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Aims and Scope

Kampala International University (KIU) Research Journal (KRJ) publishes empirical articles, critical reviews and case studies that are of interest to policy makers, scholars and practitioners in the area of humanities and social sciences. The Journal puts particular focus upon issues that are of concern to the third world. It is the goal of the Journal to advance knowledge and debate in the field of social studies by providing a platform through which scholars and practitioners can share their views, findings and experiences. Contributions are accepted from a wide range of disciplines and preference is given to articles that integrate multiple disciplinary perspectives. Contributions that examine developments at national, regional and continental level are particularly welcome. All the manuscripts received are subjected to review, by the Editor and at least two peers. The editorial policy of KRJ aims at giving authors timely and constructive feedback and the Journal is particularly interested in assisting able researchers but who may be inexperienced in the area of publishing to develop the quality of their work to a level where it is acceptable for publication.

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ORGANISATIONAL CHARACTERISTICS AS ANTECEDENTS OF THE COMMITMENT OF ACADEMIC STAFF IN UNIVERSITIES IN UGANDA

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Abstract. *The study sought to examine the extent to which four organisational characteristics, namely organisational structure, leadership, relations and support, were predictors of employee commitment. The correlational study involved 301 respondents from six universities in Uganda. Data were collected using a questionnaire whose validity and reliability were tested using Factor Analysis and Cronbach Alpha. Means were used for descriptive analysis, while multiple regression helped to test the hypotheses. Results showed that while organisational leadership, employee relationships and support were significant positive predictors of employee commitment, organisational structure was not. This led to the conclusion that good organisational leadership, employee relationships and support were probable pre-requisites for the commitment of the academic staff to their jobs, while organisational structure may not be. Hence the recommendation that stakeholders such as the directorate of human resource in the respective universities, foster good organisational leadership, employee relationships and support in order to enhance the commitment of the academic staff.*

Introduction

Employee commitment refers to a force that binds an individual to a target (social or non-social) and to a course of action of relevance to that target experienced in different ways (mind-sets) that are affective, continuance and normative (Meyer & Maltin, 2010). The affective mind-set refers to an emotional attachment to and involvement with an organisation; the continuance mind-set denotes the perceived costs of leaving an organisation; and normative mind-set refers to the felt responsibility to support and remain a member of an organisation (Meyer, Stanley and Parfyonova, 2012). Employee commitment as a behavioural concept has received much attention from various scholars because of its perceived importance in enhancing organisational performance. Yilmaz and Çokluk-Bökeoğlu (2008) expound that employees with high organisational commitment feelings affect organisational performance in positive ways because they lessen the frequency of performing negative behaviour and improve the quality of service.

They argue that a committed employee is a more compatible and productive individual who has higher levels of satisfaction, loyalty and responsibility. Employee commitment encourages the individual to exhibit organisational citizenship behaviour (OCB) that is to do many voluntary actions necessary for the organisation. Other authors propose that employee commitment reduces employee turnover. For example, Lambert and Hogan (2009) state that committed employees are loyal to the organisation, share its values, and identify with the goals of the organisation. Thus, they have little reason to want to leave.

Visagie and Steyn (2011) suggest that employee commitment leads to acceptance of organisational change, explaining that when an organisation engages in change initiatives, committed employees provide many benefits such as putting in extra effort to ensure that the change succeeds. Also, committed employees during change serve as public relations representatives and go above and beyond the norm to assist the organisation to function effectively. Demirel and Goc (2013) indicate that organisational commitment

enhances knowledge sharing between employees, expounding that with knowledge sharing, information, skill or expertise are reciprocally exchanged among members of the organisation. Knowledge sharing leads to creation of new ideas among the employees and presenting new business ideas fundamental to a living organisation. Owing to the importance of employee commitment, there are various studies (e.g. Bayona-Sáez, Goñi-Legaz & Madorrán-García, 2009; McCabe & Garavan, 2008; Smeenk, Teelken, Eisinga & Doorewaard, 2009; Suman & Srivastava, 2012; Wang, Indridason & Saunders, 2010) have devoted to establishing the antecedents or determinants of employee commitment.

Bayona-Sáez et al. (2009) studied how to raise commitment of teachers at the Public University of Navarra in Spain. The findings of the study showed that personal variables namely; gender, marital status, having children, age and ability had a positive impact on affective commitment; job-related characteristics namely; autonomy, degree of centralisation, participation in decision-making, participation in management tasks, opportunities for promotion and job security did not appear to be significant antecedents; and the group variable of working atmosphere had a positive relationship on employee commitment. With respect to continuance commitment, age proved to be a negative antecedent while possession of a doctorate was a positive antecedent. McCabe and Garavan (2008) studied drivers of commitment among nursing staff of National Health Service organisations in the UK. Their study established that factors positively influencing commitment included strong leadership particularly concerning the role of line management; teamwork and support from line management and colleagues; training and development; career progression and greater involvement; and majorly substitution of nurse practitioner responsibilities with administrative and managerial responsibilities. Smeenk et al. (2009) carried out a study on European university employees in six countries (Belgium, Finland, Germany, Netherlands, Sweden and UK) relating managerialism to employee commitment.

Managerialism referred to the extent of segregation (expansion of student numbers and diversification of study disciplines), competition between universities or

departments, use of private sector management practices (performance management and efficiency controlling), stress on discipline and parsimony in resource use, move towards more hands-on management, more explicit and measurable standards of performance and control according to pre-set output measures. Their findings revealed that managerialism had no significant influence on affective commitment but on continuance commitment, while higher levels of managerialism had a positive significant influence on normative commitment. Suman and Srivastava (2012) studied the impact of various personal and organisational characteristics on organisational commitment of employees working at different hierarchical levels in India. Age, length of service and locus of control of employees were studied as the personal characteristics, whereas perceived job characteristics and organisational structure were studied as the organisational characteristics. The findings of their study revealed that that favourably perceived organisational characteristics and internal locus of control had significant positive impact on organisational commitment of the executives. However, age and length of service had no significant impact on their organisational commitment. For employees at lower hierarchical levels, length of service was the most dominant predictor of organisational commitment of the supervisors followed by organisational structure. Other predictors had no significant impact on organisational commitment of this group of employees.

Wang et al. (2010) investigated the effect of employees' perceived organisational support on affective and continuance commitment of staff of a UK National Health Service hospital. Their findings indicated that perceived organisational support in terms of employees' perception of perceived procedural justice during the transfer and perceived interactional justice during the transfer positively significantly increased affective and continuance commitment. The above studies above reveal that there are several antecedents of employee commitment that generally can be grouped into three main categories, namely; human resource management (HRM) practices, organisational characteristics and personal characteristics. HRM practices identified are namely; performance appraisal, training, promotion, participation and job security. Organisational characteristics are

namely; structure, leadership, support and relationship. Personal characteristics identified are namely; age, gender, marital status, having children and ability (self-efficacy). However, this paper devoted itself to relating organisational characteristics to employee commitment. Thus, the objectives of this study were to establish whether; organisational structure, leadership, relationships and support were antecedents of academic staff in universities.

Related Literature

Organisational structure as an antecedent of commitment academic staff. Several studies (e.g. Harney & Jordan, 2008; Sahoo, Behera & Tripathy, 2010; Suman & Srivastava, 2012) relate organisational structure to employee commitment. Harney and Jordan (2008) sought to find out whether line managers could stimulate improvements in firm performance by eliciting appropriate employee outcomes. Interview responses from staff of a call centre in the UK disclosed that flat structures did not motivate employee commitment because a company with flat structures provided no clear routes in terms of career progression. Sahoo et al. (2010) in systematic review of the previous research works on employee empowerment and workplace commitment established that a sense of commitment can be developed in employees through the process of de-layering (organisational flattening). Suman and Srivastava (2012) studying antecedents of organisational commitment across different hierarchical levels of the public sector in India used staff of a steel plant as the study sample. Their regression results showed that organisational structure had significant positive relationship on organisational commitment. However, from the above studies some gaps emerge. For example, whereas, Harney and Jordan (2008) established that flat structures did not motivate employee commitment, Suman and Srivastava (2012) in a study in India and Sahoo et al. (2010) in systematic review of the previous research works established a positive relationship between organisational structure and employee commitment. Besides, Harney and Jordan (2008) carried out their study in the UK and Suman and Srivastava (2012) carried out their study in India. The controversy in the findings of the studies above and contextual gaps call

for further research on organisational structure as an antecedent of employee commitment in other contexts such as the developing countries of Africa. These gaps thus left room for this study in the universities in Uganda to investigate the hypothesis that:

H1: Organisational structure was an antecedent of commitment academic staff.

Organisational Leadership as Antecedent of Employee Commitment. Studies on organisational leadership and employee commitment (e.g. Bambacas & Patrickson, 2008; Dunn, Dastoor & Sim, 2012; Mendelson, Turner & Barling, 2011) can be cited. Bambacas and Patrickson (2008) studied interpersonal communication skills that enhance organisational commitment with senior HR managers in medium to large organisations in Southern Australia. Using template analysis to analyse interview data, they established that a leadership style that engendered trust was of the highest in importance when HR managers wanted to enhance employee commitment. Mendelson et al. (2011) carried out a study on perceptions of the presence and effectiveness of high involvement work systems and their relationship to employee attitudes. The units of analysis were non-management employees from five Canadian organisations that were members of the Human Resources Association of New Brunswick. Their correlational analysis established that transformational leadership was strongly positively related to affective, continuance and normative commitment. Dunn et al. (2012) in a study on transformational leadership and organisational commitment used employees of a large multi-national high-tech corporation in the US and Israel. The results of their correlation analysis indicated a significant positive correlation between transformational leadership style and affective, continuance and normative commitment. However, although the studies above attempted to relate organisational leadership and employee commitment, gaps still emerge at contextual and empirical level. At the contextual level at the above studies were carried out in the Western World. At the empirical level, the study by Dunn et al. (2012) raises controversy as its findings ascertained that for employees from the US the transformational leadership practice of inspiring the vision correlated with employee commitment, but this was not so in Israel. The above gaps suggested the need in

the context of universities in Uganda to test the hypothesis:

H2: Organisational leadership was an antecedent of employee commitment.

Organisational relationships as antecedents of employee commitment. Quite a number of studies (e.g. Brunetto, Farr-Wharton & Shacklock, 2010; Caykoylu, Egri, Havlovic & Bradley, 2011; Martín, 2008) relate employee relationships to employee commitment. Brunetto et al. (2010) studied the impact of supervisor-subordinate relationships on commitment using a questionnaire survey and focus group discussions with nurses from four states of Australia as the units of analysis. In a regression analysis, they found out that good workplace relationships in terms of supervisor-subordinate relationships significantly positively influenced employee commitment. This was because good supervisor-subordinate relationships enabled easy access to resources and information enhancing the commitment of employees. Caykoylu et al. (2011) studied key organisational commitment antecedents for nurses, paramedical professionals and non-clinical staff in Canada. Using correlation, they established a positive significant relationship between mutual acceptance by co-workers and employee commitment. Martin (2008) analysed relationships as antecedents of organisational commitment on employees working in different firms in Spain. Using correlation analysis, it was indicated that the relationship variables of employee's trust in the firm and relational norms (interaction) stimulated affective commitment and the relational norm, solidarity made employees behave more responsibly at work (normative commitment). The studies above attempted to relate relationships and employee commitment although some gaps remain at contextual level. The contexts of the above studies was the Western World and in the medical sector (Brunetto et al., 2010; Caykoylu et al., 2011) and business enterprises (Martín, 2008). These gaps made it incumbent for the study to investigate in the context of universities in Uganda the hypothesis that;

H3: Organisational relationships were antecedents of employee commitment.

Organisational support as an antecedent of employee commitment. Studies (e.g. Colakoglu, Culha & Atay, 2010; Maurer & Lippstreu, 2008; Wang et al., 2010) relate organisational support to employee commitment. Colakoglu et al. (2010) studied

the effects of perceived organisational support on employees' commitment. In their study, they used employees in five star and chain hotels in Bodrum, Turkey as units of analysis. In a correlation analysis, they found out that perceived organisational support had a significant positive effect on affective, normative and continuous commitment. Maurer and Lippstreu (2008) in a study commitment in an organisation that provides support for employee development used employees from across the US workforce as the unit of analysis.

Their correlation results indicated a significant positive relationship between supervisor support and commitment for employees with a lower performance-prove orientation, but less impact on commitment if the employee is focused on trying to prove his or her current skills and competence to others. On their part, Wang et al. (2010) carried out a study on affective and continuance commitment in public private partnership of a UK hospital using staff of a UK National Health Service (NHS) hospital as their study sample. Their results of a correlation analysis revealed that positively perceived organisational support from the management of the company significantly increased affective and continuance commitment. Although the studies above made effort to relate organisational support to employee commitment, some gaps still remain. For instance, whereas the studies by Colakoglu et al. (2010) and Wang et al. (2010) established a significant relationship between support and employee commitment, the study by Maurer and Lippstreu (2008) established that support for employee development had less impact on commitment if the employees were focused on trying to prove their current skills and competence to others. This gap made it necessary in the context of universities in Uganda to investigate the hypothesis:

H4: Organisational support is an antecedent of employee commitment.

Methodology

Using the quantitative approach, in particular the survey design, data were collected using a self-administered questionnaire (SAQ). The SAQ was developed basing on instruments already used by other scholars basing on the premise that their validities and reliabilities could be taken for granted initially. The self-

administered questionnaire comprised three sectionals that were namely A through C. Section A was on the background characteristics of the respondents with questions on the sex of the respondents, marital status, level of education, type of university, position of the respondent on first appointment, current appointment and terms of employment. Section B was on the independent variable which was organisational characteristics covering four variables namely; organisational structure (six items, with four items adapted from Schminke, Cropanzano & Rupp, 2002: $\alpha = 0.73$ and two from Hansen & Host, 2012: $\alpha = 0.52$), organisational leadership (nine items adapted from Kanste, Miettunen & Kyngäs, 2007: $\alpha = 0.78-0.93$), employee relationships (seven items adapted from Dilber, Bayyurt, Zaim & Tarim, 2005: $\alpha = 0.8209$) and organisational support (seven items adapted from Eisenberger, Huntington, Hutchison & Sowa, 1986: $\alpha = 0.97$). Section C was on the dependent variable (DV) which was employee commitment and covered three aspects namely affective, continuance and normative commitment (with seven items for affective at $\alpha = 0.87$, 5 items for continuance at $\alpha = 0.75$ and six items for normative at $\alpha = 0.79$ all adopted from Allen & Meyer, 1990). The validity of the instruments was also guaranteed basing on the ground that an instrument cannot be valid unless it is reliable (Tavakol & Dennick, 2011). However, still after data collection, the respective items were subjected to confirmatory factors analysis and reliability test to reconfirm validity and reliability. Whereas the results the results of this analysis are given in appropriate sections of section four (Findings), it is important to point out that reliability was established as follows: organisational structure (five items; $\alpha = 0.848$), organisational leadership (nine items; $\alpha = 0.917$), employee relationships (six items, $\alpha = .906$) and organisational support (seven items $\alpha = .925$). Then for the dependent variable reliability was as follows; affective (with seven items; $\alpha = 0.87$), continuance (5 items; $\alpha = 0.75$) and normative (six items; $\alpha = 0.79$).

Using the self-administered question, data were collected from 301 respondents out of the anticipated 351, a response rate of 85.7% which was sufficient as Sivo, Saunders, Chang and Jiang (2006) suggest that response rate of 0.60 (60%) is good. The sample size was attained using two-stage sampling whereby in

the first stage, the universities were clustered according to regions. In stage two, the universities were stratified according to ownership that is public and private chartered. In the Central Region, there were three public universities but Kyambogo was selected because it had a smaller number than Makerere University which helped in reducing the cost of data collection. Besides, Kyambogo had a larger number of academic staff than Makerere Business School, thus most likely made the sample more representative. Since there was one public university in each of the remaining regions, automatically all were included in the sample. The universities were namely, Busitema in the Eastern, Gulu in the Northern and Mbarara University of Science and Technology in the Western Region. Private chartered universities in the sampled population were found only in two regions namely Central and Eastern. In the Central Region, Ndejje and Kampala International University were selected. Ndejje University established in 1992 was selected because it represented old private universities while Kampala International University established in 2001 represented new private universities.

The data collected was processed by coding all data questionnaires, entering them into the computer using the Statistical Package for Social Sciences (SPSS), summarising them using frequency tables and editing them to remove errors. The data analysis was done at two levels, namely univariate and multivariate levels. The data analysis at univariate level was based on percentages from the frequency tables and descriptive statistics, specifically the mean. At the multivariate level, a regression model was built by regressing the four variables of the independent variable on the DV to make prediction. The Statistical Package for Social Sciences (SPSS) facilitated the data analysis.

Findings

Majority (61.5%) of the respondents were male. The larger group of the academic staff 50.5% were in the age group of 30 but below 40 years, followed by 29.2% in the age group 40 and above years and those up to 30 years were 20.3%. Those who were married were 78.7% followed the single and never married 16.3%, the widowed 3.0% and divorced 2.0. Majority of the academic staff had masters' degrees 61.0%, followed by those with PhD

23.3%, bachelors 11.0% and postgraduate diplomas 4.7%. The results on ownership of the Universities the respondents worked in showed that the larger percentage, 57.5% were from private universities and 42.5% were from public universities. Majority (50.5%) of the respondents were Teaching Assistants at the time of first appointment. Regarding the position on current appointment in the universities, majority (50.5%) were lecturers. The figures on terms of employment of the respondents in their current universities displayed that the high percentage, 43.5% were employed on permanent basis, 42.9% on

contract, 8.0% on part-time and 5.6 on probation.

Employee commitment

The dependent variable was broken the three aspects of employee commitment namely; affective ($\alpha = .910$), continuance ($\alpha = 0.850$) and normative ($\alpha = 0.745$) respectively. All the items were scaled using the five-point Likert scale from a minimum of 1 for the worst case scenario (strongly disagree) to a maximum of 5, which is the best case scenario (Strongly agree).

Table 1: Employee Commitment

	Mean	Remark	Overall Mean
<i>Affective Commitment</i>			
I am very happy being a member of this University	4.0565	Agree	3.7561 (Agree)
I enjoy discussing about my University with the people outside it	3.7774	Agree	
I really feel as if this University's problems are my own	3.4485	Undecided	3.0619 (Undecided)
I am deeply attached to this University	3.7575	Agree	
I am part of the family of this University	3.7700	Agree	
I feel emotionally attached to this University	3.6944	Agree	
This University has a great deal of personal meaning for me	3.7874	Agree	
<i>Continuance Commitment</i>			
I am afraid of what might happen if I quit my job in this University without having another one lined up	3.0033	Undecided	3.0619 (Undecided)
It would be very hard for me to leave my job in this University right now, even if I wanted to	2.9200	Undecided	
Too much in my life would be disrupted if I decided to leave my job in this University now	2.9967	Undecided	
It would be too costly for me to leave this University now	2.9295	Undecided	
Right now, staying on my job in this University is a matter of necessity	3.4600	Undecided	
<i>Normative Commitment</i>			
I think that people these days rarely move from job to job too often.	2.8970	Undecided	3.2631 (Undecided)
I believe that a person must always be loyal to his or her University.	3.9169	Agree	
Jumping from this University to another seems unethical to me.	3.1567	Undecided	3.0565 (Undecided)
One of the major reasons I continue to work in this University is that I feel a sense of moral obligation to remain	3.7741	Agree	
Even if I got another offer of a better job elsewhere I would feel it is right to stay in this University	2.7774	Undecided	
Things were better in the days when people stayed in one institution for most of their careers.	3.0565	Undecided	

Table 1 shows that academic staff exhibited affective commitment out of the three aspects of employee commitment aspect. An average index of employee commitment from all the items of the three aspects namely; affective, continuance and normative, mean = 3.3603 meant that the majority of the academic staff in universities were undecided about their commitment.

Antecedents of Commitment

The independent variables in the study were four constructs that define organisational characteristics, namely; organisational structure ($\alpha = 0.848$), leadership ($\alpha = .917$), relationships ($\alpha = .906$) and support ($\alpha = .925$). All the items were scaled using the five-point Likert scale from 1 for the worst case scenario (strongly disagree) to 5, (Strongly agree).

Table 2: Results on Organisational Characteristics

	Mean	Remark	Overall Mean
<i>Organisational Structure</i>			
A rules manual is readily available to me	3.6279	Agree	3.3745
I have a complete written job description	3.2525	Undecided	(Undecided)
The University keeps a record of my performance	3.5867	Agree	
Decision making is decentralised	3.4120	Undecided	
Specialised decisions are made by departments	2.9934	Undecided	
<i>Organisational Leadership</i>			
My superiors go beyond self-interest for my good	2.8738	Undecided	3.2332
My superiors' behaviour is consistent with the University's values	3.2533	Undecided	(Undecided)
My superiors in this University instil pride in me	3.0569	Undecided	
My superiors talk optimistically about my future	3.0365	Undecided	
My superiors encourage me to express my ideas	3.1894	Undecided	
My superiors give me with advice for self-development	3.2392	Undecided	
I am monitored as I execute tasks in this University to maintain high performance levels	3.6080	Agree	
My superiors keep track of all my achievements	3.1063	Undecided	
My superiors make decisions at the right time	2.7358	Undecided	
<i>Relationships</i>			
I usually discuss my problems with my superiors	3.0664	Undecided	3.2631
Turn to my superiors in times of need is helpful	3.0936	Undecided	(Undecided)
My superiors in this University are dependable	3.0301	Undecided	
I feel comfortable opening up to my superiors	2.8863	Undecided	
My superiors in this University care about me	3.1063	Undecided	
I fully trust my superiors in this University	2.9900	Undecided	
<i>Organisational Support</i>			
My University values my contribution to its well-being	3.3887	Undecided	3.0523
Management respects my goals and values	3.1448	Undecided	(Undecided)
Help is available for me when I have a problem	3.0333	Undecided	
The University really cares about my well-being.	3.0134	Undecided	
Management recognises me when I excel	2.7741	Undecided	
Management cares about my satisfaction at work	2.7276	Undecided	
My supervisors in this University are proud that I am a part of this University	3.2843	Undecided	

Table 2 shows that the respondents were undecided on how they practiced in their universities. The mean for organisational structure (3.3745) showed that they were undecided, mean = 3.2332 for organisational leadership also revealed that they were undecided as well as the mean = 3.2631 for

relationships and the mean = 3.0523 for organisational support.

Model for prediction of employee commitment

To establish whether organisational structure predicted commitment, the dependent variable

namely, employee commitment was regressed against independent variable organisational characteristics. Multiple regression analysis of

the aggregate index organisational structure on the variables yielded the results in Table 3.

Table 3: Regression of Employee Commitment on Organisational Characteristics

Organisational Characteristic	Standardised Coefficient B	Significance P
Organisational Structure	0.110	0.076
Organisational Leadership	0.208	0.018
Employee Relationships	0.180	0.010
Organisational Support	0.249	0.002
Adjusted $R^2 = 0.418$		
$F = 51.43$, $p = 0.000$		

The results in Table 3 show that, four organisational characteristics explained 41.8% of the variation in EC (adjusted $R^2 = 0.418$). This means that 58.2% of the variation was accounted for by extraneous variables, that is, other factors not considered in this study. The regression model was very good/ significant ($F = 51.43$, $p = 0.000 < 0.5$). While all the four organisational characteristics were positive antecedents of EC, only three of them, namely, organisational leadership ($\beta = 0.208$, $p = 0.018$), employee relationships ($\beta = 0.180$, $p = 0.010$) and organisational support ($\beta = 0.249$, $p = 0.002$) proved to be statistically positive significant antecedent. Therefore, at the confirmatory level, hypotheses H12, H13 and H14 were supported while H11 was not. However, organisational support more significantly predicted EC followed by employee relationships and then organisational leadership.

Discussion

The first hypothesis (H1) to the effect that, organisational structure is an antecedent of employee commitment was not supported. This finding concurred with the study by Harney and Jordan (2008) which indicated that organisational flat structures did not motivate employee commitment. However, the finding was contrary to the studies by Sahoo et al. (2010) who found out that a sense of commitment can be developed in employees through the process of de-layering (organisational flattening) and Suman and Srivastava (2012) who showed that organisational structure had significant positive relationship on organisational commitment. On the other hand, H2, H3 and H4 to the effect that organisational leadership, employee relationships and support are

antecedents of employee commitment were supported. The second hypothesis (H2) supports the findings of earlier studies such as Bambacas and Patrickson (2008) who found out that a leadership style that engendered trust was of the highest in importance when HR managers wanted to enhance employee commitment. Mendelson et al. (2011) established that transformational leadership was strongly positively related to affective, continuance and normative commitment and Dunn et al. (2012) who also indicated a significant positive correlation between transformational leadership style and affective, continuance and normative commitment. The third hypothesis (H3) is consistent with studies such as Brunetto et al. (2010) who found out that good workplace relationships in terms of supervisor-subordinate relationships significantly positively influenced employee commitment. Caykoylu et al. (2011) reported a positive significant relationship between mutual acceptance by co-workers and employee commitment and Martin (2008) found out that relationship variables of employee's trust in the firm and relational norms (interaction) stimulated affective commitment and the relational norm, solidarity made employees behave more responsibly at work (normative commitment). The fourth hypothesis (H4) joins the category of earlier studies for example Colakoglu et al. (2010) found out that perceived organisational support had a significant positive effect on affective, normative and continuous commitment. Similarly Maurer and Lippstreu (2008) found a significant positive relationship between supervisor support and commitment for employees with a lower performance-prove orientation. Wang et al. (2010) revealed that positively perceived organisational

support from the management of the company significantly increased affective and continuance commitment. The findings above reveal that good organisational leadership and support were antecedents of commitment of the academic staff in universities to their jobs. Hence the study recommends that stakeholders such as the Directorates of Human Resource in the respective universities, foster good organisational leadership and support in order to enhance the commitment of the academic staff.

Conclusion

Employee commitment in so far as enhancing employee job performance is concerned is widely recognised in scholarly literature. Committed employees are more likely to engage in extra-role behaviours such as creativity, have less intentions of leaving the organisation, accept and enhance organisational change and involve in knowledge sharing which are important for performance of universities. Therefore this study being concluded aimed at identifying factors positively relating to employee commitment is vital. This paper reports on a survey on employee commitment in public and private universities in Uganda carried out with the purpose linking employee commitment with four organisational characteristics, namely; organisational structure, leadership, employee relations and support. In this endeavour the study closed gaps. For example the study was carried out in the context of Ugandan universities in the area of employee commitment to the four correlates. The main findings of the study were that while organisational leadership, employee relationships and support were significant positive predictors of employee commitment, organisational structure was not.

The findings of this study have practical significance to human resource managers in universities in Uganda and other similar institutions of higher learning. Specifically, the findings that organisational leadership, employee relationships and support were significant positive predictors of employee commitment imply that organisational leadership, employee relationships and support are fundamental antecedents of commitment of academic staff. Hence this study recommends that stakeholders such as the Directorates of Human Resource in the

respective universities, foster good organisational leadership, employee relationships and support in order to enhance the commitment of the academic staff. However, the finding that organisational structure was not significant positive antecedents led to the conclusion that most likely organisational structure was not yet a fundamental antecedent of commitment of academic staff in the context of universities in Uganda.

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STAFF PAY AND AFFECTIVE ORGANISATIONAL COMMITMENT IN MAKERERE UNIVERSITY

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Abstract. *Makerere staffs' opinions on their affective organisational commitment (acceptance of goals, confidence in management, involvement and endurance in difficult times) were correlated with their perceptions on pay (pay, allowances and fringe benefits) - using a random sample of 297 out of 1281 respondents. It was found out that, apart from allowances and fringe benefits that are deemed satisfactorily streamlined, salaries are just perceived to be only average (moderate) for both academic and support staffs. Similar to salary, affective organisational commitment is also opined to be just moderate. It was therefore established that there is a significant low positive correlation between the two investigated variables ($r = 0.236$). Nonetheless, greater involvement and regular communication to enable enhanced staffs' pay are recommended. Future studies can be undertaken to examine how other organisational support issues, e.g. communication, distributive justice and involvement in decisions impact affective organisational commitment. Also, continuance and normative organisational commitments can be investigated in this University since they can significantly impact affective organisational commitment.*

Introduction

According to The University Registrar (2012) Makerere University was established, as a technical school with 14 students, by the British colonial authority in 1922 to cater for handwork skills in carpentry, mechanics and building. In 1937 it gained the status of a higher learning institution, offering post school certificate courses. In 1949, it became a University College of East Africa affiliated to London University offering courses leading to degrees, diplomas and certificates. On 29th June, 1963 when all East African states had gained independence from the British Colonialists, Makerere became the University of East Africa. On 1st July, 1970 it finally turned into an independent national University for the Republic of Uganda, offering courses leading to its own degrees and diplomas.

Until two decades ago, financing of the University was the sole responsibility of the central government (Kasozi, 2005; Court, 1999). However, when Makerere University was at the brink of collapsing due to inadequate funding to meet staff and other financial requirements, World Bank convinced, Government and the University multilaterally resolved to embrace liberal reforms (privatization and commercialization), to rejuvenate institutional and structural capability and potential - aiming at greater service delivery (Mamdani, 2007; Court, 1999).

Although it has regained one of the most top positions in Africa and the world, in general (Nyanzi, 2010), much ought to be effected, yet. According to Mamdani (2007), scholars in this enviable University appear to be, only “scholars in the market place”. Accordingly, even “when enrolments have more than quintupled from about 10,000 students in late 1980s”, many structural obligations including employee pay and organisational support capacity are claimed to have remained unconvincingly wringed to match beneficiary expectations and aspirations (MUASA, 2012).

As a result of this, regrettably too, staff organisational commitment is claimed to continue to dwindle (Maicibi and Onen, 2004), contrary to what had been anticipated by the entrenchment of liberal reforms in 1990s (Court, 1999). Almost certainly, it is as a result of this that staffs across the University departments are, so far, said to have resorted to impetuous absenteeism assumedly to do survival activities such as moonlighting (working in other institutions within and outside Makerere) and engaging in impulsive duplication of attractive academic programmes, to tap quicker money from unsuspecting clients, for additional income (Baryamureeba, 2009; Mamdani, 2007).

This study destined to establish the extent to which pay (salary, allowances and fringe benefits), influences staff organisational

commitment in Makerere University, one of the oldest and largest in sub-Saharan Africa.

Concept of Organisational Commitment

Organisational commitment, different from job commitment which is loyalty to the job even at the expense of organisational goals, is the psychological attachment of an employee to the organisation (Northcraft & Neale, 1996; Meyer & Allen, 1994; Han, Ko, Price Mueller, 1995; Mullins, 2002). It is an ongoing process which must be nurtured faithfully, according to Adeinka, Ayeni & Popoola (2007). Even for Randal and Riegal (1995), it is a desire and willingness to remain a faithful member of the organisation where one works. To all these scholars, an employee to be regarded organizationally committed, one must in all ways believe in and accept organisational goals as being crucial drivers of organisational behaviour and activities.

These attributes also translate into what Northcraft and Neale (1996) refer to, as the attitude depicting an individual's loyalty to the organisation. Such commitment illustrates attachment and loyalty to and identification with the goals and philosophy of the organisation; the belongingness of the individual to the organisation; and one's display of effort for and on behalf of the organisation. Moreover, the earlier contemplations, such as those of Salancik (1977) had portrayed organisational commitment as a state of being that binds the individuals' actions and behaviours to get focused onto goal accomplishment. Above all, the Meyer and Allen three-item model of commitment (1991), otherwise frequently regarded as the most elaborative definer of this phenomenon (Han, Ko, Price & Mueller (1995), presents three mind-sets of employees' commitment to an organization as either affective commitment, continuance commitment, and normative commitment.

Meyer and Allen Organisational Commitment Taxonomy

Affective Organisational Commitment, Meyer and Allen 3-sphere commitment model (Han, Ko, Price and Mueller, 1995) is defined with the willingness of the staff member to work selflessly to contribute to the efficacy of the organisation. Thus, it is the willingness to make personal sacrifice, perform beyond normal expectations to endure intricate times with the organisation and to accept the organisation's

values (Han, Ko, Price & Mueller, 1995). It is also often referred to as attitudinal commitment, where the employee expresses positive emotional/ psychological attachment to the organization. It is inferred that an affectively committed employee strongly identifies with the ideals and goals of the organization. Such individual strongly wishes to remain part of the organization 'because one wants to' (Han, Ko, Price and Mueller, 1995).

Continuance Commitment, on the other hand, the Meyer and Allen model is recognizes this type of commitment as the individual's loyalty to the organization resulting from one's perception of soaring opportunity costs when one leaves the organisation; for example, as in cases of concluding organisational membership (potential retirees or aspiring pensioners). Such employees count economic as well as social costs like forfeiting nearing pension benefits, as in the case of elderly employees, who moreover tend to get frightened with loss of social and professional attachments, esteem and credibility gained so far in the expanse of past times while in the institution. These workers seldom fear to lose the gained ties among the co-worker fraternity and thus continue to appear dedicated on the road to the goals and values of the organisation. They do it because they have to (Han, Ko, Price and Mueller, 1995).

With *normative organisational commitment*, the person just remains with an organization, for the reason that one feels constrained as a result of organisational investment into one's employee career and professional growth and development. At times it is just as a result of family ties with the organisation or its members (Meyer and Allen, 1991). In this regard the employee only fears to break the institutionalized and therefore profitable bond between him and his/her organisation. These notwithstanding, many organisational commitment studies have, so far, investigated affective commitment due to its concern over systemic and structural effectiveness of the organisation (Akintoye, 2000; Han, Ko, Price, & Mueller, 1995). The current study also investigated affective organisational commitment due to its incidental and accrued significance to organisational growth, development and sustainability.

Affective organisational commitment (the study dependent variable) was investigated on the following levels: employee satisfaction with job, gladness for choice of Makerere, and pride

in Makerere. Other indicators were confidence in management, inspiration for best job performance, and perception that Makerere was the best working place. Also, involvement in decisions, enjoyment in the place of work, endurance in difficult times, and the extent to which one likes to work in Makerere.

Concept of Pay

According to Akintoye (2000), pay is generically conceived as regular salary and allowances. It is also accordingly defined by fringe benefits that include retirement packages and holidays, etc. Akintoye overstates that all these are given as compensation to an employee to tap his or her motivation and commitment to institutional ideals. He reiterates that good pay should generally recognize at least three rudiments if it is to appeal to the employee's organisational commitment: job rating that reflects organisational importance attached to such job; allowances given to the employee according to performance; and the special payment to those with highly specialized and scarce skills. Besides, pay should appear to be fair for the spent effort of the employee. A fair pay should also not lead to employee despair (Akintoye, 2000). It must thus meet up the employee's average living standards to enable the beneficiary access at least the indispensable requirements of life, such as food, shelter, medication, clothing and other essentials (Kanungo, 1982). This study assumed this definition and the underpinnings of pay being: salary, allowances and fringe benefits.

Victor Vroom's Expectancy Theory (VVET) and the current research

This research was underpinned by VVET. Vroom's Expectancy Theory covertly hypothesizes that an employee rationally joins a work organization with (can also eventually develop other unique expectations) expectations. Once the employee expectations (needs or desires) are met by the organisation, the employee's motivation raises and in the same direction, so does the organisational commitment of this employee, just of necessity. Based on the essential nature of humans, their consciousness and rational choice freedom, the employee tends to maximize pleasure at the place of work as what he /she expected materializes. This theory connotatively links onto the rationality of humans and their conscious choice realm,

which compels them to sensibly 'choose well' and to instinctively avoid life destroying situations such as deprivation and starvation (Vroom, 1964).

Implicitly also, VVET inherently signifies that an employee is motivated to produce more when he or she believes that his/her effort input into organisational tasks will lead to substantial appreciation/recognition and that, the latter will eventually have to lead to sufficient organizational rewards. VVET, more so, connotes that people choose safer options such as being employed, promoted, etc., to improve their livelihood. This implies that although individuals at the place of work may have divergent private goals, nonetheless, these can be met systemically and structurally. This motivates the employees as they consequently remain focused to the organisational values.

Various credible studies have been employing VVET to scrutinise organisational behaviour premises, particularly morale of workers, motivation and commitment. For example a study on organisational commitment of health workers in South Korea's Seol hospital (Han, Ko, Price and Mueller, 1995), was accordingly supported by VVET (1964) to establish that pay and organisational commitment were significant positive correlates in this world region. In essence, the quartet discovered that one's organisational commitment at the place of work is positively related to the nature of rewards given by the organisation in exchange for the labour inputs. More emphatically, higher pay - salary, allowances and fringe benefits are likely precursors of improved employee organisational commitment, other factors in the environment and personal orientations, remaining homogeneous. Their study further exposed that high organisational commitment is very critical for workers' capability to give that superfluous attention to details in the performance process, give extra effort to accomplish assignments, accept change, respect trust and cooperate with others.

On the other hand, in Makerere University, Onen and Maicibi's research (2004) focused on the non - teaching staff (cooks, sweepers, compound cleaners and security guards); but invoking the applicability of the Herzberg two-factor theory/model of organisational motivators and hygiene variables (Herzberg, 1976; Herzberg, Mausner & Snyderman,

1959). These factors were investigated to identify their potential relationship with organisational commitment of this staff category. Results indicated that these employees, albeit, with meagre pay were significantly positively organizationally to their tasks, as the monetary rewards were administered – an approval that pay is a likely correlate of organisational commitment, especially once the former is perceived to be meagre. Interestingly, even academic and other higher staffs in Makerere University have been perennially decrying the meagre rewards that are given in compensation of labour inputs. It was thus hypothesized that the nature of pay was probably positively related to the alleged falling staff organisational commitment in the University.

Methodology

A target population of 1281 staff members (University Prospectus), was anticipated for a cross-sectional survey that involved a random sample of 297 respondents - Krejcie and Morgan (1970). The sample responded to Self-Administered-Questionnaire. This tool was developed on the strength of earlier proven organisational commitment questionnaires such as: Adeyinka, Ayeni and Popoola OCQ (2007); Akintoye OCQ (2000); Porter, L. W., Steers, R. M., Mowday, R. T. & Boulian, P. V. (1974; Shore, Lynn McFarlane, Barksdale, Kevin, Shore and Ted OCQ (1995); Schappe

& Stephen OCQ (1998); Han, Ko, Price & Mueller OCQ (1995); Meyer and Allen OCQ (1997); Mowday, Steers & Porter OCQ (1979). The content validity index and Cronbach's alpha were established at .91 and 0.82 respectively.

MUOCQ and PAYQ were randomly administered and collected data entered into and processed by SPSS support. Other methodological engagements are specified in the sections for descriptive and inferential statistics, hereinafter.

Findings

Organisational commitment was investigated on seven levels. Responses are shown in Table 2. It was established that a significant number of academic staff members in Makerere University have moderate organisational commitment to their university (*Likert Means: 2.15, 3.14, 3.29, 3.53, 3.61, 3.64 and 3.54, respectively*) – Table: 2. More shockingly, at the very extreme, on the item: “*I am very proud to tell others that I am part of Makerere University*”, over 70% of the respondents were totally in disagreement with this notion (Mean = 2.15, Table 2). This indicator painted a very murky picture of very low organisational commitment of staff to the institutional values and aspirations, ultimately lowering the average grand mean of staff organisational commitment.

Table 2: Respondents' self-rating on MUOCQ

MOCQ Items/ Response	SD	D	N	A	SA	LM	N/Target
I am proud to tell others that I am part of Makerere University	78 (28%)	125 (45%)	44 (16%)	26 (9%)	8 (3%)	2.15	281 (95%)
This University inspires me for the best job	6 (2%)	70 (25%)	101 (36%)	92 (32%)	15 (5%)	3.14	284 (96%)
I am glad that I chose this University for employment	5 (2%)	50 (18%)	101 (36%)	109 (39%)	17 (6%)	3.29	282 (95%)
This University is the best of all possible places to work for	3 (1%)	37 (13%)	86 (31%)	117 (42%)	37 (13%)	3.53	278 (94%)
I feel satisfied with my job	4 (1%)	33 (12%)	73 (26%)	131 (47%)	41 (15%)	3.61	282 (95%)
I find enjoyment in my job	4 (1.4%)	32 (11.3%)	76 (27%)	119 (42%)	51 (18%)	3.64	282 (95%)
I like working here better than most other people here	3 (1%)	40 (14%)	77 (27%)	126 (45%)	37 (13%)	3.54	283 (95%)

Key: SD = Strongly Disagree; D = Disagree; N = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree; LM = Likert Mean

In fact, the summary descriptive statistics on organisational commitment [*Orgcomm*] (Table

3) depicted the following central tendency outputs: arithmetic Mean: 3.275 and Median:

3.429; both at (P: 0.05; SD: 0.6601), respectively, denoting a neither agree nor disagree' position on the 5-point Likert scale – asserting moderate staff organisational commitment in this University.

Table 3: Summarised Statistics on Organisational Commitment

Statistic	Value
Mean	3.275
95% Confidence Interval ($p=0.05$)	
Lower	3.196
Upper	3.354
Median	3.429
Standard Deviation (SD)	0.6601
N	270
Range	3.571
Skewness	0.435

Table 3 describes the aggregated respondent information on organisational commitment in.

The revelation remains that respondents' organizational commitment [*OrgComm*] is just slightly above average (Mean = 3.275) on the Likert continuum. The table also shows that scores regarding the respondents' organizational commitment were not much dispersed as seen by the small standard deviation: SD = 0.6601; suggesting that respondents' views regarding organizational commitment generally did not differ so much from one another. Further, respondents' opinions were almost normally and centrally distributed (Skew = -0.435), a viability for correlating the independent and dependent variables (Amin, 2005; Best & Kaln, 1998).

Descriptive Statistics on Pay

On pay, six items with Likert – scale; matching with the conceptualized indicators, were constructed to form an aggregate tool [*PAYQ*]. These items and the responses thereto, are summarised in Table 4.

Table 4: Respondent Self- Rating on Pay

PAYQ Items/Responses	SD	D	NAND	A	SA	LM	N/Target
I am fairly rewarded for the effort I put in my work	9	60	56	120	36	3.41	281
	-	-	-	-	-		-95%
	3.20%	21.40%	19.90%	42.70%	12.80%		
There are days when I am not able to access basic life requirements	4	37	36	168	39	2.29	284
	-	-	-	-	-		-96%
	1.40%	13.00%	12.70%	59.20%	13.70%		
I usually find ways to live up my day when I am not able access basic requirements	2	28	40	183	32	2.25	285
	-	-9.80%	-	-	-		-96%
	0.70%		14.00%	64.20%	11.20%		
The fringe benefits e.g. retirement package are well streamlined in this university	9	20	84	122	49	3.64	284
	-	-7.00%	-	-	-		-96%
	3.20%		29.60%	43.00%	17.30%		
The way responsibility allowances are streamlined in the university salary structure is quite satisfactory	3	23	56	131	70	3.86	283
	-	-8.10%	-	-	-		-95%
	1.10%		19.80%	46.30%	24.70%		
I am glad to have chosen to work for this university because there are many fringe benefits besides salary	6	26	62	116	72	3.7	282
	-	-9.20%	-	-	-		-95%
	2.10%		22.00%	41.10%	25.50%		

Key: SD = Strongly Disagree; D = Disagree; NAND = Neither Agree nor Disagree; A = Agree; SA = Strongly Agree

Table 4 reveals that pay in Makerere University is moderate. Specifically, responses on: “I am fairly rewarded for the effort I put in my work, slightly over 55 per cent (Likert Mean: 3.41), agreed to the notion. Even on the statement, “The fringe benefits e.g. retirement package, are well streamlined in this university”, 60.3

per cent (Likert Mean: 3.64), said the fringe benefits are really well streamlined. More so, the most outstanding responses were on: “The way responsibility allowances are streamlined in the university salary structure is quite satisfactory (71%; Mean = 3.86); and, “I am glad to have chosen to work for this university

because there are many fringe benefits besides salary (66.6%; Likert Mean = 3.70).

Nonetheless, on two statements, “There are days when I am not able to access basic life requirements”, about 73% (Likert Mean: 2.29), said yes - a position that suggested that although the allowances and fringe benefits could be well streamlined in the University salary structure, possibly the take home per capita income may be somewhat inadequate or rather questionable. This contemplation was authenticated by the respondent assertion on another statement, “I usually find ways to live up my day when I am not able access basic requirements”. In fact 75.4% (Likert Mean: 2.25), agreed to the statement. This, in part, signified that all is not well with regard to staff pay.

In fact over 59% academic staff members confessed that to address this dilemma, “I engage in moonlighting – getting odd employment to top up my salary”. Whilst, a considerable number of non-teaching staff, particularly support staff (63%), said that they engage in side activities like “typing students’ course work assignments and other materials from outside clients”, secretaries and typists, said. Others retorted that, “we engage in petty trades, such as dealing in GNLD food supplement networking, mobile airtime retails”, and of course other creepy activities such as real estate agencies. Some support staff in the University library confessed that, “It is normal business to assist students in locating needed book titles and this is a cherished additional token on top of the very little pay”. Summarised *PAY* values are depicted in Table 5. Moreover, communication about and involvement in strategic solutions to the pay issue are also very scanty.

Table 5: Descriptive Summary Statistics of Respondents’ Self - Rating on Pay

Statistic	Value
Mean	3.204
95% Confidence Interval ($p=0.05$)	
Lower	3.266
Upper	3.142
Median	3.167
Standard Deviation (SD)	0.269
N	3.33
Range	-0.351
Skewness	3.266

Table 5 highlights the descriptive summary self-rating responses for [PAY] with an opinion range of 3.333; Mean: 3.204 and median: 3.167, suggesting that at 95% confidence level, employees in Makerere University significantly rated their pay as being just moderate or average. The relatively small standard deviation of 0.269 in data and a marginal skew of [0.351], suggest that respondent’s views regarding their pay do not substantially differ from one staff member to another. This phenomenon implied that correlation calculus, according to Amin (2005), is applicable on the two variables (PAY and Orgcommt).

Inferential Statistics

Using SPSS memorized data, a statistical (null) hypothesis (H_0): “Pay does not significantly correlate with staff organisational commitment in Makerere University”, was tested by Pearson Moment Correlation technique (PMCT), to establish the significance nature and magnitude of the hypothetical claim, or not. The aggregated values of pay (*PAY*) and organisational commitment (*Orgcommt*) were accordingly correlated and results are summarised in Table 6.

Table 6: Relationship between Pay and Organisational Commitment

		Pay	OC
Pay	Pearson’s Corr.	1	0.236**
	Sig. (2-tailed)	-	0.000
	N	292	292
OC	Pearson’s corr.	0.236**	1
	Sig. (2-tailed)	0.000	-
	N	292	292

Key: OC = Organisational Commitment;

**Significant at the 0.01 level (2-tailed).

Overall, 292 responses on pay and Organisational commitment items, respectively were considered (Table 5). Although the correlation between [*PAY*] and [*Orgcommt*] was a moderate positive designation [$r = 0.236^{**}$; sig: $0.000 < 0.01$], the null hypothesis (H_0) was rejected and instead, the directional hypothesis retained. It was thus concluded that the moderate organisational commitment acknowledged being prevalent among staff is positively related to the staff perception that their pay (salary, allowances and fringe benefits) is not either adequate. Connotatively, in a way, with higher staff pay

in this University, there is a substantial possibility for staff members to raise their organisational commitment, and vice versa.

Discussion

Makerere University has probably been striving to use various interventions to address issues of staff organisational commitment, especially after the entrenchment of the liberal reforms in 1990s (Mamdani, 2007; Court, 1999). Nonetheless, such appear not to have linked sufficiently with staff organisational commitment, at least, substantially. In fact with over 75 per cent of staff (Table 4), confirming that they, ‘... find other ways to live up a day when one is not able to access basic requirements...’ this is self-confession of intermittent absences from the work station. Yet, regular attendance is acknowledged by Han, Ko, Price and Mueller (1995), as being a significant antecedent of affective organisational commitment. Nonetheless, with 53 per cent of the respondents denoting, via an open-ended item, that their continued stay in Makerere University is mainly prompted by some other non-monetary support issues or incentives such as, “...the University offers my biological children with tuition fees subsidies, when they fail to get cut off entry points for instant government sponsorship...” Interestingly, at the extreme of all this, what about those University employees who do not have university - going children at the moment? More so, what about those whose biological children attend other Universities, other than Makerere University? In any case, While such and other similar questions can be exhaustively delved into with future empirical ratifications, the current phenomenon stands out as a significant approval that affective organisational commitment among staff in Makerere University (willingness of the staff member to: work *selflessly* to contribute to the efficacy - *goals* of the organisation; making personal sacrifice; performing beyond normal expectations to enduring in difficult times; and accepting the organisation’s values is still wanting) calls for timely interventions to prevent exaggerated scenario in future..

Recommendations

Basing on the findings from the study, the conspicuous recommendation to address this endemic predicament remains one: to address

the issue of staff pay enhancement, particularly the monthly salary. This can effectively be dealt with using objective dialogue involving all the necessary publics. To ensure sustained cooperation while addressing this issue, reliable and effective communication techniques ought to be put in place and sustained, for greater cohesion, transparency and accountability. Future studies ought to be undertaken to examine how other organisational support issues, e.g. communication, distributive justice and involvement in decisions impact affective organisational commitment. Also, continuance and normative organisational commitments can be investigated in this University since they can significantly impact affective organisational commitment.

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CRITICAL REVIEW OF RELIGIOUS THEORIES IN A CONTEMPORARY PERSPECTIVE

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Abstract. *If sociology is strongly rooted in our common-sense assumptions and in the practical needs and inquisitiveness of our nature, it would be very surprising, indeed inexplicable, if we were to find that theories of a sociological nature had emerged only in the modern world. In fact, there have been 'theories' of man and society almost as long as man has existed, though some of these, in the form of early, simple myths, must have been very rudimentary indeed, differing in character very considerably from what we would now call a 'scientific' theory. Even, the simplest myths that we know, some of the same ingredients are there: the effort to achieve a total picture of man's situation in the world, in the context of which both society and individual possess meaning and significance. It is obviously impossible to give an account of all of the kinds of social theories which preceded scientific sociology. However, this paper attempts to make a brief assessment of these theories giving attention to their nature and achievements.*

Introduction

Knowledge entails more than the particular kind of knowledge which science itself attains. In this sense, science is simply the kind of knowledge that permits empirical testing. It is the simplest category of knowledge within the wider subject of philosophy. And it may well be that, in our own time, we are in danger of interpreting 'science' itself too narrowly, in such a way as to impoverish both it and ourselves by losing sight of its place within the wider context of philosophy, or indeed even denying that there is such a wider context. It may be that, in general, we are ending to lose sight of the imaginative range of 'science' and coming to think of it – falsely – in narrow terms of utilitarian technology.

There is an important sense in which the very nature and limits of 'science' depend upon philosophical clarification and that, without this, there is a real danger that 'science' might be misunderstood and impoverish, even among practicing scientist themselves. There is a danger that science might even come to be taught as a practical technology only. In short, science rests, essentially, within a context of philosophy, and to pluck it from this context and to consider and practice it independently of it, is highly questionable. This is true of all sciences – including sociology.

But also, philosophy aside even religious myth and the works of art and literature have their own oblique ways of evoking our

appreciation of truths of the human situation which are additional to, and which are not quite like, the more measurable propositions of science. It may be that it is the scientists who are in danger of becoming the philistines in this quest for 'truth'. It may be that is blinding him/herself to the wider exploration of truth by wearing only special spectacles of science, which, of course, have their own uses for enhancing our vision in certain directions, but which should, perhaps, be taken off, or replaced by others, for different kinds of view.

It must be remembered that many of these earlier theories were concerned to make as clear as possible not only *the facts* of human nature and society, but also the *ethical* *bash* of what human conduct *ought* to be. They were, that is, theories including ethical and 'normative' considerations. This also raises questions, some very profound indeed, which make it always important to see modern sociology in the context of its intellectual forebears.'

A first question is whether there *is* really a clear distinction between the study of ethical principles and the study of matters of fact that many modern scholars now assume. Is there really a fundamental cleavage between studying what *is*, and what *ought* to be? It is common practice to insist that this is so. But *is* it? Might not our enquiry into the implications of our compelling experiences of moral obligation lead us to uncover moral ideals which, in fact, exist? Are not ethical principles

a species of 'fact'? Do moral ideals not exist? Many would dismiss this question as trivial—but this may simply be a matter of their unreflective dogmatism concerning what we may accept as 'categories' of 'existence'. They may simply be a lot of Dr Johnsons lacking posts in the street, and deluding themselves that this is an argument.

It may be, for example, that, in witnessing the factual struggle for the equal rights of negroes in the United States; the factual struggle against what is considered to be *injustice*; we can discover, by careful, analytical thought that certain principles of equality in political citizenship, and of impartiality in the making and treatment of claims in society, are essential ingredients in the idea of justice. Now this may well be a *fact* which must be taken into account in exploring certain kinds of social conflict. And one is not saying only that this may be an *operative ideal* which is at work (as a 'norm' or 'convention') in a particular society, but that, *in fact* it may be a *universal feature of the ideal of justice* and, therefore, that none of the struggles of men against arbitrary power in *any society* may permit of explanation or understanding without taking it into account. It may be impossible to explain *the facts* of social conflict, without a clear knowledge of the facts of the ethical entailments of the feelings of '*injustice*' among subjected groups, but the uncovering of these facts is a matter of reflective philosophy rather than of empirical science.

It is worthwhile to note that these theories were not *only* normative. There is a tendency in modern thinking sharply to distinguish between 'normative' (i.e. concerned with what *ought* to be) and 'positive' (i.e. concerned with what, in fact, *is*) theories. Most early social theories were concerned with *both*. Confucianism, for example, seeks to know the actual nature of the world in order to see man's proper place within it, which will be a guide as to how he ought to behave. Plato, too, examined the actual nature of the 'soul' and 'society' in trying to clarify the '*ideal constitution*' for both.

The philosophical understanding of 'what ought to be' is a necessary element in the scientific explanation of 'what is'. It is therefore at least possible that early philosophers were right in thinking that ethical concepts were a necessary part of social explanation and, if this is true, then philosophy

continues to be a necessary part of the social scientist's equipment.

Furthermore it may also be, as early philosophers thought, that knowledge is not only a matter of intellectual apprehension, but carries with it certain kinds of commitment and obligation: of maintaining qualities of integrity; of seeking and sustaining truth; of insisting upon the freedom and the procedures of enquiry necessary for this; even, perhaps, of denying the rightness of certain kinds of actions because they rest upon false hood. It may be, then, that "sociological theory, and any other scientific theory, may carry with it more connotations of an ethical kind than one is ready to admit and appears to be the case on its 'scientific' surface.

Whatever we may think about these matters, it is certain that we should be wise to understand as fully as we can what the philosophers and other early social theorists actually said before shrugging off their systems of thought, and a fashionable stereotype of the nature of their activity, too easily.

If this is thought to be outlandishly unorthodox in the present-day context of thought in social science, it might be well to bear two points in mind.

Firstly, all sociologists until the last few decades (and I believe the same could be said of the greater number of sociologists today) have been concerned with sociology because of their ethical concerns. They have been humanists first, and sociologist second or, to put it minimally, their sociology has been one part of a much wider concern to understand the human situation and to act in relation to it.

Secondly, one might stop to ask why? Nowadays, we are sceptical about ethical principles as such, but why, as scholars, we insist upon a commitment to truth in scientific inquiry before everything. There is nothing in science itself to oblige one to do so. And this, in fact, is what one does.

Why do one take the ideal of scientific integrity itself for granted, as being something beyond question, whilst thinking of all other moral ideals as being 'relative' in some sense, and always a potential source of 'bias' in one scientific activity? Without wishing to be too dialectical, might it not be possible that the scientific insistence upon

This kind of consideration lies right at the heart of Plato's philosophy. In short, a commitment to the quest for scientific truth might have very definite political entailments

the pursuit of truth by certain procedures alone, is itself a 'bias' in intellectual matters?

It seems that a lot of people are in great danger of rushing into a very glib and superficial conception of what sociology is aiming at, and what its nature is. If one do not have a good understanding of the insights of earlier systems of myth, religion, and, philosophy.

There is more knowledge of human nature and human society in a few pages of Plato, or Hobbes, or Spinoza, or Hume or even of Montaigne, than in whole volumes of modern social science. And frequently it is those who pride themselves on their 'scientific advancement' who are least informed about these theories of the past. In one's view 'scientism', and a glib assumption of its 'modernity' and 'superiority', is one of the very greatest dangers facing our subject. One of which we have continually to be aware.

A further point of great importance is that a study of these earlier theories of society shows — whether they were myths, religions, political theories, or philosophies of history — that they were not only theories intellectually held by scholars or priests, but were also important ideologies of the societies in which they existed; focusing the feelings and commitments of entire communities upon certain values and certain ends. The point here is this: though sociological theory now strives towards the achievement of a scientific basis, *it cannot, even if successful in this, avoid this same kind of ideological role in our own time.* Modern sociological theory has emerged partly because these earlier theories of society have been seen to fail. It is own birth, its own nature, are rooted in criticisms of them. It therefore becomes an important basis, or at least a necessary part of whatever ideology modern man adopts. Modern man may, as Jung put it, be 'in search of a soul', but he is also 'in search of a sociological theory' appropriate to his own time and conditions, and perhaps the two are more closely linked than appears at first sight.

Sociological theory provides a picture of man's place in the world as much as any other theory in the world ever did. This is its absorbing interest; this is its humane value; quite apart from its scientific pretensions—necessary and of fundamental importance though these are. In sociological theory all earlier ways of thinking about man's history, moral and political philosophy, biology, psychology, religion, come to be critically assessed and

fused. Sociology is the new focal subject, the new 'orientating' subject of human enquiry in the twentieth century. And this is not the grandiose claim that it must appear, but is no more than a working out of what was already foreshadowed by earlier theorists and clearly envisaged, for example, by David Hume and John Stuart Mill.

In order to provide, though briefly, a perspective of the subjects within which, and out of which, sociology took shape, I propose to discuss them under four headings: (1) Religion, (2) Moral and Political Philosophy, (3) Philosophy of History, (4) Natural Science and Epistemology. In a final section (5) we can then outline the particular needs which led to the emergence of sociology proper— which drew critically from all these subjects and then created something going beyond them. See for example, David Hume in his introduction to the *Treatise of Human Nature* that:

'It is evident that all the sciences have a relation, greater or less, to Human Nature ...'. Here then is the only expedient, from which we can hope for success in our philosophical researches, to leave the tedious lingering method which we have hitherto followed, and, instead of taking now and then a castle or village on the frontier, to march up directly to the capital or centre of these sciences, to Human Nature itself; which being once masters of, we may everywhere else hope for an easy victory . . . 'There is no question of importance whose decision is not comprised in the Science of Man; and there is none which can be decided with any certainty, before we become acquainted with that Science. In pretending, therefore, to explain the principles of Human Nature, we in effect propose a complete system of the Sciences, built on a foundation almost entirely new, and the only one upon which they can stand with any security.'

See also John Stuart Mill p. 198 in the present volume.

The myths and religious systems which preceded scientific sociology, and which continue to exist side by side with it, are not only theories concerning man's spiritual relationship with God or with some kind of supreme spiritual reality. They are also theories about the nature of man and society in the context of the natural (as well as the 'supernatural') world. No matter how 'transcendental' some of these theories become with regard to their ideas of 'God' or

the divine ground of reality, they always contain theories about the actual nature of man, and his place in both the natural world and in society. And they frequently lay down, in addition, rules of a social and moral, as well as of a spiritual kind, which *man* ought to observe. It is not too much to say that mythical and religious systems of doctrine, feeling and ritual, were man's earliest ways of achieving a systematic picture of the nature of things, including himself, and that critical theology, philosophy and science have grown out of these roots.

Sociology has a clear line of descent from them, and is clearly relevant to them. In some ways it remains like them—though it has considerably refined the nature of its theories and its methods. It tends to replace them—since it emerges because of their inadequacy, and, in developing, increasingly demonstrates their inadequacy. And it continually encounters resistance from them since *its own way* of establishing knowledge, as well as the substantive knowledge it produces, is frequently in sharp conflict with those which they employ and insist upon.

The Simpler Societies

The simpler (non-literate) societies always have systems of myths built about those aspects of their environmental setting which are of supreme importance to them. Most myths, indeed, deal with both the ecological and the social problems which a society experiences.

One good example is sufficient for our purpose. The Ihalmiut, a group of Eskimoes living in the Canadian Barrens, were almost entirely dependent for their survival upon the seasonal migration of the deer. All the things of importance in their life—their dwellings, clothes, tools, weapons, food—were derived in some way or other from the deer. And we find that their 'theory' of creation centred about the deer. The myth, in very simple form, was this. Kaila—'He who is Thunder in grey skies'—prepared the land, created hare and ptarmigan, and then made man and woman. Everything was very still in darkness. The hunters could not see and were hungry, so the woman cried to Kaila for help. Kaila then created fire and it was the woman's task to keep the fire alive. But soon the hare and ptarmigan grew wary of man and his torch of fire, and he again suffered hunger. Again the

woman cried to Kaila for help, and he told her to dig a great hole in the ground. Then he told her to make a rope of the sinews of the hare, a hook from the wing bones of the ptarmigan, and see what she could draw from the hole. In succession she gradually caught all the beasts of the earth—but she was not satisfied with them and freed them to multiply over the land. 'She had still', says the story, 'not caught the one thing which she sought.'

'We do not know how long she lingered by the hole, for then there was no winter and no summer, no day or night. But in the end there came a great jerk on the line so that it was almost torn from the woman's hands. The man sprang to help her and together they pulled the sinew rope out of the pit. It was a mighty struggle, and yet man and his woman triumphed and so at last beheld the antlered crown of Tuktu—first of all the deer!

The woman cried out with joy and flung her hook away, and the deep hole closed up and vanished. Then the woman spoke to the first deer, saying: 'Go out over the land and become as many as all other things which live in water, land or air—for it is you and your kind who will feed me and my children and my children's children for all time that there is yet to come'. The first deer heard, and heeded what the woman said, and so it came about that there were many deer.

It is a very simple 'theory' which gave meaning to the entire social and individual mode of life of this people struggling in their exceptionally harsh environment and being entirely dependent upon a few natural resources. There were, of course, many other attendant theories in their entire system of myths, but it can be seen, from this central example, how the 'story' links all the main social problems (darkness; cold—and fire; hunger—and food) with a clear picture of man's place in the world of nature as he experienced it.

These elements of myth seem quite unbelievable, simple-minded, even bizarre to our (supposedly) more sophisticated minds. But, as the man who recorded these myths put it: 'It must be remembered that the People of the Deer are of *their* world and know nothing of us and ours, and *so* what seems like gross unreality to us can remain unassailably real to them. Their beliefs are a product of centuries, and they fit the needs of their life and the shape of the land they live in. They believe that is the point.'*

The myths and doctrines of more complex literate societies were not greatly different in their main components (they still dealt with social functions and ecological problems) though more elaborate in their details.

Ancient Egypt

In ancient Egypt for example, the Isis and Osiris myth reflected the physical characteristics of the Nile Valley, and signified the ultimate political union of Upper Egypt and Lower (Delta) Egypt as well as the attendant fusion of all the thousands of lesser deities of Egypt into one pantheon of gods at the head of which was Pharaoh—the one, living, visible, divine authority of the unified society, indeed of the 'world'—in whom ecclesiastical, military, political and legal authority were all fused.

Within this pantheon most gods were responsible for some social function. SAFEKHT, for example was the goddess of writing; ANUBIS—the guardian of the cemetery; NEIT—the goddess of hunting, always depicted holding bows and arrows. The over-all myth therefore vested all the aspects of social organization with a divine meaning and sanction, indeed a divine supervision.

The idea which had emerged of the judgment of men at death, and of a life after death, also entailed a theory about the nature of the human soul. A man was thought to consist of three elements: his physical body; 'Ba'—depicted as a human-headed bird whose seat was the 'heart' or abdomen, which could fly from the body, but returned to it for its pleasures; and 'Ka'—the mental aspects of personality, the identifiable intelligent consciousness of the personality itself (a 'double' of the personality), which was something of a spectator or onlooker in its appreciation of the pleasure of life. And the tomb arrangements in ancient Egypt were such as to take into account. Farley Mowat, *The People of the Deer*, Michael Joseph, 1952. I say *supposedly* more sophisticated minds, because Farley Mowat has much to say in this book about the very considerable sensitivity and subtlety of the minds of the Eskimo people. Among themselves, for example, they worked out a very much simplified version of their own language, which all of them took care to use when they were within earshot of Mowat. Only when he was familiar with this did they acquaint him with the details of their language,

and only then did he learn their 'strategy' of simplification of all these features. Passages were provided so that 'Ba' could revisit the body. A life-like statue was placed in the tomb so that 'Ka' could take up its residence there and see the things which had given it pleasure in life. And, of course, all this necessitated the preservation of the body itself; and even this emphasis upon the physical preservation of the body seems to have been an outcome of 'ecological factors', namely the preservative qualities of the sand of Egypt. Breasted, for example, wrote:

Experience in the land of Egypt has led one to believe that the insistent faith in the hereafter was greatly favoured and influenced by the fact that the conditions of soil and climate resulted in such a remarkable preservation of the human body as may be found under natural conditions nowhere else in the world. In going up to the daily task on some, neighbouring temple in Nubia, I was not infrequently obliged to pass through the corner of a cemetery, where the feet of a dead man, buried in a shallow grave, were not covered and extended directly across my path. They were precisely like the rough and calloused feet of the workmen of our excavations. How old the grave was I do not know, but anyone familiar with the cemeteries of Egypt, ancient and modern, has found numerous bodies or portions of bodies indefinitely old which seemed about as well preserved as those of the living. . . . The surprisingly perfect state of preservation in which the Egyptian found his ancestors whenever the digging of a new grave disclosed them, must have greatly stimulated his belief in their continued existence, and often aroused his imagination to more detailed pictures of the realm and the life of the mysteriously departed.

The myths of Egypt, therefore, reflected the physical conditions of the life of the people and provided theories about the unity of society, the importance of many social functions, and the nature of the individual soul in life and in death. They included also a system of laws, and certain moral directives, which defined the nature and requirements of social institutions and laid down rules for the regulation of social behaviour.

As a matter of interest a brief example of such moral rules might be given from the Egyptian 'Book of the Dead' which contains sets of 'negative confessions' by which the individual declared his innocence. According

to Sir Flinders Petrie, these were arranged in sets of five, to facilitate learning by finger-counting. The rules are amusing in that they indicate what people might be prone to do in certain areas of social life and conduct, and I have selected illustrations of two or three of them.

Examples of such bodies can, of course, now be seen in many museums.

Religious Obligations

1. I have not lessened the bread offerings in the temples.
2. I have not ravaged the cakes of the Gods.
3. I have not carried oil' the bread of the glorious dead.
4. I have not cohabited in the temenos of the God of my city.
5. I have not defiled myself in the temenos of the God of my city.

Commercial Honesty

1. I have not lessened the corn measure.
2. I have not lessened tin-palm.
3. I have not deceived in the fields.
4. I have not added to the weight of the balance.
5. I have not made poorer by means of the plummet of the balance.

Other rules which indicate the importance of social and ecological factors were:

I have not turned back water in its season, nor divided by a dam at running water.*

I have not driven away cattle which were on their pasture,

I have not netted birds of the records of the Gods.

Social and moral regulations obviously found a clear place in these religious 'theories'.

Ancient Babylon

The same was true of ancient Babylon. Amongst a people whose chief ecological problem was that of extending the boundaries of fertile land, developing and maintaining a reliable system of irrigation, keeping control over the artificially canalized waters, and whose chief disaster was that of flood, their myth of creation was very appropriate.

It was APSU—the god of fresh water, and TIAMAT—the dragon of unbounded salt-water (chaos), the earliest divine forces of the

world, who first created a number of lesser gods. These lesser gods, however, began trying to bring *order* into things. They tried to canalise the fresh water and to drive back the salt-water by extending the land. This interference irritated and then angered APSU and TIAMAT, and they therefore decided to destroy them in order to restore their earlier and untrammelled peace. But the lesser gods rebelled, and engaged in battle with them. One among them—Marduk —was elected chief, and he fought TIAMAT in battle and defeated her. He then 'split her like a flat fish into two halves'. Of one half he made the canopy which holds back the water above the heavens. With the other he covered the waters which lie under the earth. Then, within this firmament, he fixed the stars, and then created plant life, animals, and, finally, man.

'My blood will I take', said Marduk, 'and bone will I fashion. I shall create man who shall inherit the earth'. It will be seen that in this story of creation—which was achieved in an orderly sequence of six days followed by rest on the seventh—Marduk, the God of creation, was on the side of man. It was he who had defeated the forces making for chaos, and had created an order of the elements of the world within which man could live in security and peace.

In this society, too, we find the myth of the Flood—clearly stemming, from the Babylonian experiences of the flooded river deltas. It was not, in this case, however, Noah who built his ark of so many cubits wide, so many cubits wide, so many cubits lone, but the Babylonian figure—UTNAPISHTIM.

The myth is almost exactly the same as the Judaist myth of Noah (will) which we are familiar, and not surprisingly, since the latter seems to be a later version of it.

Again remembering the relation of the Isis and Osiris myth to the political union of Upper and Lower Egypt, it is interesting to notice that (his unification of myths occurred at a time when Hammurabi was succeeding in consolidating the earlier Sumerian cities into the unified civilization of Babylon which then endured for some twenty centuries. And, again, we find that lesser deities were now absorbed or combined into an all-embracing pantheon of the gods.

The Greek City States

The ancient Greeks had their pantheon of gods, too, and their many and beautiful myths.

But the Greeks of course, were invading conquerors, and when the Olympian pantheon came to be consolidated, the gods, though certainly possessing social functions, were by no means altogether suited to the settled life of the City State which ensued. As Gilbert Murray put it:

'It is a canon of religious study that all gods reflect the social state, past or present, of their worshippers. From this point of view what appearance do the Olympians of Homer make? What are they there for? What do they do, and what are their relations to one another?

The gods of most nations claim to have created the world. The Olympians make no such claim. The most they ever did was to conquer it. And when they have conquered their kingdoms, what do they do? Do they attend to the government? Do they promote agriculture? They practice trades and industries? Not a bit of it. Why should they do any honest work? They find it easier to live on the revenue and blast with thunderbolts the people who do not pay. They are conquering chieftains, royal buccaneers. They fight, and feast, and play, and make music; they drink deep, and roar with laughter at the lame smith who waits on them. They are never afraid, *except* of their own king. They never tell lies except in love and war.

It was because of this mythical presentation of the gods as superhuman beings whose vices were as strongly exaggerated as their virtues that philosophers like Xenophanes and Plato began to criticize such 'religious and mythical theories' and to offer what they thought were better theories in terms of qualities of human excellence and reason. Hitherto, theories of God, nature and man had 'reflected' and fitted society, but from this point of view reflect onwards, men began, at least to some degree, to 'reconstruct' the gods they believed in, in the image of their own moral, intellectual and aesthetic aspirations. They could not accept that what was divine was of a lower standard of excellence than that of which man was aware. They made the Gods in their own image. And as their knowledge improved, so the picture of the Gods improved. It was, in part, in terms of this dissatisfaction with myth and religion that critical philosophy began. Firmer foundations were now sought for theories of man and society. Examples of these same kinds of mythical and religious theories could be drawn from the history of every society.

Japan

In Japan, the creation myth began with the two fundamental principles in Nature: Male and Female; IZANAGI and IZANAMI respectively. It was they who created the Japanese Islands and their people. The eight chief islands stemmed from IZANAMI's womb. When IZANAMI died and went to the underworld, IZANAGI followed her. But she was in a state of decomposition and warned him against seeing her. But he broke in, saw her, and was polluted. He then rushed back to the earth to cleanse and purify himself. In doing so, he created other gods. The filth cast from one eye became AMATERASU—goddess of the sun. That from the other eye became TSUKI-YOMI—the moon god. That from his nostrils became the storm god, and so on. In this way all the Japanese deities were brought into relationship with each other in, again, one pantheon.

Men, as usual, however were unruly. Because of their disorder, AMATERASU sent her grandson, NI-NI-GI, to establish a firm government of the islands. The offspring of NI-NI-GI were the Japanese Emperors. All the leading families of Japan traced their descent from some deity or other, and every aspect of nature came to be represented as a deity. The system of myth, once again, served to unify nature and society.

But what is of greater interest is that this mythical unification seems to rest, again, upon a necessary historical imposition of unity. The Japanese people are not the native inhabitants of their islands, but initially came from the Asiatic mainland and from some Pacific islands. Early Japanese society appears to have been a loose association of tribes, having three chief centres with three chief gods: the Gods of the Sea, the Gods of the Stars, and the Sun Goddess. The myth we have briefly described represents the conquest of one of these tribes—the YAMATO—over the others, and the fusion of all the gods into one unified myth with the Sun Goddess as the supreme deity.

China

The religion of China is, similarly, most impressive in the entire interrelated order of nature, society, and the propriety of individual life and conduct, which it presents.

China has, for millennia, been an agrarian civilization. Its traditional religion—in both

doctrine and ritual—rested upon a conception of the Order of Nature. The entire universe, the heavens, and the dependent nature of the world, were characterized by order, regularity, harmony, majesty. All was governed by a *law* of order in nature. Two conflicting but co-operative principles were fundamentally at work: the male and female principles; but a certain pre-ordained *way* of creative development was entailed in these forces of nature, which led to harmony, propriety and beauty in its pattern. Man and his society were part of the whole order of nature, and the major institutions of society were there to make the full harmony of human relationships possible.

The Emperor was the father and representative of the people who carried out ceremonials on their behalf and achieved order in relation to Heaven. The continued order of society depended upon his diligence and devotion. From the Emperor down to the lowliest peasant, the family was the important group within which good human relationships were realized and sustained, and the family included not only the living family group, but also the continuous line of ancestors. There was a living interdependence in the family and society between the dead and the living. The whole of existing society, and the whole of its history, was thus permeated by filial piety, and in Confucianism, which, is a reflective systematization of traditional beliefs, this family regulation became the means of achieving and sustaining several specific sets of relationships, with their attendant qualities, which were thought to be of fundamental importance for the natural harmonious fulfilment of both social and individual life. There were five such relationships and sets of qualities;

1. Between Ruler and Subject. (The Ruler should possess the qualities of benevolence, care and responsibility, and the subjects that of loyalty.)
2. Between Father and Son. (The Father should possess kindness and care, and the son filial piety.)
3. Between Husband and Wife. (The Husband should observe righteous behaviour and the Wife obedience.)
4. Between the Oldest and the Younger Brothers. (The Oldest brother should possess gentility, the younger brothers humility and respect), and

5. Between the Elders and the Young in general. (The aged should have a humane and tolerant consideration for the young, and the young should show deference to the old.)

In this system of doctrine and morality there was clearly a theory of nature, society and man, and a theory about those social institutions which were considered essential for achieving the natural order and fulfilment of individual life in society, and for the engendering and development in individuals of those qualities of character which were necessary in order continuously to achieve these ends. *Character* was seen as the chief aim of government and education, and Confucius was very meticulous and subtle in working this out; showing how the quality of order of the state and the quality of order of the individual soul were inextricably linked with each other. In this he was remarkably similar to Plato. Here, for example, is what he said about the necessity for *clarity of language* and the importance of *knowledge*.

When asked what his first task would be in undertaking the control of a prince's administration, he replied: 'The one thing needed is the rectification of names.' For, he argued, without care over words and names, education and ritual would be disordered, laws would not be just, and people would not know what to expect in relation to each other. Clarity and truth were a basic necessity for the right ordering of society.

'The rectification of names,' one of his followers elaborated, 'consists in making real relationships and duties and institutions conform as far as possible to their *ideal* meanings. . . . When this intellectual reorganization is at last effected, the ideal social order will come as night follows day — a social order where, just as a circle is a circle and a square a square, so every prince is princely, every official is faithful, every father is fatherly, and every child is filially pious.

In the 'Great Learning' it was put like this: 'the ancients (i.e. the ancient kings) who wished to cause their virtue to shine forth first ordered well their own states. Wishing to order well their states, they first regulated their families. Wishing to regulate their families, they first cultivated their persons. Wishing to cultivate their persons, they first rectified their hearts. Wishing to rectify their hearts, they first sought to be sincere in their thoughts. Wishing

to be sincere in their thoughts, they first extended to the utmost their knowledge. Such extension of knowledge lay in the investigation of things. Things being investigated, their knowledge became complete. Their knowledge being complete, their thoughts were sincere. Their thoughts being sincere, their hearts were then rectified. Their hearts being rectified, their persons were cultivated. Their persons being cultivated, their families were regulated. Their families being regulated, their states were rightly governed. Their states being rightly governed, the whole kingdom was made tranquil and happy.'

Clearly, the teaching of Confucius was not only a theory of nature, society and the individual; it contained also an appropriate theory of education

Conclusion

Many other examples of mythical and religious theories could be given, but we have seen enough for our purposes. Though we have been able to describe them only briefly, it is clear that all these 'theories' possessed certain definite characteristics:

1. They were appropriate to the conditions and problems experienced in the societies in which they exist
2. They were *pragmatically based*. They were shaped to deal with concrete problems.
3. They were *empirically based* in the sense that they rested upon the facts—both evident and underlying—of the world and society as far as they were known.
4. They included a justification, almost a sanctification, of the order of society as it existed.
5. They included an analysis of the nature of social institutions and their functions.
6. In their proposals for conduct they offered an analysis of the psychology of the individual in relation to the institutions of society. They saw the one and the other as being interdependent and presented a rudimentary analysis of:
 - a. the institutional framework of society;
 - b. the psychology of the individual, and
 - c. 'Social' psychology.

But two points must be made before leaving these kinds of theories. The first is that though we may readily concede that some of these myths contain valuable insights into human nature, and have continuing interest and value

in modern society, they cannot be retained. They are no longer adequate. Their basic assumptions concerning nature, and the origins of man and society are almost entirely without foundation. But again, to put the matter only minimally, they are couched in terms which no longer have significant meaning for us. The analysis of society and of human nature which they offer are of little value in relation to our own 'complexities'. Their propositions do not approach the most elementary requirements of scientific exactitude. They cannot be accepted. We may like them—as we like fairy stories, or allegories, or any symbolic presentation of stories and ideas which illuminates some aspects of our nature—but we must reject them in the same way. They cannot help us in our own task of dealing with our situation within the context of the standards of knowledge that we require. And when I say *we*—I mean mankind throughout the world *in* the modern world; all who have confronted and experienced the new conditions of scientific, technological and industrial change during the past three human life-times or so.

No doubt this will be fairly generally agreed, since I have purposely selected religions which people commonly attribute to the 'pre-historic' or the 'ancient' world.

But the second point of the very greatest importance is this. The world is still, in the second half of the twentieth century, influenced very considerably by inadequate 'theories' of this kind; indeed some parts of the world are dominated by them. All the religions of the world—Hinduism, Islam, Buddhism, Christianity—offer a set of myths of this kind. In a world in which the requirements of scientific knowledge form the basis of their every practical and social activity, the minds of millions of men and women are still in great part immersed in 'theories' of this kind.

Clearly, then, in describing these kinds of 'early social theories' we are not dealing, by any means, with something remote from, and irrelevant to, our own time. These 'early theories' are still with us. They remain very powerful. We have still not struggled out of the trappings of these intellectual infancies. But in struggling to replace these 'outworn dreams of a time outworn' with more accurate and satisfactory theories of man and society, sociology must inevitably lead to some new ideological position for mankind—even if this is only the recognition, from now onwards, of

the *impossibility* of a unified, collective ideology. Some ideological position must follow in its train. In these struggles between *old* and *new* theories, and in our confused considerations of the nature, the place, the worth, and the importance to be attached to each, lie many of our present-day dilemmas. And, indeed, we cannot assume that, having found certain 'theories' insufficient, we can succeed in putting something better in their place.

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SMALL RUMINANT FARMERS' UTILIZATION OF INDIGENOUS TECHNIQUES IN CONTROLLING ECTOPARASITES IN ODEDA LOCAL GOVERNMENT AREA OF OGUN STATE, NIGERIA

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Abstract. *High levels of ectoparasites infestation in livestock farms in Nigeria have resulted into huge losses. Indigenous techniques have been found to be effective in controlling ectoparasites infestation of small ruminants. Knowledge and use of indigenous techniques of controlling ectoparasites among small ruminant farmers in Odeda Local Government Area of Ogun State, Nigeria was therefore investigated. Using simple random sampling, 110 respondents were selected from ten communities that are noted for small ruminants production in the area. Data were collected using a structured questionnaire and analysed using descriptive and inferential statistics at the .05 level of significance. It was found that most (59.6%) of the respondents had low knowledge and use of indigenous techniques in controlling ectoparasites of small ruminants. For enhancement of effective use of indigenous techniques in controlling ectoparasites of small ruminants, enabling environment should be provided by the government and NGOs and they should employ more extension agents who will disseminate useful and timely information to small ruminant farmers on the same.*

Introduction

Small ruminant represents the most important part of the Nigerian livestock system. These flocks' animals are commonly found in the rural area where they are owned and managed under extensive system (Otchere, 1986, cited by Abdullahi *et al.* 2013). Ruminants are group of animals that have four stomach compartments and entirely feed on plant based food for their daily intake. They comprise of buffalo, camel, cattle, sheep, goat, deer etc. however, sheep and goat formed the larger number of small ruminants found in the tropics especially in Africa. Small ruminants are exploited in Nigeria for diverse purposes including meat, milk, skin production, breeding and as means of cash income when sold to meet some other family needs as well as play a vital social roles during ceremonies and festivals. Njorfor and Howell (2016) corroborated this assertion that small ruminants play an important role in the lives of most people especially rural farmers in Anambra state, Nigeria who livelihood entirely depend on them. According to FAO (2015) in Nigeria, sheep and goat population is about 53million.

Small ruminant production severely hindered by diseases in developing countries including Nigeria. Most of these diseases are

caused by effect of ectoparasites infestation. Ectoparasites of small ruminants cause blood loss at vary heavy infestation, result with severe anaemia. Moreover, they are the most important vectors of protozoan, bacteria, viral and rickettsia diseases. All these contributed enormously towards the extreme reduction of small ruminants' productivity. Ectoparasites infestation of small ruminants also increases cost of production, reduces the quality and quantity of animal products and generally causes loss to farmers.

Though proven scientific methods of preventing and managing diseases and controlling ectoparasites of small ruminants in form of modern veterinary services abound, they are not readily available and affordable to rural farmers (Asiru, 2016). These farmers have their own local methods of controlling ectoparasites and this is what is referred to as indigenous techniques. Such knowledge and techniques are not well documented but are passed on orally from generation to generation. This study seeks to assess knowledge and utilization of these techniques in controlling ectoparasites of small ruminants in Odeda Local Government Area of Ogun State, Nigeria.

It was hypothesised that there is no significant relationship between respondents' knowledge of indigenous techniques and their

utilization of the same in controlling ectoparasites of small ruminants.

Methodology

The study was carried out in Odeda Local Government Area of Ogun State, Nigeria. Odeda Local Government is one of rural local governments in Ogun State and its choice as study area was justified as a result of predominant small ruminant farmers among other six local governments that makes up of Ogun Central Senatorial District of the state. Odeda local government is bounded to the south by Obafemi Owode LGA, to the west by Abeokuta South, while it is bounded to the North and East by Oyo state. The headquarter of the local government is Odeda located on 7°13'00"N 3100"E. It has an area of 1,560km² and a population of 1019,449 at the 2006 census (NPC, 2006). Odeda local government is divided into three zones. These are Opeji, Odeda and Orile Ilugun. Two of the zones representing (75%) was selected through simple random technique and this resulted to Odeda and Orile Ilugun zone. Communities that are predominantly noted for small ruminant production were purposively selected: Olodo, Odeda, Ijemo Fadipe and Olugbo (Odeda zone) while Kila, Orile Ilugun, Alaparun, Elewe-Nla and Apalaki (Ilugun zone).

List of registered small ruminant farmers in selected communities was collected from the local government headquarter (Odeda) at Agricultural Department. The list serves as sampling frame of the respondents and simple random technique was used to select 25% of registered small ruminant farmers from each of the selected communities. This gives a sample size of 110 respondents that was used for the study.

Data were collected with the aid of structured questionnaire which were administered on the respondents. The information collected on socio-economic characteristics of respondents include age, sex, marital status, level of education, farm size, religion and household size. Other information collected includes knowledge of indigenous technique and its utilization in controlling ectoparasites of small ruminants. Descriptive and inferential statistics such as frequency count, percentage, mean and Pearson Product Moment Correlation were

used to analyse collected data at 0.05 significant level.

Results and Discussion

The result of the analysis in Table 1 shows the distribution of small ruminant farmers with respect to their socio-economic characteristics. Most respondents were within the age range of 41-50 years with mean age of 46.89. This implies that respondents were in their productive age and have vigour to engage in small ruminant livestock production. Age is an important factor when considering livestock production. It has been argued that age in some instance could be an entry criterion for some livelihood activities (Ewebiyi, 2014). This result is in agreement with that of Abdullahi *et al.* (2013) who also reported age as an important factor influencing effective use of indigenous treatment of ectoparasites of small ruminants in Katsina state, Nigeria.

Sex plays a key role in livestock farming, in terms of property acquisition like fixed asset such as land. Most of the respondents (98.2%) were males while infinitesimal number of the respondents (1.8%) were females. This implies that males involves in small ruminant livestock production than females in the study area. This result is in tandem with the summation of Njofo and Howell (2016) who also reported in their studies that males involved in small ruminant production than females in Anambra, state, Nigeria. The result is also in consonant with the study of Lado *et al.* (2015) that males engages in small ruminants production than females in Juba County Central Equatorial State, South Sudan. According to Ekong (2003) marriage in our society is highly cherished. This fact was further established by the reports of Fakoya (2000) and Ladoja *et al.* (2008) who asserted that marriage confers some level of responsibility and commitment to individuals who are married. In this study, most respondents (67.9%) were married while (32.1%) were single. Hence, respondents are more likely to be engaged in small ruminant farming as complimentary activity to meet up with their economic needs. This result also agreed with that of Abdulahi (2013) who carried out similar study in Katsina state, Nigeria and reported same marital status of the respondents.

The study also revealed that majority of the respondents (86.2%) were Christians while

(13.8%) were Muslims. This implies that the two foreign religions in Nigeria were fully established in the study area and does not pose any restriction on small ruminant livestock production.

Concerning the educational level of small ruminant farmers, it was observed that most (56.0%) had primary education (11.0%) secondary education and (31.2%) had no formal education. Education is very important and can influence the way farmers treat and handle their animals. it is believed that the respondents who had formal education may have been exposed to some theories and practices of animal health to some extent in the subject of Agricultural Science which forms part of the primary and secondary school curriculum (Adeneye, *et al.*, 2013) in Nigeria.

The result of the study further revealed that most respondents (51.4%) had flock size of 6-

10 (19.3%) between range of 16-20 and (9.2%) range of 21-25. The low number of flock size reported in this study may be attributed to poor socio-economic status of the respondents as well as unfavourable government policy on livestock production in Ogun state, Nigeria (Owolade, 2014). Majority of respondents (53.2%) had household size of 4-6 person. This connotes a fairly large household size. This is expected to impact positively on respondents and predispose them favourably to engage in small ruminant livestock production as a means of meeting and sustaining family needs. Njorfor and Howell (2016), Abdullahi *et al.* (2013) in Nigeria and Asnake *et al.* (2013) in Ethiopia corroborated this assertion that household size significantly related to strength of small ruminant farmers' livestock production.

Table 1: Distribution of Respondents by Socio-economic Characteristics

Variables	Frequency	Percentage	Mean \pm SD
<i>Age</i>			
Less or equal 40	20	18.3	46.89 \pm 7.50
41-50	67	61.5	
51-60	18	16.5	
61-70	1	0.9	
> 70	3	2.8	
<i>Sex</i>	107	98.2	
Male	2	1.8	
Female			
<i>Marital Status</i>	35	32.1	
Single	74	67.9	
Married			
<i>Level of Education</i>	34	32.1	
No formal education	61	56.0	
Primary education	12	11.0	
Secondary education	2	1.8	
Tertiary education			
<i>Number of Animal on Farm</i>	10	9.2	11.46 \pm 6.34
Less or equal 5	56	51.4	
6 – 10	10	9.2	
11 – 15	21	19.3	
16 – 20	10	9.2	
21 – 25	2	1.8	
Above 25			
<i>Religion</i>			
Christianity	94	86.2	
Islam	15	13.8	
<i>Household Size</i>			
1-3	13	11.9	
4-6	58	53.2	
7-9	37	33.9	

Knowledge of Indigenous Techniques in controlling Ectoparasites of small ruminants

Table 2a revealed that less than half of the respondents (40%) had knowledge of dusting with ashes in controlling ectoparasites. Similarly, 41.3% and 33.9% respectively had knowledge of squeezing medicinal plant leaves in water to bath animals and use of palm oil and salt as indigenous techniques of treating ectoparasites of small ruminants. Result in Table 2b also revealed that majority of respondents (59.6%) had low knowledge of

indigenous techniques that has been established by Lado *et al.* (2015) being effective in controlling ectoparasites of small ruminants. It could be deduced from this result that respondents had shallow knowledge of indigenous techniques as they are only aware of dusting with ashes, squeezing of medicinal plant leaves for bathing and use of palm oil and salt as indigenous techniques of controlling ectoparasites of small ruminants. This may be attributed to inadequate livestock extension services in the study area as documented by previous studies of Ewebiyi *et al.* (2012).

Table 2a: Knowledge of Indigenous Techniques in Controlling Ectoparasites of Small Ruminants

Knowledge Items	Frequency	Percentage
Use of palm oil and salt	37	33.9
Handpicking	13	11.9
Squeezing of plant leaves in water to bath the animals	45	41.3
Dusting with ashes	44	40.0
Drenching	0	0.0
Pounding of pesticidal plants mix with water, cassava flour and maize to form paste and rub the affected part of the animal	0	0.0

Table 2b: Respondents' Level of Knowledge of Indigenous Techniques

Level	F	%	Mean	SD	Minimum	Maximum
Low	65	59.6	13.21	1.59	11.00	15.00
High	44	40.4				

Utilization of Indigenous Techniques in Controlling Ectoparasites of Small Ruminants

Result in Table 3a revealed that majority of the respondents (61.5%) with mean value of 0.61 and (60.6%) with mean value of 0.39 acclaimed to use dusting with ashes, and bathing animals with mixtures of squeezed pesticidal plant leaves and water. The result further shows that (33.9%) with mean value of 0.34 used mixture of palm oil and salt as indigenous techniques of controlling ectoparasites of small ruminants. This result is concomitant with the results of Njofo and Howell (2016) and Adang *et al.* (2015) in Anambra and Gombe states, Nigeria where both reported dusting with ashes and use of palm oil and salt as commonly used indigenous techniques of treating ectoparasites of small ruminants. Result in Table 3b further revealed that the use indigenous techniques in controlling ectoparasites of small ruminants was low among majority (59.6%) of the total respondents in the study area.

Table 3a: Utilization of Indigenous Techniques in Controlling Ectoparasites of Small Ruminants

Use	A	O	N	Mean
Use of mixture of palm oil	0.0	33.9	66.1	1.34
Handpicking	0.0	11.9	88.1	0.12
Dusting with ashes	0.0	61.5	38.5	0.61
Drenching	0.0	99.1	0.9	0.01
Bathing animals with mixtures of squeezed pesticidal leaves and water	0.0	39.4	60.6	0.39
Rubbing with paste from mixture of water, cassava and maize flour	0.0	0.9	99.1	0.01

Key: A=Always; O = Occasionally; N=None

Table 3b: Utilization of indigenous techniques in controlling ectoparasites of small ruminants

Level	F	%	Mean	SD	Min	Max
Low	65	59.6	13.21	1.59	11.00	15.00
High	44	40.4				

Knowledge and Utilization of Indigenous Techniques in Controlling Ectoparasite of Small Ruminants

Result of analysis in Table 4 tested with the aid of PPMC revealed that knowledge ($r=0.956$, $p=0.000$) was significantly related to use of indigenous technique among small ruminant farmers. This implies that use of indigenous techniques in controlling ectoparasites is a determinant of knowledge of indigenous techniques of small ruminant farmers in the study area.

Table 4: Relationship between Knowledge and Utilisation of Indigenous Techniques in Controlling Ectoparasite of Small Ruminants

Variable	r	p	Decision
Knowledge of indigenous technique	0.956	0.000	Significant

Conclusion and Recommendations

The study investigated small ruminant farmers' utilization of indigenous techniques in controlling ectoparasites in Odeda Local Government Area of Ogun State, Nigeria.

Respondents were predominantly males with low level of education. They were in their productive years. Knowledge of indigenous techniques is a determinant of use of indigenous techniques in controlling ectoparasites. The study concluded that respondents' level of utilization of indigenous techniques in controlling ectoparasites of small ruminants in the study area was low.

Based on these findings, the following recommendations were made:

1. Adequate extension agents must be employed by the government and non-governmental organizations (NGOs) so as to bridge gap of lack of extension personnel who are saddled with responsibility of disseminating information on indigenous techniques of controlling ectoparasites of small ruminants.
2. Enabling environment and functional policy on agriculture must be enforced by the government towards improving use of indigenous techniques in controlling ectoparasites of small ruminants.
3. Workshop and seminars should be periodically organized for small ruminant farmers by the extension officers on the

use and effectiveness of indigenous techniques.

4. Researchers of past studies on the effectiveness of indigenous techniques in controlling ectoparasites of small ruminants should make their empirical results available and accessible for farmers' consultation and guidance towards increasing their utilization.

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PARENTAL INVOLVEMENT AND PEER INFLUENCE AS CORRELATES OF STUDENTS' ACHIEVEMENT IN JUNIOR SECONDARY SCHOOL BUSINESS STUDIES

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Abstract. *This study investigated parental involvement and peer influence as correlate of students' achievement in junior secondary school Business Studies using descriptive survey research design. A total of 640 Business Studies students selected through purposive sampling technique participated in the study. Three validated instruments, namely; Parental Involvement Questionnaire (PAIQ), Peer Influence Questionnaire (PIQ) and Business Studies Achievement Test (BSAT) were used for data collection. The Pearson Product Moment Correlation was the major statistics used for analysis. Findings from the study indicated that positive and significant relationship exist between parental involvement, peer influence and students achievement in Business Studies. It is recommended among others that parents/guardian should create time and be more involved in the education of their children.*

Introduction

Business Studies is one of the vocational subjects offered at the junior secondary school level of Education in Nigeria. It is an integrated subject comprising concepts in Commerce, Shorthand, Typewriting, Office-practice and Book-keeping. Business studies can be regarded as the study of methods and techniques of setting up and running a business venture profitably. According to Adeola (2010), Business studies provides students with the knowledge, skills and competencies needed for productive work and economic activities. It offers students opportunities for future training in Accountancy, Business Administration, Office Technology and Management.

Yakassai (2016) noted that as important as Business Studies is to our national life, it is regrettable to note that performance of students in the subject at public examination is not encouraging. Adeola (2010) found that performance of students was generally poor in all the nine states in Nigeria, where he carried out an evaluation of Business Studies programme in Nigeria schools. The poor achievement as indicated by empirical studies has attracted the concern of all stakeholders including the researchers. Subsequently, many factors have been identified and regarded as being responsible for the underachievement of students. These factors include school and teacher related factors, home and family

background, parental involvement and host of others, (Gianzero 2001; Olatoye, 2009).

This suggests that, if the afore listed factors and others can be taken into consideration, students will excel more in their academics generally and in Business Studies in particular. It is therefore worthy of mention that research overwhelmingly demonstrates that parent involvement in children's learning is positively related to achievement (Olatoye and Ogunkola 2008). Research has also shown that the more intensively parents are involved in the children's learning, the higher the achievement effects and that this position holds true for all types of parental involvement in children's learning and for all types and ages of students.

The term "parental involvement" includes several different forms of participation in education and with schools. Parents can support their children's schooling by attending school functions and responding to school obligations like parent-teacher conferences/meeting. They can become more involved in helping their children improve their school work by providing encouragement, arranging for appropriate study time and space, modelling desired behaviour (such as reading for pleasure), monitoring homework and actively tutoring their children at home. Outside the home, parents can serve as advocates for the school. They can volunteer to help out with school activities or work in the classroom or they can take an active role in governance and decision

making necessary for planning, developing and providing an education for community's children (Olatoye, 2002).

Epstein (1995) and Gianzero (2001) reported that family practices of involvement are as or more important than family background variables in determining whether and how students' progress and succeed in school. No one is more than parents in sending the signals that reading and education matter and that school work is not a form of drudgery but a ticket to a better life. By encouraging their children and assisting on homework, parents can set example for their child, which is powerful and positive (Agbatogun, 2009). Herderson and Berla (1997) and Gianzero (2001) asserted that when schools work together with families to support learning, children tend to succeed not just in school but throughout life. Review by Herderson and Brela (1997), of sixty-six studies on the subject of parental involvement, concluded that the most accurate predictors of students' achievement in school is not income or social status but the extent to which families are able to create a home environment that supports learning, communicate high and reasonable expectations for their children's achievement and become involved in their children's schools.

Programme designed to foster linkages between families and schools have been shown to help compensate for limited family resources and effectively alter the traditional relationship between socio-economic status (SES) and school performance. This was corroborated by Flouri and Buchanan (2014) that parental involvement is a more powerful force than any other family background variables such as social class, family size and level of parental education. Research shows that parental involvement in children's learning positively affects the academic performance (Fan and Chen, 2010).

Fennstein and Symmons (2014), agreed with this and concluded that it works in both primary and secondary schools.

Peer is a person who has equal standing with another or others. Siegle (2016) defines peer group as a group of people who share common similarities such as age, background and social status. Influence is the power to affect the way someone or something develops, behaves or think without using direct force or order. Peer influence is used in this research as people of equal standing: age group, classmate or people

of the same character or member of the same group. Peers are likely to influence one another's belief and behaviours. Vygotsky (2005), in his theory on socio-cultural influence which focuses on the importance of child's culture in the society notes that a child is continually acting in accordance with the level of his or her social interaction with others. Despite this background, researchers still contend the effect of peer on academic achievement.

Salleh (2011) asserted that students were not negatively influenced by their peers in decision making but that peer gives positive influence on their achievement in academics and make them differentiate between wrong and right. Adeyemo and Torubelu (2016), said self-efficacy, self-concept and positive peer relations were effective in predicting students' academic performance. In a study of peer influence, pupils' interest in schooling and academic achievement, Adika and Toyobo (2007), reported that both peer influence and pupils' interest correlate significantly with academic achievement. Based on the foregoing, this study therefore, investigated parent involvement and peer relation as correlate of student achievement in junior secondary school Business Studies.

The following research questions are answered in this study:

1. What type of relationship exist between parental involvement and students' achievement in Business Studies?
2. Is there a significant relationship between peer relation and students' achievement in Business Studies?

Methods

The descriptive survey research design was employed to carry out this study. The aim of the researchers was to record, analyse and interpret the existing condition of variable. The research is non-experimental and therefore variables were not manipulated. This design also accommodates generalization of findings of the study upon the target population from which only a representative or sample was actually studied. The target population of the study comprised all Business Studies students in JSS3 in Ogun State. 640 students were purposively selected from 3 senatorial district of Ogun State to participate in the study. Three instrument were used to collect data for this study and they are:

1. Parental Involvement Questionnaire (PAIQ)
2. Peer Influence Questionnaire (PIQ)
3. Business Studies Achievement Test (BSAT)

PAIQ and PIQ were designed by the researcher, each of these questionnaire has 12 items with a four-point Likert-type scale of strongly agree, agree, disagree and strongly disagree. The respondents were asked to indicate their feelings to each statement/ item by ticking any of the four possible responses on the scale. The items on the instruments covered different aspects of the variables being discovered.

BSAT is a 30-item achievement test that covers selected concept in Business Studies. Examples of PAIQ are:

1. My parents/guardian always check my take home assignment.
 2. My parents/guardian come to my school regularly to find out my academic progress
- Examples of items on BSAT are:
- a) is a trade involving two or more countries
 - (a) Home trade (b) international trade (c) self-trade (d) credit trade
 - b) The following are the factors of production except ----- (a) land (b) labour (c) capital (d) Advertisement

The content validity of the two questionnaire (PAIQ and PIQ) and the achievement test (BSAT) were ensured through expert suggestion and guidance. Experts in questionnaire construction helped in critiquing the items. All achievement items were selected from already standardized items produced by the West African Examination Council. The items selected were only on the topics covered in all schools selected for the study. The test retest reliability yielded 0.874, 0.8532 and 0.826 for PAIQ, PIQ and BSAT respectively. The data collected were analysed using Statistical Package for Social Science (SPSS) version 17.0. Research Question 1 and 2 were answered using Pearson Product Moment Correlation.

Findings

Research question 1: What type of relationship exist between parental involvement and student achievement in Business Studies?

Table 1: Parental Involvement and Students Achievement in Business Studies

Variables	No	X	SD	r	Sig
Parental Involvement	640	56.4	7.2	0.53	***
Student Achievement	640	51.3	5.9		

The Table 1 above revealed a significant outcomes. An r value of 0.53 is a positive relationship. Hence, positive relationship exist between parental involvement and student's achievement in Business Studies.

Research question II: Is there a significant relationship between peer influence and students achievement in Business Studies?

Table 2: Peer Influence and Students' Achievement in Business Studies

Variables	No	X	SD	r	Sig
Peer influence	640	52.6	5.98	0.64	
Student Achievement	640	51.3	5.9		

Table 2 above, an r-value of 0.64 is an indication of a positive relationship. This implies that positive relationship exist between peer influence and students achievement in Business Studies.

Discussion, Conclusion and Recommendation

In this study, two research questions were raised and answered. Finding from research question one showed that positive and significant relationship exist between parental involvement and students' achievement in Business Studies. This finding agree with the study of Cotton and Wikeland (2012) that parental involvement significantly influences Mathematics achievement of primary school pupils. This shows that if parent can be involved more with their ward's academic activities especially in Mathematics and Science, the ordeal of mass failure in Mathematics will become a thing of the past as the interest of the students may be awakened in the subject through motivation and encouragement by their own parents.

It was discovered in this study that parental involvement is an important predictor of pupils' achievement. This coincides with the

findings of Olatoye (2010) that parental involvement has significant influence on science achievement which invariably indicates that parental involvement is an important predictor of science achievement. Also, according to Olatoye, this findings corroborated many research studies such as Hixon (2006) and Esstein (1995) who found that parental involvement could help improve students' achievement in school.

Cotton and Wikeland (2012), found that the more active forms of parent involvement produce greater achievement benefits than the mere passive ones. The findings from research question two revealed that positive relationship exist between peer influence and students achievement. This support Salell (2011) who reported that peer influence has positive impact on students' academic achievement. This finding also support Olatoye (2010) who reported that peer influence account for 20% of the total variance of adolescent study habit.

This study obviously provides empirical evidence that parental involvement and peer influence are major determinant and correlate of student achievement in Business Studies. The following recommendation are hereby made;

1. Parents/guardian should get more involved in the education of their children.
2. Parents/guardian should create time to attend school forum of teachers and parents.

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ANTECEDENTS OF STATISTICS ANXIETY AMONG POSTGRADUATE STUDENTS AT KAMPALA INTERNATIONAL UNIVERSITY

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Abstract. *Statistics is important requirement for further studies at tertiary level, especially post graduate because of its role in research. Despite that, many students tend to exhibit fear towards the subject. The study set out to investigate the relationship academic procrastination, perfectionism and gender and statistics anxiety among the post graduate students in Uganda. A self-administered questionnaire (SAQ) was applied to collect data from a sample of 136 post graduate students, selected randomly. The study found out that there exists a positive but insignificant relationship between academic procrastination and statistics anxiety among post graduate students in Kampala International University. It also found out that there is a significant negative relationship between statistics anxiety and perfectionism while the differences between gender (male and female) and statistics anxiety existed but insignificant with levels of statistics anxiety among female being slightly higher than that of males among post graduate students in Kampala International University.*

Introduction

In Uganda, academic achievement is rather taken seriously as it is used to evaluate both the learner, teacher and the education system. University education is not different and when it comes to postgraduate is even serious. There have been times when post graduate degrees have been revoked due to failure to do research well whose connection to statistics cannot be underestimated. Several studies have been carried out regarding statistics anxiety among students. For example Lui, Onwuegbuzie and Meng (2011), Onwuegbuzie and Wilson (2003), Onwuegbuzie (2003), Onwuegbuzie (2004), Williams (2010), Vahedi, Farrokhi, Gahramani and Issazadegan (2012) among others. Onwuegbuzie et al (2003) observed that many students experience high statistics anxiety levels and offering statistics creates negative experiences to these students. They explain the reason is mainly because some have no experience of statistics since some academic background have nothing much to do with statistics. In fact Vahedi et al (2012) reported that almost 66-80% of graduate students experience statistics anxiety. This finding rhymes with Onwuegbuzie (2004) who reported that 80% of graduate students experience uncomfortable statistics anxiety levels. Students who experience higher levels of statistics anxiety tend to perform poorly in statistics and statistics related courses like

research and continually postponed assignments that involve statistics (Macher, Paechter, Papousek & Ruggeri, 2012, Onwuegbuzie, 2004). Statistics anxiety is a pervasive problem in many fields of study (Macher et al, 2012). Onwuegbuzie et al (2003) highlights different fields like education, psychology, sociology as some of the courses where it is prevalent. It is therefore no doubt that most students from such fields struggle with statistics related courses such as research methodology and statistical methods. This is because, statistics is all pervaded. Its applications have increased in recent years (Onwuegbuzie et al, 2003) as it has permeated into different fields. Statistics is a means to the end not an end in itself. It is used in research to come to conclusions.

In academics, statistics plays an important role as it assists students in undertaking empirical studies (Coetzee & Van der Merwe, 2010). It is worth noting that statistics anxiety will therefore cripple academic development as well as living life. It is applied in workplaces (Chew & Dillon, 2013), shopping malls, sports, accounts among others and therefore the importance of statistics cannot be underestimated (Chew & Dillon, 2014). The language of the universe is written in statistics. It is the water and salt of education, research and development. Kampala International University have post graduate courses in fields like psychology, business, sociology,

economics and education among others. Most of the students enrolled in these courses in most cases have limited and sometimes no statistical background yet they are supposed to do statistical methods in research. The researcher can anecdotally report that statistical methods in research is the most anxiety producing course as some students have even inquired whether they can do with it. For this reason, the researcher ought to investigate the antecedents of statistics anxiety among post graduate students in Kampala International University.

Statistics Anxiety

Statistics anxiety is defined “as the feeling of anxiety encountered when taking a statistics course or doing statistical analyses” (Cruise, Cash & Bolton, 1985: p. 92). According to Zeidner (1991) defined statistics anxiety as an emotional state an individual exhibits in terms of extensive worry, intrusive thoughts, mental disorganization, tension, and physiological arousal when exposed to statistics. This can be in terms of content, problems, and instructional situations. This emotional state interferes with manipulation of statistics data and statistical analysis. Macher, Paechter, Papousek, Ruggeri, Freudenthaler and Arendasy (2013) defined statics anxiety as a feeling of apprehension that occurs when a student is exposed to statistics content, problems, instructional situations and evaluative contexts. A more recent definition was stated by Chew et al (2014) that statistics anxiety is

a negative state of emotional arousal experienced by individuals as a result of encountering statistics in any form and at any level; this emotional state is preceded by negative attitudes towards statistics and is related to but distinct from mathematical anxiety (p. 199).

Statistics anxiety is therefore connected to negative emotional feelings that are exhibited when students are put in situations that require working with statistics in terms of manipulation, analysis, application, interpretation among others.

Statistics anxiety is multidimensional construct as reported by (Baloglu, 2003, Chew et al, 2013, Chew et al, 2014, Liu, et al 2011, Macher et al, 2012, Onwuegbuzie et al, 1999, Onwuegbuzie, 2004). It consists of six factors which are; worth of statistics, interpretation

anxiety, test and class anxiety, computation self-concept, fear for asking for help and fear of statistics teachers (Cruise et al, 1985). Worth of statistics is concerned with students' perception of relevance of statistics. They define interpretation anxiety as the feeling of uneasiness encountered by the student while interpreting statistical data. Test and class anxiety refers to anxiety involved when taking statistics test or in statistics class. Computational self-concept involves anxiety experienced when attempting to solve statistical problems as well as student's perception of his/her ability to carry out computations. Fear for asking for help involves the fear involved when seeking for help from fellow students of teachers. Lastly, fear of statistics teachers refers to students' perception of statistics instructor (Baloglu, 2003, Chew et al, 2013, Chew et al, 2014, Liu et al, 2011, Lavasani, Weisani, Ejci, 2011, Onwuegbuzie, 2004).

Earp (2007) conceptualized statistics anxiety also in six different constructs which are; anxiety, performance, history and self-concept, expectation, attitude and fearful behavior. Earp viewed anxiety as it relates to tests, math, the class, statistics content, numbers and interpretation of numerical data. He contended that students who score highly in this domain will feel anxious in statistics class situations. Performance domain was defined by “self-reported, perception of course performance, ability to perform statistical operations and ability to learn statistical concepts” (Earp, 2007: p. 28). In terms of history and self-concept, Earp defined it in terms of “developmental history of success or failure in situations involving mathematics, low math self-esteem, low self-concept, prior educational experiences, perceived quality of prior mathematics classes, motivation to learn, difficulty of material in previous mathematics classes and quality of instruction in previous mathematics and statistics classes (p. 28)”. Expectations domain was conceptualized by “social and cognitive expectations, unrealistically high expectations from parents and/or peers, and high expectation of punishment” (Earp, 2007: p. 28). Earp viewed attitude in terms of attitude as it pertains to math, worth of statistics, and psychological arousal with respect to the level of personal fulfilment gained in the practice of statistics. Fearful behavior, according to Earp was defined by extensive worry, intrusive thoughts,

mental disorganization, tension, and fear as it relates to instructors, asking for help, past behavior, current behavior and future behavior. The researcher will operationalize statistics anxiety in terms anxiety, attitude towards statistics class, fearful behavior, attitude towards mathematics and performance, as proposed by Earp (2007).

Antecedents of Statistics Anxiety

The antecedents of statistics anxiety are classified as situational, dispositional and environmental antecedents (Onwuegbuzie et al, 2003). According to Chew et al (2014), situational antecedents refers to factors that surround the student, whereas dispositional antecedents refers to personality of the student and environmental antecedents refers to events that occurred in the past of a student, they are prior to statistics course. Situational factors of statistics anxiety are prompt and results from the statistics courses and include “statistics teachers, nature of statistics courses, lack of feedback from statistics instructors, pace of statistics instruction, and statistical terminology (Vahedi et al, 2012; p. 41)”. Other situational factors include statistics prior knowledge, statistics course grade, the state of the course (elective or required), major (statistics or non-statistics) and attitudes towards calculators (Onwuegbuzie et al, 2003). Dispositional factors include psychological and emotional characteristics such as attitudes towards statistics (Coetzee et al, 2012), perceptions, self-concept and learning styles (Vahedi et al, 2012). Researchers have also identified other factors such as perfectionism (Onwuegbuzie et al, 2003), procrastination (Onwuegbuzie, 2004) and level of self-esteem contribute to statistics anxiety. Environment factors include gender, age, ethnicity, race, country of origin (Khavenson, Orel & Tryakshina, 2012, Onwuegbuzie, 2003, Vahedi et al, 2012). In this study, the researcher considered dispositional antecedents (perfectionism and procrastination) and environmental antecedent (gender). The researcher will investigate their relationship to statistics anxiety.

Academic procrastination occurs in the academic settings and is related to carrying out academic tasks such as studying for examinations, doing assignments, among others but one fails to do it within specified time (Jiao, DaRos-Voseles, Collins, & Onwuegbuzie, 2011). Solomon and Rothblum

(1984) conceptualized academic procrastination as a multidimensional variable, divided into two constructs, that is areas of academic procrastination (writing a term paper, studying for exams, keeping up with weekly reading assignments, academic administrative tasks, attendance tasks and school activities in general) and reasons for procrastination. In this study, the researcher adopted the constructs of areas of academic procrastination in measuring academic procrastination as well as reasons for procrastination. Perfectionism is defined as a personality type where an individual (student) tries to be faultless and sets exceedingly higher goals in regard to academic performance and overly critic his or her behavior (Stoeber, Schneider, Hussain & Matthews, 2014). Hewitt and Flett (1991) operationalized perfectionism into three components, that is; self-oriented, other-oriented and socially-prescribed perfectionism. In this study, the researcher measured all these components on statistics anxiety.

Statement of the Problem

Statistics have become inevitable in today's life both on personal level and government as a whole (Chew et al, 2014 & Coetzee et al, 2010). Chew et al (2014) contends that government policies are often based on statistics and these statistics are prepared by trained individuals through school. Also the importance of statistics to students cannot be underestimated as it is important requirement for further studies at tertiary level, especially post graduate (Chew et al, 2013, Chew et al, 2014, Coetzee et al, 2010). Despite such reputation, students still fear and avoid statistics. Coetzee et al (2010) opines that students view statistics as one of the biggest hurdles to their graduation. Students find it hard to grasp statistical concepts (Onwuegbuzie, 2003) which later affect their grades in statistics courses and other related courses like research methodology. The fear of statistics increases procrastination, lowers academic achievement and may lead to statistics course avoidance. Statistics anxiety is real and present in institutions of higher learning in the world and Uganda in particular. Its causes include attitudes towards statistics, procrastination, prior mathematics knowledge, nature of the subjects, teacher's personalities, learning strategies, among others (Baloglu, 2003, Chew et al, 2014, Macher et al, 2012, Onwuegbuzie,

2004, Onwuegbuzie & Delay, 1999). These causes have been grouped into three antecedents that is situational, dispositional and environmental antecedents. The researcher intended to investigate the relationship between dispositional antecedents (perfectionism and procrastination) and environmental antecedents (gender) and statistics anxiety with reference to post graduate students in Kampala International University, Uganda.

Objectives

The purpose of the study was to investigate the relationship academic procrastination, perfectionism and gender and statistics anxiety among the post graduate students in Uganda. The study was guided by the following specific objectives

1. To establish the relationship between academic procrastination and statistics anxiety
2. To establish the relationship between perfectionism and statistics anxiety
3. To investigate the differences between gender and statistics anxiety

Related Literature

Procrastination as a Correlate of Statistics Anxiety

Different studies have been carried out in regard to academic procrastination (e.g. Onwuegbuzie, 2004 & Vahedi, 2011). Vahedi (2011) carried out the study on procrastination and statistics anxiety, applying a canonical correlations analysis, among 248 undergraduate Iranian female college students. A questionnaire was used to collect data and the constructs of statistics anxiety developed by Earp (2007) were used. He reported that the academic procrastination was positively correlated to constructs of statistics anxiety. In the study carried out by Onwuegbuzie (2004), he reckoned that statistics anxiety is responsible for delays in enrollments of students in post graduate courses. In his study, a sample involved 135 post graduate students from a university in southeastern part of USA. He found out that there exist a positive significant canonical relationship between academic procrastination and statistics anxiety. In the study carried out by Rodarte-Luna and Sherry (2008) where a sample 323 students was used to investigate sex differences on measures

of statistics anxiety and learning strategies, among other findings, they report that procrastination was positively related to statistics anxiety. Based on the finding of the previous studies, the researcher hypothesizes that

H₁: There is a positive significant relationship between academic procrastination and statistics anxiety.

Perfectionism as a Correlate of Statistics Anxiety

Different studies on perfectionism and statistics anxiety had been carried out. For example Walsh and Ugumba-Agwunobi (2002) carried out the study on individual differences in statistics anxiety: the roles of perfectionism, procrastination and trait anxiety where 93 students were selected for the study. The results indicated a modest link between inter-personal perfectionism and components of statistics anxiety. In the study carried out by Onwuegbuzie and Delay (1999), on relationship between perfectionism and statistics anxiety among graduate level research methodology students. A sample of 107 students was selected. Using a canonical correlation analysis, they found out that students who hold unrealistic standards for significant others (other-oriented perfectionists) and those who maintain a perceived need to attain standards and expectations prescribed by significant others (socially-prescribed perfectionists) tend to have higher levels of statistics anxiety. A recent study carried out by Comerchero and Fortugno (2013) examined correlations between statistics anxiety and dimensions of perfectionism (adaptive and maladaptive) by use of data obtained from 96 psychology graduate students. They found out that maladaptive perfectionism correlated with higher levels of statistics anxiety. These study leads to a research hypothesis that

H₂: There is a positive significant relationship between perfectionism and statistics anxiety

Gender as a Correlate of Statistics Anxiety

Eduljee and LeBourdais (2015) investigated gender differences in statistics anxiety among undergraduate college students and found out that female exhibited greater anxiety on test and class anxiety than males. They also found out that males had no significant correlations between statistics anxiety and course grades and for females, there existed significant

correlations between worth of statistics, course grades, computational self-concept and course grades. Rodarte-Luna et al (2008) carried out a study on sex differences and how they relate to statistics anxiety and learning strategies where a sample of 323 was used. They found out that sex differences on statistics anxiety was statistically significant and that statistics anxiety varied between men and women. Men showed a higher positive relationship in terms of procrastination and asking for help, test anxiety and interpretation anxiety, while for women, procrastination was positively correlated to statistics anxiety. Based on these findings, the researcher hypothesizes that;

H₃: There is a significant difference between gender and statistics anxiety

We note that all these studies were done out outside Uganda. Studies like Onwuegbuzie (2004), Onwuegbuzie and Delay (1999), Rodarte-Luna et al (2008) and Ugumba-Agwunobi (2002) all have the time gap. They are older, yet with current trend in technological growth that exposes students to different sources of knowledge rather than the instructors, the findings may be different. They were also done in a single learning environment (institution) and therefore lack such comprehensive comparisons in the levels of statistics anxiety in universities. This study sought to bridge these gaps.

Methods

The research design was mainly quantitative approach since it aimed at examining relationships between variables which were measured on instruments and numerical data were analyzed using statistical procedures (Creswell, 2009). The study followed a post positivist's view that hold a deterministic philosophy in which causes (antecedents) probably determine the effects (statistics anxiety). Data were collected using a self-administered questionnaire (SAQ) which had three sections with first section comprising of four background variables (gender, age, nationality and course type), second section with 44 items on academic procrastination ($\alpha = 0.885$) adopted from Procrastination Assessment Scale for Students (PASS) developed by Solomon et al (1984) and 45 items on perfectionism ($\alpha = 0.897$) adopted the Perfectionism Multidimensional Scale (MPS) developed by Hewitt et al (1991) while

the third section contained 43 items on statistical anxiety ($\alpha = 0.846$) adopted from Statistics Anxiety measurement (SAM) developed by Earp (2007). According to Cronbach (1971), the questionnaire is reliable since the alpha coefficients were all above 0.5. The data were collected from 136 postgraduate students in Kampala International University. Table 1 shows that most of the respondents were male 95 (69.9%), Ugandan 83 (61%), offering a Masters course 96 (70.6%). Data were analyzed using summary statistics (means and standard deviations), t-test and linear regression analysis.

Table 1: Demographic Characteristics of Respondents

Description	Category	Count	%
Gender	Female	41	30.1
	Male	95	69.9
Nationality	Comorian	4	2.9
	Kenyan	11	8.1
	Nigerian	16	11.8
	Rwandese	4	2.9
	Somali	7	5.1
	South Sudan	11	8.1
	Ugandan	83	61.0
Level	Masters	96	70.6
	PhD	40	29.4

Findings

Academic Procrastination

Academic procrastination was a multi-dimensional variable made of 44 items with 18 items on academic areas of procrastination and 26 on reasons for procrastination all rated on a 5-point Likert scale. The descriptive statistics per subsection in each construct are shown in Table 2. According to the results in table 2, keeping up with statistics reading assignments had the highest mean, slightly over 3 followed by studying for exams suggesting that students generally procrastinate on these two aspects. Reasons for procrastination had the lowest mean (i.e. 2.597) followed by procrastination in school activities with mean (2.837). This indicates that students do not procrastinate on other school activities than those directly related to the study of statistics. The overall picture regarding academic procrastination suggests that students generally procrastinate with (mean = 2.891), slightly above average.

Table2: Descriptive Statistics on Constructs of Academic Procrastination

Constructs		Mean	Std. Deviation
Areas of Academic Procrastination	Writing Statistics Coursework	2.937	1.343
	Studying for Exams	3.01	1.261
	Keeping up with statistics reading assignment	3.097	1.294
	Academic administrative tasks: Filling out forms, registering for classes, getting ID cards	2.853	1.389
	Attendance Tasks: Meeting with your lecturer/advisor, facilitator, making an appointment with e.g. a lecturer	2.907	1.394
	School activities	2.837	1.354
Reasons for Procrastination		2.597	1.407
Overall Mean		2.891	

Perfectionism

Perfectionism was a multi-dimensional variable made of 45 items with 15 items on self-oriented, 15 items on other-oriented and 15 items on socially-prescribed perfectionism, all rated on a 7-point Likert scale ranging from strongly disagree to strongly agree. The summary descriptive statistics for each construct are shown in table 3 below. The results reveal that self-oriented perfectionism had the highest mean (i.e. mean = 3.775), followed by other oriented perfectionism with (mean = 3.634) and socially – oriented perfectionism had the lowest mean (i.e. 3.299). The overall mean was (mean = 3.569), almost 4 suggesting that learners have a high perfection rates. Students tries to be faultless and set higher achievement goals in statistics.

Table 3: Descriptive Statistics on Constructs of Perfectionism

Constructs	Mean	Std. Deviation
Self-Oriented Perfectionism	3.775	1.380
Other oriented Perfectionism	3.634	1.448
Socially prescribed Perfectionism	3.299	1.532
Overall Mean	3.569	

Statistics Anxiety

Statistics anxiety was also a multi-dimensional variable made of 43 items based on a 4-point Likert scale to measure the 5 subscales of statistics anxiety, which are anxiety (12 items), attitude towards the class (9items), fearful behavior (4 items), attitude towards mathematics (10 items), and performance (8

items). Table 4 below shows the mean responses of these constructs. Results reveal that performance was rated high with (mean = 2.938) implying that students expect to perform on average. Fearful behaviour was rated the lowest with (mean = 2.175) implying that learners rarely fear asking questions or avoid statistics classes.

Table 4: Descriptive Statistics of Constructs of Statistics Anxiety

Constructs	Mean	Std. Deviation
Anxiety	2.779	1.051
Attitude Towards the Statistics Class	2.492	1.036
Fearful Behavior	2.175	0.976
Attitude towards Mathematics	2.498	1.016
Performance	2.938	0.802
Overall Mean	2.576	0.976

Academic Procrastination and Statistics Anxiety

The first research hypothesis of the study was that there is a positive significant relationship between academic procrastination and statistics anxiety among post graduate students in Uganda. The test for normality by using skewness indicated that the skewness values are -0.033, -0.607 and -0.073 for statistics anxiety, academic procrastination and perfectionism respectively suggesting that data were highly normally distributed. Pearson's linear correlation coefficient was used to correlate statistics anxiety with academic procrastination, yielding $r = 0.185$, $p = 0.062$, leading to the acceptance of the null hypothesis that there is no significant relationship between academic procrastination and statistics anxiety among post graduate

students in Kampala International University. The correlations results are shown in table 5 below

Perfectionism and Statistics Anxiety

The second research hypothesis of the study was that there is a positive significant relationship between perfectionism and statistics anxiety. Pearson's linear correlation coefficient was used to correlate statistics anxiety with perfectionism, yielding $r = -0.333$, $p = 0.000$, leading to the rejection of the null hypothesis that there is no significant relationship between statistics anxiety with perfectionism, showing the relationship is negative and significant among post graduate students in Kampala International University. The correlations results are shown in Table 5 below.

Table 5: Correlation Analysis of Statistics Anxiety versus Academic Procrastination and Perfectionism

Variables	r-value	p-value	Interpretation
Statistics anxiety vs Academic procrastination	0.185	0.062	Insignificant
Statistics anxiety vs Perfectionism	-0.333	0.000	Significant

Gender and Statistics Anxiety

The third objective of the study was to investigate the differences between gender and statistics anxiety among the students from which the research hypothesis was that there is a significant difference between gender and statistics anxiety. A t-test was applied and the results are shown in Table 6.

Table 6. Descriptive and t-test results on gender and statistics anxiety

Gender	Count	Mean	St. Dev.	t-value	p-value
Female	27	2.6193	.28300	0.554	0.581
Male	91	2.5814	.39445		

Means in Table 6 suggests that females (mean = 2.6193) were better than males (mean = 2.5814) in statistics anxiety. However, the t-value ($t = 0.554$) with p-value (0.581) which exceeds the yardstick significance $\alpha = 0.05$.

Thus at five percent, we accept the null hypothesis that there exists insignificant difference between gender on statistics anxiety among post graduate students in Kampala International University.

Multivariate Analysis

The bivariate analysis showed that the three independent variables (academic procrastination, perfectionism and gender), perfectionism has a significant correlate to statistics anxiety while academic procrastination does not. It also showed that there is no significant difference between gender and statistics anxiety among post graduate students. Since gender is a categorical variable, multivariate analysis was done on only academic procrastination, perfectionism and statistics anxiety. Multivariate regression analysis takes into account simultaneous relationship between academic procrastination, perfectionism and statistics anxiety (Bakkabulindi & Sekabembe, 2010). The results from multiple regression analysis are in Table 7.

Table 7: Regression results on Statistics Anxiety on Academic Procrastination and Perfectionism

a. ANOVA

F Value	Sig. value	Adjusted-R square
12.167	0.000	0.187

b. Coefficients

Independent Variable	Beta	Sig.
Academic Procrastination	.245	.019
Perfectionism	-.413	.000

Table 7 suggests that the two variables are collectively good explanatory variables of statistics anxiety among the students ($F = 12.167$; $p = 0.000 < 0.01$) although accounting for less than 20% of the variations in statistics anxiety (Adjusted R square = 0.187). Table 5 suggests that of the two independent variables, only perfectionism was a significant correlate of statistics anxiety ($p = 0.000 < 0.01$).

Discussion, Conclusions and Recommendations

This study contended that there is a high level of statistics anxiety among post graduate students in Kampala International University.

The findings from the study presented objective by objective are stated below.

The study agreed with the findings of Onwuegbuzie (2004), Rodarte-Luna et al, (2008) and Vahedi (2011). The study found out that there exist a positive relationship between academic procrastination. However, the findings indicate that even though the positive relationship exist, it is not significant, a finding that earlier studies did not mention. This study also found out that academic procrastination does not significantly affect statistics anxiety among post graduate students in Kampala International University. This finding agreed with the null hypothesis leading to a conclusion that there academic procrastination does not significantly affect and statistics anxiety among post graduate students.

The finding of this study indicate that there is a significant negative relationship between perfectionism and statistics anxiety among post graduate students in Kampala International University. This finding is inconsistent with findings of by Comerchero et al (2013) and Onwuegbuzie et al (1999). The finding implies that students with higher levels of perfectionism tend to have lower levels of statistics anxiety. This lead to rejection of the null hypothesis leading to a conclusion that higher levels of perfectionism significantly affects statistics anxiety negatively.

The finding as per this objective revealed that there is no significant difference between gender and the levels of statistics anxiety among post graduate students in Kampala International University, though female have a slightly higher statistics anxiety than male counterparts. Such finding is inconsistent with the findings of Rodarte-Luna et al (2008) but agreed with the finding of Eduljee et al (2015) though they did not tell whether the differences were significant or not. This lead to a conclusion that there is insignificant difference between gender (female and male) to statistics anxiety among post graduate students.

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MECHANICAL PROPERTIES OF BUSH MANGO SEED (*Irvingia wombolu*) AS INFLUENCED BY MOISTURE CONTENT AND LOADING DIRECTION

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Abstract. This study was designed to investigate the influence of moisture and loading direction on some mechanical properties of seeds of *I. wombolu*. *Irvingia wombolu* seed sourced from Edo, Ondo and Imo states, Nigeria were used for the study. Based on moisture content at harvest and storage, their seeds were conditioned to moisture content of 10%, 20%, 30%, 40% and 50% (dry basis) using ASABE method. Deformation, rupture force, failure stress, stiffness and Young's moduli for seed were determined. All properties were evaluated using ASABE standards and data analysed using ANOVA at $p = 0.05$. Deformation and Young's modulus increased linearly from 1.4 to 3.9 mm and 5978.0 to 26098.0 Nmm⁻² respectively for seed and were significantly affected by moisture content. Mechanical properties of the seeds evaluated at the selected moisture content showed that more energy would be required in cracking of *Irvingia wombolu* in the longitudinal direction during kernel extraction than the same quantity at the same processing condition in the other two directions.

Introduction

Bush mango (*Irvingia species*) belongs to the group of important multipurpose indigenous food tree species widely cultivated in West and Central African countries (Ngondi *et al.*, 2005). It is better adapted to utisol soils in high rainfall areas than less acidic soils (Nzekwe *et al.*, 2005) but within those areas the two species of bush mango differs. Lowe *et al.* (2000) stated that *Irvingia gabonensis* prefer well drained sites, while *Irvingia wombolu* thrives in wetter conditions. Both species were found growing wild in the humid lowland forest of tropical Africa but it is widely planted in Central and Western Africa (Leakey *et al.*, 2000). The presence of *Irvingia gabonensis* is often associated with former human habitation. *Irvingia wombolu* however occurs in dry land forest with more than 1500 mm annual rainfall.

The fruits of *Irvingia wombolu* and *Irvingia gabonensis* are similar in appearance to that of cultivated mango (*Mangifera indica*) and their colour varies from green to yellow when mature. *Irvingia gabonensis* flowers in February to March and fruits during the rainy season (July – September) while *Irvingia wombolu*

flowers in October and fruits during the dry season, (January – March). The fruits of *Irvingia gabonensis* have a fleshy mesocarp with a sweet taste when eaten by animals and humans, hence it is locally called sweet bush mango. On the other hand, the fruits and mesocarp of *Irvingia wombolu* are fleshy, with a bitter taste, hardly eaten by animals and humans, and locally called bitter bush mango (Nkwatoh, 2010).

Bush mango (*Irvingia gabonensis*) is very valuable for its edible yellow mango-like fruit (Lowe *et al.*, 2000). The juicy fruit pulp of *Irvingia gabonensis* is rich in vitamin C and is widely reported to be consumed as a dessert fruit or snack throughout Western and Central Africa (Ladipo and Boland, 1994). *Irvingia gabonensis* pulp can be used for making jam, jelly and juice and the sugar concentrate of the juice is comparable with that of pineapple and orange (Lowe *et al.*, 2000). The fruit pulp of *Irvingia wombolu*, however, is bitter and tastes of turpentine, so it is not edible (Ejifor, 1994).

The kernels of Bush Mango seeds are classed as oilseeds. They are ground with a pestle and mortar or on a stone into a paste or cake called 'dika bread', which is used as a

soup, stew or sauce additive, for flavouring and thickening (Leakey *et al.*, 2005). Dika bread may be sun-dried so that it can be stored. *Irvingia* kernels form an important part of the West and Central African diet, providing carbohydrate and protein (Leakey *et al.*, 2005).

Flour can be produced from the kernel, but degrades within 6-9 months unless defatted. Defatted flour is still accepted in terms of its colour, taste and a texture after 9 months stored in ambient conditions and is more viscous, with greater emulsifying properties than undefatted flour (Leaky *et al.*, 2005). Due to its ability to form gels at a lower concentration than many other oil seeds flours, bush mango kernel flour can be very effective in many industrial food applications that required a thickening agent (Agbor, 1994).

Ejifor (1994) and Anegbah *et al.* (2003) recommends using flour produced by milling the seed testa in formulating feeds for livestock. Improvements in sliminess and possible storage time have enabled the flour to be considered for a range of processed products, particularly *Ogbono* cubes. These are produced by cubing and packaging the flour, thus giving them a longer shelf life, and are sold as a convenient cooking ingredient.

The cracking of the bush mango seed is still being done manually, therefore there is need to develop equipment that will remove drudgery involved in the cracking and oil extraction. In order to have a good design of machine for handling, drying, cracking and processing knowledge of the engineering properties of the agricultural crop is necessary. The engineering properties of bush mango seed are pre requisites in the designing of equipment for handling, storage, mechanical extraction of oil and other processes. It is therefore essential to determine the relevant characteristics of bush mango which appears to be lacking in literature. More so that emphasis is now being placed on production of non-timber forest products.

This work is aimed at studying some mechanical properties of bush mango (*and Irvingia wombolu*) seed at different moisture levels from three southern states of Nigeria.

Materials and Methods

For the experiment, the two species of bush mango seed and kernel were sourced from six states in the South-western and South-eastern parts of Nigeria where the fruit is grown. The

grains were already clean from chaff and other foreign materials. The edible fruits (*Irvingia gabonensis*) were obtained from Omi- Adio in Oyo state, Idowa in Ogun state and Ife in Osun state. The bitter fruits (*Irvingia wombolu*) were obtained from Owo in Ondo state, Auchu in Edo state and Mbano in Imo state. The fruits were removed to obtain the seed samples.

Moisture content determination

The initial moisture content of the seed after harvest was determined by using the standard hot air oven method at 105 ± 1 °C for 24h. (ASAE, 2002). Five samples each was placed in the oven. After this, the moisture content on dry basis was determined by dividing the mass of moisture evaporated from the sample by the final weight of the samples. The average was then recorded.

Also the moisture content of the dried seed was determined after 30 days of storage at atmospheric conditions. Data obtained was used as a guide in the selection of moisture levels.

Rewetting

Several methodologies have been used in literature for preparing rewetted materials. Grain particles are often rewetted by immersion in water during different periods of time depending on the initial moisture content and required moisture content.

However, for this study, samples were conditioned to moisture contents in the range of 10% - 50% for the seeds by adding calculated amount of distilled water (Eqn. 3.1), sealing in low density polythene bags and stored in a refrigerator at a temperature of 5 degrees for 72 hours (Coskun *et al.*, 2005). This was done to create a favourable environment for the absorption of water by the seed and also to prevent the action of microbes on the moist seeds.

Before starting a test, the required quantities of the samples were taken out of the refrigerator and allowed to warm up to the room temperature for about 2 hours.

$$Q = \frac{W_i(M_i - M_f)}{100 - M_f} \quad 1$$

Where:

Q: mass of distilled water, kg;

W_i: initial mass of sample, kg;

M_i: initial moisture content of sample, d.b. %;

M_f: desired moisture content of sample, d.b. %

Drying

To decrease the moisture content of seeds to a lower one after rewetting, sun drying was carried out for about 6 hours. Grains were spread out evenly on polythene bags and regularly stirred to ensure uniform drying. Samples were taken at regular time intervals and moisture content determination carried out. The seeds were allowed to cool down to room temperature for about 2 hours before beginning each experiment.

Determination of mechanical properties

Quasi – static compression tests were performed with an instron universal testing machine equipped with a 50 kN compression load cell and an integrator. A deformation rate of 20 mm/min was used as recommended by ASAE S368 (2002). Deformation was automatically obtained from the recorder chart. Individual bush mango seed was loaded between two parallel plates. The effect of loading position was determined by loading the seeds in three directions. Fifty seeds and kernel of each species at the different moisture levels were determined. Mean values were recorded as data obtained.

Results and Discussions

Rupture force of bush mango seed

Rupture in biological material happens in bio yield point where initial rupture starts taking place (Emadi *et al.*, 2009). The rupture force of the seed decreased with increase in moisture content from 10 to 40% but with further increments in moisture to 50%, it increased in

the three directions of loading of the seed as presented in Figure 1. The reason for this trend is that when the seed absorbed water, the shell became soft and weak and this was responsible for the initial reduction in rupture force.

However, further absorption of water by the seed made the kernel inside to swell up and fill the clearance between the kernel and the shell thereby become structurally turgid and this resulted in an increase in rupture force again. Similar results were obtained for African nutmeg (Burubai *et al.*, 2008); shea nut (Olaniyan and Oje, 2002).

The rupture force was significantly ($p < 0.05$) affected by moisture content of the seed in the three direction of loading (Table 1). The direction of loading and moisture content of the seed significantly affect the rupture force at the five levels of moisture for the seed (Table 2). The rupture force was highest in the longitudinal direction followed by axial and then transverse (Figure 1). This could be because the area of contact between the seed and the compression plates of the Instron testing machine was largest in the transverse loading direction. The same trend was observed for guna seed (Aviara *et al.*, 2005) and shea nut (Olaniyan and Oje, 2002). The rupture force of *Irvingia wombolu* was significantly higher than that of *Irvingia gabonensis* in all the direction of loading at the five levels of moisture content. The rupture force for the seed in the three direction of loading can be estimated from the quadratic equations in Tables 2

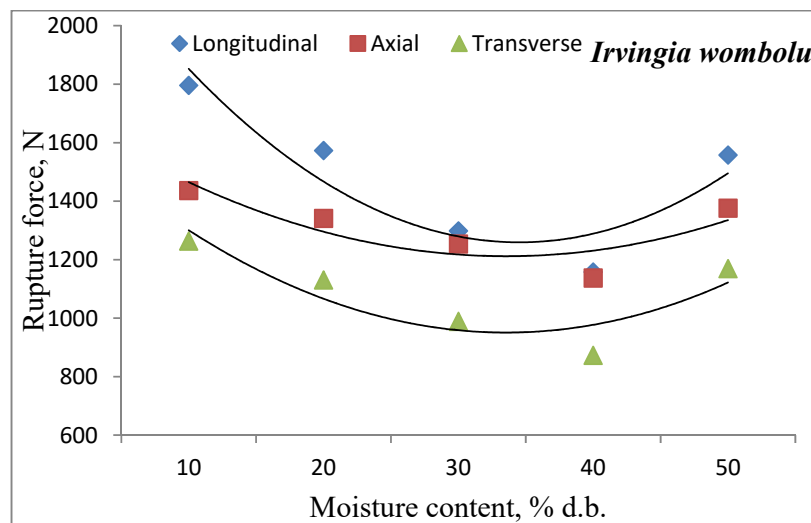


Figure 1: Variation in rupture force of bush mango seed with in three loading directions

Table 1: ANOVA for effect of moisture and loading directions on rupture force of seed

Source of Variation	SS	df	MS	F	P-value	F crit
Moisture content	1955896	4	488974.1	24.01251**	3.87E-15	2.436317
Loading	1893073	2	946536.7	47.64663**	1.32E-16	3.058928
Interaction (loading x m.c)	303023.8	4	75755.94	3.720218**	0.006562	2.436317
Error	2850863	138	20363.31			
Total	32141824	149				

** Significant ^{NS} Non Significant**Table 2: Regression equations for mechanical properties of *Irvingia wombolu* seed**

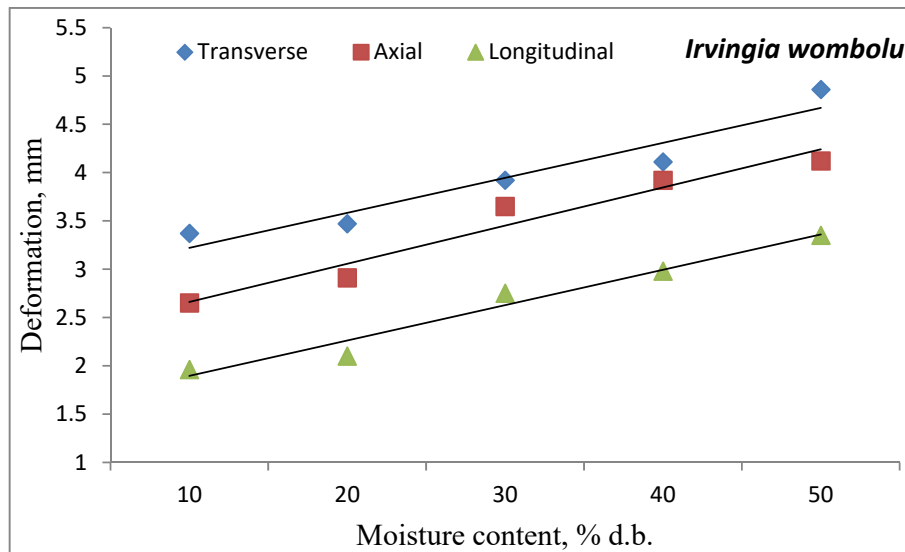
Properties	Loading direction	Equations	R ²
Rupture force	Longitudinal	$98.605M^2 - 680.86x + 2434.7$	0.8578
	Axial	$45.651M^2 - 306.35x + 1725.9$	0.7312
	Transverse	$63.119M^2 - 423.41x + 1661.0$	0.7955
Deformation (mm)	Longitudinal	$0.366M + 1.530$	0.9671
	Axial	$0.395M + 2.265$	0.9506
	Transverse	$0.362M + 2.860$	0.9220
Failure stress (Nmm ⁻²)	Longitudinal	$-11.055M^2 - 75.743M + 1695.1$	0.9967
	Axial	$2.7643M^2 - 72.216M + 1701.5$	0.9981
	Transverse	$-135.84M^2 - 539.88M + 2560.8$	0.8806
Modulus of stiffness (Nmm ⁻¹)	Longitudinal	$48.929M^2 - 419.95M + 1319.9$	0.9577
	Axial	$22.569M^2 - 194.31M + 729.39$	0.9595
	Transverse	$13.121M^2 - 116.69M + 488.03$	0.9590
Modulus of elasticity (Nmm ⁻²)	Longitudinal	$2830.4M + 14097$	0.9832
	Axial	$31972M + 10174$	0.9030
	Transverse	$2946.4M + 97668$	0.9014

M = moisture content, % d.b

Deformation of bush mango seed

Deformation of the seed increased progressively as moisture content was increased from 10 to 50% (d.b) for the bush mango seed in the three direction of loading as observed in Figure 2. This trend is attributed to the fact that at higher moistures, seeds

become softened and tend to flatten easily under load and thus subject to greater bruises. Some other researchers that obtained similar results included Burubai *et al.* (2008) for African nutmeg.

**Figure 2: Variation in deformation of bush mango seed in three loading directions**

The deformation of the seed was significantly affected by moisture content for the seed in the three directions of loading.

The loading directions of the seed significantly affect the deformation of seed at the five levels of moisture content for as presented in Table 2. The transverse direction of loading had the highest deformation followed by the axial and lastly the longitudinal

direction. The reason for this is that, when the seed were compressed in the transverse direction, they absorbed more energy before reaching the rupture point compared to the other two direction of loading and consequently experienced greatest deformation. The deformation of seed in the three directions can be estimated from the equations in Tables 2.

Table 3: ANOVA for effect of moisture and loading directions on deformation of seed

Source of Variation	SS	df	MS	F	P-value	F crit
Moisture content	59.04191	4	14.76048	89.59355**	1.29E-37	2.436317
Orientation	34.98232	2	17.49116	53.84766**	3.46E-18	3.058928
Interaction (orientation x m.c)	1.746556	4	0.436639	2.650323**	0.035795	2.436317
Within	46.77506	138	0.324827			
Total	125.4179	149				

** Significant ^{NS} Non Significant

Failure stress

The failure stress otherwise called the yield stress at which the seed coat fails under of the applied load. The results obtained reveals that the failure stress of the seed decreased with increase in moisture content for the seed in the three directions of loading as shown in Figure 3. Based on these results, it is clear to note that more stress is used to initiate seed coat rupture of bush mango in the longitudinal direction of loading. Similar results were reported by

Burubai *et al.* (2008) for African nutmeg and Mamman and Umar, (2005) for balanites aegyptiaca nuts.

The failure stress was significantly different at the five levels of moisture content for the seed in the three directions of loading. The failure stress of bush mangoseed was significantly affected by moisture in the three directions of loading. The change in the failure stress was parabolic in nature for the seed in the transverse direction of loading (Figure 3).

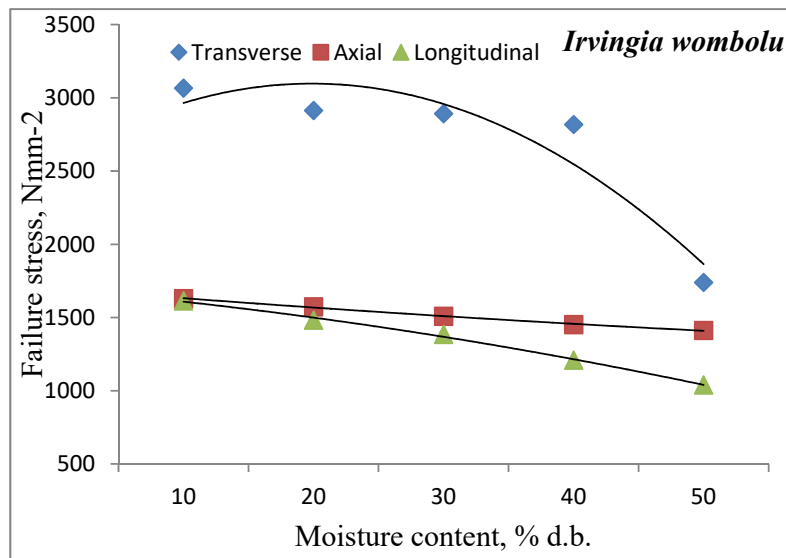


Figure 3: Variation in Failure stress of bush mango seed in three loading directions

The failure stress was significantly affected by the direction of loading of bush mango seed (Table 4). The failure stress was highest in the

longitudinal direction, followed by the axial and transverse direction respectively (Figure 3).

Table 4: ANOVA for effect of moisture and loading on failure stress of seed

Source of Variation	SS	df	MS	F	P-value	F crit
Moisture content	18801296	4	4700324	38.88937**	7.28E-22	2.436317
Orientation	25302592	2	12651296	194.777**	1.11E-41	3.058928
Interaction (Orient x m.c)	4074225	4	1018556	8.427294**	4.03E-06	2.436317
Error	16920957	138	120864			
Total	94566145	149				

** Significant ^{NS} Non Significant

Based on this result, it is clear to note that more stress is used to initiate seed coat rupture of the bush mango seed in the longitudinal direction. These results were consistent with the findings of Mamman and Umar (2005) for *balanites aegyptiaca* nuts. The failure stress decreased linearly in the longitudinal and axial directions while it decreased in parabolic form in the transverse direction for the two species. The estimate equations are given in Table 1.

Stiffness Modulus/ firmness

The modulus of stiffness of the seed decreased to a minimum value when the moisture content was increased from 10 to 40% (d.b) and later increased as moisture increased to 50% (d.b) as observed Figure 4. The reason for this trend is that as the seed absorbed moisture, it became structurally weak and firmness under this condition was reduced. With further increase in moisture, the kernel swelled up and filled up the shell and hence, firmness rose again. Olaniyan and Oje, (2002) made similar observation for Shea nut.

The modulus of stiffness was significantly different at all the levels of moisture content in the three directions of loading. Moisture content of the bush mango seed significantly ($p < 0.05$) affect the modulus of stiffness of the seed in the three direction of loading (Table 5). The change in the modulus of stiffness was significantly parabolic in the three direction of loading. The modulus of stiffness of the seed was not significant affected by the direction of loading of the seed (Table 5).

The modulus of stiffness was highest in the longitudinal loading direction as shown in Figure 4. The high value in this direction could be attributed to the fact that, when the seed was compressed in the longitudinal direction, the area in contact with the compression plate was smallest compared to the other loading direction.

Thus, the seed experienced just slight deformation before rupture and, hence, the ratio of force to deformation at rupture point (firmness) was highest in the longitudinal loading direction. Equation predicting the firmness can be found in Table 1.

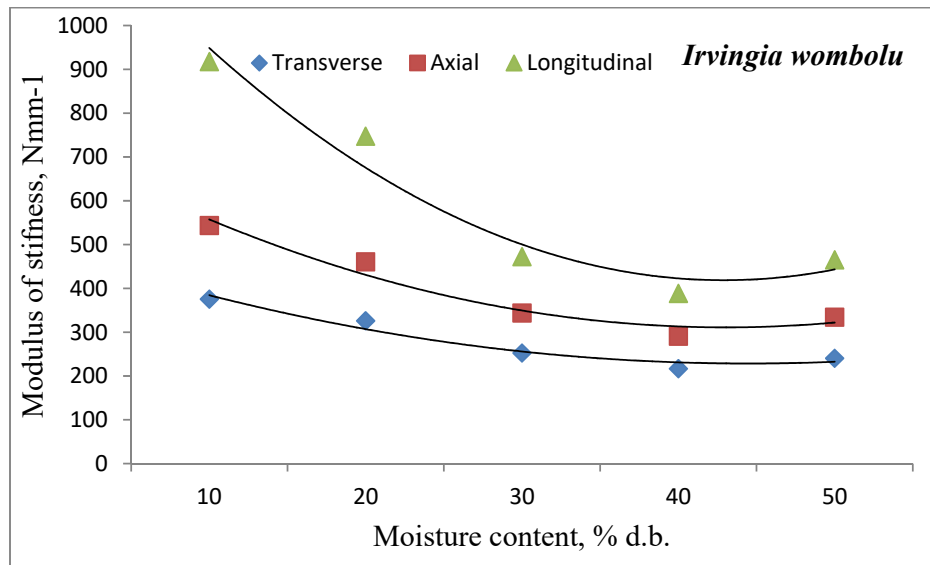
**Figure 4: Variation in stiffness of bush mango seed in three loading directions**

Table 5: ANOVA for effect of moisture, species and loading directions on stiffness

Source of Variation	SS	df	MS	F	P-value	F crit
Moisture content	431651.6	4	107912.9	13.11973**	4.22E-09	2.436317
Orientation	43935.75	2	21967.87	2.030205 ^{NS}	0.13505	3.058928
Interaction (Sp x m.c)	52607.02	4	13151.75	1.598951 ^{NS}	0.177947	2.436317
Error	1151534	140	8225.24			
Total	3015506	149				

** Significant ^{NS} Non Significant

Young modulus of bush mango seed

This is a measure of rigidity of the specimen or in other words a measure of how easily the seed coat of bush mango can be deformed. Young modulus of elasticity of seed increased with increase in moisture content for the bush mango seed in the three directions of loading

as presented in Figure 5. The increments were also linear for the seed in the three direction of loading (Figure 5). Similar linear relationship between Young's modulus and moisture content was reported for kiwifruit (Seyed and Maryam, 2007) and cashew nut (Bart-Plange *et al.*, 2012). However contrary was reported for African nutmeg (Burubai *et al.*, 2008).

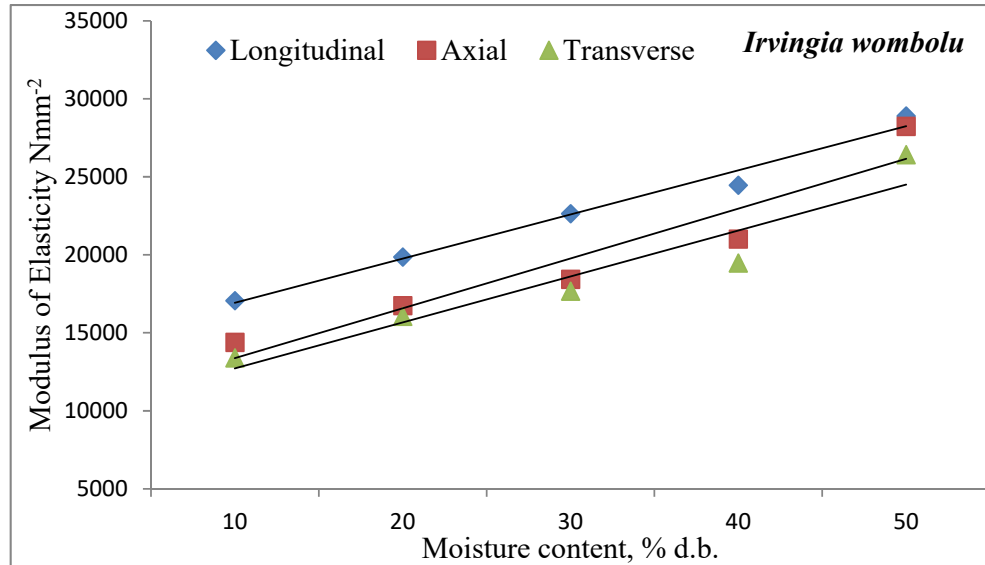


Figure 5: Variation in Young's modulus of bush mango seed in three loading directions

The Young modulus of the seed was significantly different at the five levels of moisture. The moisture content of the seed significantly affects the Young modulus of elasticity in the three direction of loading as observed in Table 6. On the other hand, Young modulus of elasticity of was not significantly affected in the three directions of

loading. The longitudinal direction of loading had the highest, followed by the axial and transverse respectively. The Young modulus of elasticity can be predicted from equations in Tables 1.

The parametric models for the mechanical properties determined for the bush mango seed are shown in Table 7.

Table 6: ANOVA for effect of moisture, species and loading direction on Young's modulus of seed

Source of Variation	SS	df	MS	F	P-value	F crit
Moisture content	9.51E+08	4	2.38E+08	12.61946**	8.53E-09	2.436317
Orientation	74718297	2	37359149	1.509896 ^{NS}	0.22441	3.058928
Interaction (Or x m.c)	2.63E+08	4	65841219	3.493716**	0.009418	2.436317
Error	2.64E+09	140	18845613			
Total	5.65E+09	149				

** Significant ^{NS} Non Significant

Table 7: Parametric equations for mechanical properties of bush mango seed

Direction	Equations	R ²
Transverse	MC = 0.0351 + 0.9644*10 ⁻⁶ RF + 0.0047DF - 0.1737*10 ⁻⁴ FS - 0.9675 0.3078*10 ⁻⁴ MOS + 0.9218*10 ⁻⁶ MOE	
Longitudinal	MC = 0.0697 - 0.801*10 ⁻⁵ RF + 0.0013DF - 0.1226*10 ⁻⁴ FS - 0.9675 0.4908*10 ⁻⁴ MOS + 0.8380*10 ⁻⁶ MOE	
Axial	MC = -0.0242 - 0.7200*10 ⁻⁵ RF + 0.0107DF - 0.1960*10 ⁻⁴ FS - 0.4908*10 ⁻⁴ MOS + 0.8380*10 ⁻⁶ MOE	0.9675

RF = Rupture Force, DF = Deformation, FS = Failure Stress, MOS = Modulus of Stiffness, MOE = Modulus of Elasticity

Conclusions

The rupture force, failure stress and stiffness decreased with increase in moisture content in the three directions of loading. The deformation and modulus of elasticity on the other hand increased with increase in moisture content. The rupture force, failure stress, modulus of stiffness and Young modulus of elasticity were highest in the longitudinal direction while deformation was highest in the transverse direction for the species. The mechanical properties of the bush mango seed were significantly affected by moisture content in the three loading direction. The rupture force, failure stress and deformation were significantly affected by direction of loading while stiffness and modulus of elasticity were not affected.

In order to reduce drudgery associated with the cracking of bush mango seed and also encourage large scale production of its kernel, knowledge of its mechanical properties in relation to moisture content and loading directions must be sort out. At higher moisture content, there was tendency of the kernel to swell up and fill clearance between it and the shell; therefore the whole seed behave like a structurally turgid material. Therefore failure parameters should be the basis for the choice of cracking principles for bush mango seed. As observed from earlier discussions, energy required to obtain this cracking can be greatly reduced if the seeds were cracked at lower moisture content. Also least energy was required in cracking the seed when they were cracked in the transverse loading direction. Therefore, these parameters should be taken into consideration when forming a cracking principle for bush mango seed.

There may be practical difficulties in any machine design which involves combining these factors and energy required for cracking. What is important is for the cracking to be obtained at minimum energy and with

minimum effort used to position the seeds during loading. A machine based on the results of this study can be seen as a means of mechanizing the existing manual (use of stone) method where cracking is by impact or instantaneous compression.

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EXAMINATION OF THE GOVERNANCE MODEL OF CARDINAL RUGAMBWA MEMORIAL UNIVERSITY COLLEGE, TANZANIA

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Abstract. *The strategic development plan of Cardinal Rugambwa Memorial University College (CARUMUCO) envisions a higher education institution that meets a variety of a variety of professional and social demands. However, up till now, the college runs only one faculty of education—the consequence of funding constraints. This, regrettably, has been contracting institutional revenue and subsequently, the growth and development of the institution in a vicious cycle. Basing on pertinent historical and philosophical underpinnings, this paper attempts to suggest some theoretical and pragmatic answers to the management and governance of the college to address the quagmire.*

Introduction

Organisations are normally established, with the founders' intent, to realise institutional visions and goals. According to Mullins (2002), the relevance of the organisational vision and goals to intra and extra environments usually underlie operational and management feasibility and efficiency. Effective universities, if conceived of as formal higher education institutions that provide knowledge, skills and values normally pave the way for, and sustain community esteem and development. This is by and large occasioned by relevant programmes and research innovations; thereby becoming a reliable financial muscle to the institution due to enhanced student enrolments. Unfortunately in Cardinal Rugambwa Memorial University College, this ideal situation, though envisioned in the current strategic development plan, is being constrained by structural deficiencies that come by as a result of inappropriate curricular programmes to address private as well as social demand for University education in the region. As a result of this, sustainable finance sourcing is continuing to nag the institutional managers and governors – perennially delaying the aspired institutional and structural development. Currently, the University College runs only one faculty of education – a contradiction to the enshrined goals and objectives of the strategic statement, stipulating that a variety of professional and social demands would be met by the University College. This, regrettably, has been contracting institutional revenue and subsequently, the growth and development of the institution.

Basing on historical and philosophical underpinnings, this paper comes to suggest some theoretical and pragmatic answers to the management and governance of the college to address the quagmire.

Historical and Philosophical Orientations on CARUMUCO

When CARUMUCO was established on 25th October, 2011 it was envisioned that the College would enjoy a semi-autonomous position under the guidance of Saint Augustine University of Tanzania - effectively meeting the ever rising educational and professional demands of the local community in Bukoba and its surroundings. The current strategic plan (2014/15 – 2023/24) categorically highlights the local demands that underpinned the opening and establishment of the University College. They include:

1. The high demand for higher education across Tanzania calling for the need to take higher education to the people given that most institutions that offer higher education services are located in cities and large municipalities, leaving most rural areas and small towns like Bukoba not catered for in terms of the direct and indirect benefits of hosting a higher institution within the locality.
2. The growing need for higher education in Tanzania, resultant from the expanded primary and secondary education enrolments through the government's PEDEP and SEDEP programmes.
3. The high demand for more qualified and dedicated teachers to fill the vacancies in

the newly established secondary schools especially in the rural areas such as Bukoba.

4. The exaggerated need for postgraduate education by graduates that work in Kagera Region. It was hoped that this would minimise the cost to access higher education.
5. The need to collaborate with the government of Tanzania to achieve the MDGs and realise the country's vision 2025 which mainly focuses on high quality life, peace, stability and unity, good governance, a well-educated society and a competitive economy capable of producing sustainable growth and shared benefits and finally,
6. The need to come up with tailor-made programmes that will suit the local community which include non-degree programmes, short courses, degree programmes and postgraduate programmes.

In the meantime, it is widely alleged that the mission to meet all the outlined strategic intentions is still far, in stupor as CARUMUCO is currently operating with only one faculty of education - not catering for the other professional interests as outlined and projected by the Rolling Strategic Plan (2014/2015 - 23/24). It is also clear that the University College is stressed with scanty financial resources as a result of low student enrollments. To address the ramifications, this Paper presents selected recognised situational management models and theoretical principles that can be employed by Universities in such positions to effectively do up the *status quo*. Policy recommendations are also advanced, accordingly.

Theoretical Perspectives

There are several theories, concepts and models of governance, management and leadership of higher educational institutions, including Universities. The governance and leadership approaches that a University embraces will basically vary according to: institutional mission and values; history and culture; government policy; philosophy of the institution, governors and manager(s) of the institution; stakeholder considerations and the issues at hand (managerial and financial, etc.). The theories, concepts and models of

governance in higher education draw from a number of studies about how organisations and institutions are generally run for greater efficiency and effectiveness. This Paper has selected three models/theories, perceiving a successful University as an organised anarchy on one hand and as a business on the other. Finally, the paper identifies a successful University as that one, which is liberated from the whims of conservatism; managed and developed according to the changing circumstances or times (contingency management).

University as an Organised Anarchy

According to Cohen and March (1974) a viable University must be informed by independent (near anarchy) though cooperating units e.g. departments, faculties, schools and institutes; managed independently, although at the same time following structural and systemic organisational ideals. Each unit knows what is supposed to be done and therefore can think out programmes that can attract students to access University education with ease and democratic options. This governance model recognizes that whatever happens in the University (planning, organisational, and managerial, etc.) can be made effective dependent on how the governors and managers take on the situation. The model reckons that the running of the institution has more to do with manipulation and innovation and nothing else - all happening within the framework of an organised environment. The accruing benefits of the model are therefore *viz*:

1. Think- tank capacity is enlarged, just of necessity. As a result of this, the chances to expand financial resource mobilization are multiplied immensely with the rising student numbers.
2. Greater autonomy is accorded to individuals due to the greater nature of enhanced specialization and freedoms.
3. Efficiency is boosted as more specialized units (e.g. faculties) are enabled to exist.
4. Backward and forward linkages between and among the created units are possible and this enables more accurate problem solving.
5. The decision making apparatus is enhanced.
6. As the University population expands due to greater democratization processes,

corroborations are possible and even easier with the larger Universities which have, so far, stood the test of time.

7. With the multiplicity of operational units, the University can enjoy immense dividends as a result of the economies of scale.

In summary, the benefits from this governance model outweigh the disadvantages and therefore any progressive University ought to embrace it, of course with some other considerations (Tierney, 2000).

University Education Managed on a Business Model

According to Mamdani (2005) and Court (1999), a University especially in the current times of liberal reforms across Africa, can boost its revenue as a result of effective mobilization of resources – via the privatization and commercialization path. By applying these, the University is then perceived as a business enterprise that can't survive unless when it is mindful of the market dynamics (price, demand for and supply of education). These scholars depicted Makerere University success story, it almost fully embraced commercialization and privatization of service delivery in its faculties and departments. Academic programmes were greatly democratized by instituting those that were considered to be more responsive to private, social and public needs and aspirations. As a result of all these market interventions that up to now conceive University education as effective business management, the University is almost able to mobilize the required financial and other resources, for recurrent expenditure and capital investment and development.

Contingency Management Theory and Effective University Education

Contingency management is a principle that urges planners and managers in organisations to be studious of emerging situations and issues; to change their management and governance tactics in order to remain relevant to environmental dynamics to enable the longevity and productivity of their organisations (Handy, 1995). No formal organisation is established and wished to die (Mullins, 2002). In a situation where

CARUMUCO is being challenged with feasibility questions as a result of stagnated student enrolments, one of the obvious and credible solutions appear to remain in the embracement of the contingency principle to effect meaningful reforms for its enhanced existence. In Uganda, a successful case study is that of Uganda Management Institute which was established in 1969 by the Government of Uganda to run management and administration programmes to government employees to enhance the management potentials. Nevertheless, with the entrenchment of liberal reforms in the country in 1990s, issues of constrained funding as a result of low enrollments remained prevalent when other similar but privately established institutions were founded in the country. To address the predicament, structural and systemic transformations were effected in early 2000, something that has paid great dividends. Enrollments have more than quintupled when new faculties and new courses were put in place to address divergent desires and needs; consequently raising the revenue base.

Recommendations

Basing on the discussed theoretical positions, systemic transformation in a hybrid format is called for if CARUMUCO is to address the structural dilemma which is currently not responsive to its strategic aspirations. This can be done by addressing the following recommendations:

1. Establishing more popular programmes, say those that can address business and commerce issues to help the business community in areas around Bukoba and within Kagera region, in general. Many people in Tanzania, after the entrenchment a liberalized economy, are involved in business enterprises and therefore mindful of optimal management, profits and productivity.
2. Shorter courses in popularly desired fields, leading to diplomas and certificates, should be considered and put in place to meet client aspirations, e.g. in customer care and public relations, project management and administration, social science research, measurement and administration, communication skills, etc.
3. A more elastic strategic plan to embrace issues on sound sustainable development should be urgently considered.

4. Bench marking with those institutions that are running such programmes should be considered as an essential issue.
5. Lastly, time and space should be optimally planned and utilized to accommodate any additions to the current programmes.

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