

WORK STRESS, WORK ENGAGEMENT AND SERVICE DELIVERY WITHIN A CHANGING DISTANCE- LEARNING ENVIRONMENT IN ZIMBABWE

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ABSTRACT

This research was conducted from the perspective of a positive human behaviour paradigm in the context of human resource management. It investigated the interrelationships between work stress, work engagement and service delivery of academics in a changing distance-learning environment in Zimbabwe, for which there is a paucity of research. A descriptive, cross-sectional survey design was applied to a sample of 83 academics. Another sample of 101 students was included to consider their perception of service delivery by academics. Confirmatory and exploratory analysis revealed a four-construct measurement model for work stress, a three-construct model for work engagement and a four-construct model for service delivery. Correlational analysis and structural equation modelling revealed significant relationships between these constructs. Tests for significant differences among different groups based on socio-demographic variables were revealed. The *t*-test did not reveal significant differences in service delivery perceptions between academics and students. This study should bring new knowledge to managers at distance- learning universities by improving their understanding of how academics are affected by increasing, new job demands and workloads. Provision of adequate resources at both individual and organisational levels should be prioritised in order to minimise work stress and improve work engagement, and subsequently service delivery.

Keywords: Academics, changing learning environment, e-learning, human resource management, open and distance learning, work engagement, work stress, service delivery.

BACKGROUND

Open distance learning (ODL) has gone through a lot of transformation since the 19th century (Caruth & Caruth, 2013). This transition has brought additional roles to academics and that is increasing their workload (Englund, Olofsson & Price, 2017). This increasing workload in turn, seems to be causing increased work stress and even work engagement problems within ODL academics (Gregory & Lodge, 2015; John, Kenny & Fluck, 2014). These negative work outcomes seem to be contributing to less than desirable levels of service delivery within a number of universities. This may be a result of academics having to do a lot of work under pressure, which reduces their efficiency and effectiveness.

Whilst demand for higher education is on the increase in Africa, only about 6% of Africans have access to ODL compared to the world average of about 26% (Kokutsi, 2011). The low uptake is largely attributable to major constraints of ODL, which include the shortage of computers, lack of internet access, that is exacerbated by low internet bandwidth and skills shortages. However, in Africa, ODL is transforming at what seems to be growing workloads of academics. A study conducted in South Africa, revealed that 34% of academics contemplated resigning from their work because of increased workloads causing burnout and job dissatisfaction (Theron, Barkhuizen & Du Plessis, 2013). In addition, academics become work disengaged (Poalses & Bezuidenhout, 2018).

The Zimbabwean higher education sector is changing drastically, especially over the past decade (Nyenya & Bukaliya, 2015). The number of universities has risen from about seven in 2007 to 13 as of 2016 and in 2019 is likely to reach 22 (Ministry of Higher and Tertiary Education, Science and Technology Development, 2018). In Zimbabwe, the ODL challenges are becoming more complex since the new crop of students are relatively younger and unemployed (Musingafi, Mapuranga, Chiwanza & Zebron, 2015). Such students have unique needs, attitudes, expectations and morals. The ODL academic has to embrace two categories of students simultaneously, that is, the young and immature school leaver and the more mature usually employed adult student. The two have different attributes and expectations and that makes the process of knowledge facilitation complicated (Heydenrych & Prinsloo, 2010).

Despite Zimbabwe facing economic challenges that have culminated in the shortage of learning resources, she was rated the most literate nation in Africa (Rosenthal, 2013). This poor economic performance of the

government and a lack of sufficient resources at its state universities, are affecting the education delivery system negatively (Majoni, 2014, Uzhenyu, 2017). As a result, government support has decreased and the provision of research grants and students' loans have dwindled since the dollarisation of the economy in 2009 (Chitora, 2010; Zulu, 2015). The Zimbabwean government declared in May 2015, that it planned to wean state universities from public funding (Zulu, 2015). This change in the funding system will include staff salaries. This, in turn, is likely to affect staff motivation and their jobs security as well as work engagement and service delivery (Ngokwana, 2015). When the context of the study is considered, ZOU is the only state university providing ODL in Zimbabwe since becoming a fully-fledged university in 2000 (ZOU, 2016). In the past, ZOU has largely been using the hard copy (printed) module as the dominant delivery mode, complimented by six hours of classroom tutorials for each course in a semester. ZOU is now in the transition stage of slowly moving away from the printed mode of delivery, towards an e-learning delivery mode, in line with international best practices (Hovenga & Bricknell, 2006) and globalisation. As a result, ZOU's interim plans to combine the contact classes delivery mode and e-learning are now at an advanced stage. This change should contribute to the changing roles and potential increased workload for the academics. The increased workload comes from the slow transition phase from the contact classes' delivery mode to e-learning as academics have to use both modes possibly for a very long time. Increases in workload affect work engagement and cause work stress (Di Biase, 2000; Rennie & Morrison, 2013). It appears as if there were no plans at ZOU to increase the number of academics (ZOU, 2015a). This may most likely have an adverse effect on work engagement and work stress of the ZOU academics. This may in turn adversely affect service delivery to ODL learners (Barkhuizen, Rothmann & Vijver, 2014; Fernet, Austin & Vallerand, 2012; Stedman & Coaldrake, 1999).

The transformation phase in ODL of moving from the traditional modes of delivery of using both the printed modules and contact classes (Phase I and II) to virtual learning (Phase III and IV) at the ZOU (ZOU, 2008), has introduced many changes to the work roles of academics. This transformation has culminated in increased workload as academics have to use both modes of delivery and this is making their jobs more complicated and time consuming. The correspondence mode is taking long to be phased out as minimal progress has been made on e-learning. E-learning is supposed to make ZOU more competitive and to move in tandem with a lot of other ODL universities which have become a force to reckon with. That transition period at ZOU has taken longer than expected, as progress has been very slow, due to what appears to be a shortage of resources (Ndudzo, 2012; Vutete & Uzhenyu, 2016). A lack of adequate preparation for this change in the mode of delivery has been observed according to the evaluation report of ZOU's strategic plan (ZOU, 2014). There has not been much proactive training and development of academics for the online environment (communicating and marking assignments on-line). Training opportunities have been delivered mostly to full time academics, yet the full time/part time ratio is 1:3.

A sizeable number of ZOU students live in rural areas (ZOU, 2014). It is also known that the majority of those living in the rural areas do not have access to Internet facilities (Zimbabwe National Statistics Agency (ZNSA), 2013). Ironically, these same students are expected to move towards an e-learning mode of delivery. There has not been much acquisition of adequate computers at the ZOU for both staff and students. In addition, there is also a shortage of computer laboratories and even appropriate software to have fully fledged virtual learning (e-learning facilities). This also confirms that job resources are scarce, showing a very real contextual problem that is putting additional strain on the academics.

It is this transition period where both modes of delivery are being used (class contact and e-learning) which is taking very long at ZOU, due to a perceived lack of resources. This is increasing the academics workload. This is likely to lead to increased work stress levels and decreased work engagement in academics (Gregory & Lodge, 2015; John et al., 2014).

PROBLEM STATEMENT

The problem statement pertaining to this study is:

What is the impact of academic work stress and work engagement on service delivery in an ever-changing distance learning environment in Zimbabwe?

PURPOSE OF THE RESEARCH

This research aimed to shed more light on the effect of the ever-increasing work roles of ODL academics because of emerging trends in ODL modes of delivery. These changes are largely brought by significant developments in Information Technology (Abdullah, 2015; Berge, 2008). This study therefore aimed to contribute to the body of knowledge in the discipline of Human resource management on areas covering the changing work roles, workloads, experience of stress and work engagement experienced particularly by ODL academics. Furthermore, the study aimed to bring new insights on how the changing roles of academics affect or

impact on service delivery to students, especially on the quality of tuition they receive. There was need for this study to clearly link the effect of changing academic roles, which culminate in increased workload on work stress and work engagement, and how these affect academics performance as evidenced by the level of service delivery in ODL. The body of such knowledge on these relationships should be able to help human resource practitioners and senior management in ODL universities to come up with strategies that effectively prepare the ODL academics to adjust effectively to these emerging roles in their work.

Despite previous studies, no integrated research explains the relationship dynamics between work stress, work engagement and service delivery mainly in an ODL University. It was against this background that this research intended to study the relationships between these constructs in the changing Zimbabwean distance-learning environment.

RESEARCH AIMS (OBJECTIVES) AND HYPOTHESES

In terms of the empirical study, the specific aims and the respective hypotheses were:

Research aim 1

To determine the interrelationships between work stress, work engagement and quality of service delivery in ODL.

Sub-aim 1.1

To determine the relationship between work stress and service delivery in ODL academics.

H_{o1.1} There is no statistically significant relationship between work stress and service delivery in ODL academics.

H_{a1.1} There is a statistically significant relationship between work stress and service delivery in ODL academics.

Sub-aim 1.2

To determine the relationship between work engagement and service delivery in ODL academics.

H_{o1.2} There is no statistically significant relationship between work engagement and service delivery in ODL academics.

H_{a1.2} There is a statistically significant relationship between work engagement and service delivery in ODL academics.

Sub-aim 1.3

To determine the relationship between work stress and work engagement in ODL academics.

H_{o1.3} There is no statistically significant relationship between work stress and work engagement in ODL academics.

H_{a1.3} There is a statistical significant relationship between work stress and work engagement in ODL academics.

Research aim 2

To determine if work stress, work engagement and service delivery in the ODL context differ for respective socio-demographic groups (*based on age, gender, educational qualification, job title, administrative position, work experience, employment status and years of learning*).

H_{o2.1} There is no statistically significant difference on the relationship between different ages of academics and work stress, work engagement and service delivery in an ODL system.

H_{a2.1} There is statistically significant difference on the relationship between different ages of academics and work stress, work engagement and service delivery in an ODL system.

H_{o2.2} There is no statistically significant difference on the relationship between different gender of academics and work stress, work engagement and service delivery in an ODL system.

H_{a2.2} There is statistically significant difference on the relationship between different gender of academics and work stress, work engagement and service delivery in an ODL system.

H_{o2.3} There is no statistically significant difference on the relationship between different educational qualifications of academics and work stress, work engagement and service delivery in an ODL system.

- H_{a2.3}** There is statistically significant difference on the relationship between different educational qualifications of academics and work stress, work engagement and service delivery in an ODL system.
- H_{o2.4}** There is no statistically significant difference on the relationship between different job titles of academics and work stress, work engagement and service delivery in an ODL system.
- H_{a2.4}** There is statistically significant difference on the relationship between different job titles of academics and work stress, work engagement and service delivery in an ODL system.
- H_{o2.5}** There is no statistically significant difference on the relationship between different administrative positions of academics and work stress, work engagement and service delivery in an ODL system.
- H_{a2.5}** There is statistically significant difference on the relationship between different administrative positions of academics and work stress, work engagement and service delivery in an ODL system.
- H_{o2.6}** There is no statistically significant difference on the relationship between different work experiences of academics and work stress, work engagement and service delivery in an ODL system.
- H_{a2.6}** There is statistically significant difference on the relationship between different work experiences of academics and work stress, work engagement and service delivery in an ODL system.
- H_{o2.7}** There is no statistically significant difference on the relationship between difference in employment status of academics and work stress, work engagement and service delivery in an ODL system.
- H_{a2.7}** There is statistically significant difference on the relationship between difference in employment status of academics and work stress, work engagement and service delivery in an ODL system.
- H_{o2.8}** There is no statistically significant difference on the relationship between different ages of students and service delivery in an ODL system.
- H_{a2.8}** There is statistically significant difference on the relationship between different ages of students and service delivery in an ODL system.
- H_{o2.9}** There is no statistically significant difference on the relationship between different gender of students and service delivery in an ODL system.
- H_{a2.9}** There is statistically significant difference on the relationship between different gender of students and service delivery in an ODL system.
- H_{o2.10}** There is no statistically significant difference on the relationship between different number of years of learning of students and service delivery in an ODL system.
- H_{a2.10}** There is statistically significant difference on the relationship between different number of years of learning of students and service delivery in an ODL system.

Research aim 3

To determine if academics and students have different perceptions on service delivery in ODL.

- H_{o3}** There is no statistically significant differences on service delivery perceptions between academics and students in an ODL system.
- H_{a3}** There is statistically significant differences on service delivery perceptions between academics and students in an ODL system.

Research aim 4

To determine if academics' work stress, work engagement and service delivery have a good fit with the data.

- H_{o4}** The empirical relationship dynamics among the variables do not have a good fit with the theoretical model.
- H_{a4}** The empirical relationship dynamics among the variables have a good fit with the theoretical model.

SIGNIFICANCE OF THE STUDY

This study should be very useful for the theoretical, empirical and practical levels.

Contribution on a theoretical level

This research might lead to better understanding of the constructs of work stress (represented by overload, job insecurity, organisational support, relationships, growth and advancement) and work engagement (represented

by vigour, dedication and absorption) of ODL academics on service delivery (represented by reliability, assurance, tangibles, empathy and responsiveness) provided by higher education distance learning universities. If significant relationships were established, more awareness on how work stress of academics could be managed and how academics work engagement could be enhanced. This could improve service delivery in distance learning universities. Such relationships if established, other researchers could explore possible interventions that would make ODL universities more competitive, as well as, creating a conducive working tempo for academics. Furthermore, the findings were likely to contribute to the body of knowledge concerned with the salient issues that affect the academic's work performance and contributing to poor service delivery that needed to be addressed.

Contribution on an empirical level

In this case, the results from the actual study might provide useful insight into the empirical interrelationships found between any two of the three constructs (work stress, work engagement and service delivery) as well as between all three. Furthermore, the study would prove whether significant differences exist between groups of academics based on demographical variables namely age, gender, marital status, faculty, job level, educational level, race, administrative position, years of employment and employment status. Should significant relationships be found, then the results should be helpful to ODL institutions particularly senior management and the human resources departments of how the three constructs and demographical variables play a key role in the psychological functioning, as well as, the well-being of the academic.

Contribution on a practical level

On a practical level, the research could establish whether ODL academics are adapting to the changing roles emanating from the transformation taking place in distance learning environment. This would identify if the ODL academics have attained the requisite skills and exposure to effectively execute their roles in order to improve service delivery. The ODL institutions should be able to assess whether they are doing enough to make the academics' work environment conducive to enhance motivation and job satisfaction. This study should bring new knowledge (epistemology) to senior managers at the ZOU by improving their understanding of how academics are affected by the increasing new job demands, which in turn increase their workload. The increased workload was being executed with inadequate resources. This study should bring to senior management's attention that this scenario is stressful and causes work disengagement. This in turn, adversely affects the academics' work performance and subsequently, service delivery in the institution. In summary, an improved understanding of these demanding changes of the academic work roles in ODL should assist human resources practitioners even in other ODL institutions, to redesign the academic job roles accordingly. In the case of the ZOU, such knowledge would influence policy makers in the parent Ministry of Higher and Tertiary Education, Science and Technology Development and even rescind their intended decision to wean state universities from government funding (Uzhenyu, 2017; Zulu, 2015). Instead, they should embark on job redesign for the academics' roles through rationalised job descriptions. That should enhance service delivery by improving the quality of learning and teaching in an ODL institution.

LITERATURE REVIEW

Work stress

Work stress is a dynamic condition in which an employee is faced with an uncertain but important outcome, which affects his behaviour and well-being (Jubenkanda, 2010, p.152). Work stress can cause harmful physical and emotional responses in the event that work demands do not match the capabilities, resources or needs of the worker (Jubenkanda, 2010; National Institute for Occupational Safety and Health (NIOSH), 2014). Work stress arises from harmful physical and emotional responses due to conflict between job demands on the worker and the degree of control, which the employee has in order to meet these demands (Bakusic, Schaufeli, Claes & Godderis, 2017).

It is generally associated with several vital individual physiological, psychological, and behavioural symptoms (Mahembe & Murumo, 2010). A condition that is stressful exists when there is doubt regarding the outcome that can be favourable or unfavourable (Luthans & Youssef, 2007; Robbins, 2010). The individual would be faced with an opportunity, limitation or demand that is related to desired outcome(s), which is perceived as uncertain and important (Ganster & Perrew, 2011; Robbins, 2003). Stress is at its highest for individuals with a greater chance of losing and lowest for those likely to win or achieve (NIOSH, 2014). Work stress can be more pronounced and damaging if resources become scarce, as opposed to being adequate (International Labour Office (ILO), 2016).

Table 1
Environment factors that cause work stress (Robbins & Judge, 2012)

Environment	Description
Political	Uncertainty arising from transition of power, new policies, restructuring of government
Economic	Underperformance of economy causing high inflation, unemployment, currency depreciation
Technological	Emerging roles due to new mode of learning, new communication techniques, new assessment techniques

Table 2
Organisational factors which cause work stress (Robbins & Judge, 2012; De Jonge & Dormann, 2017; Saufi, Leong, Chua & Eranza, 2017).

Organisational factor	Description
Physical	Noise, shortage of office space, poor ventilation, poor lighting and unsafe working environment
Structure	Too much formalisation, bureaucratic tendencies and unclear lines of communication
Motivation	Lack of recognition, lack of transparency, inconsistent treatment of workers, non-involvement and participation and poor leadership style
Job design	Role ambiguity, broader scope of responsibility, excess workloads
Job demands	Come from demanding tasks, roles and interpersonal relationships
Life cycle	More pronounced at the decline stage when business viability is at its lowest, risking closure

Work stress major dimensions

Work stress can be better understood by also looking at job demands and job resources

Job demands

These are psychological, social, physical or organisational aspects of the job. They require physical and/or psychological effort or skills. They are linked to certain physiological and psychological costs (Demerouti et al., 2015). Examples include work pressure, work overload, unrealistic targets, interpersonal differences (conflicts), job insecurity and emotional demands. According to the JD-R model, when job demands are high, there is a need for additional effort to be exerted. This should help to achieve the work goals and to eliminate decreasing performance. However, this comes at a cost and can be overcome by taking a break, doing job rotation (switching tasks), or performing less demanding tasks (Demerouti et al., 2015).

Job resources

Job resources include autonomy, job control, feedback, career opportunities, role clarity, supervisor coaching and guidance, and social support (Schaufeli, Bakker & Van Rhenen, 2009). Job resources are supposed to reduce job demands and subsequent exhaustion (Mackey et al., 2017). Bakker and Demerouti (2007) observed that the adverse effect of job demands particularly on exhaustion was strong if workers lacked resources.

Work engagement

Work engagement is a positive, self-fulfilling, job-related state of mind, epitomised by vigour, dedication and absorption (Gagne, 2014; Schaufeli & Bakker, 2010). The terms employee engagement and work engagement are different, despite some authorities saying they can be used interchangeably. Work engagement refers to the relationship of the employee with his work only, whereas employee engagement tends to also include the relationship with the organisation (Bakker & Schaufeli, 2015; Mone & London, 2018).

Vigour is characterized by an individual who exhibits high levels of energy, mental resilience and the desire to invest lots of effort in his work as well as persevering even under difficult circumstances (Schaufeli & Bakker, 2010).

Dedication is denoted by strong involvement in one's work culminating in feelings of experiencing enthusiasm, relevance, inspiration, pride and a sense of significance (Schaufeli & Bakker, 2010).

Absorption is epitomised by having difficulties to detach oneself from work because of total concentration and happily engrossed in such work and time is seen to be *'flying'* (Schaufeli & Bakker, 2010).

According to Chen (2017), as well as, Bakker, Demerouti and Xanthopoulou (2012), work engagement also enhances the following positive behavioural aspects among employees:

- treating each employee as an essential member of the team (organisation) who focuses on clear goals.
- feeling being trusted and empowered by receiving frequent and constructive feedback that help in developing new skills.
- feeling being thanked, respected and being recognised for achievement.
- employees having a sense of pride and loyalty arising from working for the organisation.
- instilling positive attitudes and behaviours among employees leading to improved business performance.
- capitalising on the employees' acquired knowledge and ideas in order to improve the organisation's products and services by promoting and supporting innovativeness.
- an employee being an ambassador and advocate of the organisation to other key stakeholders like users, clients, suppliers and customers.
- an employee developing a culture of going beyond 'the call of duty', for example, going the extra mile to complete an assignment or task even after normal working hours.
- inculcating a sense of deeper commitment from employees culminating in reduced staff turnover, accident rates decline, fewer leave days' uptake, reduction of conflicts and grievances whilst productivity increases.

Table 3
Drivers and their characteristics that enhance work engagement

Driver	Characteristics
Individual	Optimism, self-efficacy, self-esteem and energetic (Bakker & Demerouti, 2017)
Organisation	Social support, good supervision, performance feedback, autonomous working environment (Bakker & Demerouti, 2017; Grover et al., 2017)
Job resources	Organizational climate, job control (Wiegel et al., 2016)
Personal resources	Resilience, influence on work environment (Kallio et al., 2016)

Service delivery

Service delivery is a common phrase used to describe the distribution of basic resources citizens depend on, like water, electricity, sanitation infrastructure, land, housing and education (Le Chen, Dean, Frant & Kumar, 2014).

Service quality

Service quality (Servqual) is a common quality management framework that measures quality and service delivery in the service sector (Nyeck, Morales, Ladhari & Pons, 2002; Soares, Novaski & Anholon, 2017). Zeithaml, Parasuraman and Berry (1990) originally identified ten elements of service quality, but these were collated into five factors namely: reliability, assurance, tangibles, empathy and responsiveness.

Table 4
The five dimensions of the Servqual (Zeithaml et al., 1990)

Dimension	Definition
Reliability	The ability to adhere and perform the promised service reliably and accurately.
Assurance	The knowledge and the courtesy of management and workers and their ability to demonstrate confidence and trust.
Tangibles	The appearance and attractiveness of physical facilities, infrastructure, equipment, work force and communication materials statements.
Empathy	The provision of hospitality, caring, individualised attention to customer.
Responsiveness	The eagerness to assist customers and provision of prompt service.

The following Table 5 shows major service delivery challenges in e-learning in distance education

Table 5
Challenges of e-learning among distance education learners (Kumar, 2015)

Challenge	Description
Adaptability struggle	Difficult to adapt to virtual computer based learning from traditional classroom face to face contact
Technical issues	Poor internet connectivity mainly in some developed countries
Computer literacy	Failure by many to use even simple computer packages due to lack of exposure in primary and even secondary education
Time management	Difficult to manage online learning due to several other commitments
Self-motivation	Some belief that use of computers is complicated and they may give up due to lack of self-motivation

Table 6

Major challenges affecting three key distance education stakeholders

Challenge	Description
Inadequate infrastructure and space allocations	Inadequate funding to procure computer hardware and software and for maintenance (Abidin, 2015; El Mansour & Mupinga, 2007).
Faculty development failure due to technological changes	Difficulties to adapt to online learning and inadequate training of academics (Abidin, 2015; El Mansour & Mupinga, 2007).
Faculty increased workload	Increase of workload due to online learning in addition to other traditional academic roles (Abidin, 2015; Acton, Chipman, Lunden & Schmitz, 2015; El Mansour & Mupinga, 2007).
Student persistence of traditional learning styles	Students still prefer traditional learning methods of classroom contact and change in delivery mode threatens enrolment (Abidin, 2015; El Mansour & Mupinga, 2007).
Academic dishonesty	Rampant plagiarism and low integrity of system (Abidin, 2015; El Mansour & Mupinga, 2007; Stephens, 2015).
Lack of protection of intellectual property and copyrights	Failure to protect access to developed learning materials by outsiders (Abidin, 2015; El Mansour & Mupinga, 2007).

Literature review on ODL academics changing roles

A review of the current literature on the changing roles of academics in ODL universities indicates the following research problems:

- Academics in ODL universities perform many administrative work tasks, previously conducted by non-academics (Courtney, 2013; Pickersgill, 1998; Ruth & Sammons, 2007). This could adversely affect service delivery at the ZOU, due to work overload and lack of some administrative skills that could be different from those of teaching.
- Transition phase from a correspondence to an e-learning mode in ODL, requires new approaches to be used by the academics. However, adequate proactive training and development for academics to acquaint themselves with these approaches may be lacking (Briggs, 2005; Roberts, 2018). This is the same scenario at the ZOU that is likely to affect service delivery, as the transition is not smooth, as well as, not being properly planned and coordinated.
- Work role over load in ODL academics has been identified as a large number of tasks and commitments within a limited period resulting in unrealistic deadlines and multiple competing priorities for academics (Barkhuizen et al., 2014; Kamuka, 2006). This statement shows that service delivery at ZOU may be compromised and this was even raised in a faculty meeting (ZOU, 2013b).
- The multiple role expectations involved in online learning may be causing increased stress and decreased work engagement in ODL academics (Briggs, 2005; Mashile, 2014; Moller, 2012). This could also be a strong indicator of the ZOU service delivery, which could be affected due to its academics increased, stress, burnout and decreased work engagement.
- ODL academics in their expected role of being responsible for online course delivery, face many challenges in terms of integrating applicable teaching practice, digital literacy, availability of equipment and effective student support (Berge, 2008; Courtney, 2013; Madikizela-Madiya & Le Roux, 2017). The changes being brought by online courses in the ZOU are adding more roles/duties for academics and may affect service delivery.
- The workload of academic staff in ODL needs to be reduced to allow time to reflect and pay attention to students and support them academically (Bates & Kaye, 2014). This is true even at the ZOU if service delivery is to improve, since the academics need more time to do research and develop learning materials. Thus, lack of proper service delivery to students at the ZOU seems to be a combination of

job demands (workload) that appear to be unrealistically high and inadequate preparation for implementing e-learning due to what appears to be a shortage of resources.

- Socio-demographic factors also play a significant difference on academics' willingness and motivation to stay within ODL institutions and these influence their attitudes and behaviour at the work place (Assenga, 2017; Thiele, Singleton, Pope & Stanistreet, 2016; Udeaja, 2017).

All of the above concerns point to the fact that changing work roles may affect service delivery by ODL institutions like the ZOU. Academics could be failing to adequately provide student support due to increasing workload and lack of training resources (Chen, 2017; Kurebwa, 2017). This may in turn lead to dissatisfaction among students, as their expectations are not met. Furthermore, what appears to be low quality tuition could culminate in low pass rates. As a result, enrolment figures may decrease and possibly even the ODL institution's (ZOU) reputation and image could suffer (Chadamoyo, 2016). A decrease in enrolment figures could have severe consequences, such as the ZOU collapsing (bankruptcy) due to the likelihood of its inability to break even and sustain its operations. This is against the backdrop of government intending to wean state universities from funding them so that they fend for themselves (Zulu, 2015).

In light of the above background information and current literature on ODL academics, this researcher was guided by the following Figure 1 showing the conceptual model used in the conducting of this study.

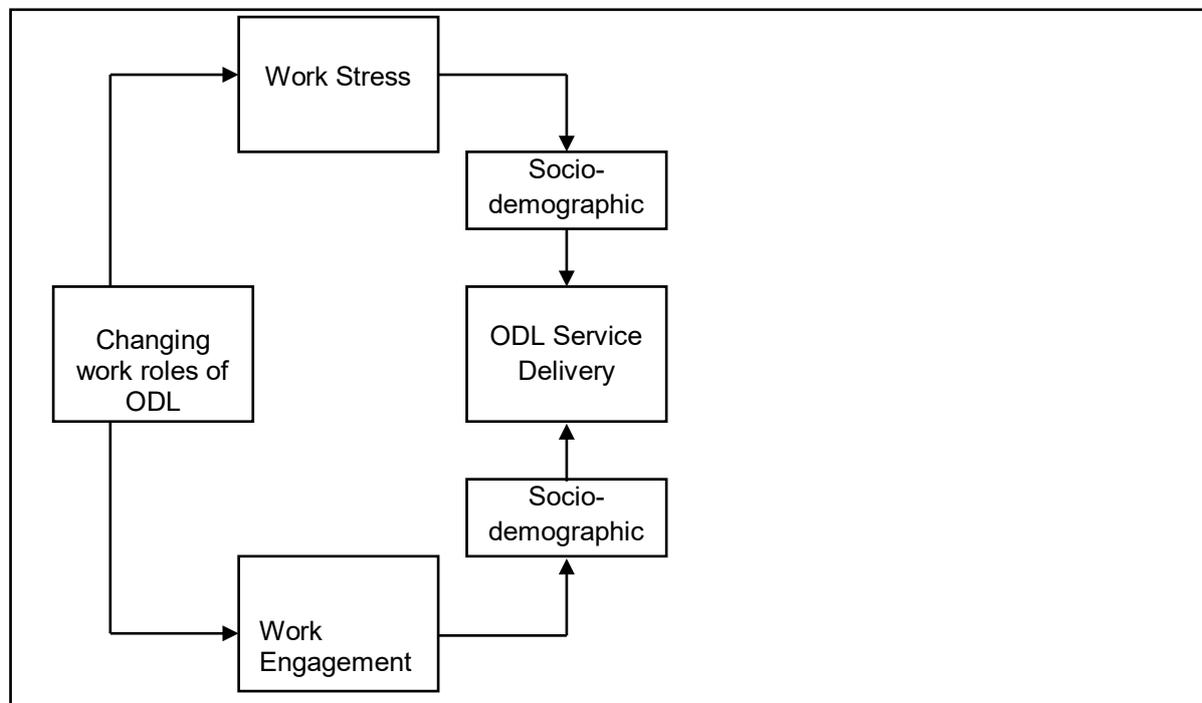


Figure1: Conceptual model on work stress, work engagement and service delivery for ODL academics (own compilation)

The model is premised on the following assumptions that;

- High stress will lead to low service delivery (inversely/negatively related).
- High work engagement will lead to better service delivery and vice versa (directly/positively related).
- Low stress causes high work engagement (inversely/negatively related)
- A combination of low stress and high engagement will result in high service delivery.

METHOD

The methodology was guided by the research onion (Saunders, Lewis & Thornhill, 2007) especially on the following aspects.

Philosophy

The *positivism philosophy* guided this study. Positivism is premised on the belief that knowledge can be derived from 'positive information' (Collis & Hussey, 2014; Felgel, 2016). It is based on empirical data, which is derived from a reliable measurement or observation (Malec, 2018).

Approach

This study used a *quantitative paradigm*. This quantitative research used a combination of statistical analysis and logical deductive reasoning in order to draw out inferences from the presented results (Howitt & Cramer, 2000; Kothari & Garg, 2014; Markey & Gass, 2016). The quantitative approach was guided by the use of standardised research instruments which were valid and reliable (Krosnick, 2018; Leedy & Omrod, 2016; Neuman, 2013).

Research Design

A *descriptive cross-sectional quantitative survey design* was used to cover different groups (Hanson & Mellinger, 2016) of academics and students at the same time. The researcher did not have control over the variables and only reported what was happening. The collected quantitative data from the survey was then subjected to scientific methods (quantitative methods) that analysed, examined and interpreted them in order to arrive at the generalisation and prediction of results (Nardi, 2018; Neeru, 2012). The study described the state of affairs, as they existed at the time of collecting data so that the reality was known. The argument for choosing a descriptive survey was based on the fact that, surveys provide a quick, efficient and accurate means of assessing information about the population from which information is scarce (Creswell, 2014; Punch, 2014).

Sampling frame

Selection of participants (respondents) was based on stratified random sampling. Final sample composition was made up of 83 academics and 101 students.

Research instruments

Three structured surveys were used. These are the JD-R questionnaire (Bakker & Demerouti, 2007) made up of five dimensions namely: overload, job insecurity, organisational support, relationships, and growth and advancement, the Utrecht work engagement scale (UWES) questionnaire (Schaufeli, Bakker & Salanova, 2006) made up of three dimensions namely: vigour, dedication and absorption and the Servqual questionnaire (Zeithaml, Parasuraman & Berry, 1990) made up of five dimensions namely: reliability, assurance, tangibles, empathy and responsiveness. For the academics, the three questionnaires were combined into one for completion but students only completed the Servqual questionnaire. Response rates were 74% and 56% respectively, which was satisfactory as questionnaires normally record low responses (Leedy & Omrod, 2016; Nardi, 2018).

DATA ANALYSIS

All data were presented and analysed using statistical methods by utilising the Statistical Package for Social Sciences programmes (SPSS) Version 25 for the Microsoft windows platform, and AMOS Version 24 (Field, 2013, Pallant, 2010, 2013). Statistical analysis determined the interrelationships between work stress, work engagement and service delivery in a changing world of work for academics in distance learning in Zimbabwe. The analysis, which comprised seven phases, is indicated in the following Figure 2.

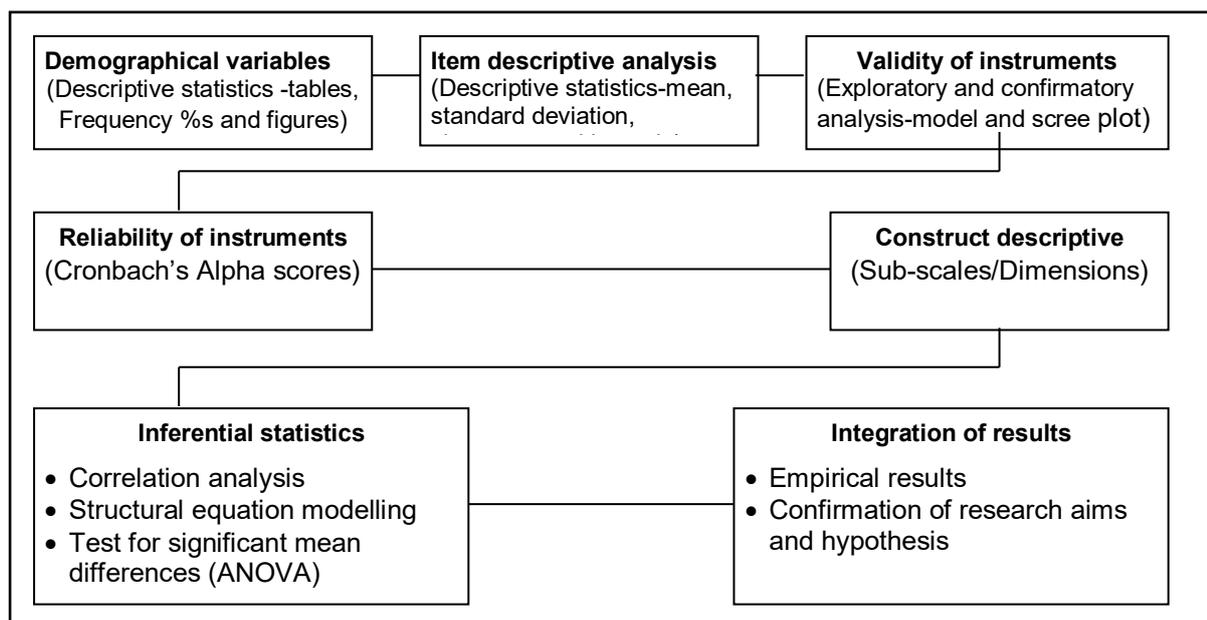


Figure 2: Flow diagram of the sequence of the statistical analysis (own compilation)

Confirmatory and exploratory analysis revealed a four-construct measurement model for work stress, a three-construct measurement model for work engagement and a four-construct measurement model for service delivery. The dimensions *empathy* (Servqual) and *overload* (JD-R) were eliminated from further analysis because their skewness and kurtosis showed that they were not normally distributed and hence not ideal for generalisation of results (D'Agostino, 2017). The Cronbach's Alpha coefficients for the three questionnaires are shown in the following Table 7.

Table 7
Cronbach's Alpha coefficients for the three measuring instruments

Measurement instrument	Dimension	Cronbach's Alpha coefficients
JD-R scale	Organisational support	0.784
	Job insecurity	0.822
	Relationships	0.886
	Growth and advancement	0.882
UWES	Vigour	0.861
	Dedication	0.813
	Absorption	0.781
Servqual	Tangibles	0.783
	Reliability	0.811
	Responsiveness	0.847
	Assurance	0.849

Values of Cronbach's Alpha for all the dimensions ranged from 0.733 to 0.886, which according to Tavakol and Dennick (2011) is acceptable, since the minimum threshold value is 0.7. All the constructs under JD-R scale were therefore internally consistent and satisfied the requirement for being used in estimating the models. When compared with the Cronbach's Alpha values on a study using the same measuring instrument (JD-R scale) on school educators in Pietermaritzburg, Kwazulu-Natal by Main (2011), they were; overload (0,736), job insecurity (0, 932), growth and advancement (0,762) and relationships (0,776), the results were relatively similar. Regarding internal consistency for the UWES by other studies, Storm (2002) obtained reliable Cronbach's Alpha coefficients as follows, vigour (0.78), dedication (0.89) and absorption (0.78) and Schaufeli et al. (2002) obtained the Cronbach's Alpha coefficients between 0.68 and 0.91, which confirms the almost similarity with this study. The Cronbach's Alpha coefficients for this study compared favourably with other studies with the five dimensions (tangibles, reliability, responsiveness, assurance and empathy) ranging from 0.785 to 0.917 (Markovic & Raspor, 2010) and from 0.72 to 0.86 (Yousapronpaiboon, 2014) for a related study on measuring service quality in higher education.

Correlational analysis revealed some significant relationships between work stress, work engagement and service delivery. The structural equation modelling indicated an adequate fit of the conceptual structural model and established the various relationships between the dimensions of work stress, work engagement and service delivery. The following Figure 3 shows such relationships

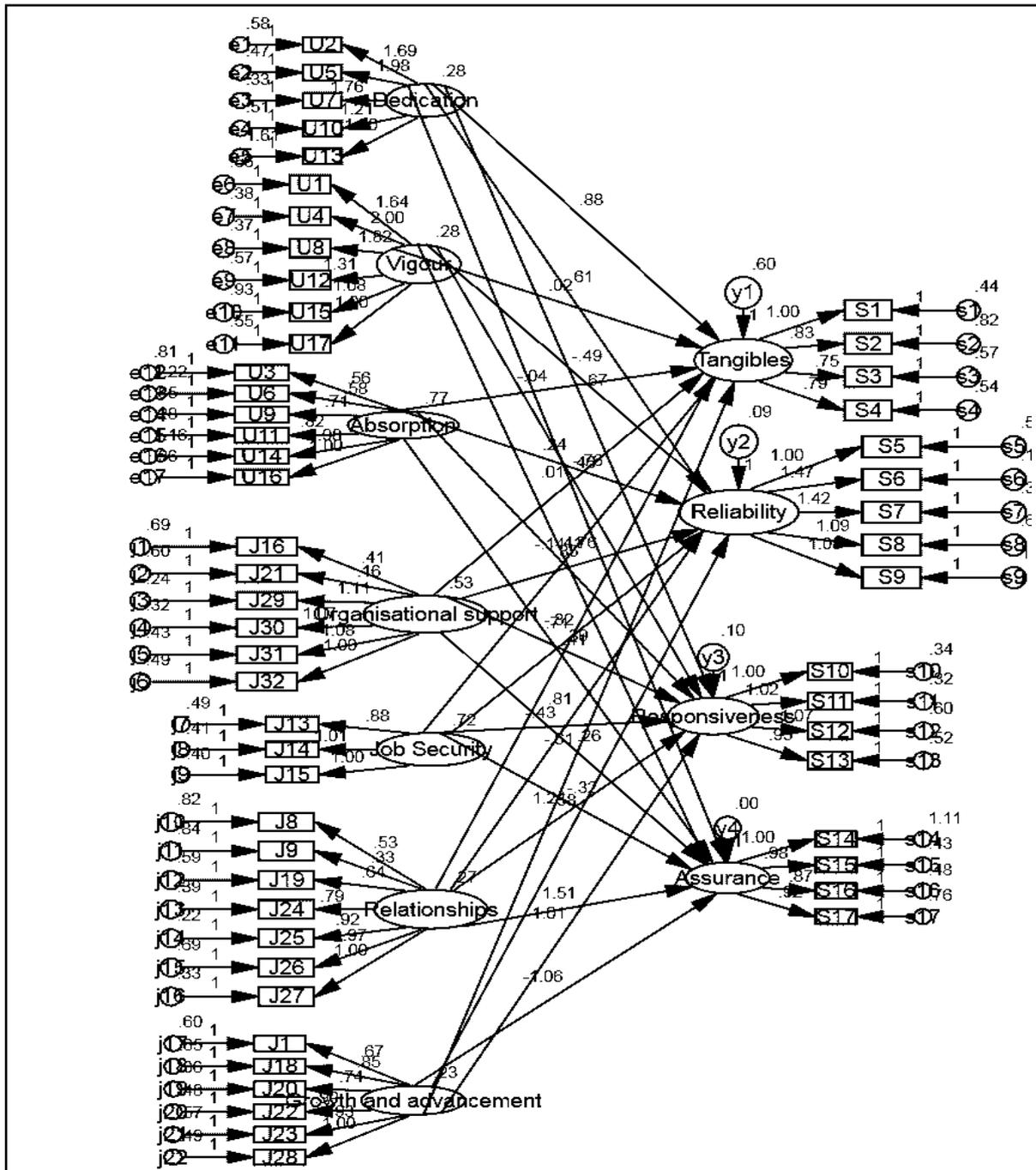


Figure 3: Final structural equation modelling (SEM)

Since the non-centrality index Root Mean Square Error of Approximation (RMSEA) indicated that there was an adequate fit, the model was capable of providing insight into the relationships that exist between the constructs in the study. All the dimensions are shown in Figure 3 except empathy (Servqual) and overload (JD-R) as mentioned earlier. These relationships are presented under Conclusions of this study (next sub-heading). Tests for significant differences among different groups of academics based on their socio-demographic variables: age, gender, educational qualification, job title, administrative position, work experience, employment status were revealed, as well as, for students revealed that these socio-demographic variables had influence on academics' work stress, work engagement and service delivery and students sentiments on service delivery. The results also supported previous studies that socio-demographic factors have influence on academics' willingness, attitude and motivation to perform at ODL institutions (Thiele, Singleton, Pope & Stanistreet, 2016; Tladi, 2017). The *t*-test did not reveal any major differences on service delivery perceptions between the academics and students.

CONCLUSIONS

In terms of the empirical study, conclusions were drawn on the following research aims:

Research aim 1

The first research aim, namely *to determine the interrelationships between work stress (represented by job insecurity, organisational support, relationships, growth and advancement), work engagement (represented by vigour, dedication and absorption) and service delivery (represented by reliability, assurance, tangibles and responsiveness) in ODL* was achieved through the following sub-aims;

Sub-aim 1.1

To determine the relationship between work stress and service delivery in ODL academics.

The empirical results were able to reject the null hypothesis and provided supportive evidence for the alternative hypothesis:

H_{a1.1} There is a statistically significant relationship between work stress (and its sub-dimensions) and service delivery (and its sub-dimensions) in ODL academics

Therefore, the study arrived at a conclusion that:

- Relationships (sub-dimension of work stress) had significant positive relationships with reliability, responsiveness and assurance (sub-dimensions of service delivery).
- Organisational support (sub-dimension of work stress) had significant positive relationship with reliability (sub-dimension of service delivery).
- Job insecurity (sub-dimension of work stress) had significant negative relationships with reliability and responsiveness (sub-dimensions of service delivery).

Sub-aim 1.2

To determine the relationship between work engagement and service delivery in ODL academics.

The empirical results were able to reject the null hypothesis and provided supportive evidence for the alternative hypothesis:

H_{a1.2} There is a statistically significant relationship between work engagement (and its sub-dimensions) and service delivery (and its sub-dimensions) in ODL academics

Therefore, the study arrived at a conclusion that:

- Absorption (sub-dimension of work engagement) had significant positive relationships with responsiveness, reliability, assurance and tangibles (sub-dimensions of service delivery).
- Dedication (sub-dimension of work engagement) had significant positive relationships with responsiveness, reliability and tangibles (sub-dimensions of service delivery).
- Vigour (sub-dimension of work engagement) had significant positive relationships with reliability, responsiveness, tangibles and assurance (sub-dimensions of service delivery).

Sub-aim 1.3

To determine the relationship between work stress and work engagement in ODL academics.

The empirical results were able to reject the null hypothesis and provided supportive evidence for the alternative hypothesis:

H_{a1.3} There is a statistical significant relationship between work stress (and its sub-dimensions) and work engagement (and its sub-dimensions) in ODL academics.

Therefore, the study arrived at a conclusion that:

- Relationships (sub-dimension of work stress) had significant positive relationships with vigour and absorption (sub-dimensions of work engagement).
- Organisational support (sub-dimension of work stress) had significant positive relationships with vigour, dedication and absorption (sub-dimensions of work engagement).
- Growth and advancement (sub-dimension of work stress) had significant positive relationships with vigour and absorption (sub-dimensions of work engagement).

Research aim 2

To determine if some socio-demographical variables (*age, gender, educational qualification, job title, administrative position, work experience, employment status and number of years of learning*) of different groups have different impact on work stress, work engagement and service delivery in the ODL context.

The empirical results were able to conclude on the hypotheses of socio-demographic variables drawn from academics as shown below:

(a) Age

The empirical results rejected the null hypothesis and provided supportive evidence for the alternative hypothesis:

$H_{a2.1}$ There is statistically significant difference on the relationship between different ages of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There was statistically significant difference on absorption among academics of different age groups.

(b) Gender

The empirical results failed to reject the null hypothesis:

$H_{o2.2}$ There is no statistically significant difference on the relationship between different gender of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There was no statistically significant difference on the relationship between different gender of academics and any dimension of work stress, work engagement and service delivery in an ODL system.

(c) Education qualification

The empirical results rejected the null hypothesis and provided supportive evidence for the alternative hypothesis:

$H_{a2.3}$ There is statistically significant difference on the relationship between different educational qualifications of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There was only one significant difference pertaining to responsiveness among academics with different educational qualifications.

(d) Job title

The empirical results rejected the null hypothesis and provided supportive evidence for the alternative hypothesis:

$H_{a2.4}$ There is statistically significant difference on the relationship between different job titles of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There were three significant differences pertaining to job insecurity, responsiveness and growth and advancement among academics with different job titles.

(e) Administrative position

The empirical results rejected the null hypothesis and provided supportive evidence for the alternative hypothesis:

$H_{a2.5}$ There is statistically significant difference on the relationship between different administrative positions of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There were two significant differences pertaining to growth and advancement, and tangibles among academics with different administrative positions.

(f) Work experience

The empirical results failed to reject the null hypothesis:

$H_{o2.6}$ There is no statistically significant difference on the relationship between different work experiences of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There was no statistically significant difference on the relationship between different work experiences of academics and any dimension of work stress, work engagement and service delivery in an ODL system.

(g) Employment status

The empirical results failed to reject the null hypothesis:

$H_{o2.7}$ There is no statistically significant difference on the relationship between difference in employment status of academics and work stress, work engagement and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There was no statistically significant difference on the relationship between different employment status of academics and any dimension of work stress, work engagement and service delivery in an ODL system.

The following conclusions on socio-demographic variables were drawn from the students.

(a) Age

The empirical results failed to reject the null hypothesis:

$H_{o2.8}$ There is no statistically significant difference on the relationship between different ages of students and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There were no any significant differences in perceived service delivery for students of different ages.

(b) Gender

The empirical results failed to reject the null hypothesis:

$H_{02.9}$ There is no statistically significant difference on the relationship between different gender of students and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There were no any significant differences in perceived service delivery for students of different gender.

(c) Years of learning

The empirical results rejected the null hypothesis and provided supportive evidence for the alternative hypothesis:

$H_{a2.10}$ There is statistically significant difference on the relationship between different number of years of learning of students and service delivery in an ODL system.

Therefore, the study arrived at a conclusion that:

There were four significant differences pertaining to service delivery dimensions of responsiveness, assurance, empathy and reliability among students with different number of years of learning with the ODL university.

Research aim 3

To determine if academics and students have different perceptions on service delivery in ODL.

The empirical results failed to reject the null hypothesis:

H_{03} There were not major differences on service delivery perceptions between the academics and students.

Therefore, the study arrived at a conclusion that:

There were not major differences on service delivery perceptions between the academics and students on the sub-dimensions of tangibles, reliability, responsiveness and assurance.

Research aim 4

To determine if academics' work stress, work engagement and service delivery have a good fit with the data.

The empirical results rejected the null hypothesis and provided supportive evidence for the research hypothesis:

H_{a4} The empirical relationship dynamics among the variables have a good fit with the theoretical model.

Therefore, the study arrived at a conclusion that:

The structural equation modelling had 24 paths out of 28, which had significant relationships showing that a framework could be constructed.

RECOMMENDATIONS

To achieve the purpose of the research based on the empirical aims , the results and conclusions arising there from, this section formulates recommendations for ODL academics, the ODL university and human resource management, as well as, for future research.

Recommendations for ODL academics and the ODL University

The results of this research provided the rationale for determining specific interventions that should improve the ODL university through efficient and effective service delivery by creating a conducive environment where academics are energised, committed and psychologically connected to their work. In light of the ever-changing ODL environment due to globalisation and technological innovations, academics are expected to perform additional and even more complex roles. ODL academics, in their expected role of being responsible for online course delivery, face many challenges in terms of integrating applicable teaching practice, digital literacy, availability of equipment and effective student support. The changes being brought about by online courses in the ZOU are adding more roles and duties for academics and as a result, tend to affect service delivery.

These new drivers of change should not be seen as sources of problems or challenges by academics and management, but as new opportunities that should largely involve the active involvement of academics in this process of change. It is recommended that the input of academics on how to implement such change is vital and should be taken on board. This holistic and integrated approach to such transformation, rather than to have such decisions being a preserve of senior management, should bring better results due to synergy and teamwork. This will also instil a sense of ownership among academics; thereby reducing chances of resistance to such change. The transition phase, from a classroom tutor-student contact approach, using correspondence, to an e-learning mode in ODL, require acquisition of new skills and technical ability of academics, as well as, the learners (students). It is recommended that proactive training and development be done in phases. The first phase should be for all academics both full time and part time, so that they fully acquaint themselves with online teaching, before doing the same to students. During this phase, the academics should also be provided with technical support since they will be mastering the new skills. This should make learning more efficient thereby improving service delivery in the ODL University.

In order to make training more user friendly and effective, the ODL institution should overcome the constraint of lack of access to online facilities. The institution should procure more speedy and efficient computers in all regional campuses beginning with those with satellites that are located in remote areas. This can be feasible if resources are mobilised by vigorously embarking on income generating projects, networking with the corporate organisations, particularly in the private sector and forming strategic alliances or partnerships. The networking can be extended to the international community, for example by collaborating with foreign universities, which may include staff exchange programmes so that academics are exposed to even modern online learning facilities. The partnerships could also include conducting joint research projects in the partners' countries in order to obtain the much-needed foreign currency. Another avenue, would be to come up with a vibrant Alumni association to incorporate those former students gainfully employed in foreign countries and could assist with the remittance of foreign currency or donating the necessary equipment. A memorandum of understanding with the private sector can be modelled along a win-win situation whereby the ODL university provides training to their staff members, while in return, those companies may assist financially or technically in the procurement of computers or setting up computer laboratories. As a state ODL institution, government should continue to fund and do away with its plan to wean state universities from funding, given that the prevailing economic state of affairs is not possible to enable the ODL university and others to break even. Government has the social justice responsibility to support ODL as it provides a cheaper option for working adults to gain access to higher education. Continued provision of government grants should augment whatever income generated by the ODL university, mostly from tuition fees, to acquire learning resources like computer software and hardware in order to improve the efficiency of the e-learning delivery mode. This is likely to reduce academics' work stress and improve their work engagement and service delivery.

Work role overload in ODL academics comprises a large number of tasks and commitments within a limited period, resulting in unrealistic deadlines and multiple competing priorities for academics. The multiple role expectations involved in online learning is stressful and leads to decreased work engagement. It is recommended that there is a need to streamline the roles of academics by reducing their workload, which comprises a lot of administrative work. This would create and allow more time for them to reflect and pay attention to students. In addition, this could improve student support by having more time for research, prompt feedback on assignments marking and developing of quality learning materials. Largely support staff or non-academics should do the administrative work.

The tangibles in service quality are employed by organisations to improve customer satisfaction. The appearance of physical facilities, equipment, staff and communication materials has become key in creating an ambience that reflects an upmarket brand image as well as providing a competitive edge over competitors. Based on the empirical results of the study, the ODL institution should improve its tangibles, which were rated lowly by both students and academics. They indicated that academics do not have modern looking equipment and that their offices including their secretaries and buildings were not visually appealing. The ODL institution rents many buildings for its operations and this might make it difficult for it to make any refurbishments or improvements, since some of the structures need attention in order to give them a 'facelift'. The challenge is that the property owner (lessor) might not want to incur additional costs to do such refurbishments. It is recommended that the ODL institution develop a number of stands it has acquired for a long time which have not yet been developed. The new buildings should be able to provide enough office space so that each academic occupies one office alone, unlike the prevailing scenario where even three academics share one office. This has a negative impact on service delivery, as well as, student satisfaction since one may not feel free to discuss an issue or concern with a particular academic due to lack of privacy in those offices. This also calls for the mobilisation of resources to have better infrastructure and well-equipped staff offices comprising of modern computers, laptops and iPads. There is also need for the ODL university to subscribe to antiplagiarism software providers of Turnitin to improve service delivery.

Recommendations for human resource management

The literature review contributed a valuable foundation for the study of the conceptualisation of work stress, work engagement and service delivery in ODL academics. The empirical study then confirmed the interrelationships between the three constructs on ODL academics in light of the changing world of work. The results should be taken on board to assist with the formulation of policies and addressing pertinent issues that should improve human resource management, particularly in higher education as discussed below.

If the ODL work environment fails to cope with changes in technology and increasing globalisation, the academics will continue to face serious challenges such as stress, burnout, insecurity, low levels of energy, low motivation, poor health, low resilience, low optimism, low self-esteem, low self-efficacy, low enthusiasm, low involvement in their work, and lack of job satisfaction. It is recommended that human resource practitioners, together with the support of senior management could develop policy intervention measures that improve the

working conditions of academics so that their health, well-being and welfare, enable them to perform to their maximum potential. There is therefore need to rationalise and streamline their roles, so that they are not stressed or disengaged. This requires reorientation of job redesign, availability of resources to improve utilisation of technology, granting tenure for job security and promoting teamwork to make the working environment conducive.

The results of the study suggest that human resources practitioners may also need to consider that different demographical variables (age, gender, marital status, educational level, job level, administrative position, employment status, race, years of service and the faculty/department) have different influence on work stress, work engagement and service delivery of different groups of academics. This is true despite these different groups of academics being in the same profession. As this has a bearing on the behaviour or conduct of academics at work, there is need to create an environment that accommodates these different academics based on their demographical variables to improve organisational behaviour.

Recommendations for future research

- Future research could also attempt to accommodate both the ODL and conventional universities in order to come up with comparisons that would help policy makers to come up with specific needs and roles of academics in each of the two types of universities rather than using an all-inclusive treatment or approach.
- Future research should also include qualitative aspects in the measuring instrument by possibly adopting the mixed methodology approach. Semi-structured questionnaires can be designed to accommodate personal opinions, explanations, justification or reasons for selecting particular option(s) and even suggestions by respondents, so that, there would be more data for analysis rather than confining to the use of structured questionnaires like in this research. In the same context, future research can also use *triangulation* in data collection. Two instruments, for example, a structured questionnaire and an unstructured interview guide can be used. Academics because of their large numbers can be given questionnaires and senior management members who are few like the deans, the registrar, the finance director and the human resources director, can be interviewed. Some senior government officials preferably from the parent Ministry of Higher Education, Science and Technology development can also be interviewed. This would allow all key stakeholders to be involved in matters or issues that affect ODL academics in order to get balanced views.

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