

## **ICT IMPLEMENTATION CHALLENGES AND STRATEGIES FOR ODL INSTITUTIONS: The ZOU's National Centre Academic Staff Experiences**

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### **ABSTRACT**

This study highlighted some of the major challenges that Zimbabwe Open University (ZOU) academic staff experiences in connection with Information Communication Technology (ICT) implementation. It employed a qualitative paradigm rooted in a case study research design focusing on ZOU Academic Staff at the selected Faculties. It purposively sampled 20 ZOU Academic Staff members comprising two Deans, six Chairpersons and 12 Programme Leaders. Seventeen managed to participate willingly by filling in the in-depth questionnaire.

The study cited lack of literature as one of its limitations. Data were gathered and analyzed thematically. The study found out lack of training and expertise in ICT by ZOU Academic staff of the studied Faculties topping among ICT implementation challenges. The study concluded that training and development of personnel is a fundamental concept that keeps staff abreast with evolving technological changes. The study recommended the need for ZOU to mount regular academic staff focused training workshops that equip them with functional knowledge on computers and computer software applications. It also recommended the need for ZOU to carry out Faculty wide research in the same area using either quantitative or triangulation methodologies.

**Keywords:** Challenges, academic staff, Zimbabwe Open University, information, technologies.

### **INTRODUCTION**

The development of information and communication technology, (ICT) in ODL institutions has been met with a lot of challenges. Whilst it has been received with a positive welcome in most institutions of higher learning in Zimbabwe and Africa in general, integrating the system into the operations of the institutions has posed a lot of panic to the professional and academic staff at the Zimbabwe Open University (ZOU). Such challenges could pose uneasiness to use ICT hardware in operations, display of resistance to change to the operating systems and formula; and satisfaction with situations that clearly present themselves as unsatisfactory.

Zimbabwe Open University is the leading ODL institution in Zimbabwe with a large student enrolment around 20.000. It is the first Open and Distance Learning Institution (ODL) in Zimbabwe which has embarked on an ICT programme geared to make it a world class institution of choice. As its vision and mission statement states:

#### **Vision**

- To become a world class open and distance learning university

#### **Mission**

- To empower people through lifelong learning thereby enabling them to realize their full potential in an affordable and flexible manner whilst executing their endeavors

Its core values are:

- Dedication to highest levels of excellence
- Creation of an innovative culture
- Promoting integrity
- Adherence to highest levels of ethical standards
- Delighting stakeholders

Given the sound background of its vision and mission as well as its core values, ZOU presented itself as well prepared to tackle any eventualities associated with ICT implementation. In its bid to achieve world class standard, ZOU introduced the ZOU-On line learning mode which is aimed at servicing students in their diverse geographical locations. This paper has case studied some of the academic staff at the ZOU national centre as a vehicle to demonstrate what should be a winning strategy in integrating ICT in its operations.

#### **STATEMENT OF THE PROBLEM**

World over ODL Institutions in developed nations appear to be reaping the benefits of ICT, while those in developing countries seem to be on the receiving end. The present study sought to investigate:

ICT implementation challenges and strategies for ODL institutions: the ZOU's National Centre academic staff experiences.

Objectives of the study

The study aimed to:

- Highlight major ICT implementation challenges that ZOU's National Centre academic staff experiences
- Recommend strategies that ZOU's National Centre Academic staff can employ to curb ICT implementation challenges

#### **RESEARCH QUESTIONS**

The study sought to provide solutions to the main research problem by providing answers to these sub-questions:

- How does ICT benefit ZOU academic staff operating at the National Centre?
- How ICT implementation does challenges impact on ZOU Academic staff's operations at the National Centre?

- To what extent do you think ICT activities can be integrated in Open and Distance Learning Institutions?
- How would you overcome ICT implementation challenges that ZOU's National Centre Academic staff experience?

### **SIGNIFICANCE OF THE STUDY**

The conduct of the study was deemed valuable for five reasons. First, the study could bring about awareness and ownership, elimination of mindset, identification of proper processes and information resource management.

Second, this paper would enlighten managers and administrators at the ZOU on some of the major challenges that ZOU academic staff experiences in connection with ICT implementation in regard to their work performance and its impact on the productivity of the university as a whole.

Third, the role of academics in warding off ICT implementation challenges and participation in the policy formulation would be explored, thus, pursuing participative management. It was also intended to come up with strategies to ensure successful integration of ICT in ODL settings.

The paper would help the institution to achieve its world class status. Ultimately, the paper qualitatively would bring to light the experiences of the ZOU academic staff with the intent to improve organizational efficiency and effectiveness.

### **LIMITATIONS OF THE STUDY**

Just like the conduct of any other study, the present study had its limitations. First, by being a case study, the present study could not be generalized to other different settings. It could only be generalized to similar situations (Silverman, 2006). Due to time constraints the study was delimited to two Faculties instead of the mandatory six. In a bid to overcome this challenge, it was assumed that the findings from this study would be generalizable to similar situations in the other Faculties that did not constitute the research sample.

#### **Delimitations of the Study**

The current study was delimited to two Faculties of the Zimbabwe Open University. In terms of theory, the study was confined to two areas. First, it focused on the ICT implementation challenges that ZOU's National Centre academic staff experiences. Second, it dealt with possible strategies that ZOU's National Centre Academic staff can employ to curb ICT implementation challenges.

#### **Literature Review**

Several writers have made interesting discoveries associated with challenges in ICT implementation in all forms of operations. In America and Europe for instance, the challenges have much to do with approaches to intellectual property and to modes of culture. According to Veltman (2003), five dangers are outlined, namely overzealous commercialism; anti-technology among scholars, anti-universal narratives; forgetting the past and a more systematic destruction of memory. Such dangers are felt when new users of ICT came face to face with the technology.

In Africa, the situation is even worse as evidenced by the lack of adequate capacity to implement and enforce public interest policies, limited participation in global ICT negotiation and inadequate cooperation and coordination at regional levels (Nzepa, 2011:5). The unavailability of telecommunication infrastructure for remote areas to access e-services like the internet (Ndlovu, 2009:2) as well as a pursuance of unrealistic targets that are usually set by information technology professionals or international institutions, e.g. those related to the United Nations Millennium Development Goals and poverty reduction strategies have also hampered ICT access in Africa (Nzepa, 2011). In Southern Africa, some of the challenges are emanating from erratic electricity supplies which are key in making direct impact on ICT. Zimbabwe, just like most African countries, basically faces a number of challenges in order to effectively roll out computing technologies to the general population, let alone institutions of higher learning like ZOU. According to a research by Ndlovu (2009:1), rolling out issues and challenges do include but not limited to:

- Cost of computers and equipment
- Inadequate access to technologies (data and voice)
- Poor national and international bandwidth
- Regulation and licensing problems
- Brain drain and lack of skilled manpower and ICT certifications
- Poorly designed and optimized websites
- E-government

These challenges have repel effects in the development of a sound ICT system that can systematically ward off the hinges that institutions like ZOU are facing. It was the core purpose of this study to explore some of the ICT implementation challenges faced by ZOU academic staff at the national centre and spell out possible strategies.

## **METHODOLOGY**

This study employed the qualitative research paradigm. The qualitative paradigm allows the researcher to analyze as well as interpret data from the perspectives of the participant's point of view. According to Hedegaard and Hakkarainen (1986), qualitative researchers tend to have a strong commitment to seeing through the eyes of those being studied. Such a commitment calls for a considerable level of involvement with the people whose experiences the researcher is trying to investigate. In doing so, the paradigm will give the researchers an opportunity to interpolate the ICT implementation challenges bedeviling ZOU academic staff at the national centre.

### **Procedures**

Qualitative techniques were employed to maintain objectivity. Through this paradigm, data was gathered using in-depth questionnaires. Two Faculties were conveniently sampled for the purposes of gathering qualitative research data. Two Deans, six Chairpersons and twelve Programme Leaders were purposively sampled. They were presumed to possess desirable characteristics for this study. Data were coded and sorted into themes that emerged from the actual research findings (Miles and Huberman, 1994).

Data were interpreted thematically using research participants' direct quotes where necessary in order to give the reader a sense of being present at the research site (Thomas and Nelson, 2001).

## DISCUSSION OF FINDINGS

The present study's questionnaire return rate was 85% percent. The analysis and discussion of data generated in this study is presented using the following themes;

- Demographic data of research participants
- Access to computers
- Knowledge of computer usage
- Trained in ICT programmes
- Improvement of service delivery through ICT
- Integrating ICT in ODL operations

**Table: 1**  
**Research participants by gender (N=17)**

Gender	Frequency	Percentage (%)
Male	13	77
Female	4	23
Total	17	100

Out of 20 distributed questionnaires, three were non-returns thus giving us an 85 % return which is in line with Gall, Borg and Gall's (1996) recommendation. Table 1 shows research participants by gender. Seventy seven percent of the research participants were males, while 23percent were females. These results indicate an uneven gender composition of the research participants which might give a masculine flavor regarding the research participants' views on ICT implementation challenges to academic staff at ZOU national centre.

**Table: 2**  
**Distribution of research participants by age (N=17)**

Age in Years	Frequency	Percentage (%)
20-29	0	0
30-39	7	42
40-49	5	29
50+	5	29
Total	17	100

Results in Table: 2 depict that there were no participants in the age range 20-29. 42 percent of the research participants are aged between 30 and 39, followed by 29 percent aged between 40 and 49, and also 29 percent who are at least 50 years. From these age groups, it is the researchers' assumption that the research participants under study are mature enough to adequately express the ICT implementation challenges that they face at the national centre. It is also the researchers' assumption that their experiences will be reflective of all faculties' experiences.

**Table: 3**  
**Distribution of research participants by Teaching experience (N=17)**

Teaching experience	Frequency	Percentage (%)
0-5	2	12
6-10	1	6
11-15	4	24
16+	10	59
Total	17	100

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Research participants' teaching experience is presented in Table 6. 59% of the research participants had a teaching experience which is at least 16 years, while 24% had a teaching experience ranging between 11 and 15 years. 6% had a teaching experience ranging from 6 to 10 years, while 16% had a teaching experience ranging between 0- 5years. These results seem to indicate that the majority of the participants had a sound teaching experience that could be useful in ICT implementation in their working areas.

**Table: 4**  
**Distribution of research participants by professional status (N=17)**

Professional Status	Frequency	Percentage (%)
Lecturer	11	65
Senior Lecturer	3	18
Chairperson	2	12
Dean	1	6
Total	17	100

Sixty five percent of the research participants were lecturers, while 18% were Senior lecturers, 12% were chairpersons and six percent were Deans. The distribution reflects a good coverage of academic personnel in the two faculties.

**Table: 5**  
**Distribution of research participants by academic qualification (N=17)**

Academic qualification	Frequency	Percentage (%)
B.A Degree	11	65
BSc Degree	35	29
PhD	1	18
Total	17	100

Most (65%) research participants had BA (Bachelor of Arts) Degree, followed by 29% holding a BSc (Bachelor of Science) Degree, 18% being holders of a PhD (Philosophy Degree). The results turned to show that the research participants were academically grounded enough to possess research characteristics sought by this study.

**Table: 6**  
**Distribution of research participants by professional qualification (N=17)**

Highest Professional Qualifications	Frequency	Percentage (%)
Masters degree	15	88
Professorship	2	12
Total	17	100

The research participants had two professional qualifications. Majority (88%) indicated that they were holders of a Masters' degree. While 12%, were holders of Professorship. The results show that the research participants were holders of a relevant qualification which could assist them in providing information relevant for this study.

## DISCUSSION OF THE ACTUAL RESEARCH FINDINGS

The discussion of the actual research findings was done using the following themes:

- **Benefits of ICT to the ZOU academic staff operating at the National Centre**
- **ICT implementation challenges' impact on ZOU Academic staff's operations at the National Centre**
- **ICT activities can be integrated in Open and Distance Learning Institutions**
- **Strategies to curb ICT implementation challenges that ZOU's National Centre Academic staff experience**

### **Benefits of ICT to the ZOU**

#### **Academic Staff Operating At the National Centre**

All the research participants indicated that they had a computer at their work and home. By implication, the results show that the research participants had enough exposure to computers. Where possible, it could mean that they could undertake their work either at home or work.

Most (94%) research participants pointed out that they held basic computer literacy skills such as Word processing, excel and PowerPoint. This implies that they had functional knowledge to enable them carry out their simple duties at the National Centre. Six percent of the respondents, on the other hand, indicated that they had advanced computer literacy skills such as SPSS (Statistical Package For Social Sciences), VLT53, INVIVO7, F-STAR, F-ADMIN 88.4.

This finding denotes the need for most lecturers to undertake further training in ICT.

Majority (53%) of the research participants indicated that they use computers to deliver lectures at their work place and went on to sight the relevance of computers to their work. Outstanding benefits of computers that emerged from this study include:

- **Computers make work easy and I will use MS PowerPoint and MS Word. I will also give students soft copy of my handouts and other relevant information.**
- **Computers make my work quite relevant and convenient.**
- **Computers make presentations vivid and easy.**
- **They can make prompt database file queries on particular aspects.**
- **Computers make it relevant and easy for students to grasp certain concepts on PowerPoint presentations.**
- **Use computers for e-learning and e-tutoring.**

Forty seven percent of the research participants, on the other hand, indicated that they did not use computers to deliver lectures and they gave their reasons for doing so. Instead of delivering lectures using computers, research participants indicated that they use:

- **Paper based presentations**
- **Modules and written notes**
- **Face to face presentations**
- **Hard copies of printed notes**
- **Talk, chalk and board,**
- **Flip charts, transparencies, television and video cassettes**
- **Handouts**

As a result of these deliberations, O'Brien (2003) alludes that organizations use ICT as a major competitive differentiator to support everyday operations. Business strategies are devised to develop products, services and capabilities that would give the organization major advantages in the markets in which it competes. The ZOU online is used to collaborate in product design (access to information for academic purposes). This service if properly used will reduce the costs of printing material for use by most of the ZOU lecturers in delivering lectures to the students, thus building closer relationships with the students.

The major reason for ZOU to keep abreast with technology is to keep customer loyalty, anticipate their future needs, respond to customer concerns and provide top quality customer service. The organization would be moving from marketing its services to practicing relationship marketing where the purpose of marketing is to create a distinct organizational culture based on a shared set of beliefs that makes the customers' needs the pivotal point of ZOU's decisions about strategy and operations (Dibb, Simpinkin, Pride and Ferrell, 2001). ICT activities which can be integrated in Open and Distance Learning Institutions:

- Need for ICT policy formulation that is inclusive of all staffs' daily experiences in operations.
- Regular ICT training workshops to keep abreast with the ever changing technology.
- Networking with other ODL institutions on new information and ideas that could improve efficiency and effectiveness on service delivery.
- Updating staff on new findings on a regular basis, at least after every three months.

#### **ICT implementation challenges impact on ZOU Academic staff's operations at the National Centre**

Forty seven percent of the participants indicated that they have been trained in ICT programmes that are relevant to their work area. This points out that the majority of the ZOU academic staff lack training in ICT.

Tusubira et al (2001) argued that considerable knowledge and skills have to be developed among the end users so that they are able to: use ICT services effectively and as independently as possible; Contribute to the specification, design and implementation of ICT applications; Be aware of the shared responsibilities for equipment, software and data, and enforce an atmosphere of collective responsibility and system ownership etc. The research participants however cited lack of connectivity to the internet which is the only single available component useful in their work areas. The participants cited the following as challenges to the use of ICT at their work:

- Lack of appropriate hardware and software
- Poor internet connectivity
- Lack of technical expertise and equipment
- Poor service delivery

Fifty three percent of these participants indicated that they had not received any training in computers. This implies the need for ICT training for most of the research participants. Lack of training by most participants indicates that they face a lot of challenges in their work.



There is also lack of technical expertise which is relevant in their work areas. Tusubira et al, (2001) reiterated that in a situation where most of the users are not trained, ICT professionals must be available at all stages to give information and where really necessary, guidance. Failure to provide resources for use by staff in itself is a breach of contractual agreement. An employer has the right to give an employee work to do and to provide the necessary resources in which the employee is to use during the course of the work.

Failure to do so would amount to a breach in the form of constructive dismissal (creating unfavorable conditions that would force an employee to resign -if the act is deliberate) (Gwisai, 2006). Ndlovu, (2009) also adds that, in cases of brain drain, the effects are not just on the academic side; but on the digital revolution as well, hence, technical expertise in ICT is needed. Technical expertise is required to service the computers and to manage the internet server so that work is carried out without interruption.

## **STRATEGIES TO CURB ICT IMPLEMENTATION CHALLENGES THAT ZOU'S NATIONAL CENTRE ACADEMIC STAFF EXPERIENCE**

### **ICT Improvements Brought by Academic Staff**

Out of the 17 participants, 6% pointed out that they have initiated some improvements on service delivery. This implies a serious chronological gap between ZOU academic staff ICT knowledge and ZOU's world class vision mission and core values standards which are necessary in the improvement of ODL service delivery. The participants pointed out that;

- Training of INVIVO7 and SPSS was essential to improve work performance and service delivery.

We view the above software as statistical packages that are useful in the conduct of research. This would go in a long way in assisting ZOU Academic Staff and learners to strive for world class excellence if ever they are to survive and succeed in today's intensely competitive world. They would be able to apply the best and latest knowledge and ideas. They would also have an ability to operate at the highest standards of any place anywhere. This would be a result of a well carried out research by means of their exposure to ICT. They become the very best in the world they operate.

### **Solutions to ICT Problems**

Some of the solutions that serve as strategies to curb ICT implementation challenges as put forward by research participants include the following:

- There is need to have on the job training to enhance skills
- Need to create an electronic library to create accessibility
- Need to create processing programmes to run the examinations and examination computations rather than manual system
- Use of good software package that could accommodate all activities especially student registration details so that they enter exam room with attendance slip
- Acquiring of the compatible hardware and software packages

- Provision of computers to lecturers and servicing those already purchased
- More workshops to enable staff to use softcopies, hence, a big save on material resources
- Availing office space to staff so that an individual computer is not accessed by many people
- Training in ICDL
- Recruit ICT specialists to train academic staff, hiring competent staff

In the interests of this study, we view that solutions to the identified challenges are situation specific and diverse. They vary according to changing circumstances and availability of resources. The above findings appear to be in tandem with Bateman and Snell (2009) who observed that world class companies create high value products and earn superior profits over the long run. In the case of ZOU, when ICT implementation challenges are put under check, there is no doubt that the academic staff would demolish their obsolete methods, systems of the past that have impeded their competitive progress. Furthermore, they would apply more effect measures and techniques and competitive organizational strategies, structures, processes and resource management. By so doing, ZOU would achieve a competitive edge among competing institutions.

## CONCLUSION

This research concludes by saying that training and development of personnel is a fundamental concept that keeps staff abreast with evolving technological changes.

Development is teaching managers and professional employees broad skills needed for their present and future jobs (Bateman and Snell, 2009). Therefore, there is need to develop the lecturers at ZOU so that they are able to deliver the best quality service to the students at the same time acquiring lifelong skills for self enhancement.

This research has acted as a needs assessment for the ZOU as it has identified the areas where training of staff is required and the button stick is now left in the hands of the ICT unit to roll-over the stick by providing either on-the-job training or off-the-job training to the lecturers.

In this day and age where organizations are singing the song of performance based rewards; it would be very difficult for ZOU to appraise their lecturers if they do not have resources to carry out their work.

Mobile libraries links the library with lecturers, since most lecturers have access to computers at home and at work and are exposed to the internet 'dongles' availed by the Econet wireless service provider. Most institutions have their general information on their websites, so does ZOU. This will enable the lecturers to have access to this information and use it to improve service delivery.

## RECOMMENDATIONS

In the light of the foregoing findings and conclusions, the present study draws the following recommendations:

- ZOU needs to mount regular academic staff focused training workshops to equip them with functional knowledge on computers and computer software applications.
- ZOU needs to upgrade ICT facilities and systems at the Faculties into compatible mode.
- ZOU needs to introduce a networked printing service that can permit various Programme Leaders to print their work at the press of a button in their office without having to go to a centralized point.
- ZOU needs to regularly provide Faculty staff with up to date hardware and software packages that are user-friendly.
- Subject to the availability of time and resources, Academic staff needs to be provided with individual offices so that their computers would not be accessible and free to all.
- ZOU Faculty Academic staff needs to be trained in ICDL which will make them well versed with computers.
- ZOU's Academic Registry, Faculty and ICT personnel need to collaborate in their efforts to come up with a model that expedites examination processing of results and inputting programmes into the database.
- ZOU Faculty staff needs to work hand in glove with the library staff in promoting research through computerization.
- Studies of this magnitude need to be carried out across faculties of the ZOU using quantitative and triangulation methodologies.

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