain them for long due to the high demand for their skills.



Schools Report

The Harare Institute of Technology stands ready in its own unique way to practically underwrite the realization of the collective aspirations and determination of Zimbabweans to achieve the Second Republic's goal of an **Empowered and Prosperous Upper Middle-Income Society** by availing transformative and disruptive innovations, adopting emerging Fourth Industrial Revolution (4IR) technologies for the creation of high-tech enterprises and training of highly skilled technical human capital to proffer solutions to the National Development Goals like moving the economy up the value chain and structural transformation; human capital development; environmental protection; ICT and digital economy amongst some of the goals.

HIT like the other leading universities in the world is striving to be part of those on the forefront of designing a new post COVID-19 world order through research work in technologies, economic and social models to spur economic growth. Your University has also adopted that philosophy, that if it has to be, it has to be no one but us!

Budgetary Support for Research

The Harare Institute of Technology is calling for research in universities to be afforded the highest priority by being listed as an item in the Blue Book. This will help in consolidating the Second Republic's thrust of making higher education the engine of our nation's modernisation and Industrialisation.

High-tech Development Valley

The high-tech development valley proposition is now a reality that only needs funding to come to fruition. The university now has a fully-edged road map for the operationalisation of this important tool of industrialisation. We will continue with our cause budgetary support for this important national project.

HIT EON REALITY Virtual and Augmented Reality programs

In April 2021 HIT got an EON Grant Guarantee Program Offer Letter to set up a \$25M (USD) EON-XR Centre, which entailed the delivery of EON-XR platform for up to 5000 students and 750 work/internships upfront and the EON-XR Centre equipment. It also guaranteed 100% of the EON-XR Center funding, 78% with an EON Co investment and 22% with a Donation Guarantee from EON Reality Learn for Life. On its part, HIT was to pay a one-time Grant Guarantee Fee of 1% of the EON-XR Center value (\$254,122).

As a result of its engineering and technology thrust, HIT accepted the offer and signed a service level agreement with Eon Reality Inc to be part of this Grant Guarantee Program for Post-Pandemic Recovery Assistance that provides academic institutions and governmental organizations with support to fund the launch of new Virtual and Augmented Reality programs in the post-Covid 19 pandemic world. This cloud-based technology is beneficial to our hands-on, practical oriented curriculum which is being delivered in a blended mode as well as in its bid to rapidly produce commercialization and industrialization outputs.

Some of its benefits are that the platform is able to import 120 types of CAD data and other 3D formats, can publish to many different Augmented and Virtual Reality devices ranging from smartphones and tablets to desktops and immersive headsets, including HoloLens, HTC Vive, Magic Leap, iOS, Android, desktop and Oculus, contains a user management system to view, track, and assess student progress, contains a content management system to organise lessons, materials, and other content by subject, grade level, integrates into HIT's existing learning management systems, possesses AI capabilities and utilizations amongst the many capabilities. Already, the company has availed the platform and licenses and, the training of trainers of the academic members of staff and other technical staff from all our schools and centres of excellence is ongoing. Our Parent Ministry has

untaken to pay the Grant Guarantee Fee so that Eon Reality Inc does not withdraw the licenses provided.

Intellectual Property Dashboard

The Harare Institute of Technology is keeping with its agenda on Intellectual Property (IP) arena . We also started using our local ZIPO offices in 2021, and we hereby report that HIT looms large on their dashboard. We have also scored a first in this country's higher education by filing patents for a circuit board emanating from the designs of our Ventilator Project, the Number Plate Project and the Third Number Plate Project.

The dashboard below shows IP outputs for 2021, which inadvertently, was affected by the COVID-19 induced lockdowns.

Type of IP	Filed (now under Commons), appears in Published	Registered/ Owned	Pending Registration	IP Office
Patents	6	-	3	ARIPO
Provisional Patent	-	-	6	ZIPO
Utility Models	7	-	5	ARIPO
Trademarks	-	6	0	ZIPO
Integrated Circuit Designs	-	-	3	ZIPO
Industrial Designs	-	1	5	ZIPO
Copyrights	-	102	350	ZIPO

Publications

The publication of research findings and innovation outputs remain a key driver of the University's activities. To optimize this important work, all Academic Departments have established their own journals as a way of providing a platform for members of staff to publish under. Below are some of the selected key research papers:

- K. Chiteka, R. Arora, SN Sridhara, CC Enweremadu: Optimizing wind barrier and photovoltaic array configuration in soiling mitigation - Renewable Energy 2021 - Elsevier
- E.S Maputi, R Arora: Multi-objective optimization of a 2-stage spur gearbox using NSGA- 11 and decision-making methods - Journal of the Brazilian Society of Mechanical Engineering..., 2020 - Springer
- T. Mutusva: Influence of sawdust based biochar on gold tailings wastewater heavy metal contaminants removal. Published: 15 May 2021, Southern African Journal of Chemical Engineering.
- K. Mutangi: Assessing risk affecting under five mortality in Zimbabwe: Expected Date of publication: Nov 2021
- W. Manjoro, C. Hwata, T. Makausi, W. Makondo: Automated Customer Opinion Mining Using Lexicon Based Approach Sentiment Analysis
- Zvikaramba A., Kruglikov S.V., Zimucha T. and Chinakidzwa M (2020). Disaster response supply chain in a city. The role of SMEs. International Journal of Supply Chain and Operations Resilience. Vol. 4 Issue 1.

- Mugove M; Phiri M. and Chinakidzwa M (2021). Macro-environmental scanning practices in Zimbabwean Small and Medium Manufacturing Enterprises. *Journal of Governance and Regulation* (In press)
- Chinakidzwa M. and Phiri M (2020). Market orientation and market sensing in a digital world. Relationships and impact on market performance. *Journal of Retailing and Marketing Review*. Special Covid Edition: Vol 16 Issue 3. pp 1-17.
- Chinakidzwa M. and Phiri M (2020). Impact of digital marketing capabilities on market performance of small to medium sized agro-processors. *Business: Theory & Practice*. Vol 21 Issue 2. Pp 746-767.
- Chinakidzwa M. and Phiri M (2020). Exploring digital marketing resources, capabilities 17 and market performance. A conceptual model. *Journal of Retail and Business Management Research*. Vol 14 Issue 2. Pp 1-14.
- Zvikaramba A., Kruglikov S.V., Zimucha T. and Chinakidzwa M (2020). Disaster response supply chain in a city. The role of SMEs. *International Journal of Supply Chain and Operations Resilience*. Vol. 4 Issue 1.
- D. Chisunga , on the 5th of August 2021, presented a paper entitled: “Fraud Detection Techniques to Prevent Double Billing Fraud: Case of Zimbabwe's Medical Aid Societies” at the 11th International Conference on Financial Criminology (ICFC 2021). The paper was later submitted for publication and was accepted for publication.
- T. Magadza: A survey on deep learning Brain Tumor Segmentation.
- C Mugauri: Field Programmable Gate Array based low power multipurpose display board using 3 Dimensional LED Cube

The School of Information Science and Technology has over 50 pending technical paper publications submitted as sub components of the HIT 400 Capstone projects for 2021 awaiting review and publication in the HIT Journal of Computing Sciences and Engineering.

Research Projects

Grid Power Optimization Systems

During the past two years, the School of Engineering and Technology has been working on the grid power optimization systems project that will result in reducing power losses. This initiative aims at reducing our power import bill. Additional to this research work is the application of a SMART GRID that will enable the use of an ENERGY MIX which includes renewable and non-renewable resources. The School is also focusing on the need to harness energy from small streams, biomass and gas. Research teams that focus on developing a micro generator have been formed. All these measures are aimed at attaining the VISION 2030 goal for power availability.

The Cannabis Project

The University intends to become the national specialist center for cannabis research and value addition. Due to the vast demand for cannabis internationally, any country that promotes the production of cannabis will realise huge income from the export of the crop. The pursuance of cannabis cultivation and beneficiation will help Zimbabwe quickly meet the objectives of its NDS1 and ultimately, the attainment of Vision 2030. In Zimbabwe, investing in the cannabis industry will lead to an unlocking of a multiplicity of research opportunities, generation of intellectual property and innovative outputs that are relevant to the African landscape.

The decrease in demand for Zimbabwe's top agricultural crop , the tobacco it is imperative that the country looks at alternatives like the pursuit of the industrial cannabis(or hemp) which has manifold applications as illustrated below:

Mining Beneficiation

The mining industry is a major contributor to the growth of the economy. In response to that

realisation, the School of Engineering and Technology through its department of Materials Technology and Engineering has been working with various partners on the following research and development activities:

Manufacturing of High Chrome Mill Balls – SIRDC

The mining industry is heavily burdened by the huge amounts of foreign currency that is required for importation of parts and materials. The development of High Chrome Mill Balls is the right knock on an import item and key for beneficiation of the new Steel Plant that government is currently spearheading.

Application of Nano Technology on Clays for Brick Making – Beta Bricks

This project is focused on improving brick strength for high load applications and optimizing brick manufacturing processes. The cost of construction projects will be greatly reduced while the use of scarce earth resources is minimized.

Machine Learning E-Banking Fraud Detection System

The system was developed by the department of Financial Engineering and is designed to provide aims a cheaper and effective ways of detecting e-banking fraud that involves debit card fraud, card cloning, money laundering among others using machine learning to analyse patterns and trends in transactions in order to pick anomalies without being explicitly programmed. In addition, the system detects electronic banking fraud using the support vector machine (SVM) learning model.

Web-Based Smart Water Billing and Meter Reading System

This project explores a number of aspects related to sustainable water management and revenue recognition under the Harare City Council water. The purpose was to develop a web-based system that will cater for and integrate both meter reading and billing as well as a mobile phone app to further improve convenience for the consumers.

Technology Transfer, Licensing and Commercialisation Centre (TTLCC)



Eng L. Masiyazi - Director

The Centre is responsible for Technology Transfer in terms of commercialization of inventions and discoveries, Tech-Licensing and business ventures including, but not limited to, joint venture partnerships, venture capital etc. The Technology Transfer Licensing and Commercialisation Centre (TTLCC) is working on a several research and developments that has national significance.

Innovation Hub

The Innovation Hub is there to facilitate industrialisation and commercialisation of the research and development activities of the Institute. The Hub is an arm of the Technology Transfer, Licensing & Commercialisation Centre, which is a Centre responsible for the management of the Institute's Research, Development and Innovation outputs.

The Hub also increases the availability of commercialised, quality and locally developed goods and services that contribute to national development, economy and modernisation. It will also support the better survival of young companies and concepts, to become minimum viable products, services and companies with sustainability and regional impact. I also provides a repository of innovations and IP that catapults industry into advanced and enhanced industrialisation through technology transfer and licensing.

Sanitisers and COVID-19 PPE's

The Sanitiser and COVID-19 PPE projects were launched in April 2020 to address the COVID-19 pandemic outbreak. The Sanitiser Project was started through a ZWL\$2,9 million government grant that resulted in revenues in excess of ZWL\$100million. These revenues resulted in the establishment of a higher capacity sanitizer production plant and the development, manufacturing and deployment of other PPEs namely reusable face-shields and nano-based fumigants and sanitisers, ensuring that the public health of the nation is well and highly maintained.

The Ventilator Project

The project is focused on the development and manufacture a medical ventilator for the use in clinics, hospitals and first aid environment by qualified personnel in support of medical treatment where ventilation is required to save lives. The product is an innovative device designed to suit the local environment. It can be used for first aid, in clinics as well as in hospitals. All ventilators in Zimbabwe are currently imported, hence, this is the first of its kind designed and to be produced in Zimbabwe. It is also planned to be exported to SADC and Africa in general.

Preliminary clinical testing and trials on animals have already been conducted and the results are very positive and encouraging. Business development is being geared through a startup, Meddes Technologies, that is incubated within the HIT Innovation Hub. The first phase of production is expected to kick-off in November 2021, while the second phase of scaled up production is expected to start in March 2022. The final product after the second phase is expected to be ISO certified. The project will have an affordable, locally available product and after sales support reducing dependency on foreign interventions and reducing the import bill of Zimbabwe.

Fuel Management

This project provides a fuel monitoring system for the quick access to information on fuel depots and service stations in Zimbabwe. The system uses various sensory technologies to minimize human error and potential contamination in the reading and recording of fuel receipts, storage and deployment, providing a much more reliable system of measuring and giving out information on fuel quantities in fuel tanks hence assisting greatly in the national management process of fuel usage, sales and procurement.

The project is set to contribute to the industrialisation and modernisation of the nation through a smart fuel monitoring and management system.



The Electronic Health Record System

The Ministry of Health and Child Care (MoHCC) introduced a comprehensive, patient-centric Electronic Health Recovery Record System (HER) in 2016, called “Impilo” (meaning “Health” in Ndebele) which was designed and developed by a Zimbabwean technical team.

The System is designed to support health workers in their follow up of clinical protocols for priority health services. The developed system was not meeting the expected standard on disease surveillance and patient data management. The Ministry then sought the services of Matsimba Technologies a start-up technology company within the University's Innovation Hub which began optimising of the EHR system and in collaboration with the MoHCC, successfully developed the following modules which were integrated into the EHR System:

- The COVID Alert Application
- The Port of Entry and Quarantine Module
- The COVID surveillance Administration Portal
- The Vaccination Mobile Application
- The Vaccination QR Code Validation
- The Vaccination Administration Portal

The collaboration proved that the country has the capacity to develop softwares that have positive impact on national development. To support EHR System implementation a community of practice comprised of key stakeholders will be developed to address the major challenges related to patient data management and leverage opportunities for the MoHCC in Zimbabwe.

Covid-19 Geotrace Project

Covid-19 Geotrace's main purpose is identifying anyone that has been in close contact with someone who has tested positive for COVID-19. These will then be notified, closely monitored and, in the case of COVID-19, treated and quarantined for 14 days even if they do not display symptoms.

The project is a real-time ICT based COVID-19 case monitoring solution to flatten the COVID-19 incidence curve, take quick responsive action to ensure people are kept safe, receive timely treatment and ensure COVID-19 regulations for quarantine are executed swiftly. The application serves as an ICT based health disaster management solution.

Electrical Power Distribution Transformers

This commercialised project focuses on the design and production of a range of transformers, from 11kVA to 2MVA. Initially, the project focused on manufacturing but has since expanded its range of services to include the refurbishment of damaged transformers. Previous tenders that the company has been involved include Econet, REA and Agrico.

The development processes are now complete, deployment and commercialisation are now being done under a start-up, Afriwatt, within our Innovation Hub. The thrust of this start-up is not only to repair and supply robust and quality distribution transformers for commercial use in industrial areas, suburbs, rural areas and for farming purposes but more strategically to provide locally developed and design power transmission solutions to reduce import bills.



Local Authorities Digital Systems

The Local Authorities Digital Systems (LADS) is a collection of software modules that address the needs of Zimbabwean local authorities. The product is focused towards the achievement of Vision 2030, and looks at the modernisation of cities and towns through the creation of Smart Urban and Rural Councils.

LADS enforces uniformity in operation standards across Zimbabwean local authorities, enhances aid in the current efforts to nationalize and standardize the Chart of Accounts by the Ministry of Finance and Economic Development facilitating the easy generation of reports to central government as it is same platform and linked to the reporting portal, making auditing easier because of uniformity and universal standards enforced.

LADS provides online service delivery by councils, thereby helping towards COVID- 19 regulation adherence and customer health safety.

COMMUNITY SERVICES

The University is engaged in the following community responsiveness activities as we seek to position ourselves as a force to reckon with;

Biomedical Engineering Department:

- The Department has taken it upon itself to maintain the Danhiko Rehabilitation Centre's equipment while also working the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development on Curriculum Development, Research Development for the National Diploma in Biomedical Engineering.
- **National Health Strategy Consultancy Services for the Ministry of Health and Child Care.**
- Staff members in the Electronic Engineering department were engaged with HEXCO for teaching, learning and examination marking moderation. Its members also sit in various Standard Association of Zimbabwe technical committees.
- Mr Mugauri was also engaged in Curriculum development for the Ministry of Higher and Tertiary Education: A program for Biomedical Engineers.
- Members in the School of Information Science and were also engaged in the development of a Traffic Management System for the ZRP.
- Ms T. Sengudzwa is a Mentor to Women in STEM and supervises Oriel Girls High School LEO Club students.
- Mrs S Muzondo is a member of, the Biochemistry and Molecular Biology, Constitution For Natural Products Research Network For Eastern And Central Africa(Zimbabwe Branch) and the Organization for Women in Science for the Developing World.
- C. Mawere is a member of the Bioinformatics Research Consortium in Zimbabwe
- Mr P.D. Chiunzi is involved in training community members in Oyster Mushroom Production. Board Member and also Lower Centenary Producers Association Private Voluntary Organisation.
- T. Chirova: BMBSZ member - Biochemistry and Molecular Biology Society of Zimbabwe
 - NAPRECA member - Constitution For Natural Products Research Network For Eastern And Central Africa.
- E. Chidziya: BMSSZ member - Biochemistry and Molecular Biology Society of Zimbabwe
 - NAPRECA member - Constitution For Natural Products Research Network For Eastern And Central Africa.
- M. Mudyiwa: BMBSZ member - Biochemistry and Molecular Biology Society of Zimbabwe
 - NAPRECA member - Constitution For Natural Products Research Network For Eastern And Central Africa (joined August 2021).
- W. Mavengere: Committee Member, Biochemistry and Molecular Biology Society of Zimbabwe (BMBSZ), Committee Member, Zimbabwe Charter of the Natural Products Research Network for East and Southern Africa (NAPRECA), Executive Secretary and Committee Member, Ethnobiology-based Drug Discovery Research and Development (EDRAD) Trust.
- Precious Derera: Pharmacists Council of Zimbabwe.

- Prof Mazuru Gundidza: Southern African Biosciences (SANBio: housed in National Biotechnology Authority premises), Standard Association of Zimbabwe, Editorial board member of the Journal of Zimbabwe studies: Science, Technology and Health, Medicinal Research Council of Zimbabwe Standard Operation Procedures MCAZ, Allied Health Practitioners Council (AHPC).
- Ms. Winnet E. Chipato: Biochemists and Molecular Biologists Society of Zimbabwe, Standards Association of Zimbabwe Cosmetics Technical Committee, Organisation for Women in Science for the Developing world, International Union against Tuberculosis and Lung Disease, Zimbabwe.
- Mr Tatenda Musenda: Pharmacists Council of Zimbabwe .
- Mr Tawanda Samupindi : Pharmacists Council of Zimbabwe.
- Ms Revai Pianos: Pharmacists Council of Zimbabwe.



Environmental Management Renewable Energy & Climate Change Centre (EMRECC)



Dr A. Phiri - Director

GMB Plastic Recycling Project

Kneebowe Tradings (Pvt) Ltd is a company that has a factory located at GMB Msasa which produces polypropylene woven bags. They want to increase their production capacity, reduce expenses associated with the production and also find another alternative source for virgin raw materials. For the production of their woven bag they outsource their raw material PP from South Africa, with the rising prices in virgin material this has increased the cost of production for GMB. GMB approached HIT for technical solutions and also for HIT to be their research development center. For recycling activities, the source of the recycled material is the offcuts or spoiled items produced during the production process. Defective products are sent for recycling. On issue which was attended to is determination of the best blend of recycled and virgin material PP as well as the best ratio of virgin PP to calcium carbonate. The MFI test was done for characterizing all the blends. The test measures the melt flow properties of resins at a particular shear stress and temperature. In manufacturing, the possibility of manufacturing polymers different from one another in density and MFI enables the manufacturers to prepare grades suitable for specific fields of application. This test also provides information needed for the optimization of the processing temperature. To further determine the best blends further test have to be carried out most importantly the tensile test. This test determines the best blend which provides the tensile strength required in woven bags applications.



Polypropylene recycling to virgin like material

Polypropylene is one of the plastic materials that is being produced in massive quantities. PP is used in automobile bumpers and food packing, lids, and carrier bags, stationery, laboratory equipment, and prescription bottles. Most polymers processing companies in Zimbabwe make use of PP in fabricating many polymer-based products. The main challenge of these companies is that PP is not locally produced, usually it is imported from countries such as China and South Africa. Importation of virgin PP has become a bone of contention for the Zimbabwean polymer companies because it is very expensive hence many of the companies are struggling to stay afloat. To minimize expenses and maximize profit, companies are now resorting to the recycling of polymer plastic. Due to the current recycling techniques being, mechanical recycling, used the recycled material produced has poor mechanical properties compared to the virgin which limits its application to low-value products. This is because the mechanical recycling process currently being used causes thermal degradation of the plastic during reprocessing and does not remove impurities which ultimately affect the mechanical properties. To increase the value of the recycled materials we opted to carry out chemical recycling which produces recycled material with properties that mimic that of virgin material. The chemical recycling technique involves the use of solvents to remove impurities which is one of the causes of the reduction in the quality of the recycled material. As at now post-consumer PP waste was recycled the with xylene. To conclude the project further tests like Fourier-transform infra-red (FT-IR) to determine the chemical structure of the model polymers and waste plastics, tensile test, Thermal analysis to determine the thermal properties of the recycled material have to be carried out.

Harare Institute of Technology Integrated Solid Waste Management System

This Harare Institute of Technology's integrated waste management approach hinges on the circular economy concept and provides opportunities for various research activities. It should be noted that each waste stream can be subjected to various research activities and influence value addition or creation. As discussed with various stakeholders the various research activities can be done in various schools in promotion of interschool's researches. The attainment of Middle upper income economy is based on the circular economy concept which focuses on the no waste and waste is a resource for other processes. This results in reduced exploitation of virgin sources of material and reduced importation of material resources. Best ways of processing materials into products are determined by the various cross cutting researches. Initiatives which include the use of colour coded bins for the separation at source, transfer station for temporal storage of waste materials to be sorted for different value chains, development of a laboratory for various experimental work as well as recycling stations for various waste streams which include plastics, e-waste and paper have to be developed.

Municipal Solid Waste Management e-System

MSWMe-S is an integrated technology that combines the power of artificial intelligence through machine learning of a convoluted neural network (CNN) to classify waste streams into different types and make use of actuating sensors to provide real-time control of a smart bin over the internet. This combination of machine learning and the Internet of Things (IoT) is monitored through a progressive web application that is designed to be cross-platform (able to execute on different operating systems).

As of June 2022, we have successfully trained a CNN model that can classify organic waste and recyclable waste. EMRECC is in the process of data preparation to train a model for object detection of waste in images. We have successfully set up HC SR04 ultrasonic sensor to measure the levels of smart bins and report to the transfer station. This information can be displayed on a map using an API key. (Mapbox is being used as a free but less powerful alternative to Google Maps during prototype development). The web application also provides the ability for council and private players to organize/view details clean-up campaigns meant to reduce/eliminate waste from the open environment.

The project is incomplete as the following is needed:

1. Procurement of a Raspberry Pi 3B+ and ATmega328p-U microcontroller. The ATmega328p-U will slave to the Raspberry Pi which will run the model while the microcontroller module controls the actuators.
2. Procurement of a high-quality USB camera module as the present module is hazy.
3. Procurement of a high-quality camera for use in capturing images in the natural environment which will be used to capture illegal dumpsites that will be fed to a CNN for training in object detection.

The above challenges are limiting in nature because they affect the core functions and directly impact on the ability to integrate the system as one.

Safe Inclusive Cities Technology

EMRECC worked with Plan International to provide innovative technology which can assist the communities' environmental pollution and degradation. This was done by the use of programmed UV (drone) which moves about to gather data.

TRB Renewable Energy Curing System Project

More than 70 % of annual deforestation in Zimbabwe is caused by tobacco curing. EMRECC research Centre in partnership with Tobacco research board to design a solar powered tobacco curing ban which reduces the consumption of firewood by more than 50%. The aim of the project is to develop a renewable energy system in the tobacco curing process for use by farmers. The proposed implementation plan includes; Adapt a hybrid solution that makes use of an effective solar PV system and the conventional curing method, setting up prototype of system using curing infrastructure from T.R.B (for example barns), work with TRB for the duration of the project and do marketing and implementing of the system to farmers and other interested parties.

JEKA Stove Project

The Jeka stove development project is concerned with the development of an advanced fixed stove technology which has the capacity of replacing the old traditional method used for cooking in rural areas. The Jeka stove uses biomass as a source of fuel. Jekesapfungwa and HIT presented findings to the selected recipients including regulatory authority, complete heat output tests, determined community carbon footprint and out-rolling to various communities in the country.

CONSULTATIONS

Masvingo Polytechnic EIA

An EIA was done by HIT-Enviro at Chibi Growth point for Masvingo Vocational Training Center Satellite and an EIA certificate was conferred by EMA.

CONFERENCE AND WORKSHOPS

TNO 1st Stakeholder Meeting on Organic Waste Circularity

The Agenda was for the Stakeholder Workshop on the Development of a Circular Economy Roadmap in the Waste Sector in Zimbabwe. Analysis of household waste streams and Circularity in Zimbabwe was carried out and a SWOT analysis on circularity routes per waste stream + feedback and discussion.

COLLABORATIONS AND MOUs

GMB Project

Collaboration in the implementation of the project between Grain Marketing Board and Harare Institute Technology in conducting the project was developed. Parties collaborated in designing the methodology to be used in carrying out the project and provided resources according to their capacities in order for the project objectives to be met. Some of the objectives includes; To determine sources for food and non-food packaging rPP, setup a laboratory for quality test, pilot test and further researches, determine process parameters and rPP and vPP blends and increase plant capacity and maximum utilization of resources

TRAINING COURSES

Safety, Health and Environment (SHE) Management

Three training courses for Safety, Health and environmental management were carried out in 2021 and participants were awarded certificates according to performance.

Environmental Impact Assessment (EIA)

EIA is the assessment of the environmental consequences of a plan, policy, program or actual project to make a decision to move forward with the proposed action. A training under this course synopsis as a capacity building initiative for EMRECC interns alongside other external participants was carried out. The participants are underway practical evaluation and are prospected to attain their certificates in March 2022.

Solar Training in Collaboration with SNV

In collaboration with SNV, two solar trainings were done ion Ruwa and Mbare communities for the youth. As a result of this training, more than 50% of the youth who participated have reported to be employment in this field.

Works, Infrastructure & Estates



Mr. S. Machinganidze - A / Director

INFRASTRUCTURE DEVELOPMENT

Multi Laboratory Research Plaza

The Multi Laboratory Research Plaza structure with a revised scope of works comprising of three storeys and the following facilities; nine (9) laboratories, two (2) boardrooms, one (I) entrance hall, one (I) internal courtyard, one (I) entrance hall, twenty(20) offices, one (I) open plan on third floor, one (I) consultation room, five (5) kitchenettes, twelve (12) storage rooms, seven (7) ablutions, two (2) seminar rooms and three (3) balconies. The structure has a total floor area of 5,489 m.2

During the 2021 financial year, the structure was allocated funding amounting to \$144,000,000.00. A total of \$54,000,000.00h as since been released todate.

HIT Pavilion

The project is being constructed in house using direct labour and funded from internal resources. Presently, the structure is at about 80% level of completion. The construction of the structure was temporarily halted as a result of lack of funding and hyper inflationary environment that is causing prices of building materials to be too high. During the third quarter of 2021, construction activities resumed on the structure.

Maintenance of Institute Buildings

The University was allocated funds amounting to \$50,000,000.00 for refurbishing students' hostels in this financial year. A total of \$50,000 000.00 has disbursed to date. The procurement of the buildings materials is in progress.

Development of the HIT Masterplan

The project has been temporarily halted because of lack of funding. There were no funds allocated towards the Project the second year running.

Transfer of Immovable Property to Harare Institute of Technology

The transfer of the property to Harare Institute of Technology has not been effected as yet by the Harare City Council because of the need to pay conveyance fees. The Institute is now raising the conveyance fees and then process the payment once resources are secured.

Bluff Hill Stands

The application by the Institute for consolidation of two Bluff Hill stands has taken long in the hands of the Department of Physical Planning in the Ministry of Local Government and Public Works due to the lockdowns.



Communications & International Relations



Mr T. Mutema - Director

INSTITUTIONAL ACHIEVEMENTS AND AWARDS

AWARDS

The University received the following awards:

Technology Project of the Year

The Ventilator project was adjudged the Technology Project of the Year by the Chartered Institute of Project Managers Zimbabwe's Project Management Achievements Awards 2020 held on 18 December 2020.

Excellence in Engineering Education Award

HIT's Vice Chancellor was awarded the Excellence in Engineering Education Award by the Federation of African Engineering Organisations in collaboration with the Ghana Institution of Engineering at the 2020 General Assembly/Investiture Awards held in Ghana on 29 January 2021.

Multicity Challenge Best Project Award at the Governance Lab MultiCity Challenge

A start-up with TTLCC, LADS Africa Scooped the Multicity Challenge Best Project Award at the Governance Lab MultiCity Challenge. The award was from UNDP Global Center for Technology in partnership with New York University.

Order of the Star of Zimbabwe Silver Medal Award

Dr Gibson Mandishona, the first Board Chairman of the Harare Institute of Technology was honoured with the Order of the Star of Zimbabwe Silver Medal Award for his unparalleled leadership in, and immense contribution to the development of Science, Engineering and Technology (SET) in Zimbabwe since 1980 during the 2021 Heroes and Defence Forces Day commemorations.

Jairos Jiri Humanitarian Award to HIT for its role in the fight against Covid-19.

The Jairos Jiri Humanitarian Award is awarded to persons or institutions who have worked and dedicated their lives and activities to the betterment of humanity through rendering humanitarian service. The award recognises the spirit of humanism exhibited by the recipient, while honouring the virtues of concern for the disadvantaged and vulnerable members of society.

Innovative Award 2021 by the Zimbabwe National Chamber of Commerce (ZNCC) ZNCC Mashonaland Region Business Awards.

Harare Institute of Technology (HIT) scoped the Innovation Award (Runner up) of the year award at the prestigious ZNCC Mashonaland Region Annual Business Awards 2020 held on 28 September

2021 at NASH TV Studio in Harare. The award is in recognition of the development and promotion of professional business acumen at all business levels and in different sectors.

Best Innovation in Citizen Centred Service Delivery Trophy.

The Harare Institute of Technology scooped the Best Innovation in Citizen Centred Service Delivery Trophy at the 8th Africa Public Service Day Commemorations at Elephant Hills Hotel in Victoria Falls from 21-23 June 2021.

Sub Librarian Elected ZIMLA President

HIT Sub Librarian Mr Macdonald Nhakura was elected President of the Zimbabwe Libraries Association (ZIMLA) at the organisation's 8th ZIMLA Annual International Conference held virtually on Friday 27 August 2021.

Student gets US\$10 000 Grand Prize

Admire Bosha, a second year Biotechnology student walked away with the USD10 000 grand prize at the Second Edition of the Business Plan Competition held virtually on the 12th of August 2021 sponsored by Small to Medium Enterprise Development Corporation (SMEDCO). Admire's business idea is the design and setting up of Bio-digesters on both small and large scale to suit the need of different industrial and domestic purposes.

ICTS Certifications

A number of academics in the school of Information Science attained the following certification as the University positions itself to better tackle emerging demands in the information technology sector:

- Mr W. Mambodza is a Certified Incidence Handler (ECIH)
- Mr D. Fadaraliki is an Amazon Certified Cloud Practitioner (AWS CP)
- Mr M. Musara and Mr C Mugauri are Certified Ethical Hackers (CEH)

PARTNERSHIPS

The Emmerson Dambudzo Mnangagwa Chancellor's Award

The University greatly appreciates the Chancellor's support of scholarship through provision of prizes for the two best graduates in the University for every cohort. This exemplary partnership with your University will go a long way in promoting our mandate of developing, incubating, transferring and commercializing technology for rapid national industrialization.

Partnership With ICSAZ In Forensic Accounting And Auditing

The Institute of Chartered Secretaries and Administrators in Zimbabwe (ICSAZ) has signed a partnership agreement with the Harare Institute of Technology (HIT) to collaborate on professional programmes, joint research, innovation and technological sharing in the domain of Forensic Accounting and Auditing.

Partnership to Digitalise Chipinge Town Council Operations

The Harare Institute of Technology has entered into a Memorandum of Understanding with the Chipinge Town Council to digitalise the local authority's operations. The prime objectives of this MoU include collaborations in research and development of technologies aimed at enhancing the capabilities of the Council's operations.

MoU with Parirenyatwa Group of Hospitals

The partnership will entail collaboration in skills development in the design, monitoring, and control of medical equipment including facilities, attachments and scholarships for Biomedical Engineering Students.

Challenges

Notwithstanding the commendable achievements and efforts undertaken during this Calendar Year, the University continued to encounter a number of challenges listed under here:

Financial Support for ICTs

The University received \$6 000 000.00 out of the \$25 000 000.00 allocated in the Blue Book for ICTS equipment which are now the new operating tools for instruction, student practicals, research and administrative activities. The slow disbursement is of grave concern to the University, given the strategic placement of the information communication technologies as the key drivers of the “New Normal” dispensation ushered in by the COVID-19 pandemic.

Human Capital Attrition

Staff continue to leave the University employment citing the lure of green pastures within and outside the SADC region. It is our humble submission that we continue to constantly revise our salaries and more importantly, offer other non-monetary benefits to meet the regional parity. It is also important to note that the staff that is leaving is coming from critical areas of Engineering and Technology where it is highly expensive to train personnel as well as most difficult to secure replacements.

Requirement for fit-for-purpose Research, Development and Innovation Equipment

Our innovation and commercialisation of technology is largely hampered by the use of obsolete equipment. The acquisition of state-of-the-art and world class equipment for our research and development activities will enhance the University's capacity to deliver beyond expectation. We are confident that the newly reconfigured ZIMDEF could channel some of its funds towards the setting up of specialized laboratories and workshops in an institution like ours.

The Challenges surrounding IP Filing

The University faces the challenge related to the fact that ZIPO was not operating at optimum levels due to the COVID-19 induced lockdowns and as such, most of the IP submitted is yet to be processed. ARIPO on the other hand requires the processing fees to be paid in foreign currency. It is important that the IP is filed regionally for its better protection and also in order to attract investors.

The Indo-Zim Technology Centre

Our parent Ministry gave direction that the Indo-Zim Technology Centre will now be run by the University, thus eliminating unnecessary administrative and utilisation headaches that have been in existence.

Transport Capacitation

The transport situation within the University is quite dire as the University's fleet continues to degenerate. We are imploring the Government to fund the acquisition of operations vehicles for university business. The University currently has a single bus which is now dilapidated. The University requires vehicles for supervision of students on internship, the absence of which hampers our efforts to deliver quality tuition. On the another tone, the University needs to attract and incentivize highly qualified management team through the provision of vehicles for business and personal use in line with best practices. We are continuously facing challenges related to meeting the contractual obligations in terms of the vehicles for Principal Officers, Deans, Directors of the various Centres and other senior managers.

Operations Funding

The disbursement of funds for the University's Operations costs as indicated in the Blue Book. has been slow. To date, only ZWL \$15 000 000 has been released out of the allocated ZWL\$115 000 000 in a scenario that exerts extreme pressure on the University's finances. The cost of essential services, internet bandwidth, rates, consumables, and COVID-19 related expenses, has gone up due to the dual pricing system that is linked to the United States dollar.

University Farm

The acquisition of a farm for the University farm continues to be an outstanding issue for a long time now. We continue to move from pillar to post on the issue of the University Farm. The promised offer letter from Mashonaland West is still to materialise. The farm will make it possible for the University to carry out agro-based research, rear livestock and also grow food for consumption by our staff and students and for sale.

Provision of State-of-the-art Infrastructure

The availability state-of-the-art living and recreational facilities remains key to the attraction and retention of students, and more critically, the international market. These sadly are still out of reach as most partners tend to be on the predatory side.

2021 FINANCIAL STATEMENTS

HARARE INSTITUTE OF TECHNOLOGY ADMINISTRATION AND DIRECTORATE

BUSINESS

Harare Institute of Technology is a Higher Education Institution governed by the Harare Institute of Technology Act (Chapter 25:26) and is domiciled in Zimbabwe.

REGISTERED OFFICE

Harare Institute of Technology Campus
15015 Ganges Road, Belvedere Harare.

NON-EXECUTIVE BOARD MEMBERS

Engr. F Mavhiya-Bhiza (Chairperson)
Engr. B Rafemoyo (Vice Chairperson)
Mr J. M Mberi
Mrs R. B Ncube
Mrs A Hove
Engr. T. I Kunaka
Professor S Sibanda
Mrs A Machida

EXECUTIVE MANAGEMENT

Dr Engr. Q. C Kanhukamwe (Vice Chancellor)
Dr Engr. T Garikayi (Pro Vice Chancellor, Research, Innovation and Commercialisation)
Mr W Gwarimbo (Acting Pro Vice Chancellor, Academic Affairs)
Mr H Njonga (Registrar)
Mr T Kachambwa (Financial Director)
Mr J. L Maenzanise (Librarian)

PERSON RESPONSIBLE FOR SUPERVISION OF PREPARATION OF FINANCIAL STATEMENTS

Mr T Kachambwa (Financial Director)
Qualification include:
Chartered Global Management Accountant (CIMA)
Master of Business Administration (ZOU)
Bachelor of Commerce in Accounting (ZOU)
Registered Public Accountant,
Registration Number: 05282

**HARARE INSTITUTE OF TECHNOLOGY
ADMINISTRATION AND DIRECTORATE**

BANKERS

CBZ Bank Limited
Stanbic Bank

LEGAL PRACTITIONERS

Dube, Manikai and Hwacha Legal
Practitioners
6th Floor, Gold Bridge
Eastgate Mall
Harare

AUDITORS

HLB Chartered Accountants
(Zimbabwe)
14 Cleveland Avenue
Milton Park
P.O. Box 4684
Harare

PRESENTATION CURRENCY

ZWL

HARARE INSTITUTE OF TECHNOLOGY

INDEX TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED

31 DECEMBER 2021

	<u>Pages</u>
Board's responsibility Statement	4
Report of Independent Auditors	5 - 11
Statement of financial position	12
Statement of comprehensive income	13
Statement of changes in reserves	14 - 15
Statement of cash flows	16
Notes to the financial statements	17-37

HARARE INSTITUTE OF TECHNOLOGY

THE INSTITUTE BOARD RESPONSIBILITY STATEMENT

The Institute Board is required to maintain adequate accounting records and are responsible for the content and integrity of the financial statements and related financial information included in this report. It is its responsibility to ensure that the financial statements fairly present the state of affairs of the institute as at the end of the financial year and the results of its operations and cash flows for the year ended, in conformity with International Financial Reporting Standards.

The Board acknowledges that it is ultimately responsible for the system of internal financial control established by the Institute and place considerable importance on maintaining a strong control environment. To enable management to meet these responsibilities, the Boards sets standards for internal control aimed at reducing the risk of error or loss in a cost-effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk.

These controls are monitored throughout the Institute and all employees are required to maintain highest ethical standards in ensuring the Institute's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the Institute is on identifying, assessing, managing and monitoring all known forms of risk across the Institute. While operational risk cannot be fully eliminated, the Institute endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constrains.

The Board is of the opinion, based on the information and explanations given by management that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or loss. The Board assessed the ability of the Institute to continue operating as a going concern and believe that the preparation of the financial statements on a going concern basis is still appropriate.

The external auditors were responsible for independently auditing and reporting on the Institute's financial statements. The financial statements and related notes have been audited by the Institute's external auditors and their report is presented on pages five to eight. The financial statements and the related notes are set out on pages nine to thirty-three, which have been prepared on the going concern basis, were approved by the Institute Board and were signed on its behalf by:

BOARD'S CHAIRPERSON

VICE CHANCELLOR

HARARE INSTITUTE OF TECHNOLOGY REPORT OF THE INDEPENDENT AUDITORS TO THE BOARD OF DIRECTORS

QUALIFIED OPINION

We have audited the inflation adjusted financial statements of the Harare Institute of Technology set out on pages 12 to 16 which comprise the statement of financial position as at 31 December 2021, and the statement of income and expenditure and other comprehensive income, the statement of changes in funds and reserves, and the statement of cash flows for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, except for effects of the matter described in the Basis for Qualified Opinion section of our report, the accompanying inflation adjusted financial statements present fairly, in all material respects, the financial position of the Harare Institute of Technology as at 31 December 2021, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (“IFRS”).

BASIS FOR QUALIFIED OPINION

1. Impact of incorrect date of application of IAS 21 – *The effects of Changes in Foreign Exchange Rates on comparative financial information*

The Government of Zimbabwe promulgated Statutory instrument (“SI”) 33 on 22 February 2019, giving legal effect to the reintroduction of the Zimbabwe dollar “ZWL” as legal tender and prescribed that for accounting and other purposes, certain assets and liabilities on the effective date would be deemed to be Zimbabwe dollars at a rate which was at par with the United States Dollar (“USD”).

In October 2018, banks were instructed by the Reserve Bank of Zimbabwe to separate and create distinct banks accounts for deposits names, RTGS (Real Time Gross Settlement) FCA and Nostro FCA accounts. This resulted in separation of transactions on the local RTGS payment platform from those relating to foreign payments. This separation resulted in an increased proliferation of multi-tier pricing practices by suppliers of goods and services, indicating a significant difference in purchasing power between the RTGS FCA and Nostro FCA balances, against a legal framework mandating parity. These events were indicative of economic fundamentals that would require a reassessment of the functional currency as required by IAS 21.

The decision by the directors of the Harare Institute of Technology to change the functional currency only on 22 February 2019 in accordance with law resulted in misstatement of the financial performance and cash flows of the University, as transactions denominated in USD were not properly translated during that period.

Had the University applied the requirements of IAS 21, many of the elements of the inflation adjusted financial statements of the comparative period would have been materially impacted. The financial effects on the inflation adjusted financial statements of this departure were not quantified.

Our opinion on the current period's inflation adjusted financial results is modified because of the possible effects of the matter on the comparability of the current year's financial results with that of the prior year.

2. Non-compliance with IFRS 15-Revenue recognition

Reference is made to inflation adjusted projects income of ZW\$69 425 980 (2020: ZW\$ 323 144 099) disclosed in the statement of income and expenditure.

Included in the 2021 balance is revenue from transport, fuel and tap-card payment systems provided to the Zimbabwe United Passenger Company Limited (ZUPCO) totaling ZW\$20,725 502. These systems were provided to ZUPCO by the Harare Institute of Technology joint venture company, Matsimba Technologies (Pvt) Ltd. In return ZUPCO agreed to pay 5% of its gross passenger revenue. However, management has not adopted the accruals concept for accounting for this revenue. Only payments made by ZUPCO are recognised as income. Furthermore, according to the joint venture agreement with Matsimba Technologies (Pvt) Ltd, the Harare Institute of Technology is only entitled to 25% the joint venture revenue.

3. Non-compliance with IAS 24 – Related Parties

Reference is made to item 2 above - Non-compliance with IFRS 15-Revenue recognition.

Because of matters raised under 2 above, we were unable to verify that related party transactions and balances were completely and accurately recorded as required by IAS 24. We were unable to quantify related party balances and transactions by alternative means.

We conducted our audit in accordance with International Standards on Auditing (“ISAs”). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the University in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (“IESBA Code”) together with the ethical requirements that are relevant to our audit of the financial statements in Zimbabwe, and we have fulfilled our other ethical responsibilities in accordance with the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion

KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current financial year. These matters were addressed in the context of our audit of financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. In addition to the matters described in the Basis for Qualified Opinion section of this report, we have determined the matters described below to be the key audit matters to be communicated in our report.

1. Revenue recognition

The key audit matter	How we addressed the matter in our audit
<p>Tuition fees for the year per the statement of income and expenditure was ZW\$278 978 787 (2020: ZW\$171 116 866)</p> <p>Tuition fees is a significant contributor to the University's revenue.</p> <p>At the beginning of the year, the institute, in terms of Section 31(3)(p) of the Harare Institute of Technology Act (Act No. 4/2005) the board of the Harare Institute of Technology, with the approval of the Minister of Higher and Tertiary Education, Science and Technology Development makes a fees ordinance that will apply for the upcoming year.</p> <p>Academic fees are automatically billed for all students that have active categories on the system and recognized to the extent that it is probable that the economic benefits will flow to the University.</p> <p>Recognition of tuition fees was thus considered a key audit matter due to the significance of the balance, the significant volume of academic fees processed during the year and the work effort required to be performed by the audit team.</p>	<p>Our audit procedures included:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assessing of internal controls over academic fees and tested the effectiveness of the key controls over the accuracy, validity and completeness of the invoicing process. <ul style="list-style-type: none"> ○ Obtained the fees income schedule for the 1st and 2nd semesters. ○ Agreed inputs to the source documents as follows: students' register and the fees ordinance. ○ Agreed the schedule to the ledger, TB and the financial statements. ○ Obtained explanations from management on variances noted. <input type="checkbox"/> Recalculation of tuition revenue using number of active students and the authorised tuition fees rates for each program, to assess the tuition revenue recognised for the year is accurate. <p>Based on audit work done, we were able to obtain reasonable assurance on the recognition of revenue.</p>

2. IAS 20-Accounting for Government Grants and Disclosures of Government Assistance

Key audit matter	How the matter was addressed in the audit
<p>Government grant income recognized in the statement of income and expenditure was ZW\$624 981 071 (ZW\$1 069 861 043)</p> <p>Additionally, we refer to note 7 to the financial statements - Deferred Government grants of ZW\$734 840 581 (2020: ZW\$642 191 575)</p> <p>HIT recognises an unconditional government grant related to expenses in the statement of income and expenditure when the grant has been received. Government grants in relation to capital projects are initially recognised as deferred income liability and income is</p>	<p>We performed the following audit procedures:</p> <ul style="list-style-type: none"> <input type="checkbox"/> We obtained the documentation relating to the grant to confirm the amount, the date the cash was received, and the terms on which the grant was awarded. <input type="checkbox"/> We reviewed the documentation for any conditions attached to the grant <input type="checkbox"/> We confirmed that the grant criteria have been complied with <input type="checkbox"/> We confirmed the cash received to bank statement and cash book <input type="checkbox"/> We discussed with management the method of recognition of the amount received, in particular how much of the grant has been recognised in the statement of income and

<p>realised on a matching basis with the amortisation rate of the acquired asset.</p> <p>Because of the significance of the amounts involved, accounting for government grants was considered a key audit matter</p>	<p>expenditure; and the treatment of the grant income deferred.</p> <ul style="list-style-type: none"> □ Using the draft financial statements and detailed schedules of deferred capital grants, we confirmed that the accounting treatment applied complied with IAS20. □ We recalculated the amounts recognised in statement of income and expenditure and the deferred income balance in statement of financial position <p>Based on the work done, we concur with the judgments and assumptions used in the calculation of grant revenue recognised as income for the year and the treatment of the amount deferred, were appropriate and the disclosures were found to be in conformity with the requirements of IAS 20- <i>Accounting for Government Grants and Disclosures of Government Assistance</i>; and IAS 29.</p>
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3. Valuation of land and buildings

Key audit matter	How the matter was addressed in the audit
<p>We refer to note 4 to the financial statements.</p> <p>During the year land and buildings were revalued resulting in a valuation gain of ZW\$528 321 663 (Historical cost: ZW\$2 816 150 510</p> <p>In determining the fair values of land and buildings, the Harare Institute of Technology made use of independent external valuers who in turn used judgments and estimates which involved significant unobservable inputs.</p> <p>The determination of the fair value of property, plant and equipment was considered to be a matter of most significance to our current year audit due to the following:</p> <ul style="list-style-type: none"> □ Use of unobservable information such as risk yields 	<p>We performed the following audit procedures:</p> <ul style="list-style-type: none"> □ We assessed the competence, capabilities, objectivity and independence of the independent valuers, and assessed their qualifications. □ We confirmed that the valuer is a Registered Valuer under the Valuers Act Zimbabwe (Chapter 27:18) and had no personal interest in the value estimate. □ We were satisfied that the valuer has sufficient current local and national knowledge of the particular property market involved, and has the skills and understanding to undertake the valuation competently. □ We established that the valuation was prepared in accordance with the Royal Institution of Chartered Surveyors (RICS) Valuation □ Professional Standards; International Valuation Standards (IVS) and the Real Estate Institute of Zimbabwe (REIZ) Standards. □ We assessed the work performed by the independent external valuers in valuing land and buildings by performing the following:

<p>□ The current economic environment is extremely volatile given the valuation intricacies impacting property in the Zimbabwean market. As a result, the determination of inputs involved significant judgment based on limited market evidence</p>	<ul style="list-style-type: none"> ✓ Reviewed the valuation methods used and assessed whether they are appropriate and consistent with the reporting requirements; ✓ Assessed the reasonableness of assumptions made ✓ Evaluated financial statement disclosures for appropriateness and adequacy. <p>Based on the work done, we concur with that the judgments and assumptions used in the valuation land and buildings were appropriate and the disclosures were found to be appropriate in terms of the relevant accounting standards.</p>
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OTHER INFORMATION

The Harare Institute of Technology directors are responsible for the other information. The other information comprises the Directors' Responsibility Statement and the historical cost financial information but does not include the inflation adjusted financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact.

As described in the Basis for Qualified Opinion section above, the Harare Institute of Technology inflation adjusted financial statements do not comply with International Financial Reporting Standards. Consequently, we have determined that the other information is misstated for that reason

RESPONSIBILITIES OF MANAGEMENT AND THOSE CHARGED WITH GOVERNANCE FOR THE FINANCIAL STATEMENTS

The Harare Institute of Technology directors are responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the University's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the University or to cease operations, or have no realistic alternative but to do so. Those charged with governance are responsible for overseeing the Harare Institute of Technology financial reporting process.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal controls of the Harare Institute of Technology
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Harare Institute of Technology ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Harare Institute of Technology to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient audit evidence regarding the financial information of the Harare Institute of Technology or business activities of the University to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the audit of the Harare Institute of Technology. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Clement M. Ruzengwe.

HLB Zimbabwe Chartered Accountants
Engagement Partner: Clement M Ruzengwe

Harare
Date:

HARARE INSTITUTE OF TECHNOLOGY
STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2021

	<u>Notes</u>	Inflation Adjusted		Historical cost	
		2021 ZW\$	2020 ZW\$	2021 ZW\$	2020 ZW\$
ASSETS					
Non-current assets					
Property, plant and equipment	4	3 319 348 567	2 843 096 575	3 223 123 812	322 092 985
Intangible Asset		24 738 033	-	17 436 978	-
Investment in subsidiary		-	4 047 759	-	100 000
		3 344 086 600	2 847 144 334	3 240 560 790	322 192 985
Current assets					
Inventories		14 278 531	4 338 502	11 534 202	2 005 316
Trade and other receivables	5	48 535 703	184 129 602	48 535 702	114 553 142
Bank and cash	6	115 131 630	30 498 387	115 131 630	18 974 060
		177 945 864	218 966 491	175 201 535	135 532 518
Total assets		3 522 032 464	3 066 110 825	3 415 762 325	457 725 503
FUNDS AND LIABILITIES					
Funds					
Reserves		2 442 512 655	1 914 190 992	3 078 762 114	262 611 605
Endowment fund		1 631 519	1 631 519	35 418	35 418
Retained surpluses		48 970 152	954 451 650	25 751 038	73 241 984
		2 493 114 326	2 870 274 161	3 104 548 571	335 889 007
Non- current liabilities					
Caution fees		6 148 984	2 695 967	6 148 984	1 677 251
Deferred income	7	836 113 013	69 731 669	138 160 186	43 382 388
Capital grants		52 271 220	52 271 220	32 519 663	32 519 662
		894 533 216	124 698 855	176 828 833	77 579 301
Current liabilities					
Accounts payable	8	56 734 159	29 028 109	56 734 159	18 059 352
Provisions	9	77 650 763	42 109 700	77 650 763	26 197 843
		134 384 921	71 137 809	134 384 921	44 257 195
Total funds and liabilities		3 522 032 464	3 066 110 825	3 415 762 325	457 725 503

The historical cost results are included as supplementary information, the auditors have not expressed an opinion on the historical results. The notes on pages 17 - 37 are an integral part of these financial statements.

HARARE INSTITUTE OF TECHNOLOGY
STATEMENT OF INCOME AND EXPENDITURE AND COMPREHENSIVE INCOME
FOR THE YEAR ENDED 31 DECEMBER 2021

	Notes	Inflation Adjusted		Historical cost	
		2021 ZW\$	2020 ZW\$	2021 ZW\$	2020 ZW\$
Revenue					
Government grants		624 981 071	1 069 861 043	513 180 799	149 971 074
Tuition fees		278 978 878	171 116 866	227 982 867	63 306 266
Projects income		69 425 980	323 144 099	52 652 387	140 532 654
		973 385 930	1 564 122 008	793 816 054	353 809 994
Other income					
Other income		51 026 803	23 782 833	47 354 441	11 685 965
Interest received		572 218	314 076	531 418	119 155
Foreign currency net translation gain		-	55 589 776	-	34 584 246
		51 599 021	79 686 685	47 885 859	46 389 367
Expenditure					
Salaries and benefits		(671 661 501)	(1 201 875 982)	(552 498 234)	(170 006 754)
Projects expenses		(39 378 820)	(349 391 816)	(34 034 198)	(31 669 825)
Loss on equipment disposal		(2 992 591)	(45 695 215)	(2 992 591)	(6 478 379)
Other administration costs	10	(497 673 935)	(675 661 626)	(294 372 952)	(116 120 672)
Foreign currency net translation loss		(5 824 021)		(5 294 883)	
		(1 217 530 868)	(2 272 624 638)	(889 192 858)	(324 275 630)
Operating surplus/(deficit)		(192 545 917)	(628 815 945)	(47 490 946)	75 923 731
Monetary gain/ (loss)		(712 935 581)	1 325 772 182	-	-
Surplus/(loss) for the year		(905 481 498)	696 956 236	(47 490 946)	75 923 731
<i>Other comprehensive income:</i>					
Surplus on property, plant and equipment valuation	4	528 321 663	-	2 816 150 510	-
Comprehensive surplus		(377 159 835)	696 956 236	2 768 659 564	75 923 731

The historical cost results are included as supplementary information, the auditors have not expressed an opinion on the historical results. The notes on pages 17 - 37 are an integral part of these financial statements.

HARARE INSTITUTE OF TECHNOLOGY
STATEMENTS OF CHANGES IN FUNDS FOR THE YEAR ENDED 31 DECEMBER 2021

	INFLATION ADJUSTED				
	Accumulated surpluses ZW\$	Revaluation reserves ZW\$	Non-distributable reserves ZW\$	Endowment fund ZW\$	Total Funds ZW\$
Balance as at 01 January 2020	257 495 414	1 891 669 549	22 521 443	1 631 519	2 173 317 925
Surplus for the year	696 956 236	-	-	-	696 956 236
Balance at 31 December 2020	954 451 650	1 891 669 549	22 521 443	1 631 519	2 870 274 161
Balance as at 01 January 2021	954 451 650	1 891 669 549	22 521 443	1 631 519	2 870 274 161
Revaluation gain	-	528 321 663	-	-	528 321 663
Deficit for the year	(905 481 498)	-	-	-	(905 481 498)
Balance at 31 December 2021	48 970 152	2 419 991 212	22 521 443	1 631 519	2 493 114 326

The historical cost results are included as supplementary information, the auditors have not expressed an opinion on the historical results. The notes on pages 17 - 37 are an integral part of these financial statements.

HARARE INSTITUTE OF TECHNOLOGY

STATEMENTS OF CHANGES IN FUNDS FOR THE YEAR ENDED 31 DECEMBER 2021

	HISTORICAL COST				
	Accumulated surpluses ZWS	Revaluation reserves ZWS	Non-distributable reserves ZWS	Endowment fund ZWS	Total Funds ZWS
Balance as at 01 January 2020	(2 681 747)	262 109 236	502 368	35 418	259 965 275
Comprehensive surplus/(deficit) for the year	75 923 731	-	-	-	75 923 731
Balance at 31 December 2020	73 241 984	262 109 236	502 368	35 418	335 889 006
Balance as at 01 January 2021	73 241 984	262 109 236	502 368	35 418	335 889 006
Revaluation gain	-	2 816 150 510	-	-	2 816 150 510
Deficit for the year	(47 490 946)	-	-	-	(47 490 946)
Balance at 31 December 2021	25 751 038	3 078 259 746	502 368	35 418	3 104 548 570

The historical cost results are included as supplementary information, the auditors have not expressed an opinion on the historical results. The notes on pages 17-37 are an integral part of these financial statements.

HARARE INSTITUTE OF TECHNOLOGY

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2021

	Notes	Inflation Adjusted		Historical cost	
		2021 ZWS	2020 ZWS	2021 ZWS	2020 ZWS
CASH FLOWS FROM OPERATING ACTIVITIES					
Surplus/(deficit) for the year		(192 545 917)	696 956 236	(47 490 946)	75 923 731
Adjustment for non-cash items					
Depreciation	4	182 509 122	89 367 135	22 767 380	12 664 753
Deferred income amortisation	7	(31 603 541)	(699 200 905)	(5 222 202)	(712 163)
Loss (gain) on disposal of equipment		2 992 591	45 695 215	2 992 591	6 478 379
Net effects of inflation adjustment		(41 740 356)	-	-	-
		(80 388 100)	132 817 681	(26 953 176)	94 354 700
Working capital movements:					
Decrease/(increase) in inventories		(9 940 029)	7 057 193	(9 528 886)	(1 634 182)
Decrease/(increase) in receivables		135 593 899	(125 684 319)	66 017 440	(106 454 979)
Increase in caution fees		3 453 017	136 746	4 471 733	1 322 646
Increase/(decrease) in payables		63 247 113	(9 514 289)	90 127 726	33 082 062
Net cash flows from operating activities		111 965 899	4 813 011	124 134 837	20 670 245
CASH FLOWS FROM INVESTING ACTIVITIES					
Purchase of property, plant and equipment	4	(161 813 930)	(124 878 444)	(132 706 483)	(59 382 949)
Proceeds from disposal of equipment		7 691 614	14 259 925	4 729 216	2 018 224
Net cash flow from investing activities		(154 122 316)	(110 618 519)	(127 977 267)	(57 364 725)
CASH FLOWS FROM FUNDING ACTIVITIES					
Decrease in loans		-	(144 342)	-	(20 000)
Government capital grants received		82 638 019	(10 264 054)	66 000 000	22 031 388
ZIMDEF grant received		44 151 641	80 096 940	34 000 000	24 426 945
Net cash generated from financing activities		126 789 660	69 688 544	100 000 000	46 438 333
Net increase/(decrease) in cash and cash equivalents		84 633 242	(36 116 964)	96 157 570	9 743 854
Cash and cash equivalents at beginning of the period		30 498 387	66 615 351	18 974 060	9 230 206
Cash and cash equivalents at the end of the period	6	115 131 630	30 498 387	115 131 630	18 974 060

The historical cost results are included as supplementary information; the auditors have not expressed an opinion on the historical results. The notes on page 17 to 37 are an integral part of these financial statements.

HARARE INSTITUTE OF TECHNOLOGY NOTES ON THE FINANCIAL STATEMENTS FOR THE YEAR TO 31 DECEMBER 2021

1. CONSTITUTION AND ACTIVITIES

Harare Institute of Technology (HIT) is a state university established by the Harare Institute of Technology Act [Chapter 25:25] and is domiciled in Zimbabwe. Harare Institute of Technology's administration is located at 15015 Ganges Road, Belvedere, Harare. The objectives and powers of the university are provided under section 4 of the HIT Act.

The university receives funding support from the Government of Zimbabwe by way of grants. These grants normally come in three categories – (i) employment costs grant which comes on a monthly basis to cover salaries and benefits for university staff, (ii) operations grant as support for operating expenses, and (iii) PSIP grant to support acquisition / construction of capital assets.

2. BASIS OF PREPARATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

2.1 Basis of preparation

The inflation adjusted financial statements of Harare Institute of Technology for the year ended 31 December 2021 have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). The company's inflation adjusted financial statements have been prepared based on statutory records maintained under historical cost basis and are presented in Zimbabwe dollars (“ZWL”)

2.2 IAS 21 – The Effects of Changes in Foreign Exchange Rates

Government of Zimbabwe promulgated Statutory instrument (“SI”) 33 on 22 February 2019, giving legal effect to the reintroduction of the Zimbabwe dollar “ZWL” as legal tender and prescribed that for accounting and other purposes, certain assets and liabilities on the effective date would be deemed to be Zimbabwe dollars at a rate which was at par with the United States Dollar (“USD”). Guidance issued by the Public Accountants and Auditors Board (PAAB) noted that the requirements of SI 33 were contrary to the provisions of IAS 21. Therefore, the directors were unable to determine the lingering effects of balances arising from this period in respect of the comparative financial information due to the conflict between IAS 21 and local statutory requirements.

2.3 Functional and presentation currency

The financial statements are presented in Zimbabwe dollars (“ZWL”) which is the university's functional currency. All financial information is presented in ZWL and has been rounded off to the nearest dollar

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

2.4 Inflation adjustment

These financial statements have been prepared under the current cost basis in line with the provisions of IAS 29 – *Financial Reporting in Hyperinflationary Economies*. The Public Auditors and Accountants Board (PAAB) pronounced that the economy was trading under hyperinflationary conditions (Pronouncement 1/2019). The directors have applied the guidelines provided by the PAAB and the relevant accounting bodies and made various assumptions to produce inflation adjusted financials.

Harare Institute of Technology adopted the Zimbabwe Consumer Price Index (“CPI”) as a general price index to restate transactions and balances as appropriate. The conversion factors used to restate the financial results are as follows:

	Indices	Conversion factor
31 December 2020	2471.51	1.61
31 December 2021	3977.46	1.00

b) Basis of measurement

The financial statements are prepared in accordance with the going concern principle on the historical cost basis.

c) Functional currency

The financial statements are presented in Zimbabwe dollars (ZWL).

3. Use of estimates and judgements

The preparation of financial statements requires the board to make judgements, estimates and assumptions that affect the application of accounting policies and reported amounts of assets, liabilities, income and expenses.

The estimates and underlying assumptions are based on historical experience and various other factors, including making assumptions concerning future events that are believed to be reasonable under the circumstances. Actual results may differ from these accounting estimates.

The estimates and assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are accounted for prospectively.

In the process of applying the accounting policies as set out below, the Institute Board of Directors has made the following judgements that have a significant risk of causing material adjustment to the amounts recognised in the financial statements:

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

a) Useful lives and residual values of property and equipment and intangible asset

The useful lives and residual values of property and equipment and investment property are reviewed at each year-end. The useful lives, which are estimated by management, are based on historical analysis and other available information. The residual values are estimated based on useful lives as well as other available information.

b) Provisions and contingent liabilities

Various estimates and assumptions have been applied by the Institute Board of Directors in arriving at the carrying value of provisions that are recognised in terms of the relevant accounting policy.

The Institute Board of Directors further relies on input from the Institution's lawyers in assessing the probability of items of a contingent nature.

c) Fair value estimation

The fair value of financial instruments traded in active markets is based on quoted market prices at the reporting date. The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Institution uses a variety of methods and makes assumptions that are based on market conditions existing at each reporting date.

d) Adoption of new and revised standards

There were no new standards adopted during the period under review.

3. SIGNIFICANT ACCOUNTING POLICIES

3.1 The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

A. Property and equipment

i) Recognition and measurement

All property and equipment are measured at cost less accumulated depreciation and impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the asset.

ii) Subsequent costs

The cost of replacing part of an item of property and equipment is recognized in the carrying amount if it is probable that the future economic benefits embodied within the part will flow to the Institute and its cost can be measured reliably. The costs of the day to day servicing of property and equipment are recognized in profit and loss as incurred.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

iii) Depreciation

Depreciation is calculated to write off the cost of property and equipment less their estimated residual values using the straight line method over their estimated useful lives. Depreciation is recognised in the statement of profit or loss. Property and equipment is depreciated on the straight line basis. The depreciation rates for the current and comparative periods are as follows:

Land	Nil
Buildings	2.5%
Computer Equipment	25%
Motor Vehicles	20%
Furniture & Fittings	10%
Office Equipment	25%
Plant and machinery	20%
Tools & other equipment	10%
Kitchen equipment	20%
Multi-media equipment	25%
Communication	50%

iv) Impairment

At each reporting date the Institute assesses the property and equipment for any indications of impairment. If any such indications exist, then the asset's recoverable amount is estimated.

The recoverable amount of an asset is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

An impairment loss is recognised if the carrying amount of an asset exceeds its recoverable amount.

Impairment losses are recognised in profit or loss. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation, if no impairment loss had been recognised.

3. SIGNIFICANT ACCOUNTING POLICIES (continued)

B. Employee benefits

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

i) Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an employee benefit expense in profit or loss in the periods during which services are rendered by employees. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in future payments is available. Contributions to a defined contribution plan that are due more than twelve months after the end of the period in which the employees render the service are discounted to their present value. The Institute has the following defined contribution plans:

a). National Social Security Authority Scheme

This is a defined contribution scheme promulgated under NSSA Act 1989. The Institute's obligations under the scheme are limited to specific contribution legislated from time to time.

b). Pension Funds

The principal pension scheme for the Institute staff is the Harare Institute Technology Pension Fund. The assets of the scheme are held in a separate trustee administered fund. The scheme is a defined contribution scheme based on final pensionable salary.

C. Revenue

i). Students fees and levies

The university recognises revenue from students by following the principles of the five-step model in terms of the IFRS 15 (Revenue from contracts with customers). Students are invoiced on a semester basis and the university has an obligation to register, teach, assess and examine the students during the semester. In the event that certain activities spill into another financial year, deferred income in relation to those activities is computed and reported as a liability for the current year.

ii) Government grants

The Institute recognises an unconditional government grant related to expenses in the statement of comprehensive income when the grant has been received. Government grants in relation to capital projects are initially recognised as deferred income liability and income is realised on a matching basis with the amortisation rate of the acquired asset.

iii) Finance Income

The Institute's finance income includes interest income which is recognised in statement of profit or loss using the effective interest method.

iv) Donations

Donations are recognised as income when received. Assets received as donations are capitalised at estimated market value with an equivalent amount being credited to income.

D. Inventories

Inventory is valued at lower of cost and net realisable value, which takes into account possible obsolescence, deterioration, redundancy and breakages. Cost is determined on the first-in, first-out basis for all inventory, which consists of consumables.

E. Financial instruments

Broadly, the classification possibilities, which are adopted by the Institute, as applicable, are as follows:

- Financial assets at amortised cost.
- Mandatorily at fair value through profit or loss; or
- Designated as at fair value through other comprehensive income. (This designation is not available to equity instruments which are held for trading or which are contingent consideration in a business combination).
- Fair value through other comprehensive income. (This category applies only when the contractual terms of the instrument give rise, on specified dates, to cash flows that are solely payments of principal and interest on principal, and where the instrument is held under a business model whose objective is achieved by both collecting contractual cash flows and selling the instruments); or
- Mandatorily at fair value through profit or loss. (This classification automatically applies to all debt instruments which do not qualify as at amortised cost or at fair value through other comprehensive income); or
- Designated at fair value through profit or loss. (This classification option can only be applied when it eliminates or significantly reduces an accounting mismatch).

1. Trade and other receivables

i). Classification

Trade and other receivables, excluding, when applicable, VAT and prepayments, are classified as financial assets subsequently measured at amortised cost. They have been classified in this manner because their contractual terms give rise, on specified dates to cash flows that are solely payments of principal and interest on the principal outstanding, and the Institute' business model is to collect the contractual cash flows on trade and other receivables.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

ii). Recognition and measurement

Trade and other receivables are recognised when the Institute becomes a party to the contractual provisions of the receivables. They are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost.

The amortised cost is the amount recognised on the receivable initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

iii). Application of the effective interest method

For receivables which contain a significant financing component, interest income is calculated using the effective interest method, and is included in profit or loss in investment income.

The application of the effective interest method to calculate interest income on trade receivables is dependent on the credit risk of the receivable as follows:

- The effective interest rate is applied to the gross carrying amount of the receivable provided the receivable is not credit impaired. The gross carrying amount is the amortised cost before adjusting for a loss allowance.
- If a receivable is a purchased or originated as credit impaired, then a credit adjusted effective interest rate is applied to the amortised cost in the determination of interest. This treatment does not change over the life of the receivable, even if it is no longer credit impaired.

If a receivable was not purchased or originally credit impaired, but it has subsequently become credit impaired, then the effective interest rate is applied to the amortised cost of the receivable in the determination of interest. If, in subsequent periods, the receivable is no longer credit impaired, then the interest calculation reverts to applying the effective interest rate to the gross carrying amount.

iv). Trade and other receivables denominated in foreign currencies

When trade and other receivables are denominated in a foreign currency, the carrying amount of the receivables are determined in the foreign currency. The carrying amount is then translated to the US Dollar equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in other operating gains (losses).

Details of foreign currency risk exposure and the management thereof are provided in the notes to the financials.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

v). Impairment

The Institute recognises a loss allowance for expected credit losses on trade and other receivables, excluding VAT and prepayments. The amount of expected credit losses is updated at each reporting date.

The Institute measures the loss allowance for trade and other receivables at an amount equal to lifetime expected credit losses (lifetime ECL), which represents the expected credit losses that will result from all possible default events over the expected life of the receivable.

vi). Measurement and recognition of expected credit losses

The Institute makes use of a provision matrix as a practical expedient to the determination of expected credit losses on trade and other receivables. The provision matrix is based on historic credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current and forecast direction of conditions at the reporting date, including the time value of money, where appropriate.

The customer base is widespread and does not show significantly different loss patterns for different customer segments. The loss allowance is calculated on a collective basis for all trade and other receivables in totality.

An impairment gains or loss is recognised in profit or loss with a corresponding adjustment to the carrying amount of trade and other receivables, through use of a loss allowance account. The impairment loss is included in other operating expenses in profit or loss as a movement in credit loss allowance.

vii). Write off policy

The Institute writes off a receivable when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Receivables written off may still be subject to enforcement activities under the Institute recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

viii). Credit risk

Details of credit risk are included in the trade and other receivables note and the financial instruments and risk management note.

ix). De-recognition

Refer to the de-recognition section of the accounting policy for the policies and processes related to de-recognition.

Any gains or losses arising on the de-recognition of trade and other receivables is included in profit or loss in the de-recognition gains (losses) on financial assets at amortised cost line item.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

Refer to the de-recognition section of the accounting policy for the policies and processes related to de-recognition.

2. Trade and other payables

i). Classification

Trade and other payables, excluding VAT and amounts received in advance, are classified as financial liabilities subsequently measured at amortised cost.

ii). Recognition and measurement

They are recognised when the Institute becomes a party to the contractual provisions, and are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost using the effective interest method. The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

If trade and other payables contain a significant financing component, and the effective interest method results in the recognition of interest expense, then it is included in profit or loss in finance costs.

iii). Trade and other payables denominated in foreign currencies

When trade payables are denominated in a foreign currency, the carrying amount of the payables are determined in the foreign currency. The carrying amount is then translated to the US Dollar equivalent using the spot rate at the end of each reporting period. Any resulting foreign exchange gains or losses are recognised in profit or loss in the other operating gains (losses).

iv). De-recognition

Refer to the "de-recognition" section of the accounting policy for the policies and processes related to de-recognition.

3. Cash and cash equivalents

Cash and cash equivalents are stated at carrying amount which is deemed to be fair value.

i). Bank overdrafts

Bank overdrafts are initially measured at fair value, and are subsequently measured at amortised cost, using the effective interest rate method.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

4. De-recognition

i). Financial assets

The university derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the University neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Institute recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Institute retains substantially all the risks and rewards of ownership of a transferred financial asset, the Institute continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

ii). Financial liabilities

The Institute derecognises financial liabilities when, and only when, the Institute obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss.

5. Reclassification

i). Financial assets

The Institute only reclassifies affected financial assets if there is a change in the business model for managing financial assets. If a reclassification is necessary, it is applied prospectively from the reclassification date. Any previously stated gains, losses or interest are not restated. The reclassification date is the beginning of the first reporting period following the change in business model which necessitates a reclassification.

ii). Fair value measurement hierarchy

IFRS 7 requires certain disclosures which require the classification of financial assets and financial liabilities measured at fair value using a fair value hierarchy that reflects the significance of the inputs used in making the fair value measurement. The fair value hierarchy has the following levels:

**HARARE INSTITUTE OF TECHNOLOGY
NOTES ON THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

- (a) quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);
- (b) inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2); and
- (c) inputs for the asset or liability that are not based on observable market data (unobservable inputs) (Level 3).

The level in the fair value hierarchy within which the financial asset or financial liability is categorised is determined on the basis of the lowest level input that is significant to the fair value measurement.

HARARE INSTITUTE OF TECHNOLOGY														
NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021														
4.2	Historical cost property, plant and equipment													
	Kitchen equipment	Land and buildings	Furniture and fittings	Motor vehicles	Computer equipment	Tools, tent equipment	Work in progress	Office equipment	Plant and machinery	Laboratory equipment	Multi-media equipment	Communication equipment	Total	
	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	ZWS	
	COST													
	Balance at 1 January 2020	244 020	246 794 940	3 208 097	6 942 815	2 752 276	301 847	18 412 177	372 121	2 759 926	1 326 560	611 421	145 191	283 871 391
	Additions	432 576		1 088 658	10 548 800	984 493	-	44 270 669	523 523	693 454	-	238 580	602 196	59 382 949
	Disposals				(10 548 800)						(72 490)		(115 125)	(10 736 415)
	Balance at 31 December 2020	676 596	246 794 940	4 296 755	6 942 815	3 736 769	301 847	62 682 846	895 644	3 453 380	1 254 070	850 001	632 262	332 517 925
	Balance at 1 January 2021	676 596	246 794 940	4 296 755	6 942 815	3 736 769	301 847	62 682 846	895 644	3 453 380	1 254 070	850 001	632 262	332 517 925
	Additions	1 310 931	25 112 444	14 254 410	5 867 186	8 751 142	301 212	46 498 675	991 773	2 065 181	142 825	1 418 352	4 196 129	110 910 261
	Disposals / Transfers	-	60 013 193	-	(7 879 994)	-	-	(60 013 193)	-	-	-	-	(150 938)	(8 030 952)
	Revaluation Gain / (Loss)		2 816 150 510											2 816 150 510
	Balance at 31 December 2021	1 987 527	3 148 071 088	18 551 165	4 930 007	12 487 911	603 059	49 168 328	1 887 416	5 518 561	1 396 895	2 268 354	4 677 454	3 251 547 764
	ACCUMULATED DEPRECIATION													
	Balance at 1 January 2020	-	-	-	-	-	-	-	-	-	-	-	-	-
	Charge for the year	(135 319)	(6 173 074)	(429 675)	(3 498 262)	(889 595)	(73 173)	-	(179 129)	(345 338)	(386 007)	(170 000)	(385 180)	(12 664 753)
	Disposal				2 109 760						72 490		57 562	2 239 812
	Balance at 31 December 2020	(135 319)	(6 173 074)	(429 675)	(1 388 502)	(889 595)	(73 173)	-	(179 129)	(345 338)	(313 517)	(170 000)	(327 618)	(10 424 941)
	Balance at 1 January 2021	(135 319)	(6 173 074)	(429 675)	(1 388 502)	(889 595)	(73 173)	-	(179 129)	(345 338)	(313 517)	(170 000)	(327 618)	(10 424 941)
	Charge for the year	(397 505)	(8 298 014)	(1 855 116)	(1 139 053)	(2 760 121)	(148 476)	(694 743)	(545 542)	(349 224)	(349 224)	(453 671)	(1 766 670)	(18 408 136)
	Disposals	-	-	-	402 562	-	-	-	-	-	-	-	6 563	409 125
	Revaluation Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
	Balance at 31 December 2021	(532 824)	(14 471 088)	(2 284 792)	(2 124 994)	(3 649 716)	(221 649)	0	(873 872)	(890 880)	(662 741)	(623 671)	(2 087 725)	(28 423 952)
	CARRYING AMOUNTS													
	As at 31 December 2021	1 454 703	3 133 600 000	16 266 373	2 805 013	8 838 195	381 410	49 168 328	1 013 544	4 627 681	734 154	1 644 683	2 589 729	3 223 123 812
	As at 31 December 2020	541 276	240 621 866	3 867 079	5 554 313	2 847 173	228 674	62 682 846	716 515	3 108 042	940 553	680 001	304 644	322 092 985

HARARE INSTITUTE OF TECHNOLOGY		REVALUATION OF ASSETS	
4.3	Land and buildings were independently valued by Dawn Property Consultants (Pvt) Ltd as at 31 December 2021. The valuation was prepared in accordance with the Royal Institution of Chartered Surveyors (RICS) Valuation - Professional Standards 2022 Edition (the "Red Book"), International Valuation Standards (IVS) and the Real Estate of Zimbabwe (REIZ) standard.		
	Dawn Property confirmed that the following valuations, for the purpose of financial reporting under IFRS 13, are effectively the same <i>market values</i> :		
	- Depreciated Replacement Cost of buildings and improvements	2 955 600 000	
	- Existing Use Value of Land	1 78 000 000	
	Total land and buildings	3 133 600 000	
	The depreciated replacement value of buildings and improvements is the cost of erecting the buildings together with ancillary site works inclusive of relevant professional fees and other associated expenses directly related to their construction, depreciated according to age, obsolescence, use and condition.		
	The value is made up of the value of the land, together with the depreciated replacement cost of the building, and is arrived at using the steps outlined below: -		
	- The gross replacement cost method involves applying a building cost rate to plinth areas of each different building element resulting in the replacement cost.		
	- To the replacement cost, a depreciating factor was then applied for each building using a general life span of 50 - 60 years (based on use, obsolescence, age and maintenance patterns) resulting in the depreciated replacement cost.		
	- The value of land is usually assessed by use of comparable or residual methods, depending on the circumstances. This value assumes the continuing use of the land and improvements for their present purposes.		
4.4	Intangible Asset	Inflation adjusted	Historical cost
	COST	ZWS	ZWS
	Balance at 1 January 2021	-	-
	Additions	30,922,541	21,796,222
	Balance at 31 December 2021	30,922,541	21,796,222
	Accumulated depreciation		
	Balance at 1 January 2021	-	-
	Charge for the year	(6 184 508)	(4 359 244)
	Balance 31 December 2021	(6 184 508)	(4 359 244)
	Carrying amount as at 31 December 2021	24,738,033	17,436,978
	The intangible asset relates to an Augmented Reality and Virtual Reality (AR and VR) platform provided by Eon Reality Ltd a company incorporated in the United States of America (USA). The platform provides the university capacity to teach and train students using modern technologies. Eon Reality valued their platform at US\$25 million and HIT was requested to pay a guarantee fee of 1% of the platform value which amounted to US\$254 000.00. This would allow HIT access to the platform for a period of 5 years renewable and upon agreement by both parties. Since benefits would accrue to HIT for using the platform during the subsistence of the agreement, HIT capitalised the 1% guarantee fee of US\$254 000.00 and amortised it over the 5 year period in a straight line. The university requested to settle the guarantee fee by way of instalments spread over a period of 2 years.		
	A liability to reflect this obligation is included in the amount of other payables - see note 8 on payables		

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2021**

	Inflation Adjusted		Historical cost	
	2021 ZWS	2020 ZWS	2021 ZWS	2020 ZWS
5 Receivables				
Student fees receivable	26 568 044	68 705 148	26 568 044	42 743 755
Staff debtors	13 340 406	4 847 124	13 340 406	3 015 557
Prepayments	3 778 034	5 312 898	3 778 034	3 305 331
Other	32 429 404	96 059 048	32 429 404	59 761 525
Government of South Sudan grant receivable	30 876 886	10 490 288	30 876 886	6 526 357
Allowance for credit losses	(58 457 071)	(1 284 905)	(58 457 072)	(799 382)
	48 535 703	184 129 602	48 535 702	114 553 142
6 Cash and cash equivalents				
Cash on hand	4 966 355	1 851 202	4 966 355	1 151 695
Bank balances	110 165 275	28 647 185	110 165 275	17 822 365
	115 131 630	30 498 387	115 131 630	18 974 060
7 Deferred Government and Zimdef Grants				
Opening balance	740 926 894	688 835 633	43 382 388	19 667 606
Grant received	126 789 660	80 096 940	100 000 000	24 426 945
Grant amortisation	(31 603 541)	(28 005 680)	(5 222 202)	(712 163)
Closing balance	836 113 013	740 926 894	138 160 186	43 382 388
8 Accounts payable				
Payables	232 765	66 515	232 765	41 381
Accrued deposits	88 765	119 956	88 765	74 628
Payroll related payables	4 499 606	9 519 257	4 499 606	5 922 246
Students' credits	14 224 124	3 409 702	14 224 124	2 121 289
Other payables	37 688 899	15 912 680	37 688 899	9 899 808
	56 734 159	29 028 109	56 734 159	18 059 352
9 Provisions				
Provision for gratuity	1 567 274	2 519 193	1 567 274	1 567 274
Provision for audit fees	1 955 988	2 294 415	1 955 988	1 427 432
PSIP provision	783 816	-	783 816	-
Other	1 745 061	-	1 745 061	-
External examiners	1 493 767	-	1 493 767	-
Accumulated leave pay	70 104 857	37 296 092	70 104 857	23 203 138
	77 650 763	42 109 700	77 650 763	26 197 843

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 DECEMBER 2021**

	Inflation Adjusted		Historical cost	
	2021 ZWS	2020 ZWS	2021 ZWS	2020 ZWS
10 Other administration expenses	-		-	-
Advertising	6 726 410	288 577	5 509 374	102 645
Audit fees	2 766 322	2 921 673	2 133 107	1 774 526
Admissions and registration	5 227	4 090 841	-	624 914
Bank charges	9 075 682	28 819 240	8 589 426	4 085 810
Board and committee meetings	2 104 081	4 258 959	1 693 157	603 808
Business travel	4 223 872	4 627 743	3 858 977	656 092
Canteen services	15 688 447	46 585 353	12 792 578	6 604 577
Cleaning and hygiene	3 223 726	19 787 051	2 672 781	2 805 283
Clinic and medical services	3 807 255	8 429 722	3 417 738	1 195 113
Computer rentals	691 555	199 887	519 248	28 339
CSSP	37 144 583	43 540 174	28 209 754	5 554 541
Sabbatical leave	1 465 364	26 144 006	1 375 968	4 094 164
Depreciation	182 509 122	89 330 773	22 767 380	12 664 753
Electricity, rates and water	16 634 173	29 332 345	13 345 429	4 158 555
Examination expenses	5 310 767	26 481 942	4 357 328	3 754 443
Graduation expenses	8 811 693	19 984 504	7 947 329	2 833 277
Hire of facilities	2 618	-	2 389	-
Information and publicity	5 609 643	5 033 836	4 678 144	1 103 713
ICT	24 734 311	38 679 044	20 398 117	5 277 416
Insurance	885 306	2 806 136	695 728	397 836
Interest charge	187 320	6 480 360	155 941	934 045
Labs and workshop consumables	6 545 671	8 470 830	5 970 986	1 223 930
Legal and professional fees	8 105 177	20 135 109	6 658 911	2 554 519
Library expenses	541 707	2 306 302	453 600	326 973
Allowance for credit losses	57 172 166	(3 738 755)	57 657 689	103 305
Repairs and maintenance	22 385 933	9 848 127	19 087 781	5 783 048
Recruitment expenses	58 179	728 452	47 074	103 275
Research and innovation	-	326 053	322 000	46 226
Security	263 113	1 841 200	273 248	261 034
Sporting activities	1 033 134	2 081 135	933 665	295 050
Staff welfare and business entertainment	4 475 906	18 352 157	3 641 793	3 577 054
Students' expenses	2 111 672	20 246 879	1 842 308	2 644 559
Subscriptions	2 278 925	4 721 008	2 119 886	924 485
Training and development	10 443 430	31 481 711	8 830 214	4 132 078
Travel and subsistence	6 839 574	9 583 113	5 859 431	10 588 790
Telephone charges	2 190 020	11 946 424	1 809 633	1 693 689
Transport and vehicle expenses	35 401 881	105 349 041	28 366 637	19 183 462
Uniforms and protective clothing	3 943 939	22 787 694	3 332 638	3 230 695
Workshops and seminars	2 276 029	1 372 977	2 045 562	194 652
	497 673 935	675 661 626	294 372 952	116 120 672

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

11. RELATED PARTIES

11.1 MATSIMBA TECHNOLOGIES

Matsimba Technologies is a private start –up company started by employees, students and former students of Harare Institute of Technology. The majority shareholder of the company is Dr. Eng. T. Garikayi with 59% of the shareholding and is currently the Pro Vice Chancellor of Harare Institute of Technology responsible for Research, Innovation, and Commercialisation. HIT shareholding in Matsimba Technologies is 30%.

Transactions between HIT and Matsimba Technologies were in relation to sharing of revenue received from ZUPCO. The following transactions took place during the financial year:

	<u>Inflation Adjusted</u>		<u>Historical Cost</u>	
	2021	2020	2021	2020
	ZWL	ZWL	ZWL	ZWL
Share of revenue accrued to Matsimba Technologies	37,520,520	14,443,160	37,520,520	8,970,907
Amount paid to Matsimba Technologies	- 37,274,323	- 14,443,160	(37 274 323)	- 8,970,907
Amount payable as at 31 December 2021	246,197	-	246,197	-

11.2 Key Management Personnel

Executive appointments during the financial year were for Pro-Vice Chancellor Research, Innovation and Commercialisation, Financial Director, and Registrar. Gratuity (termination benefits) payments were made to the following former executives- PVC Academic Affairs, Financial Director, and Registrar.

Transactions in relation to key management personnel were as shown below:

	<u>Inflation Adjusted</u>		<u>Historical Cost</u>	
	2021	2020	2021	2020
	ZWL	ZWL	ZWL	ZWL
Salaries and short term employee benefits	26,145,108	17,052,844	21,448,738	10,591,829
Long term employee benefits	1,569,707	523,587	1,276,481	325,210
Termination benefits	8,813,142	-	6,593,373	-
Board fees	2,360,241	2,335,836	1,829,645	1,450,830
Total	38,888,198	19,912,268	31,148,237	12,367,868

12. CAPITAL COMMITMENTS

The university has ongoing construction projects funded mainly from government PSIP grants and internal resources. Contractual commitments for the civil works being carried out were in relation to consultancy contracts with architects, civil and structural engineers, and electrical engineers. The amounts committed until the completion of the project are as shown below:

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

	Inflation Adjusted		Historical Cost	
	2021	2020	2021	2020
	ZWL	ZWL	ZWL	ZWL
Property, plant and equipment	18,836,582	-	18,836,582	-

13. CONTINGENT LIABILITIES

During the period under review, the university was not aware of any pending litigation against it that may result in financial out flows from the university. Hence, no provisions for legal claims were provided for in the financial statements.

14. FINANCIAL RISK MANAGEMENT

a. Treasury Risk Management

The Institute's Finance Committee meets regularly to consider and analyse amongst other issues, re-evaluation of treasury risk management strategies against prevailing macro-economic fundamentals. Compliance with the Institute's policies and exposure is reviewed at regular executive meetings.

b. Credit Risk is the Financial Loss to the Institute

Credit risk is the financial loss to the Institute if a student, employee or counter party to a financial instrument fails to meet its contractual obligations, and arises principally from the Institute's receivables from students and employees. The Institute is exposed to credit risk arising from student receivables relating to outstanding fees. The Institute requires students to pay a minimum deposit on registration in respect of fees in order to mitigate this risk. Outstanding fees are monitored on a regular basis and action is taken in respect of long outstanding amounts. In addition, students with outstanding balances from previous years of study are permitted to renew their registration after either settling the outstanding amount or the conclusion of a formal payment arrangement. Credit risk also arises from the Institute's other financial assets, which comprise of cash and cash equivalents with reputable financial institutions and invests through specialised investment managers with mandates restricting credit risk exposure.

c. Liquidity Risk

Liquidity risk is the risk that the Institute will encounter difficulties in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Institute's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Institute's reputation. During the period, the Institute had no banking facilities at risk or any lines of credit but however managed to maintain a positive cash and cash equivalents balance up to the end of the year.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

a. Market Risk

Market risk is that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the Institute's income or the value of its holdings of financial statements. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return. During the period the Institute was not exposed to any market risks as outlined above.

b. Interest Rate Risk

The Institute adopts a policy of ensuring that all of its interest rate risk exposure is at fixed rate.

15. FINANCIAL INSTRUMENTS

a. The carrying amount of the financial assets represents the maximum credit exposure

Impairment

As at 31 December 2021, student fees related trade and other receivables balances were as follows:

	<u>Inflation Adjusted</u>		<u>Historical Cost</u>	
	2021	2020	2021	2020
	ZWL	ZWL	ZWL	ZWL
Student fees receivable	26,568,044	68,705,148	26,568,044	42,743,755
Government of South Sudan	30,876,886	10,490,288	30,876,886	6,526,357
Other	49,547,844	106,219,071	49,547,844	66,082,412
	106,992,774	185,414,507	106,992,774	115,352,524

The movement in the allowances for impairment during the year was as follows:

	<u>Inflation adjusted</u>	<u>Historical</u>
Balance at 1 January 2021	1,215,061	799,382
Impairment loss recognition (students)	15,322,942	15,738,621
Impairment loss recognition (Govt of South Sudan)	30,876,886	30,876,886
Impairment loss recognition (other)	11,042,183	11,042,183
Total	58,457,072	58,457,072

Currency Risk

The Institute was not exposed to any fluctuations in the foreign currency exchange rates during the period.

**HARARE INSTITUTE OF TECHNOLOGY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR TO 31 DECEMBER 2021**

Fair Value

The fair value of all the financial instruments approximated their carrying amount.

15. GOING CONCERN

The financial statements are prepared based on accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities will occur in the ordinary course of business. Should the Institute not receive the employment costs grant from the Government of Zimbabwe on a monthly basis, there exists a material uncertainty which may cast significant doubt about the Institute's ability to continue as a going concern and, therefore that it may be unable to realise its assets and discharge its liabilities in the normal course of business. However, Government of Zimbabwe has not indicated any intention of withdrawing the grant aid it provides to state universities, hence the university remains a going concern.

16. SUBSEQUENT EVENTS

The Institution has according to International Accounting Standards (IAS10) – 'Events after the Reporting Period' identified the following as key events after the reporting period;

- (a) Due to the continued depreciation of the local currency against the USD and widening disparity between the official exchange rate and the parallel market rate, the Reserve Bank of Zimbabwe introduced the concept of willing buyer willing seller rate in April 2022 to be adopted by financial institutions. The result was a sudden jump of the official exchange rate depreciation putting a strain on the ability of organisations whose obligations were denominated in USD but payable in ZWL. However, further measures by the fiscal and monetary authorities resulted in some stability of the exchange rate from the third quarter of 2022. This gave hope of a convergence between the official exchange rate and the parallel market rate as the disparity significantly narrowed.
- (b) Covid-19 pandemic induced measures such as national lockdowns and curfews became less in 2022, and the relaxation of most measures had been effected by June 2022. The university continued with a blended learning approach but more activities and meetings started to be conducted physically rather than virtually. In the outlook, some practices brought about by the Covid-19 pandemic are likely to become permanent features of how business operate even in the post Covid-19 era. The blended learning concept and virtual meetings are some of the practices that are likely to continue post Covid-19 pandemic.

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